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# AREA CODE EXHAUSTION: WHAT ARE THE SOLUTIONS?

## HEARING

BEFORE THE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

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# AREA CODE EXHAUSTION: WHAT ARE THE SOLUTIONS?

**WEDNESDAY, JUNE 26, 2002**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ENERGY AND COMMERCE,
SUBCOMMITTEE ON TELECOMMUNICATIONS
AND THE INTERNET,
*Washington, DC.*

The subcommittee met, pursuant to notice, at 10 a.m., in room 2322 Rayburn House Office Building, Hon. Fred Upton (chairman) presiding.

Members present: Representatives Upton, Gillmor, Shimkus, Wilson, Bass, Markey, Eshoo, McCarthy, Luther, Harman, and Sawyer.

Staff present: Howard Waltzman, majority counsel; Will Nordwind, majority counsel; Hollyn Kidd, legislative clerk; Andy Levin, minority counsel; Brendan Kelsay, minority professional staff; and Courtney Anderson, minority research assistant.

Mr. UPTON. Let us get started. My colleague Ms. Harman has a bill on the floor, so we hope that there is unlimited 1 minutes and they go for hours and hours, right? Hope not.

Good morning. Today's hearing is entitled: "Area Code Exhaustion: What are the Solutions?" At the outset, I want to thank all of our witnesses for their participation. In particular, I want to thank those witnesses who have traveled great distances to be with us today, and pay a special welcome to my own constituent, John Long, President and CEO of the Kalamazoo Regional Chamber of Commerce.

Today's hearing is about all of the John Longs of the world who live and work in communities across the country and who experience the real-world effects of area code exhaust. More to the point, as John will testify, the Michigan Public Service Commission has ordered the area which includes my congressional district to change its area code for the first time in its history. Beginning next month, we in the southwest portion of west Michigan will start the change from area code 616 to 269.

As we will hear today, area code changes have real costs and burdens to our local communities. In addition to the inconvenience and confusion which going through an area code change causes to both business and consumers, you will hear from John about the cost to local businesses, particularly small businesses, in making the change. You have to change business stationery, envelopes, business cards, marketing brochures, the sides of company vehicles, websites, print, radio, TV advertising, and all.

Of course, my congressional office, with two district offices, is no exception. While no one in my district is particularly happy about having to change their area code, the Michigan Public Service Commission's ruling is final, and the horse is out of the barn.

However, I have made it my mission to make sure that the FCC, the States, and the industry have taken the strides necessary to conserve numbers so that my district and the other districts will not have to go through another area code in the foreseeable future. To that end, I have convened this hearing to get a status on the ongoing efforts at all levels to conserve numbers.

It is important to note that while it took nearly 50 years to exhaust the original 144 area codes, from 1947 to 1995, the years after 1995 saw the activation of well over 100 new area codes. In large part, the rapid increase in demand for new area codes is driven by the explosion in the number of communication devices in the marketplace which use phone numbers, like wireless phones, second lines in the home for dial-up Internet access, home fax machines, not to mention ATM machines, credit card authorization systems used in retail business establishments, and the advent of direct inward dialing for large corporations which results in demand by carrier clients for large blocks of continuous numbers.

Moreover, another contributing factor in the increased demand for new area codes is the practice of allocating phone numbers among carriers in blocks of 10,000, which correspond to the number of numbers contained in one central office code. While this may have been a well-suited practice before competition was injected into the local phone market, the 1996 Telecommunications Act unwittingly set up a situation wherein every ILEC and any CLEC could request numbers in 10,000 number blocks, and we would have situations where ILECs and CLECs might not have been utilizing a large number of numbers within those blocks.

Because of all of these factors, in the late 1990's, the North American Numbering Plan Administrator began projecting number exhaustion in our Nation somewhere between 2006 and 2012. Based on these dire predictions, the FCC, the States, and the industry began to vigorously address number conservation efforts. More significantly, the FCC ordered States to implement 1,000 number block assignments, number pooling, and utilization thresholds.

Based on these efforts, recent North American Numbering Plan Administrator projections already suggest that the projected date for number exhaustion has been pushed back past 2020. And this projection may get even rosier as these number conservation efforts get fully implemented. Today, I want to get a better sense of where we stand on all of these ongoing efforts and what the projection scenarios are as a result.

If these projections continue to get rosier, then that is good news for the John Longs of the world and the communities that they serve, like those in southwest Michigan. As I stated earlier, my goal is to see to it that my constituents will not have to change their area code any time in the foreseeable future. I look forward to the testimony of today's witnesses who can help us all figure out the likelihood of achieving that goal.

I yield to my colleague Ms. Harman, a leader in this effort as well, from the State of California. Thank you for your leadership.

Ms. HARMAN. Thank you, Mr. Chairman. Thank you for talking to me about this issue over the past year. I also want to thank the chairman of the full committee, Mr. Tauzin, for talking to me, meeting with me, meeting with my PUC chair, Loretta Lynch, about this issue, as you did as well. This is a critical issue on the minds of my constituents and, as you said, on the minds of the constituents that all of us represent. And I am very grateful to you for holding the hearing and inviting all of the problem solvers to sit before us, and I hope solve the problem.

I also want to apologize in advance. On the floor today the first bill is a bill to mandate information sharing of information about terrorist threats by our various Federal agencies, including the CIA and the FBI. And that obviously is pretty critical, and the bill would also then require them to share vertically with our first responders, who will be at the scene of any potential terrorist attack.

And that's my bill, and so I am going to be running in and out of here, if it does come up on the floor anytime soon. But I will be back, because this issue is absolutely critical to me.

This is an issue that affects a simple thing our constituents and we do 100 times a day every single day of the year—dial a phone number. That number represents a life line for a senior citizen, the survival of a business for an independent entrepreneur, the ability to stay in touch with friends and family.

Small businesses, as you said, Mr. Chairman, are especially hurt. Who can calculate the business lost because a confused customer could not get through because an old number didn't work after an area code change? I have had scores of inquiries from businesses about this.

Our local chambers, just like yours, are extremely concerned and have this issue on the top of their list every single time they meet. And we have in California a very skilled and sturdy Public Utilities Commissioner, Loretta Lynch, who has long tried, with me and with our State legislators, to work out a solution.

Changes to telephone numbers are disruptive, costly, and because of growth in new services, as you said, more and more common throughout the entire country. We are running out of numbers in our existing area codes. The amount of new numbers that we can give out from existing area codes is going down sharply. And as you said, Mr. Chairman, 14 of the 33 members on this subcommittee will have area code changes in their districts in the next 3 years, and that number rises to 20 members in the next 5 years. And I know they have all heard from their constituents, too, and that's why we're having this hearing.

What I hope we will do is solve this problem. If not today, tomorrow would be okay with me. But certainly solve it before more seniors and more small businesses have to go through the costly and disruptive effort of dealing with an area code change.

There are ideas that can work. You mentioned them, too, Mr. Chairman. For example, probably the best of those ideas is to have the new area codes go for machines whose telephone numbers we don't care about—the ATM machine, the gas station pump, credit card verifier, even our blackberries. Do you know what the tele-

phone number of your blackberry is? I certainly don't know what the telephone number of my blackberry is.

But the FCC needs to help figure out how to map these new codes, so that they use numbers efficiently. You mentioned the issue of stranded numbers, and the contamination threshold. This is the place we can go. I learned about this from my very own Loretta Lynch, and I am sure she's going to address it later today. But this is a way we could begin to fix this problem.

The FCC also has to fix its procedures. It can adopt a can-do attitude to processing and accommodating requests for relief that are tailored to unique State interests. In California, for example, we are interested in permanent, specific overlays, and that is a way that the FCC could help us go.

Oh, here's the ranking member, Mr. Markey. Perfect timing.

At any rate, I certainly know, as a mother of four, that perfection is not an option. But I do believe that the group before us can come up with perhaps imperfect but adequate solutions that meet the needs of all of the members of this committee, but more important than our needs the needs of all of the constituents we represent.

Again, I thank you for holding this hearing, and I thank you for committing yourself to helping solve the problem.

Mr. UPTON. Thank you, again.

Recognize the gentleman from Ohio, Mr. Sawyer, for an opening statement.

Mr. SAWYER. Thank you very much, Mr. Chairman. I am not going to read an opening statement. I just wanted to make a couple of observations.

We talked about dialing a telephone 100 times a day. I haven't dialed a telephone in 10 years. Have you?

Ms. HARMAN. Okay.

Mr. SAWYER. Okay.

Mr. UPTON. You don't still lease your phone?

Mr. SAWYER. I just wanted to thank everybody involved with this for your effort and your tenacity in bringing this issue before us. It is important. It touches people's lives. It is going to require an extraordinary kind of teamwork between the State commissions and the FCC and the service providers in the field. And if we can help to facilitate that, that's what we're here for.

And I yield back the remainder of my time.

Mr. UPTON. Recognize the ranking member, Mr. Markey.

Mr. MARKEY. Thank you, Mr. Chairman, very much.

Mr. UPTON. The Red Sox are still in first place, right?

Mr. MARKEY. No, we're out of first place.

Mr. UPTON. Oh, the Yankees lost.

Mr. MARKEY. It is still too soon to become suicidal, but we're beginning the slow slide toward serious depression.

So, you know, when I was a boy we went to Den 9 of the Immaculate Conception Grammar School of the Cub Scouts of America. We went to the Museum of Science in Boston on a field trip with Mrs. Carey, and one of the things we saw in 1958 was this incredible breakthrough where you would actually be able to punch in the numbers of your phone, you know, and it was some futuristic thing—sometime in the future—although they have already invented it, you see. It was an AT&T exhibit here in 1958.

So we stood there and we were punching in our numbers, you know. My number was MA4-0815. And then it became DA4-0815, you know. And then it became 324-0815. Then it became 617-324-0815. And now it is 781-324-0815. So, you know, as each year went by, they trusted me with more numbers to memorize. But it took another 25 years from 1958 before AT&T could figure out how to actually let us punch in the numbers instead of keep dialing as they had been dialing for 100 years and renting the phone for $4 a month times 12 months a year, $48 times 40 years for your mother, which is like $1,600 for that phone in the living room. That's a lot of money, huh?

But you just couldn't figure out a way of letting them buy it from another company and just plugging it in, because it would have ruined the whole system. Anyway, we have come a long way over the years. And this subject, this area code exhaustion, you know, is, without question, a big issue. And we're trying to find a way in which we can, you know, find a legislative Viagra to deal with this area code exhaustion.

And this is a subject that is going to be with us for a long time. And with the leadership of the gentle lady from California, I think we are going to find a way to deal with the rapid exhaustion of area codes in the late 1990's as a result of the success, actually, of this subcommittee in putting on the books, telecommunications policies, in competition, in wireline, in wireless, that have resulted in more service providers and new service for consumers in the telecommunications marketplace. All of those competitors and services eat up phone numbers.

It took roughly half a century to use up the original 144 area codes in the system. The passage, in 1993, of legislation creating new wireless competition, coupled with passage in early 1996 of the Telecom Act, caused an explosion of growth in the telecommunications marketplace generating the activation of over 100 new area codes.

The introduction of these new area codes has not come without some consternation on the part of some consumers. The growth of choice and exhaustion of area codes comes hand in hand. Changes in area codes force many businesses to change business software, advertising, and marketing campaigns, business cards, and stationery. This has some cost.

On the other hand, the growth of competition in the telecommunications marketplace has most often lowered the overall telecommunications cost for many businesses as such enterprises gain needed choices in the marketplace.

Now there has been a serious policy debate in recent months about how best to implement new area codes as well as how to conserve the existing groups of usable numbers that we have. I think that recent initiatives of the FCC, many States, as well as the telecommunications industry itself, have resulted in a substantial increase in successful number conservation efforts.

In spite of this progress, however, certain States may still confront the need for new area codes in the very near future. There are two general methods that can be utilized to add new area codes or extend the usefulness of existing area codes—geographic splits and overlays. A geographic split simply takes one area and divides

it in two, thereby designating a new area code to one community while the other retains the old area code.

I am now 781. Boston is 617. I am still only 5 miles from Boston. I have to memorize 781. This is what happened, for example, in eastern Massachusetts, and it has taken a while and we have figured it out. Although some customers may face changing their phone number, both new regions are typically able to retain seven-digit dialing within the area code from where they are calling. So you can just keep your old number memorized, and you don't have to add on the extra three digits.

In contrast, overlays take a new area code and add it to a region with an existing area code. Existing customers are able to keep their old numbers and area code, but any new customers in that area are given numbers from the new overlaying area code.

In this scenario, 10-digit dialing is the norm, because within each region two different customers might have identical seven-digit numbers and only the area code differs. Therefore, consumers must dial all 10 digits—that is, the area code included—in order to ensure proper routing of the call.

Many people have suggested overlays that are technology-specific or for new service providers. In other words, wireless companies in an area may have its own area code, or all new customers of a competitive local phone company may have to get a new area code. This doesn't force people to change their existing phone number, but it may have serious competitive disadvantages for competitors.

If a competitor has to convince a consumer to switch to its service by also convincing that consumer to switch their existing phone number that they have memorized since they were 8 years old, it may be too high a burden for successful competition to take root, because people have emotional relationships with those numbers that their mother had made them memorize in case they ever get in trouble.

So we have to deal with this very—which was a frequent—frequent—I get run over by a car and I am lying there in the road, and this guy picks me up, puts me into the back seat of his car, rushes me up to the emergency room. I still have this huge bump up here on my head where I had come down on the cement, which explains a lot of things.

And I am in the room, and there are two things my mother told me. I am 5 years old; there are two things my mother told me. Eddie, two things. If you ever get in trouble and you're in the emergency room—two things. One, your telephone number is MA 4-0815. And, second, change your underpants every day or I am going to be completely embarrassed. Okay? So now I say, "My name is Eddie Markey. My phone number is MA4-0815." And now I hear the doctor, he's on the phone, "Mrs. Markey, you have a boy. His name is Eddie. He's 5 years old. He's here on the emergency table. We need permission to operate."

And I am lying there, all my fingers are broken, and my head is blasted open. And the nurses are trying to unbuckle my pants, and I—like my broken fingers, I am trying to hold it up because I know that memorizing the number is only half of it. Okay?

Because I haven't changed my underpants in a week, you know?

I am 5 years old, you know? And so then my last memory is this chloroform coming over my head.

So anyway, we——

The ability of customers to switch companies without having to switch their phone numbers is the policy of number portability. You should be able to keep that number as long as you live. Number portability. You have such an emotional and personal attachment to it that it is almost as important as your name itself.

And so, ladies and gentlemen, there can't be a more important hearing being conducted on Capitol Hill today.

And I hope that we construct the right policy for the American people.

Thank you, Mr. Chairman.

Mr. UPTON. The gentleman's time has expired.

I recognize the gentleman from New Hampshire, Mr. Bass.

Mr. BASS. Thank you very much, Mr. Chairman. And I will agree with my friend from Massachusetts, the—I served as a member of Rotary Club for years and was in every conceivable official position. But nothing really counted in the affairs of that club, except for the quality of the food that was served.

The same is true of telephone numbers. People get very emotional about, as we can tell from others here today, about changing a phone number after a long time. And Congressman Market is right. I remember my phone number in Peterboro as Walnut 4-6412.

Mr. MARKEY. Now we're talking.

Mr. BASS. And Hudson 7-7725. And, by the way, my number—my father's number when he was in Congress was Capitol 2-5206. The number is 225-5206. So what do you think about that?

And I will bet you anything that—I don't know if—God only knows how many years ago your predecessor probably had the same number that you did. It was during the Lincoln administration.

Mr. MARKEY. It is twilight zone stuff.

Mr. BASS. Anyway, Mr. Chairman, I appreciate the opportunity to participate here today. And as we know, dozens of States face code exhaustion in the next few years. And I have noticed, I must say, Massachusetts is certainly one that has had a lot of changes.

My own State, New Hampshire, originally faced exhaustion of our single 603 code this year. However, the FCC's conservation waiver and the return of stranded block numbers from land line carriers and the Internet service providers that have failed or scaled back operation has pushed that date out to 2004.

Although this is good news, it still should be noted that in a State of only 1.3 million people there should be enough numbers to serve them and the State's business lines for many years to come, given that each code has theoretically one number less than a million possible—or close to a million possible numbers.

Even more perilous than the addition of a new code in New Hampshire is the prospect of running out of codes and numbers nationally. Should such a crisis occur, we would need to either severely ration new numbers, require an additional number to be added to every area code, additional number to be added to every area, or NXX code, or even require such fees that would force num-

bers and codes to be abandoned. None of these sound attractive to me.

As I have also noted, the past few years you have seen action on this issue. Thousand block number pooling is already being done on wire line requests for new numbers, and number porting has also cut demand for new accounts. And certainly we cannot ignore market conditions, and that affects consumer and commercial demand. Got to add a comma there.

While I am aware of the pressure the Congress and the FCC have placed on wireless carriers to accomplish policy goals, and the costs those goals incur to them and ultimately consumers, it cannot go without stating that according to the New Hampshire Public Utilities Commission wireless number requests are the prime driver of the State's 2004 exhaustion date. Invariably, it seems to me, they, too, will have to enact smaller block pooling and even number portability.

But for them, the issue goes farther and should include consideration of the long distance rate's center location through the region and whether this fee system encourages artificial number demand.

Again, Mr. Chairman, thank you for having this hearing, and I look forward to the witness testimony. I yield back.

Mr. UPTON. Just for the record, you made me all feel bad. My number was Garden 9-5150.

At this point, recognize the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman, and I will be brief.

I am sorry I missed some of the opening comments. I am sure I would have found them entertaining and enlightening.

My concern is that we are careful until we have full implementation of e-911, and we need to be careful that what we do with portability or what we do not do with portability—or even if we do that, it doesn't hurt the implementation of e-911, and we make sure that that's fully implemented. And there are costs and challenges with that.

And other than that, locally as everyone fights with the area code, the basic area code problems, and I don't know when they mix them in a geographical area that that's very helpful, although no one wants to give up the ones that they have.

I just look forward to hearing from the panel, and I yield back my time.

Mr. UPTON. Thank you. I would make a point that a number of subcommittees are sitting this morning. The House is in session. I will make unanimous consent that all members of the subcommittee will have an opportunity to put their opening statement into the record.

[Additional statements submitted for the record follow:]

PREPARED STATEMENT OF HON. STEVE BUYER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Thank you, Mr. Chairman, for giving me the opportunity to address the subcommittee regarding area code exhaustion. Indiana has recently completed an extensive adjustment to our area codes.

In 1999, the Indiana Utility Regulatory Commission opened an investigation into number depletion and priority was given to helping northern Indiana because its problems were the most immediate.

Last summer, the IURC decided to split northern Indiana into three area codes. The new area codes followed north-south lines and were said to include equal populations. Unfortunately, while the IURC looked at numbers to make their decision, they sacrificed the community interest.

For example, half of White County, my home county, will remain within the 219 area code, the eastern half will be within the 574 area code, and the town of Brookston is in the 765 area code. Two area codes now cover one school corporation. Area businesses faced the expensive task of having to change signs, letterhead, while trying to unmask the confusion for occasional customers who might not have been alerted to the change.

While understanding the need for the additional area codes, the allocation of the area codes should take into account community interests, and not just population or numerical lines.

My suggestion to this committee and to the panel is to be committed to protecting the interests of those whom you serve—the customers throughout this country. While we should not stand in the way of progress, we cannot let progress change the way we treat our citizens.

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PREPARED STATEMENT OF HON. W.J. "BILLY" TAUZIN, CHAIRMAN COMMITTEE ON ENERGY AND COMMERCE

Mr. Chairman, thank you for convening today's hearing. Area code exhaustion is an issue that potentially affects all of our districts.

During the 1990s, we experienced an explosion in demand for phone numbers. Wireless telecommunications services started the decade at around 10 million users and ended the decade at ten times that number.

At the same time, the internet brought an explosion in demand from consumers for second telephone lines, as did fax machines. And then the entry by competitive carriers into the local telephone market again made the demand for numbers extraordinary.

Without any reforms, area code exhaustion would occur rapidly in many densely-populated areas.

The primary area code exhaustion remedies are not much fun. Somebody always seem to lose with area-code splits because they have to incur the expense and inconvenience of changing their phone number. And overlays can often be difficult as a home or business adds additional numbers.

The FCC made a rather productive move several years ago. The implementation of number pooling by wireline carriers will go a long way toward area code conservation. And that is why it is important for wireless carriers to implement number pooling as well.

Wireless carriers are expected to implement number pooling by november 24th. The FCC should do all that it can to ensure that wireless carriers can implement pooling on schedule.

But the FCC also must make sure that wireless carriers have the ability to implement pooling and implement it properly. Imposing number portability and number pooling simultaneously could have disastrous consequences for either reform's success.

And it is not just a question of waiting a couple of months and then implementing portability. Portability should not be required to be implemented until pooling is fully implemented. It is critical that wireless carriers have the time to make sure that they get pooling right before they have to turn to porting.

In addition to pooling, there are several other initiatives that the FCC and the states can take to curb area code exhaustion. I look forward to the testimony today to hear about some of those initiatives.

Mr. Chairman, thank you again for conducting this hearing.

Mr. UPTON. And with that, we will hear from our panel. We're fortunate to have Ms. Dorothy Attwood, the Bureau Chief of the Wireless Competition Bureau of the FCC with us today; Ms. Loretta Lynch, President, State of California, Public Utilities Commission; Mr. John Manning, Director, Numbering Services, from NeuStar; Ms. Anna Miller, Director of Numbering Policy, VoiceStream Wireless Corporation, on behalf of CTIA; Mr. Michael O'Connor, Director of Federal Regulatory Policy of Verizon, on behalf of USTA; and Mr. John Long, III, President and CEO of the

Kalamazoo Regional Chamber of Commerce, from Kalamazoo, Michigan.

Ladies and gentlemen, our procedure is you have—first of all, we appreciate your submitting your statements in advance. We had a chance to look them over last night. You will each be given 5 minutes to go through your statement, at which point we will have questions from the panel.

Ms. Attwood, we'll start with you. Welcome.

**STATEMENTS OF DOROTHY T. ATTWOOD, BUREAU CHIEF, WIRELINE COMPETITION BUREAU; LORETTA M. LYNCH, PRESIDENT, STATE OF CALIFORNIA, PUBLIC UTILITIES COMMISSION; JOHN MANNING, DIRECTOR, NUMBERING SERVICES, NEUSTAR; ANNA MILLER, DIRECTOR OF NUMBERING POLICY, VOICESTREAM WIRELESS CORPORATION; MICHAEL O'CONNOR, DIRECTOR OF FEDERAL REGULATORY POLICY, VERIZON; AND JOHN T. LONG, III, PRESIDENT AND CEO, KALAMAZOO REGIONAL CHAMBER OF COMMERCE**

Ms. ATTWOOD. Good morning, Chairman and members of the subcommittee.

I am Dorothy Attwood. I am Chief of the Wireline Competition Bureau at the FCC. In light of this hearing, it is important that I stress that.

Thank you for this opportunity to talk with you about the efforts and progress made at the Commission to optimize the use of numbering resources in the United States, and, in particular, to mitigate the impact of area code and numbering exhaust. As many of you know, our country has experienced an explosive demand for telephone numbers in the past decade. The rapid increase in demand has been spurred by the entry of new competitive providers into the marketplace and is accentuated by the introduction of new technologies.

As a result, ensuring the continued availability of telephone numbers for American consumers and our Nation's telecommunications providers remains one of the Commission's highest priorities. In response to this demand, and as directed by the Telecommunications Act of 1996, the FCC has taken a series of actions to promote more efficient use of numbering resources. These actions are designed not only to prevent area code exhaust in individual communities, but also to prevent the exhaust of the North American numbering plan as a whole.

The 1996 Act recognized that one of the chief obstacles to controlling numbering resource problems was an absence of industry, economic, or significant regulatory control over requests for numbering resources. The 1996 Act empowered the Commission to tackle this problem, and the Commission has developed strong working partnerships with State governments to promote numbering efficiency.

The Commission has enlisted States' help primarily by delegating significant authority to them to implement area code relief. For example, we delegated to States the authority to determine which form of area code relief—an all services geographic overlay, an area code split, or even a boundary realignment—to determine which is best in each circumstance when area code relief is needed.

In December 2001, this Commission added another relief option—a specialized overlay which would allow States, under the right circumstances, to designate a new area code to be used for a specific service or technology such as wireless phones, pagers, or data lines.

Because our State partners stand on the front lines of battles over numbering resources, we know that frequent area code changes are frustrating, inconvenient, and costly to consumers. As a result, the Commission has sought solutions that minimize the impact on consumers and that reduce the need for area code changes.

Another essential step that the Commission has taken is to change the way that numbers are allocated to carriers. One of the major drivers of numbering resource exhaust is our legacy system of distributing numbers to service providers in blocks of 10,000—an entire central office code. Until recently, service providers that needed fewer than 10,000 numbers to serve their customers could only get an entire central office code.

Because the unused numbers could not be given to another carrier to provide service to its customers, those numbers would lie fallow in the carriers' inventories and remain unused. The Commission has worked hard to address this inefficiency in the use of numbering resources, and we have made significant strides in a few years.

In 1998, the Commission granted authority to the State of Illinois to experiment with a new system of distributing numbers to service providers that was designated to eliminate the vast amount of numbers that were lying unused in the service providers' inventories. This system is known as thousands-block number pooling.

In March 2002, national thousands-block number pooling began. Under the stewardship of a neutral third party administrator, pooling will be implemented within the largest 100 metropolitan statistical areas, or MSAs, in the next 18 months.

Thousands-block number pooling is a success story. With it, fewer central office codes and consequently fewer area codes get used up. It will be even more effective once wireless carriers begin to participate in pooling later this year. Indeed, it is predicted that adoption of national number pooling could extend the life of the NANP by more than 20 years.

In addition to thousands-block number pooling, all providers in the United States that use NANP numbering resources now must closely monitor, track, and report on their number usage based on uniform definitions established by the Commission.

Also, providers must now demonstrate their need for additional numbering resources with more than subjective forecasts. Other measures designed to increase discipline in numbering resource utilization practices include mandatory reclamation of unused numbering resources and a requirement that numbers be assigned by carriers to their customers sequentially.

The Commission has also delegated to the States the authority to implement additional measures, such as rationing of numbers following implementation of area code relief, hearing and addressing claims of carriers seeking numbering resources outside of the

rationing process, and monitoring carriers' use of numbering resources.

To facilitate full participation by the States in these and other numbering resource optimization measures, the Commission has also provided States access to carrier forecasts and utilization data for numbering resources within their borders. Each of these measures should help stave off premature area code exhaust, but the Commission recognizes that our efforts cannot stop here.

The Commission seeks to continue to find new approaches to refine our existing measures. For example, currently only wireline carriers operating in the top 100 metropolitan statistical areas are generally required to participate in thousands-block number pooling.

Wireless carriers were granted additional time, until November 24, 2002, to participate in pooling, and they have recently indicated that they are committed to participate in pooling by this deadline. With this prospect, the benefit of pooling may be recognized on a larger scale sooner than expected.

As I mentioned before, the Commission also has expanded the area code relief options available to States by lifting the ban on service-specific and technology-specific overlays. The competitive concerns initially raised primarily by the wireless community seem to have lessened, although they have not disappeared altogether.

The Commission also has noted that by temporarily diverting the demand for numbering resources from existing area codes service or technology-specific overlays may help ease the transition to needed area code relief prior to complete implementation of pooling.

The Commission has seen tangible benefits from the steps that we and the States have taken. For example, carriers are better managing their inventories of numbers and returning blocks of numbers that they do not need. Thus, net assignments, for example, went from approximately 980 codes per month in the year of 2000 to approximately 350 codes per month in 2001.

There is still work to be done. The Commission will continue our efforts to improve numbering resource optimization by looking at other measures such as individual telephone number pooling and unassigned number porting, and look forward to continuing our partnership with the States. Together we can make significant progress toward avoiding disruption and cost to consumers, eliminating unnecessary code changes, and prolonging the life of the NANP.

Thank you, Mr. Chairman and members of the subcommittee, for allowing me to appear before you today.

[The prepared statement of Dorothy T. Attwood follows:]

PREPARED STATEMENT OF DOROTHY T. ATTWOOD, CHIEF, WIRELINE COMPETITION BUREAU, FEDERAL COMMUNICATIONS COMMISSION

I. INTRODUCTION

Good Morning, Chairman Upton, Ranking Member Markey, and Members of the Subcommittee. I am Dorothy Attwood, Chief of the Wireline Competition Bureau at the Federal Communications Commission ("FCC" or "Commission"). Thank you for this opportunity to talk with you about the efforts and progress made by the Commission to optimize the use of numbering resources in the United States and, in particular, to mitigate the impact of area code and numbering exhaust. Although

we continue to face some challenges on this front, we are firmly committed to protecting consumers by adopting strategies that prevent premature area code exhaust.

## II. CONFRONTING THE NUMBERING CHALLENGE

As many of you know, our country has experienced an explosive demand for telephone numbers in the past decade. The rapid increase in demand has been spurred by the entry of new competitive providers into the marketplace, and is accentuated by the introduction of new services and technologies. Telephone numbers are a vital part of our national, and indeed the global, communications network. They are an essential gateway for businesses and governments. Indeed, for many residential customers, telephone numbers become intertwined with their very identity and with their sense of community. As a result, ensuring the continued availability of telephone numbers for American consumers and our Nation's telecommunications providers remains one of the Commission's highest priorities.

In response to this demand, and as directed by the Telecommunications Act of 1996, the FCC has taken a series of actions to promote more efficient use of numbering resources. These actions are designed not only to prevent area code exhaust in individual communities, but also to prevent the exhaust of the North American Numbering Plan ("NANP"), as a whole. The NANP is the basic numbering scheme for the United States and its neighbors, Canada and a number of Caribbean countries. Exhaust of the NANP will occur when the last available area code is given out. Once this occurs, callers will be required to dial at least 8 or 11 digits, rather than the current 7 or 10, to make a telephone call. Expanding the NANP in this way would have enormous societal and monetary costs with estimates ranging from 50 billion to 150 billion dollars.

The 1996 Act recognized that one of the chief obstacles to controlling numbering resource problems was an absence of industry, economic or significant regulatory control over requests for numbering resources. The system that had evolved over the past 60 years did not promote accountability or efficiency and, in some cases, allowed carriers to misuse the allocation system. The 1996 Act empowered the Commission to tackle this problem and the Commission has developed strong working partnerships with State governments to promote numbering efficiency.

In developing our approach to numbering resource issues, we have sought to: 1) minimize negative impacts on consumers; 2) promote competition by ensuring sufficient access to numbering resources for all service providers; 3) minimize incentives for carriers to stockpile excessively large inventories of numbers; 4) avoid, or at least delay, exhaust of the NANP; and, more broadly, 5) impose the least societal cost possible, while obtaining the highest benefit for consumers.

## III. PARTNERSHIPS WITH STATE GOVERNMENTS

To achieve these goals, the Commission has developed important partnerships with State governments, which enable us to benefit from their expertise and unique knowledge of local conditions and considerations. The Commission has enlisted States' help primarily by delegating significant authority to them to implement area code relief. For example, we delegated to States the authority to determine which form area code relief, an all-services geographic overlay, an area code split, or a boundary realignment, is best in each circumstance, when area code relief is needed. In December 2001, the Commission added another relief option, i.e., a specialized overlay which would allow States, under the right circumstances, to designate a new area code to be used for a specific service or technology, such as wireless phones, pagers, or data lines. In addition, the Commission has delegated to states the authority to conduct trials of new number resource strategies, such as pooling, as I will discuss shortly.

Because our State partners stand on the front lines of battles over numbering resources, they know that frequent area code changes are frustrating, inconvenient and costly to consumers. Area code changes can be burdensome to communities. As a result, the Commission has sought solutions that minimize the impact on consumers and that reduce the need for area code changes. The Commission has also encouraged States to develop relief plans based on efficient number optimization guidelines, which will help avoid complete exhaust of the NANP and the serious monetary and societal costs that such a result would bring on. Overall, these partnerships with the states have led to innovative and effective solutions that are responsive to the unique needs of local communities.

## IV. THOUSANDS-BLOCK NUMBER POOLING

Another essential step that the Commission has taken is to change the way that numbers are allocated to carriers. One of the major drivers of numbering resource

exhaust is our legacy system of distributing numbers to service providers in blocks of 10,000, an entire central office code. Until recently, service providers that needed fewer than 10,000 numbers to serve their customers could only get an entire central office code. Because the unused numbers could not be given to another carrier to provide service to its customers, those numbers would lie fallow in the carriers' inventories and remain unused. Thus, although the actual amount of unused individual telephone numbers was high, the number of available central office codes began to decrease at an alarming rate. Of the approximately 1.5 billion individual telephone numbers currently assigned to carriers, it is estimated that approximately 40 percent are actually being used by end-user customers. The Commission has worked hard to address this inefficiency in the use of numbering resources and we have made significant strides in just a few years.

In 1998, the Commission granted authority to the State of Illinois to experiment with a new system of distributing numbers to service providers that was designed to eliminate the vast amount of numbers that were lying unused in service providers' inventories. This system, known as thousands-block number pooling, has changed the landscape of number use in this country. Following that first number pooling trial, an additional 32 States were delegated authority to implement number pooling trials within their borders. In March 2002, the national thousands-block pooling program began. Under the stewardship of a neutral, third-party administrator, pooling will be implemented within the largest 100 metropolitan statistical areas ("MSAs") in the country over the next 18 months.

Thousands-block number pooling uses local number portability technology to enable carriers to accept numbers in blocks of 1,000 rather than 10,000. As a result, the same central office code that could serve only one service provider a couple of years ago can now provide numbers for up to 10 different service providers. What this means is that fewer central office codes, and consequently fewer area codes, get used up. It is a way of better using the numbering resources that are already distributed rather than simply going back to the well for more numbers, a well that is by no means bottomless.

Thousands-block number pooling is a success story. In many instances, premature exhaust of area codes has been staved off by pooling. It will be even more effective once wireless carriers begin to participate in pooling later this year. Indeed, it is predicted that the adoption of national number pooling could extend the life of the NANP by more than 20 years.

## V. ADDITIONAL OPTIMIZATION MEASURES

In addition to thousands-block pooling, the Commission has taken a number of other actions that promote efficient number use and that should prevent disruption for consumers. Most notably, all providers in the United States that use NANP numbering resources now must closely monitor, track, and report on their number usage based on uniform definitions established by the Commission. Additionally, providers must now demonstrate their need for additional numbering resources with more than subjective forecasts. Providers that fail to do so will be denied numbering resources. These measures provide accountability and create incentives for providers to use numbers efficiently. The Commission has also adopted other measures designed to increase discipline in numbering resource utilization practices, such as mandatory reclamation of unused numbering resources and a requirement that numbers be assigned by carriers to end-users sequentially to preserve the availability of unused blocks of numbering resources to facilitate thousands-block number pooling.

The Commission has also delegated to the states the authority to implement additional measures, such as rationing of numbers following implementation of area code relief; hearing and addressing claims of carriers seeking numbering resources outside of the rationing process; and monitoring carriers' use of numbering resources. To facilitate full participation by the states in these and other numbering resource optimization measures, the Commission has also provided State access to carrier-reported forecast and utilization data for numbering resources within their borders.

Each of these measures should help stave off premature area code exhaust. But the Commission recognizes that our efforts cannot stop here.

## VI. DEVELOPING NEW APPROACHES

The Commission continues to seek new approaches and to refine our existing measures. For example, one of the limitations of pooling is that it is only effective in areas where a significant number of service providers can participate. To participate, providers must have systems that use the local routing number ("LRN"') archi-

tecture, which is the same underlying architecture necessary for local number portability ("LNP"), or the porting of numbers between carriers. Currently, only wireline carriers operating in the top 100 metropolitan statistical areas are generally required to have this capability. Because wireless providers have been granted additional time to develop this capability until November 24, 2002, they have not yet begun to participate in pooling. Wireless carriers, however, have recently indicated that they are committed to participating in pooling by this November. With this prospect, the benefits of pooling may be recognized on a larger scale sooner than expected. The Commission looks forward to seeing this commitment by the wireless carriers fulfilled in the months to come.

As I mentioned before, the Commission has also expanded the area code relief options available to States. Historically, our rules had prohibited service-specific and technology-specific overlays. When the Commission first considered service-specific overlays, it concluded that this approach would place paging and cellular companies at a distinct competitive disadvantage because their customers would suffer the cost and inconvenience of having to surrender existing numbers and go through the process of reprogramming their equipment, changing over to new numbers, and informing callers of their new numbers. Indeed, until recently, much of the wireless community opposed service- and technology-specific overlays because they felt that having a separate area code would place them at a disadvantage with respect to the incumbents.

Because the Commission is committed to extending the life of the current NANP, and in response to requests from state governments, the Commission has reversed the outright ban on service-specific and technology-specific overlays. In taking a critical look at whether the prohibition against these options continued to make sense, the Commission has considered a number of issues, including the perceived competitive disadvantages with service- and technology-specific overlays; whether and how such overlays could be implemented in an efficient manner; the risk that service- or technology-specific overlays which provide numbering resources to only a portion of number users could be underutilized; and whether such overlays could be implemented in a transitional or other manner that would allay such efficiency concerns.

The competitive concerns initially raised by the wireless community seem to have lessened to some extent, although not disappeared altogether. Moreover, the Commission has noted that by temporarily diverting a portion of the demand for numbering resources in existing area codes, service- or technology-specific overlays may help ease the transition to needed area code relief prior to the complete implementation of pooling. Such an approach might reduce consumer costs and inconveniences.

The Commission has also sought comment on whether it could adopt particular policies to address what is referred to as the "rate center problem." One of the major contributing factors to numbering resource exhaust is the existence of multiple rate centers in each area code. The rate center system was adopted in the 1940s to facilitate the routing and billing of telephone calls. Because, as a practical matter, many service providers obtain numbering resources in each rate center, the Commission has encouraged states to consider and implement rate center consolidation. Rate center consolidation could appreciably reduce the drain on numbering resources. The Commission is mindful that rate center consolidation may be a difficult option for States and service providers because of the connection between rate centers and billing and routing, so we look forward to working closely with States on this option.

In addition to these proposed measures, the Commission continues to examine alternative mechanisms for establishing a market-based solution to improve the use of numbering resources. Under a market-based solution, the Commission might, for example, collect fees from carriers in exchange for blocks of numbers or hold auctions for numbering resources. In considering such an approach, the Commission has asked whether the historical lack of efficiency in this area may be in part due to the failure of existing rules to recognize the economic value of numbers. The Commission will consider all these options with an eye towards promoting efficient use of numbers and minimizing the overall impact on consumers.

## VII. CONCLUSION

The Commission has seen tangible benefits from the steps that the Commission and the states have taken. For example, carriers are better managing their inventories of numbers and returning blocks of numbers that they do not need. As a result of the volume of numbering resources returned by carriers, net assignments averaged approximately 350 codes per month in 2001 as compared to approximately 980 codes per month in 2000. But there is still work to be done. The Commission will continue our efforts to improve numbering resource optimization, and look forward to our continuing partnership with the States. Together, the Commission can

make significant progress toward our goals of avoiding disruption and costs to consumers, eliminating unnecessary area code changes, and prolonging the life of the NANP.

Thank you, Mr. Chairman, for this opportunity to appear before you today. This concludes my prepared testimony and I would be pleased to answer any questions you or the other members may have.

Mr. UPTON. Thank you very much.

Ms. Lynch, welcome.

**STATEMENT OF LORETTA M. LYNCH**

Ms. LYNCH. Thank you, Mr. Chairman, and members. I appreciate the opportunity to discuss the Nation's dwindling supply of telephone numbers and potential solutions we have to area code exhaust.

Since my time on the California Public Utilities Commission, I have been a member of the North American Numbering Council, which is an advisory committee of the FCC, and have thus become quite familiar with the technical and economic issues surrounding numbering resources.

California is an excellent example of the numbering crisis facing consumers across the country. From 1947 to 1997, the number of area codes in California increased gradually from 3 to 13 over 50 years. During the next 3 years, however, the number of area codes in California nearly doubled. By the end of 1999, California was faced with 25 area codes statewide, and the industry projected we would need 17 more by the end of 2002, effectively tripling California area codes over a 5-year period.

Today, because of aggressive and successful conservation efforts in California, we have not split a single area code since that time. But our grace period may soon be running out if the FCC does not act soon.

Beginning in 1999, the California Public Utilities Commission implemented several measures that revolutionized our numbering policies, with FCC explicit approval, and I would like to thank Dorothy Attwood especially for being a pioneer at the FCC in those approvals.

Thanks to that joint Federal-State partnership, California's area codes still stand at 25, despite dire predictions to the contrary just 3 years ago. I would like to outline today the reasons for our success so far and identify the additional tools that California and other States simply must have, so that we can manage effectively our limited supply of telephone numbers as efficiently as possible.

As we all know, the FCC has exclusive jurisdiction over numbering in the United States. So anything the States can do must be authorized by the FCC before we can do it.

Let me tell you some of what California has been able to do in the last 2 years. First, we now consider new area codes and the need for new area codes based on actual need for new numbers and not carriers' unaudited forecast demand. Basically, we now use real need and not their marketing projections before we give someone new telephone numbers.

Beginning in March 2000, the PUC in California initiated the first ever utilization study of actual number use in California in the 310 area code, because at that point the carriers had projected that the code was out of numbers, that we were exhausted in 310.

What California found when we actually counted the numbers available was we found over 3 million unused telephone numbers in that area code. By the end of 2001, the State, on its own initiative, completed a utilization study for each of the State's other 24 area codes, and in every case we found that each area code actually contained between 40 to 80 percent of the available numbers classified by the carriers as unused.

Thus, rather than being close to exhaust and running out of numbers, each and every area code in California had at least 3 million out of the possible 8.9 million numbers still available. Second, we now distribute telephone numbers to carriers more efficiently. By far, the most effective number conservation tool is number pooling.

Number pooling allows telephone companies to receive numbers in smaller blocks than the traditional 10,000 numbers, and it enables multiple companies to share a prefix. And, therefore, we can use our limited numbering resources much more efficiently. Beginning in 2000, with special FCC authorization, we began a number pool in 310, and we have now implemented number pooling effectively and successfully without disadvantaging the carriers in 19 of California's 25 area codes. And we will be pooling in five more of those area codes by the end of the year, with FCC approval.

The technology that enables us to support the assignment of smaller number blocks and pool is referred to as local number portability or LNP. LNP was originally mandated by the FCC as a means to enable customers to retain their telephone numbers when they switched telephone service to another local provider, thereby effectuating the main purpose of the Act, which is competition.

That same technology is used for number pooling. The FCC required all wireline carriers to become LNP capable by the end of 1998, and I believe that the essence of competition as mandated by the Teleco Act is a customer's opportunity to freely terminate service with one provider and initiate service with another.

Without LNP, however, a customer is inhibited from changing carriers because you both have to change your equipment and your telephone number. Though LNP technology has existed for several years, the FCC later granted cellular companies an extension until November of 2002 to become LNP capable. And one of the main reasons I am here today is to say that we need LNP capability for wireless carriers in November of 2002 just as much as we need pooling for wireless carriers in November of 2002.

But in addition to more effectively managing number distribution for pooling, we also have required companies to manage the numbers more effectively that they already have. So they must return numbers if they haven't used them for 6 months. They must show that they will be out of numbers before they get new numbers. They must show that they have used 75 percent of their numbers before they can get new numbers.

And since we implemented all of these number conservation measures, the demand for growth prefixes in California has declined precipitously. However, these efforts alone are not enough. The most critical numbering and competitive issue facing the FCC and the States now is the question of whether wireless carriers will be required to implement LNP this year.

Permanent forbearance from the wireless LNP mandate will not serve the interests of consumers because the continued absence of wireless LNP is both—not only inconvenient but costly to consumers who want to change carriers.

Assuming that wireless carriers start to pool in November of 2000, the wireless failure to deploy LNP capability and technology will limit the industry's participation in other more revolutionary number conservation measures. Both individual telephone number pooling, ITN, and unassigned number porting, UNP, require the full use of LNP capability.

California is interested in pursuing these additional conservation measures, and we have expressed that to the FCC as well. The FCC has yet to order these further number conservation measures. But as with number pooling, the effectiveness of new future technologies to conserve numbers will be limited permanently if the wireless industry cannot participate because it has not deployed the necessary supporting LNP technology.

Working with the FCC, the States have made huge strides in preserving our area codes over the last 3 years, during the time of tremendous wireless and communication industry numbering demand. But local number portability, wireless pooling, UNP, ITN, and expanded mandatory pooling beyond the top 100 MSAs, and increased contamination thresholds are further tools that are critically needed by the States, so that we can foster true competition in the wireless industry and preserve the Nation's area codes without expanding the entire area code and numbering system.

Without timely access to these tools within the next year or 6 months, the States' efforts to take our number conservation efforts to the next level are effectively curtailed. In California, consumers and businesses will feel these effects first, but ultimately the entire Nation will have to deal with the burdens of the number crunch if we don't get the effective tools to expand.

Thank you.

[The prepared statement of Loretta M. Lynch follows:]

PREPARED STATEMENT OF LORETTA M. LYNCH, PRESIDENT, CALIFORNIA PUBLIC UTILITIES COMMISSION

Mr. Chairman, Members, thank you for the opportunity to discuss the nation's dwindling supply of telephone numbers and potential solutions to area code exhaust.

California is an excellent example of the numbering crisis facing consumers across the country. From 1947 to January 1997, the number of area codes in our state increased gradually from 3 to 13. During the next three years, however, the number of area codes in California nearly doubled. By the end of 1999, California had 25 area codes statewide, and the industry projected we would need 17 more area codes by the end of 2002. Today, because of aggressive and successful conservation efforts in California, we have not split a single area code since that time, but our grace period may soon be running out.

Beginning in 1999, the California Public Utilities Commission (CPUC) implemented several measures that revolutionized the state's numbering policies. Thanks to these efforts, California's area codes still stand at 25. Today I'd like to outline for you the reasons for California's success so far, and identify the additional tools California and other states need to keep managing our limited supply of telephone numbers as efficiently as possible.

The traditional system of telephone number allocation was not designed to provide telephone numbers to any company other than the incumbent local exchange carrier, or to distribute numbers based on actual demand for numbers.

In the past, when telecommunication companies needed telephone numbers to serve their customers, they received blocks of 10,000 numbers, called prefixes. After the Telecommunications Act of 1996, competitive local exchange carriers entering

the market received number in these 10,000-blocks, just as the incumbents. Under this system, a company with only 500 customers received a 10,000 number block, the same quantity of numbers a company with 9,500 customers would receive. Thus, numbers were taken in these large blocks. As the number of phone companies proliferated, it created an artificial demand for more numbers, which in turn fueled the need to open more area codes.

Furthermore, prefixes were assigned to a carrier based on the carrier's own projections of need. That need, in turn, was premised upon the carrier's projected sales. In other words, marketing predictions, not actual number use, formed the basis of each carrier's forecast number requirements—and the national numbering policy.

CALIFORNIA'S SUCCESSFUL EFFORTS TO REDUCE UNNECESSARY AREA CODE PROLIFERATION

The FCC has exclusive jurisdiction over numbering in the United States. Only by the FCC's delegation of authority to the states can the states implement number conservation policies. Recognizing the substantial social and economic burdens associated with constant area code changes, under the leadership of Governor Davis, in 1999 California aggressively petitioned and received from the FCC additional delegated authority to slow down unnecessary area code proliferation. Beginning in December 1999, the CPUC suspended all plans for new area codes previously approved. Then, in 2000, the CPUC adopted several number conservation measures that fundamentally changed the area code landscape in California.

*Actual Number Use vs. Forecast*

First, the CPUC now considers new area codes based on actual need for new numbers, not carriers' unaudited forecast demand. Beginning in March 2000, the CPUC initiated the first-ever utilization study of actual number use in California, in the 310 area code—where we found three million unused telephone numbers in an area code that was supposedly entirely out of available telephone numbers. By the end of 2001, we completed a utilization study for each of the state's other 24 area codes. In every case, we found that each area code actually contained between 40-80% of the available numbers classified by the carriers as unused.

*More Efficiently Distributing Numbers*

Second, the CPUC now distributes new telephone numbers to carriers more efficiently. By far the most effective number conservation tool is number pooling. Number pooling allows telephone companies to receive numbers in smaller blocks than the traditional 10,000 numbers, enabling multiple providers to share a prefix and therefore use this limited resource much more efficiently. In March 2000, with special FCC authorization, California began the first number "pool" in the 310 area code. Today, the CPUC has implemented pooling in 19 of California's 25 area codes, in order to boost the efficiency of phone number allocation. Five of the remaining six area codes will begin pooling by the end of this year (661 has not yet been scheduled by the FCC). By allowing the state to distribute numbers in smaller blocks of 1,000, we can better match the numbering needs of new, smaller companies without stranding the remaining numbers in the prefix.

The technology that enables the network to support the assignment of smaller blocks is referred to as Local Number Portability or LNP. LNP was originally mandated in 1996 by the FCC as a means to enable customers to retain their telephone numbers when they switch telephone service to another local provider. This same technology is utilized for number pooling. The FCC required all wireline carriers to become LNP-capable by the end of 1998 in the top 100 Metropolitan Statistical Areas (MSAs) in the country.[1] The essence of competition is a customer's opportunity to freely terminate service with one provider and initiate service with another. Without LNP, however, a customer is inhibited from changing carriers because she must change both her equipment and her telephone number. The need for customers to change both equipment and telephone numbers inhibits them from changing carriers, which in turn constrains the very type of choice contemplated in the 1996 Telecommunications Act.

Though LNP technology has existed for several years and the wireline carriers became LNP-capable by 1998, the FCC later granted cellular and PCS companies an extension of time until November 2002 to become LNP-capable. The FCC further gave paging companies a permanent exemption from the LNP requirement.[2] Thus,

[1] FCC's Opinion and Order on Telephone Number Portability FCC 97-74, issued March 6, 1997

[2] Cellular companies, PCS companies, and paging companies comprise the wireless category.

at this time, only wireline carriers[3] can participate in number pooling. In the California area codes with number pooling, wireline carriers receive numbers through the number pools, and wireless carriers receive numbers through a CPUC-administered rationing system, or "lottery", and through "emergency" requests to the CPUC. In the remaining area codes, California must still distribute new numbers in large 10,000-blocks, which hastens those codes' approach to number exhaust.

*Better Management of Numbers Companies Already Have*

Third, in addition to more efficiently managing number distribution, California is also requiring companies to more efficiently manage the numbers they already have. These new requirements include:

- Requiring companies to return any prefix the carrier has held for more than six months without using it;
- Requiring companies to show they will be out of numbers within six months before granting requests for additional numbers;
- Requiring companies to show they have used at least 75% of the numbers they hold before they can request additional numbers. Companies must assign numbers in thousand block sequence, moving to the next block only after using 75% of their numbers.

These policies have resulted in more numbers available in number pooling, to be allocated through the lottery, or to be otherwise used by other companies. Indeed, since the CPUC extended the 75% use requirement in all California area codes, the demand for growth prefixes in each month's lottery has declined.

In 1999, based on industry forecasts, the North American Numbering Plan Administrator projected that 17 of California's 25 area codes would exhaust by the end of 2002. As you can see by the table comparing 1999 forecast exhaust with more recent projections, through these efforts, we have prolonged the lives of many of those area codes by several quarters—and some of them for several years!

But these efforts are not enough to delay area code exhaust indefinitely. Indeed, as the current Neustar forecast shows, 46 more codes across the nation will exhaust by the end of 2005. In California alone, despite the state's aggressive pooling and lottery implementation, we're facing exhaust in ten area codes by the end of 2005. More area codes may be inevitable, but we can help save consumers the cost and inconvenience by minimizing them if the FCC gives us a few more tools to add to the states' toolboxes.

THE FCC IS AT A CRITICAL JUNCTURE IN BOTH FOSTERING MEANINGFUL COMPETITION IN THE WIRELESS INDUSTRY AND HELPING STATES PRESERVE THE LIVES OF OUR EXISTING AREA CODES.

*Wireless Carriers Must Implement LNP*

The most critical numbering—and competitive—issue facing the FCC and the states now is the question of whether wireless carriers will be required to implement LNP technology later this year. On July 26, 2001, despite having received several previous extensions of time to meet the LNP implementation deadline, Verizon wireless filed a petition with the FCC asking the Commission to forbear permanently from imposing the LNP mandate on wireless carriers. Verizon wireless, supported by most other wireless carriers, argued that the wireless industry is "competitive enough'", and that no consumer demand exists for porting a number from one wireless carrier to another. The FCC docket in which the petition is being addressed contains literally hundreds of comments from individual consumers who want the ability to change from one carrier to another and to port the customer's telephone number to the new provider.

The FCC has yet to act on the petition, which, as a matter of law, will be deemed granted if the FCC does not act on it after one year. The FCC may grant itself one 3-month extension after which failure to act again would be deemed to be approved.

Permanent forbearance from the wireless LNP mandate will not serve the interests of consumers because continued absence of wireless LNP is both inconvenient and potentially costly to consumers who wish to change wireless carriers. This alone demonstrates Verizon's failure to meet the section 10 forbearance test the FCC must apply to determine whether forbearance is appropriate. The three pronged-test requires that the FCC determine whether (1) enforcing the wireless LNP mandate is unnecessary to ensure that the wireless industry's "charges, practices, classifications or regulations . . . are just and reasonable, and are not unjustly or unreasonably discriminatory," (2) enforcing the mandate is "not necessary for the protection of con-

[3] ILECs and CLECs

sumers," and (3) forbearing from applying the mandate is "consistent with the public interest."

Declining to give consumers the very type of choice contemplated in the 1996 Federal Telecommunications Act can hardly be "consistent with the public interest."[4] Finally, allowing the wireless industry not to implement LNP does not ensure that the industry's "charges, practices, classifications or regulations . . . are just and reasonable." If wireless carriers do not face unfettered competition, they can capture customers and retain them at the expense of unreasonable rates, charges, or terms and conditions because the customer does not want to surrender a telephone number. Despite assurances to the contrary from the wireless industry, the Verizon Wireless request does not meet the section 10 forbearance test.

*Wireless carriers must meet the November 2002 pooling deadline*

Equally important, wireless number portability will be a critical tool to assist in conserving scarce telephone numbers. Clarification of Verizon's petition is important here. Verizon asserts that the FCC should not require compliance with the LNP mandate because LNP is not necessary for wireless carriers to pool. In its petition, therefore, Verizon pledges that forbearance from the LNP requirement will not prevent it from complying with the FCC's concurrent mandate that wireless providers begin participating in number pooling by November 2002. If it is true that wireless carriers can participate in pooling without LNP, it is contrary to numerous prior industry claims and begs the question: why isn't the wireless industry pooling now?

As you know, the 310 area code pioneered California's pooling effort in 2000. To date, only wireline carriers participate in pooling—because wireless carriers claimed at the time that lack of LNP technology prevented them from doing so. Even with aggressive pooling in 310, it remains one of the area codes closest to number "exhaust" in California. The lack of numbers in 310 results in large part from the tremendous wireless growth and the fact that wireless carriers take numbers in blocks of 10,000 instead of 1,000 through the number pool. Ironically, wireless growth continues in large part to drive the need for new area codes. In the 909—area code, for example, demand by wireless carriers for numbers outside the rationing/lottery process, most of which the CPUC has granted, is rapidly depleting the remaining supply of numbers in that area code and pushing it much more quickly toward exhaust. This story will be repeated across California and the nation as time goes on because of steady wireless demand for numbers. If it is true that the wireless carriers can pool absent LNP technology, at a minimum the FCC should aggressively apply fines for wireless carrier non-compliance with meeting the November 2002 pooling deadline. Without wireless participation in number pooling and if future demand for numbers mirrors recent years, the North American Numbering Plan Administrator estimates that 20 of the 25 California area codes will exhaust by the end of 2008. The area code splits that would be required would impose unnecessarily severe burdens, costs and inconvenience on consumers across the nation.

*Wireless LNP is critical to other number conservation methods*

Assuming that wireless carriers start to pool in November 2002, wireless failure to deploy LNP technology will limit the industry's participation in other number conservation measures. Both individual telephone number pooling (ITN) and unassigned number porting (UNP) require use of full LNP capability, not just the location routing number (LRN) platform required for number pooling. California is interested in pursuing additional conservation measures such as ITN and UNP, and has expressed that interest informally to FCC staff as well as in comment to the FCC. The FCC has yet to order these further number conservation methods. But, as with number pooling, the effectiveness of UNP and/or ITN will be limited permanently if the wireless industry cannot participate because it has not deployed the necessary supporting technology, LNP.

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[4] In comments to the FCC, the wireless industry has asserted vigorously that the FCC should find the Verizon petition to meet the section 10 forbearance test because it made such a finding in granting the last extension of the wireless LNP compliance date in February 1999. In granting that last extension, however, the FCC concluded that doing so was not necessary for the protection of consumers and was consistent with the public interest because it was temporary, and was granted *only* so that wireless providers could "buildout" their networks to provide greater coverage. This, the FCC reasoned, would benefit consumers more in the short run than holding the industry to the compliance deadline. At the same time, in granting the extension, the FCC emphasized that "the competitive reasons that led us to mandate wireless number portability in the First Report and Order remain fundamentally valid . . ." (*Memorandum Opinion and Order,* FCC 99-19, WT Docket No. 98-229/CC Docket No. 95-116, Released February 9, 1999, ¶ 40.)

*Expanding the Areas Where Pooling and LNP are Mandatory*

FCC rules only mandated LNP capability and pooling by all wireline carriers in the top 100 MSAs. The FCC is currently considering reducing even that requirement to carriers who receive a bona fide request to port numbers to another carrier If the FCC eliminates the mandate for all carriers to be LNP-capable and to participate in pooling in the top 100 MSAs, this action will seriously undermine the effectiveness of pooling across the nation. Pooling is the single most effective number conservation tool. Instead of reducing the extent of its prior mandate for LNP and pooling, the FCC should expand the area in which LNP and pooling are mandatory to include the largest 200 MSAs in the nation, or allow all states to designate the areas where pooling is mandatory.

*Increasing the contamination threshold*

An increased level of allowable contamination rates for poolable 1,000-number blocks (from current 10% to 25%) helps pooling effectiveness. Without UNP and ITN, especially, fewer numbers would be stranded and more poolable blocks of 1,000 numbers would be available to other pooling carriers if the FCC increased the allowable contamination rates for poolable 1,000-blocks from 10% to 25%.

*FCC survey of numbers used for data verification, etc.*

The FCC should initiate and fund a survey, in key states like California, Louisiana, and Michigan, of numbers used primarily for data verification or which link such machines as bank teller machines or credit card verification devices. The survey would report the number of such users, whether that number would justify allocation of an entire area code, and how that area code should be drawn. The survey would exclude residential lines, and be formulated to avoid any privacy concerns. This information would help inform whether a non-geographic specific area codes for such uses would be appropriate.

Working with the FCC, the states have made huge strides in preserving our area codes over the last three years—and during a time of tremendous wireless and communication industry demand for numbers. Local number portability, wireless pooling, UNP/ITN, expanding mandatory pooling beyond the top 100—MSAs, and increased contamination thresholds are further tools critical to fostering true competition in the wireless industry and preserving the nation's area codes. Without timely access to these tools, the states' efforts to take our number conservation efforts to the next level are effectively curtailed. In California, consumers and businesses likely will feel the effect first—but ultimately consumers across the nation will suffer.

Change in Projected Exhaust Dates for California Area Codes

| Area Code | Exhaust Dates* | | Change in Exhaust Dates | Pooling Start Date** |
|---|---|---|---|---|
| | As of 1999 | As of June 2002 | | |
| 909 | 2002 4Q | 2003 1Q | (+1) | Dec-00 |
| 310 | 2000 3Q | 2003 2Q | (+11) | Mar-00 |
| 714 | 2002 1Q | 2004 2Q | (+9) | Oct-00 |
| 805 | 2002 3Q | 2004 2Q | (+7) | Feb-02 |
| 323 | 2002 3Q | 2004 4Q | (+9) | Aug-01 |
| 510 | 2002 4Q | 2004 4Q | (+8) | Jun-01 |
| 818 | 2002 3Q | 2004 4Q | (+9) | Mar-01 |
| 408 | 2003 1Q | 2005 1Q | (+8) | May-01 |
| 415 | 2001 4Q | 2005 1Q | (+13) | Jul-00 |
| 760 | 2002 4Q | 2005 2Q | (+10) | Aug-02 |
| 707 | 2001 3Q | 2006 1Q | (+18) | Mar-02 |
| 916 | 2002 1Q | 2006 1Q | (+16) | Jul-01 |
| 530 | 2002 4Q | 2006 2Q | (+14) | Sep-02 |
| 650 | 2002 3Q | 2006 3Q | (+16) | Jun-01 |
| 209 | 2003 2Q | 2006 4Q | (+14) | Apr-02 |
| 559 | 2003 1Q | 2007 2Q | (+17) | Aug-02 |
| 925 | 2001 4Q | 2007 2Q | (+22) | Sep-01 |
| 626 | 2003 1Q | 2008 2Q | (+21) | May-02 |
| 619 | 2004 4Q | 2008 3Q | (+15) | Oct-01 |
| 661 | 2002 4Q | 2008 4Q | (+24) | Feb-03 |
| 213 | 2004 3Q | 2011 3Q | (+28) | Nov-02 |
| 949 | 2002 4Q | 2011 3Q | (+35) | Apr-02 |
| 562 | 2001 3Q | 2015 1Q | (+54) | Nov-01 |
| 831 | 2005 2Q | 2015 1Q | (+39) | Nov-02 |

Change in Projected Exhaust Dates for California Area Codes—Continued

| Area Code | Exhaust Dates* | | Change in Exhaust Dates | Pooling Start Date** |
|---|---|---|---|---|
| | As of 1999 | As of June 2002 | | |
| 858 | 2003 4Q | 2018 2Q | (+58) | Dec-01 |

*Projected Exhaust dates are determined by North American Numbering Plan Administrator (NANPA)
**Shading indicates that pooling is in effect.

Mr. UPTON. Thank you.
Mr. Manning.

**STATEMENT OF JOHN MANNING**

Mr. MANNING. Good morning, Mr. Chairman, members of the subcommittee. My name is John Manning, Director with Numbering Services for NeuStar.

I am here today on behalf of NeuStar, the independent third party selected by the FCC in 1997, to serve as the North American Numbering Plan Administrator, or NANPA.

I greatly appreciate the opportunity to appear before you today to talk about numbering management and NeuStar's role in the administration of Federal and State numbering policy. As discussed later in testimony, it is our view that Congress, the FCC, and the State regulators have taken very strong steps to ensure the effective mechanisms exist for promoting number conservation.

These steps, including general numbering resource management, semiannual utilization and forecast reporting by service providers, State-level conservation plans and thousands-block number pooling, have all combined to produce positive results for consumers. We note this success, however, with appropriate caution and encourage Congress and the regulators to continue to prioritize this issue and ensure that the best tools of managing numbering resources continue to be made available.

By way of background, NeuStar serves as a neutral third party provider of clearinghouse, number administration, and data base services. The core responsibilities include the administration of the North American numbering plan, local number portability, and the thousands-block number pooling.

Today I want to talk to you about NeuStar's role with respect to numbering management and conservation and provide you some information on the NANP and the responsibilities of the administrator. The responsibilities of the NANP Administrator are numerous. I stress here, however, that the NANPA is not a regulatory agency and does not set policy. Rather, in administering the NANP, we follow detailed guidelines developed through industry consensus and regulatory directives from State public utility commissions and the FCC.

The major area code and central office functions performed by NANPA are as follows. One, NANPA administers area codes and central office codes and maintains associated records. Second, NANPA collects carrier-specific data on utilization of assigned central office codes and projects for future central office code demand. Third, NANPA assists the industry and regulators in their determination of whether and how a new area code should be introduced

when the supply of central office codes exhausts in an existing area code.

Thirty-six months before an area code is expected to exhaust NANPA begins the relief process by developing feasible relief alternatives for consideration by the industry and ultimately submits the results of industry deliberations to the relevant State commissions for their consideration and final determination.

When a State orders the introduction of an area code, NANPA makes the assignment and, again, convenes the industry to initiate the process of implementing the new area code. The process associated with area code relief and implementation takes time, and there have been numerous instances where rapid carrier expansion and technology developments have caused unanticipated demand.

In these instances, area codes may be determined to be in jeopardy, meaning that the supply of central office codes may exhaust before a new area code can be introduced. Such a condition often leads to the rationing of the remaining supply of central office codes, with a fixed number of codes to be assigned each month to applicants until a new area code can be introduced. NANPA, along with the regulators and the industry, have worked very hard to avoid these situations.

Another area where NANPA helps the regulatory conservation effort involves supplying the regulators with data to help them determine which policies to adopt. The data help the regulators work with NANPA to understand the remaining life of an area code and take additional steps to deter exhaust.

Finally, one area that we have seen State and Federal policy have had an impact on the life of area codes involves thousands-block number pooling. Pooling began at the State level in the form of State trials in the late 1990's, and recently industry has begun the implementation of FCC-mandated national thousands-block pooling.

In the relatively short period since pooling was introduced, we have seen positive impact on area code exhaust. Specifically, the number of area codes, including the Illinois 847, and Maine's 207, were able to delay exhaust significantly, in large part due to the implementation of pooling.

In conclusion, I would like to say that NeuStar, as North America's Numbering Plan Administrator, number portability, and the thousands-block numbering pooling administrator, performs a wide range of tasks and contributes a wealth of information and expertise in the support of the legislators and Federal-State regulators who develop, adopt, and implement numbering policies.

Based upon our experience, we firmly believe that the Congress and regulators have taken very important steps to permit the efficient management of the numbering plan in this country. The tools I have discussed here today have all combined to deliver positive results for consumers.

We encourage Congress and the regulators to stay the course and continue to adopt policies that enable us to manage these critical resources in a stable and predictable fashion, regardless of trends or the economy or service innovation.

There will always be peaks and valleys in the demand for numbering resources. By using the tools available today, and by work-

ing with legislators and regulators, we can work to minimize the impact of these fluctuations in demand on area code exhaust, while ensuring numbering resources are available regardless of service or application that consumers demand.

I thank the subcommittee for giving me the opportunity to testify today, and I look forward to working with you on these important issues.

[The prepared statement of John Manning follows:]

PREPARED STATEMENT OF JOHN MANNING, NEUSTAR, INC.

INTRODUCTION

Mr. Chairman, Mr. Markey, members of the Committee, I am John Manning, Director, Numbering Services, NeuStar, Inc. I am here today on behalf of NeuStar, the independent third party selected by the Federal Communications Commission (FCC) in 1997 to serve as the North American Numbering Plan Administrator or NANPA.

I greatly appreciate the opportunity to appear before you today to talk about numbering management and NeuStar's role in the administration of federal and state numbering policy. As discussed below in greater detail, it is our view that Congress, the FCC and the state regulatory authorities have taken very strong steps to ensure that effective mechanisms exist for promoting number conservation. These steps, including general numbering resource management, data reporting requirements, state level conservation plans, and the recent addition of National Thousands Block Number Pooling, have combined to produce positive results for consumers. We note this success, however, with appropriate caution and encourage Congress and the regulators to continue to prioritize this issue and ensure that the best tools for managing numbering resources continue to be made available.

BACKGROUND ON NEUSTAR, INC.

NeuStar is a Washington, DC-based company that serves as a neutral third-party provider of clearinghouse, number administration, and database administration services. Throughout our young life, we have delivered these essential services and provided highly reliable expert support for state and federal regulators and members of Congress as well as industry players in this increasingly diverse and complex telecommunications market. We have a team of professionals with extensive experience in clearinghouse and data management, numbering, and mission critical infrastructure technology. Our core responsibilities include the administration of the North American Numbering Plan (NANP), Local Number Portability (LNP), and the National Thousands-Block Number Pools.

We recognize the seriousness of the public trust that has been given to us and have implemented our Congressional and regulatory requirements faithfully, resulting in numbering resource management that is without question the most efficient and pro-competitive in the world.

SUMMARY

Today I want to talk with you about NeuStar's role with respect to numbering management and conservation, and provide you some background on the NANP and the responsibilities of the administrator. First, this testimony addresses how the numbering plan works along with some history of how we transitioned from the first area code assignments in 1947 to today. Second, I will discuss the administrator's responsibilities and provide background on how the area code assignments process developed into the process that we use today. Third, I will highlight several of the policies and techniques the regulators have adopted that are designed to ensure that numbering resources are managed to the greatest benefit of the public. Finally, I will discuss the conservation tools available and steps involved with identifying and handling potential exhaust of area codes.

A key point to make up front is that important strides have been taken in recent years to strengthen the management of numbering resources in the United States. The Telecommunications Act of 1996 was important because for the first time Congress required that numbering administration be handled by an impartial entity. This decision has resulted in centralized, cost effective and efficient pro-competitive handling of numbering resources for North America, making our system second to none in the world.

In addition, the state and federal regulatory authorities have taken important steps to identify area codes in jeopardy and to provide NANPA with tools, such as mandatory utilization and forecast reporting by service providers, state level conservation plans, and state and national thousands block number pooling, all of which have helped manage the supply of numbers throughout the country.

As NANPA, we report on usage and exhaust levels of area codes and, using the information available to us, project the exhaust of individual area codes. Even with the data, it is still very difficult to predict what the next demand trend will be. History has shown us that there will certainly be innovation that will lead to growth and increased demand for numbers from unexpected places. History has also shown us that this growth and demand can have serious implications for area code exhaust. Congress and the regulatory authorities have, however, provided us with critical tools to enable the efficient management of numbering resources regardless of the trends evident in the marketplace. These tools, including semi-annual number utilization and forecast reporting by carriers, thousands block number pooling, and multiple state-level conservation techniques such as rate center consolidation and other administrative practices, have helped promote the stable and successful management of numbering resources. We thank you for your efforts and continued support and attention to these important issues.

THE NORTH AMERICAN NUMBERING PLAN: BACKGROUND

In 1947, AT&T and Bell Laboratories invented the North American Numbering Plan to standardize telephone numbers throughout the U.S. and make it possible for customers to dial long distance calls. From 1947 through 1984, AT&T administered the area codes, and its Bell Company subsidiaries managed the supply of central office codes within their respective service areas. In 1984, with the break-up of AT&T and the advent of long distance competition, area code administration moved from AT&T to Bellcore (now Telcordia). The seven regional Bell Operating Companies (BOCs) took over administration of central office codes used by all telephone companies operating in their territories. In 1997, pursuant to the mandate of the Telecommunications Act of 1996, the FCC designated Lockheed Martin's Information Management Services division (now NeuStar) as the impartial entity to administer telecommunications numbering, both area codes and central office codes, and to make such numbers available to users on an equitable basis. The FCC selected NeuStar for a 5-year term through a competitive bidding process.How the North American Numbering Plan Works

Technically speaking, the term "North American Numbering Plan" refers to the 10-digit format of phone numbers and the process by which the numbers are administered.

The format of a NANP number looks like this: NXX-NXX-XXXX

In the above string of characters, the "N" represents any 2-9 digit and X represents any digit from 0-9. The first "NXX" is called the Numbering Plan Area (NPA), commonly referred to as an area code. The second "NXX" is called the central office code, often referred to as the prefix. The final "XXXX" is called the line number. The NANPA administers area codes and central office codes, and individual service providers administer line numbers within the central office codes assigned to them. Nineteen separate North American countries share the resources of the NANP. In addition to the U.S., participants in the NANP include Canada, Bermuda, and many of the Caribbean islands.

AREA CODE ADMINISTRATION

In 1947, there were 86 area codes assigned to start the NANP. In 1995, a long anticipated and planned change in the formatting of phone numbers made many new area codes available. Simultaneously, the entry of new carriers into local markets, the dramatic growth in the wireless sector, technological innovation, the introduction of new services such as electronic facsimile and Internet access (requiring second phone lines), as well as major legislative and regulatory shifts, including the passage of the Telecommunications Act of 1996, greatly increased demand for numbers.

Each year, the NANPA conducts a study to predict how long each existing area code will last and how long it will be before we run out of area codes and have to expand the available NANP. The most recent study shows that with the timely and rigorous application of conservation techniques we can extend the life of the Plan until 2025.

RESPONSIBILITIES OF THE NANP ADMINISTRATOR—IMPLEMENTING THE TOOLS FOR NUMBER RESOURCE MANAGEMENT

The responsibilities of the NANP Administrator are numerous. I highlight here and explain in detail below, those functions that relate to area code exhaust. This information is provided to educate the Subcommittee on the process used to introduce new area codes when necessary, and the NANPA's role in the process. I stress again here, however, that the NANPA is not a regulatory agency and does not set policy. Rather, in carrying out the administration of the NANP, we follow detailed guidelines developed through industry consensus and regulatory directives from state public utility commissions and the FCC.

The federal and state regulators are responsible for identifying and providing NANPA with the tools necessary to manage the numbering resource effectively. In many jurisdictions these tools have had a positive impact on numbering management. The major area code and central office code functions performed by NANPA are as follows:

1. NANPA administers area codes and central office codes, and maintains the associated records. Most of this information is available from NANPA's web site at www.nanpa.com.
2. Through an FCC-mandated process called Number Resource Utilization and Forecasting (NRUF), NANPA collects carrier-specific data on utilization of assigned central office codes and projections for future central office code demand. NANPA uses the data to forecast the exhaust of each area code and of the NANP as a whole. As detailed below, NANPA shares the utilization and forecast data with regulators.
3. NANPA assists the industry and regulators in their determination of whether and how a new area code should be introduced when the supply of central office codes exhausts in an existing area code. This activity, called "Relief Planning," is discussed in greater detail below.

THE RELIEF PLANNING PROCESS

Thirty-six months before an area code is expected to be exhausted, NANPA begins the relief process by developing several feasible alternative relief methods for consideration by the industry, convening a meeting for the industry to evaluate the alternative relief plans or propose plans of their own. The purpose of the meeting is to allow industry members to reach consensus on at least one plan as the preferred method of relief for the area code in question. On behalf of the industry, NANPA submits the results of industry deliberations to the relevant state commissions for their consideration and final determination.

In addition to industry input provided through NANPA, many states conduct public hearings to obtain consumer input on the best plan to implement. A state may elect to implement one of the options in the industry's proposed relief plan or it may elect instead to take a different approach.When a state orders the introduction of a new area code, NANPA makes the assignment and again convenes the industry to begin the process of implementing the new area code.

The process associated with area code relief and implementation takes time, and there have been instances when rapid carrier expansion and technological developments have caused unanticipated demand. In these instances, area codes may be determined to be in "jeopardy," meaning that the supply of central office codes could exhaust before a new area code could be introduced. When an area code is declared to be in jeopardy, the NANPA and the industry convene to reach consensus upon procedures for use by NANPA to prevent number exhaust. Normally, these procedures involve rationing the remaining supply of central office codes, with a fixed number of codes to be assigned each month to applicants selected by lottery.

NEUSTAR'S ROLE IN CONSERVATION INITIATIVES: THE IMPORTANCE OF DATA COLLECTION AND THE IMPACT OF THOUSANDS BLOCK NUMBER POOLING

The FCC and state regulators develop conservation policy. When requested to do so by the regulators, the NANPA and NeuStar have provided support and expertise to these conservation efforts. One specific area where the NANPA helps involves supplying the regulators with data to help them determine which policies to adopt. The data help the regulators work with NANPA to determine whether and when to declare an area code in jeopardy and take additional steps to deter exhaust.

Another area where we have seen an impact involves thousands block number pooling. Pooling began at the state level in the form of state trials. In 2001, the FCC mandated national thousands block number pooling and, pursuant to a competitive bidding process, selected NeuStar as the neutral third party administrator for pool-

ing. In a relatively short period, we have seen some positive impact due to the implementation of pooling. Specifically, a number of area codes, such as Illinois' 847 and Maine's 207, were both able to delay exhaust significantly due in large part to the implementation of pooling.

CONCLUSION

NeuStar, as the administrator of the North American Numbering Plan, Number Portability, and National Thousands Block Number Pooling, performs a wide range of tasks and contributes a wealth of information and expertise in support of the legislators and federal and state regulators who develop, adopt and implement numbering policies. We look forward to continuing to provide the support and expertise necessary to the members of this Committee as well as the state and federal regulators.

Based on our experience as the numbering administrator for NANP as well as the Administrator of Number Portability and National Thousands Block Number Pooling, we firmly believe that the Congress and regulators have taken very important steps to permit the efficient management of the numbering plan in this country. The tools discussed here, including independent, neutral third party administration, data collection, and state-level relief planning as well as thousands block number pooling, have all combined to deliver positive results for consumers and small business users. We encourage Congress and the regulators to stay the course and continue to adopt policies that enable us to manage these critical resources in a stable and predictable fashion, regardless of trends in the economy or service innovation. There will always be peaks and valleys of demand for numbering resources. By using the tools available today and by working with legislators and regulators, we can work to minimize the impact of these fluctuations in demand on area code exhaust while ensuring that numbering resources are available regardless of the service or application that consumers demand.

I thank the Subcommittee for giving me the opportunity to testify today and look forward to working with you on these important issues.

Mr. UPTON. Thank you very much.

Ms. Miller.

## STATEMENT OF ANNA MILLER

Ms. MILLER. Thank you, Mr. Chairman and committee members. I am Anna Miller, Director of Numbering Policy for VoiceStream Wireless. Additionally, I also serve on the FCC's North American Numbering Council, Federal Advisory Committee. I also participate at the Cellular Telecommunication Industry Association's Numbering Advisory Committee.

I will endeavor in my remarks today to represent the views of the wireless companies who have actively engaged in numbering issues at the national level. Telephone numbers are a scarce resource that wireless carriers need for continuing growth and competition that benefit more than 130 million Americans.

The growth of the telecommunication industry, both wireline and wireless, in the late 1990's resulted in high demand for telephone numbers and the exhaust of an unprecedented number of area codes between 1998 and 2001. The results of number exhaust are unacceptable for the public and public policy.

However, due to the efforts of the FCC, State, public utility commissions, and industry, all carriers are now utilizing numbering resources more efficiently, and the threat of near-term exhaust of the North American numbering plan has passed.

In the most recent projections, the North American Numbering Plan Administrator now estimates that the North American numbering plan exhaust to extend at least until 2025. NANP exhaust is not foreseeable for at least the next 20 years, and most likely much longer. The demand for numbers has declined significantly

due to the conservation measures such as reclamation, 1,000 block pooling, utilization, and utilization requirements.

On June 5, 2002, the North American Numbering Plan Administrator released its numbering resource utilization forecast and NPA exhaust analysis, which now extends the exhaust date of over 200 area codes.

Most of the area codes that are near exhaust today have been in that State for years, with their lives artificially extended by number rationing. It is also clear that for certain individual area codes that have already exhausted and require immediate relief, pooling measures will not correct the jeopardy.

In short, there comes a time, even with prudent conservation, that all assignable numbers in an existing area code will be used, and relief through the implementation of a new area code is needed. Number pooling has proved to be a crucial element in extending the lives of area codes across the country, and we believe that pooling will be the Viagra for the wireless carriers to have adequate numbering resources.

The wireless industry is committed to 1,000 block pooling, and is devoting considerable resources to meet the technical challenges surrounding a successful implementation by November 24, 2002. The effectiveness of number pooling will be maximized by ensuring that both wireless and wireline carriers are served out of the same area code, so they can pool numbers with each other.

The 1996 Telecommunications Act gave the FCC exclusive authority over portions of the North American numbering plan that pertain to the United States. Congress also required that telephone numbers be made available on an equitable basis. In a series of orders, the FCC delegated important parts of its jurisdiction to the States, primarily the responsibility for area code relief.

However, the FCC repeatedly has instructed the States that numbering must be available on a non-discriminatory basis, and that different dialing requirement are discriminatory, and that rationing is not a substitute for area code relief.

This year, the FCC allowed States to submit proposals for specialized overlays, such as technology-specific or service-specific overlays. The FCC also provided specific guidance about how it would consider these proposals, including a provision disfavoring permanent overlays for non-pooling carriers, because segregating carriers after they become pooling capable prevents them from sharing numbers with other carriers and maximizing the benefits of pooling.

In conclusion, the numbering crisis of the late 1990's created burdens for consumers, businesses, and carriers. Thanks to the decisive action of the FCC, State utility commissions, and carriers, the national numbering crisis has passed. Number pooling, reclamation, usage reporting, and utilization requirements have dramatically decreased the net new assignments of numbers to carriers.

The wireless industry is committed to beginning wireless number pooling by November 24, 2002, and looks forward to continuing cooperation with the FCC, North American Numbering Plan Administrator, and pooling administrator, and State commissioners, to ensure adequate numbering resources are available.

The wireless industry appreciates this opportunity to testify before the subcommittee, and I look forward to answering any questions you may have.

Thank you.

[The prepared statement of Anna Miller follows:]

PREPARED STATEMENT OF ANNA MILLER, DIRECTOR OF NUMBERING POLICY, VOICESTREAM WIRELESS

Thank you for the opportunity to appear before you today. I am Anna Miller, Director of Numbering Policy for VoiceStream Wireless. Additionally, I serve as one of two wireless industry representatives on the FCC's North American Numbering Council ("NANC") Federal Advisory Committee. I also participate on the Cellular Telecommunication and Internet Association's (CTIA) Numbering Advisory Committee. I will endeavor in my remarks today to represent the views of those wireless companies who have been actively engaged in numbering issues at the national level.

Numbers are like radio frequency spectrum—a scarce resource wireless carriers need for continuing the growth and competition that today benefits more than 130 million Americans. In addition to the growth in commercial mobile radio service ("CMRS") over the past five years, there has been an explosion of demand for the services offered by new wireline entrants. Wireless phones and devices, fax machines, data modems to reach the Internet, personal 800 numbers, etc., were unknown or unaffordable for the average American just a few years ago. Today, the telecommunications revolution has brought these new and improved services to millions more Americans. We should not lose sight of the fact that this increased demand is a positive for our economy and our quality of life.

Wireless carriers support the efficient utilization of this scarce resource. We are committed to support and begin the implementation of thousand-block number pooling by November 24, 2002. I note that the Cellular Telecommunications & Internet Association (CTIA), representing all categories of commercial wireless carriers, stated before the FCC on April 25, 2002: "The FCC has stated, and CTIA agrees, that timely implementation of number pooling is critical—both for number resource optimization and to provide wireless carriers with the numbering resources they need to grow and compete. CTIA and its members are committed to meeting the FCC's November 24th deadline for number pooling." Voicestream and other wireless carriers are working diligently to be ready to accept phone numbers in blocks of 1000 in order to gain access to an adequate numbering supply.

The implementation schedule calls for the roll-out of pooling to be completed by March 2004; however numerous technical challenges currently exist and will have to be addressed through trial and error as we work to successfully complete number pooling.

Wireless carriers are committed to following the established utilization thresholds to acquire additional numbering resources. As of June 30, 2002, the utilization threshold is aggressively held at 65 percent, which means that no carrier can acquire additional number resources unless they reach a 65 percent utilization rate of the numbers that they have already been allocated. Industry worked with FCC, state officials and others to raise the utilization rate to 65 percent. This target is enforced with real teeth—meet it or no new numbers. Wireless carriers periodically report their utilization needs and rates of utilization to the North America Numbering Plan Administrator ("NANPA"). I note that the 65 percent rate represents a real increase in the utilization thresholds of just a few years ago. This is illustrated by the significant extension in the projected date of number exhaust, combined with pooling initiatives, resulting in an extension from 2012 to at least 2025.

It is important to note that the 65 percent rate represents real efficiency in number utilization. For a variety of reasons, not all numbers can be used. For example, numbers beginning with "0's" and "1's" are not used because they have special purposes. Numbers referred to as "N11" numbers such as 411, 911 are not used, for they too have special purposes. There are other practical reasons why 100 percent utilization is impossible—for example, numbers are "reserved" so, for example, a small business can grow and have the ease and convenience of a consecutive block of numbers, even if they do not demand all the numbers when service is initiated. Indeed, 65 percent utilization is considered very high, taking into consideration all assignable numbers.

Wireless carriers are uniquely efficient due to our large coverage areas and our growth, resulting in fewer stranded numbers. To illustrate, a new block of numbers granted to a wireless carrier here in the Washington, D.C. area can be used by any

of the millions of potential customers in the Washington, D.C. service area. The large pool of potential customers, and our rapid growth, limits the amount of time any number assigned to a wireless carrier sits on the shelf waiting for a customer.

Due to the efforts of the FCC, state officials and industry, wireless (indeed all) carriers are utilizing number resources more efficiently, and the threat of near term exhaust of the North American Numbering Plan ("NANP") has passed. NANPA released a report in June summarizing the results of all area codes and the overall picture is clear that area code exhaust is improving dramatically. NANP exhaust is not foreseeable for at least twenty years, and most likely much longer.

In its most recent projections, NANPA's estimates for NANP exhaust extend into 2025 at the earliest, and 2034 at the latest. Notably, this analysis is based on a constant projected demand of 11,600 new codes per year, with no consideration made for returned codes, or net code assignment. In 2001, net code assignment was approximately 5,500, well under 11,600 per year. To the extent net code assignment remains under 11,600 per year, NANP exhaust could be extended for decades beyond present calculations. A closer review of the recent data suggests that the assumed 11,600 codes per year may be too high. Whereas Central Office code assignments averaged more than 1,300 per month in the first half of 2000, monthly code assignments averaged less than 1,100 per month in the latter half of the year. This downward trend continued into 2001, where code assignments averaged less than 700 per month in the second half of the year. For 2002, NANPA is on pace to assign only 8,200 codes.

NANPA's most recent area code analysis further confirms the success of the Commission's optimization measures. On June 5, 2002, NANPA released its Number Resource Utilization and Forecast ("NRUF") and NPA Exhaust Analysis, which extends the exhaust date of 215 NPA codes, seventeen by more than twelve years.The 1996 Telecommunications Act unambiguously gave the Federal Communications Commission "exclusive authority'" over the portions of the North American Numbering Plan that pertain to the United States.[1] This national framework for numbering limits the authority that states can exercise over numbering administration.

Congress also required that telephone numbers be made available on an equitable basis; and imposed on all Local Exchange Carriers "the duty to provide dialing parity to competing providers of telephone exchange service and telephone toll service, and the duty to permit all such providers to have non-discriminatory access to telephone numbers . . ."[2] In a series of orders, the FCC delegated important parts of its exclusive jurisdiction to the states; however, the FCC repeatedly has instructed the states that numbers must be made available on a nondiscriminatory basis, that disparate dialing requirements are discriminatory, and that rationing is not a substitute for area code relief.[3] In short, there comes a time, even with prudent conservation, that all of the assignable numbers in an existing area code will be used, and a new area code must be created.

Today, imminent NANP exhaust is no longer an issue. For example, in California, wireline pooling implementation has improved the forecasted exhaust dates for 22 of the 25 area codes within the state. But, is also clear that for certain individual area codes which have already "exhausted" and require immediate relief—pooling measures will not correct the jeopardy.

The results of number exhaust are unacceptable for the public and public policy. For example, if wireless carriers are out of numbers, carriers either cannot sign up new customers, or must assign new customers phone numbers from a distant area code. This can result in toll charges for calls from a wireline phone to a wireless user at the same address, not to mention the disparate dialing (seven digits for wireline to wireline; ten digits for wireline to wireless)—which the FCC repeatedly has found to be discriminatory and impermissible under the Communications Act. Conservation methods will not work when all of the codes in an area code have been assigned. The only remedy is "relief," i.e., the creation of a new area code through either a split or an overlay. For particular area codes around our nation, no conservation measure will help.

Different methodologies for creating new area codes are referred to as "splits" and "overlays." Area code splits and overlays each have advantages and disadvantages. Approximately one-half of the states now have overlay codes, including Maryland and Virginia in this area. After a one-time adjustment to 10-digit dialing, future

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[1] Section 251(e)

[2] Sec. 251(b)(3).

[3] *In re Numbering Resource Optimization,* CC Docket No. 99-200, *Second Report and Order* (rel. Dec. 29, 2000) ("*Second Report and Order*"). *See also In Re Numbering Resource Optimization,* CC Docket No. 99-200, FCC No. 00-104, *Report and Order and Further Notice of Proposed Rulemaking* (rel. March 31, 2000) ("*Numbering Resource Optimization Order*" *or* "*NRO Order*").

area code relief is "painless"—new area codes may be required, but the change from 7-digit dialing to 10-digit dialing would have been accomplished. In fact, some of us are old enough to remember the conversion from 5-digit local dialing to 7-digits. With overlay codes, "0" and "1" are used as toll indicators.

Area code splits preserve 7-digit dialing for "local" calls within the area code. But about half of the users are assigned a new area code, and must change their phone number. Calls to the legacy code require ten digits. And, for technical reasons, splits can't reuse numbers that are assigned in the adjacent code, needlessly stranding numbering resources. And, of course, additional area code splits duplicate these issues.

The wireless industry supports both overlays and geographic splits, whichever is most appropriate for the area—but there must be timely relief. The wireless industry supports the use of service overlays in appropriate circumstances and in accordance with the guidelines established by the FCC.[4] Otherwise, a service overlay wastes millions of numbers. A Technology-Specific Overlay should be transitional until wireless carriers are pooling-capable. Segregating wireless carriers in a separate area code cannot be justified beyond the implementation date of wireless pooling since a service overlay that extends beyond pooling implementation segregate wireless carriers in a service overlay after they have begun to participate in numbering pooling. Wireless carriers would likely be required to obtain new numbering resources exclusively from the numbers available for use in the Service-Specific Overlay, thus, precluding wireless carriers from enjoying the benefits of pooling.

In areas where pooling has been implemented and still the area code is near exhaust, the wireless industry supports All Service Overlays provided that there is no "take back" of legacy wireless codes. The premature assignment of a new area code would accelerate the exhaust of the North American Numbering Plan ("NANP"). For example, the Connecticut Department of Public Utility Control recently asked the FCC for authority to implement a transitional, technology-specific overlay in Connecticut for wireless and certain wireline services. While Connecticut has approximately 3.4 million residents, a new NPA code contains approximately 8 million numbers. In Connecticut, a service overlay would involve the activation of a new NPA code while millions of numbers went unused within the existing NPA, frustrating existing number conservation measures. The wireless industry supports the use of service overlays under the condition that ten-digit dialing is implemented to avoid the discriminatory effects of the service overlay.

Some have suggested that porting—taking one's number with you when one changes service providers—directly affects number conservation efforts. To make this suggestion fails to take into account the uniquely competitive environment of the wireless industry and the considerable challenges posed by a mobile, rather than stationary wireline communications devices. In reality, number pooling provides considerable more efficiency in number conservation, whereas the local number portability (LNP) lends little to the practice of actually conserving numbers.

Back in February of this year, many members of this committee sent a letter to the FCC requesting a delay in implementation of the portability mandate until the successful implementation of thousand-block number pooling. This is a commonsense approach that recognizes that it is number pooling, not porting, which will achieve the significant gains in number conservation as well as the immense technical difficulty in attempting to implement pooling and porting simultaneously.

The wireless industry is committed to thousand-block number pooling and will be devoting considerable resources to correct the unforeseen technical challenges surrounding a successful implementation. But, just as one wouldn't want to buy a new personal computer, plug it in, install the basic programs and then install more advanced software without knowing if the PC's basic programs are working as they should; so too, do carriers need to be assured that the intricate technical systems installed for pooling will work smoothly, successfully and efficiently BEFORE the move on to additional technical improvements for other consumer services and conveniences such as porting.

CTIA believes that the member's letter remains just as pertinent today, as potential new problems arise impacting the carriers simultaneous implementation of E-911. Such questions as to how Public Safety Answering Points will be able to handle 911 calls from wireless telephone numbers that have been ported need to be answered—and this is most effectively and efficiently done correctly if pooling is first undertaken and completed successfully.

In conclusion, the national numbering crisis has passed, though in isolated areas the numbering crisis remains real and pressing. Today's environment reflects

[4] For example, consumers have enjoyed the benefits of 800 numbers, which have proven to be an efficient allocation of numbering resources.

healthy growth and competitive demand. Wireless carriers are committed to being prudent shepherds of numbering resources. We have a national numbering plan and we need uniform national administration of this critical resource. The wireless industry is committed to beginning Wireless Number Pooling implementation by November 24, 2002 and looks forward to continuing cooperation with the FCC, NANPA and State Commissioners to ensure adequate numbering resources are available.

The wireless industry appreciates the opportunity to testify before the Subcommittee. I look forward to answering any questions you may have. Thank you.

Mr. UPTON. Thank you.

Mr. O'Connor.

**STATEMENT OF MICHAEL O'CONNOR**

Mr. O'CONNOR. Good morning, Mr. Chairman and members of the subcommittee. And thank you for giving Verizon the opportunity the opportunity to present its views on area code relief.

While Verizon is a member of USTA, my comments this morning will be those representing Verizon Corporation.

My name is Michael O'Connor, Director of Federal Regulatory Policy and Planning for Verizon, and I also am a member of the North American Numbering Council.

Since 1995, the North American Numbering Plan Administrator has assigned 138 new area codes, raising the national total to 264. By way of contrast, between 1984 and 1994, we added only 18 new area codes. In my view, the recent spike in the number of new area codes has been driven by two factors.

The first of these factors is an expansion in the number of technologies that use telephone numbers. For example, Internet access, pages, wireless, facsimile machines, automated teller machines, new services such as unified messaging services, all serve to draw down the available pool of telephone numbers, and thereby accelerate the need for area code relief, and hasten the point at which the North American numbering plan would run out of area codes. The industry calls this North American numbering plan exhaust.

The second factor accelerating the use of area codes has been the advent of competition. As new and multiple competitive local exchange carriers enter the market, they need to be assigned their own pool of telephone numbers, so that they can serve their customers.

The 264 currently assigned area codes contain about 2 billion numbers, yet in 2000 the administrator of the North American numbering plan had estimated that without new measures to conserve numbers or expand the number of digits in the dialing patterns that the last available codes might be assigned as early as 2007. The projected exhaust date was 2015.

Sounds counterintuitive. How can billions of telephone numbers not be enough? The answer to this puzzle is twofold. It is geography, and it is number assignment principles. Let me begin with the geography.

The second 3 digits of a 10-digit telephone number are known as the exchange or central office code. For our purposes today, I will sometimes refer to the local exchange code as the three-digit prefix. Each local exchange code, or three-digit prefix, contains 10,000 telephone numbers.

The local exchange code tells the network where you live and, therefore, how to rate the call, whether it be local call or a toll call.

Each local exchange has at least one unique three-digit prefix identifying to the network the geography being served by that telephone number.

This leads to the number assignment principles piece of the puzzle. Many States have hundreds of local exchanges, each exchange requiring at least one three-digit prefix for each carrier serving the exchange. Each carrier would be assigned 10,000 telephone numbers even if it were only serving, say, 50 customers.

These number assignment principles, which are economically efficient in a single carrier environment, prove more wasteful with the advent of competition. You can see how, in the late 1990's, the need for new area codes, accelerated by technology, began to reach epidemic proportions with the advent of local competition.

Well, that's the history. The salient questions for this morning are, however, what's been done to address the problem? And what is the current prognosis?

As the chairman has pointed out, and Ms. Attwood and others have talked about, the centerpiece of the remedy allowed numbers to be allocated in blocks of 1,000 as opposed to 10,000. This new allocation scheme mitigated the assignment principle problems outlined above, but at a total cost to industry of something in the neighborhood of half a billion dollars.

So was it worth it? Well, in May of 2001, the North American Numbering Plan Administrator's new forecast of the exhaust of the North American numbering plan was 2025. And next month the NANPA will report to the NANC on its 2002 NANPA exhaust forecast, and it is widely expected that the new date will be somewhere in the neighborhood of 2035.

There is a temptation to say that that is the end of the story and North American numbering plan exhaust will be a project for another generation. And to an extent, that's true. Carriers, and ultimately consumers, should not be required to bear any more costs to delay NANPA exhaust for the foreseeable future.

Nonetheless, growth is a reality, and the geography of numbering dictates that area code relief, while abating, is still necessary. The FCC made clear that the new allocation scheme was a technology for improving the efficacy by which telephone numbers are used and should not be used as a substitute for timely area code relief when it becomes necessary.

Given this reality, the last question I will address is: how can area code relief be accomplished in the least disruptive way for consumers, carriers, and regulators? In my opinion, nationwide 10-digit dialing would be a very productive endeavor, particularly in terms of the impact on consumers faced with area code relief.

One of the primary reasons area code relief is disruptive to consumers is that in the case of an area code split—and Congressman Markey has outlined the two forms of it already—about half of the customers need to take a new number. They have to get a new area code, and they are assigned a new number.

In the case of an area code overlay, the good news is the customers get to keep their numbers. The bad news is you have to move to a 10-digit dialing environment.

Generally, customers have ample time—about 1 year—to prepare for this type of dialing change. In today's world, 10-digit dialing is

not an onerous requirement. Customers already dial 10 digits for long distance calls, for most calls to and from cellular telephones. And, additionally, customers who use company-based voice mail systems, telephone credit card services, dial-around services, are used to dialing more than 10 digits, sometimes much more than 10 digits.

Verizon's experience where area code overlays have been implemented—and this covers millions of customers—is that 10-digit dialing with an overlay, once it has been implemented, is a non-event. It seems to be more of a concern ahead of time than it ever winds up to be afterwards.

It then becomes easy to implement additional overlays with zero additional disruption to consumers, and there is no emotional stress for the members of the subcommittee.

Other conservation methods you have heard about today, such as individual telephone number pooling or unassigned number porting, would cost the industry billions of dollars to implement, but would not solve the underlying problem of the local exchange geography, and, therefore, would not appreciably delay the need for area code relief.

This concludes my formal testimony. Thank you for giving me the opportunity today to address the subcommittee.

[The prepared statement of Michael O'Connor follows:]

PREPARED STATEMENT OF MICHAEL O'CONNOR, VERIZON COMMUNICATIONS

Good morning Mr. Chairman and members of the Subcommittee. And thank you for giving Verizon the opportunity to testify and present its views on Area Code Exhaustion.

My name is Michael O'Connor, Director of Federal Regulatory Policy Planning for Verizon. In that capacity, one of my responsibilities is managing numbering policy issues throughout the Verizon footprint. Additionally, I currently represent Verizon on the North American Numbering Council (the NANC) which is a Federal advisory group helping the FCC with policy questions related to administration of the North American Numbering Plan (NANP). As an initial matter, l'll define the North American Numbering Plan—it is the ten-digit model of area codes and telephone numbers that govern the routing and rating of telephone calls in the United States. Simply put, it's why we dial seven or ten digits to complete a call. And the Administrator of that plan works with industry and regulators to assign new area codes as needed.

Since 1995, the North American Numbering Plan Administrator (NANPA) has assigned 138 new area codes, raising the national total to 264. By way of contrast, between 1984 and 1994, we added only 18 area codes. In my view, the recent spike in the number of new area codes has been driven by two factors.

The first of these factors is an expansion in the number of technologies that use of telephone numbers. For example, wireless phones, pagers, internet access, facsimile machines, automated teller machines, credit card verification boxes, and newer telephone number uses such messaging services all serve to draw down the available pool of telephone numbers and thereby accelerate the need for area code relief and hasten the point at which the North American Numbering Plan runs out of area codes. The industry calls this North American Numbering Plan Exhaust.

The second factor accelerating the use of area codes has been the advent of competition. As new and multiple Competitive Local Exchange Carriers (CLECs) enter the market, they need to be assigned their own pool of telephone numbers so they can serve their customers.

A touch of telephone numbering history will prove useful here. The current numbering scheme using area codes was adopted by AT&T in 1947. The goal at the time was to permit automated routing of long distance phone calls, preventing the need for operators to assist on the routing of the calls. Under the number allocation system that developed to support this automated system, telephone numbers were assigned to local telephone exchange carriers on the basis of physical geography. The first three numbers in a ten-digit telephone number represent the area code. Each of the 344 currently assigned area codes has 7.7 million numbers each. Simple

mathematics would suggest that the 2.6 billion available telephone numbers should be enough. Yet in 2000, the Administrator of the North American Numbering Plan had estimated that without new measures to conserve numbers or expand the number of digits in the dialing patterns that the last available area codes might be assigned as early as 2007. The projected exhaust date was 2015.

Sounds counterintuitive—how can billions of telephone numbers not be enough? The answer to the puzzle is two-fold—geography and number assignment principles.

Let's begin with geography. The second three digits of a ten-digit telephone number are known as the exchange or central office code. For our purposes today, I will sometimes refer to the local exchange code as the three-digit prefix. Each local exchange code or three-digit prefix contains 10,000 telephone numbers.

The local exchange code tells the network where you live and therefore, how to rate the call—local or toll. Each local exchange has at least one, unique three-digit prefix—identifying to the network, the geography being served by that telephone number.

This leads to the number assignment principles piece of the puzzle. Many states have hundreds of local exchanges, each exchange requiring at least one three-digit prefix for each carrier serving the exchange. Each carrier would be assigned 10,000 telephone numbers in each exchange it served, even if the carrier were only serving 50 customers. These number assignment principles, which were economically efficient in a single carrier environment, proved more wasteful with the advent of competition. You can see how, in the late 1990's, the need for new area codes, accelerated by technology, began to reach epidemic proportions with the advent of local competition.

Well that's the history. The salient questions for this morning however, are: What has been done to address the problem? What is the current prognosis?

Recognizing the implications of the exhaust of the North American Numbering Plan on consumers—the FCC and state utility commissions, working with industry, devised several remedies to slow the exhaust. The centerpiece of these remedies allowed telephone numbers to be allocated in blocks of 1,000 instead of blocks of 10,000.

This new allocation scheme mitigated the assignment principle problems outlined above. While numerous state trials of the allocation scheme have been in place for several years, national implementation began in March of 2002. Approximately seven additional area codes will become "pooling-capable" each month until the entire top 100 Metropolitan Statistical Areas have been completed. The total cost of the effort to upgrade all the necessary systems will be in the neighborhood of a half a billion dollars.

So, was it worth it. Well, in May of 2001, the North American Numbering Plan Administrator's (NANPA's) new forecast of North American Numbering Plan exhaust was 2025. This was in contrast to the 2015 date in 2000. Next month, the NANPA will report its 2002 NANP Exhaust calculation to the North American Numbering Council. While not yet public, it is widely expected the new date will be approximately 2035.

There is a temptation to say that's the end of the story and North American Numbering Plan exhaust will be a project for another generation. And to an extent, that's true. Carriers, and ultimately consumers, should not be required to bear any more costs to delay exhaust for the foreseeable future.

Nonetheless, growth is a reality and the geography of numbering dictates that area code relief, while abating, is still necessary. The FCC made clear that the new allocation scheme was a technology for improving the efficacy by which telephone numbers are used and should not be used as a substitute for timely area code relief when it becomes necessary.

Given this reality, the last question I will address is, "How can area code relief be accomplished in the least disruptive way for consumers, carriers, and regulators?"

In my opinion, nationwide ten-digit dialing would be a very productive endeavor—particularly in terms of the impact on consumers faced with area code relief.

One of the primary reasons area code relief is disruptive to consumers is that in the case of an area code split—where one part of the region served gets to keep the old area code and the other half of the region gets a new code—about half of the consumers will need to change their phone number. In the case of an area code overlay—where the new area code serves exactly the same geography as the old area code—customers are required by FCC rules to dial ten digits for all calls. The benefit of an overlay versus a split is that customers will not have to change their area code.

Generally, customers have ample time—about one year—to prepare for this type of dialing change. In today's world, ten-digit dialing is not an onerous requirement.

Customers already dial ten digits for long distance calls and for most calls to and from cellular telephones. Additionally, customers who use phone company-based voice mail systems, telephone credit card services, dial around services, etc., are used to dialing more than ten digits—sometimes many more than ten digits. Verizon's experience where area code overlays have been implemented—and that covers millions of consumers—is that ten-digit dialing with an overlay is a non-event.

This concludes my formal testimony. Thank you for giving me the opportunity today to share Verizon's views on area code exhaust. I would be happy to answer any questions that the committee may have.

Mr. UPTON. Thank you very much.

Mr. Long, welcome.

**STATEMENT OF JOHN T. LONG III**

Mr. LONG. It is very nice to be here. Chairman Upton and other members of the subcommittee, I am John Long, President and CEO of the Kalamazoo Regional Chamber of Commerce in Michigan. I want to thank you for the opportunity to testify before you today regarding the very important business issue.

Our organization represents nearly 1,800 businesses in the southwest Michigan region that collectably employ about 65,000 people. It has become increasingly apparent that in order to compete in today's global marketplace businesses need to leverage their use of telecommunications technology to the utmost.

Therefore, any change in the structure of how these technologies operate goes right to the heart of the ability of businesses to meet the needs of their customers and clients.

My community is in the process of implementing a geographic split to meet the challenge of area code exhaustion. The competing burdens and costs caused by this upcoming change on local businesses are significant, particularly to small businesses. There is a significant financial burden to businesses when they are forced to change their area codes.

This information is included on every business stationery envelope, their stationery, business cards, marketing brochures, company vehicles, websites, radio and television advertising. The impact is even greater on small businesses because they have more of the overall marketing and operating budgets tied up in these basic tools of doing business.

In our nonprofit office of 32 employees, we estimate that a minimum of $60,000 of cost to reprint all of the materials that currently our area codes. In addition, it is nearly impossible to measure what kind of impact that the resulting confusion and inconvenience will have on customers as they try to obtain information, assistance, or make a purchase using outdated materials that are in the marketplace.

The cost to change phone and data—fax data can be just as disruptive, if not more so, than relocating your company to a new location. Also, this brings us to the second issue that I have been asked to address—our perspective on the decision to utilize a geographic split in our region to meet the challenge of code exhaustion.

Why, you might ask, did we opt for this solution, especially after considering all of the associated costs I just outlined. The decision was pretty much made for us through the circumstance. No one particularly cared to implement an overlay system.

Prior to coming to Kalamazoo I lived in Maryland where we underwent a similar process. The community opted to implement an overlay. The result of that decision turned out to be extremely confusing to everyone involved. People in the same road or in the same building could have different area codes.

Businesses that needed to add additional lines or other means of communication had to develop ways to track which of their phone lines were designated to which area code. Consequently, it often caused coordination problems with internal communication. Households that decided to add additional phone lines were also forced to use a different area code.

This brings us to the third point you have asked me to discuss—the need for numbering conservation and management. I believe there is an opportunity for the Federal Government to show some leadership on this very important issue. Again, that's leadership.

Businesses operate more effectively in an environment of consistency and predictability. If business leaders are given guidance about how the problem area of code exhaustion will be handled from jurisdiction to jurisdiction, we have gone a long way in helping them plan accordingly for the future.

In today's global economy, very few firms operate within the confines of one municipality, one county, or one State. Requiring businesses to try to anticipate how each individual region or State public service commission will address the problem of area code exhaustion adds an additional unnecessary burden.

It would be extremely beneficial if there was a prescribed method set forth by a Federal authority on how to address this issue. It should be well thought out and able to be implemented gradually. This would help businesses to plan effectively for the future.

So what can we do to achieve this? The archaic practice of allocating 10,000 phone numbers to new rate centers and markets throughout the country needs to end. Voluntary participation in number pooling has shown that this can be an effective tool in conserving available numbers. We should make this a standard practice.

Currently, each new provider that enters a market is treated as its own rate center. The resulting strain on a system is enormous. I think we need to reduce the allocation to blocks of no more than 1,000, which we have already started to do in the year 2002.

We also should consider the opportunity for all businesses to share those numbers. We need to codify and universally implement this practice of number pooling to help preserve our current area code system as long as we can.

The second strategy we should pursue is to utilize technology-specific overlays. There is no reason that lines that carry data such as modems, ATMs, and other automated phone connections between machines need to use area codes that have traditionally been used by people.

I also am advocating that we implement an overlay strategy for new wireless phone technology. These technologies are not as firmly entrenched within the Nation's communities as are traditional phone systems. And, finally, I believe we should set a time line and begin planning on a national level for the eventual introduction of a local number portability system.

With recent technology advances, it is reasonable to believe that within the next few years we should be able to accomplish this goal. The time has come to embrace this crucial strategy for the future. If people were able to use their established phone numbers wherever they go, regardless of service provider, it would greatly alleviate the break-neck pace at which the Nation is currently consuming numbers within area codes.

And it also would relieve the strain on some of our members of our committee because I know it is difficult to keep remembering the number that your mom promised you to memorize.

So I thank you for your time and kind consideration of my testimony. Thank you.

[The prepared statement of John T. Long III follows:]

PREPARED STATEMENT OF JOHN T. LONG III, CEO AND PRESIDENT, KALAMAZOO COUNTY CHAMBER OF COMMERCE

My name is John T. Long. I am the Chief Executive Officer and President of the Kalamazoo County Chamber of Commerce, in Michigan. Our organization represents nearly 1,700 businesses in the southwest Michigan region that collectively employ about 60,000 people. Our members are primarily small businesses—80 percent of them have less than 25 employees—18 percent are sole proprietors.

I have served as a Chamber executive for a total of 12 years. I came to the southwest Michigan region about three years ago, and prior to that served as the CEO and President of the Talbot County Chamber on the eastern shore of Maryland

Thank you for providing me the opportunity to address you today regarding this very important business issue. It has become increasingly apparent, that in order to compete in today's global marketplace, businesses need to leverage their use of telecommunications technology to the utmost. On a daily basis this country's firms have come to rely on telephones, cell phones, pagers, fax machines, credit-card processing machines, e-mail and Web-based Internet technologies to conduct their business effectively. Therefore, any changes to the structure of how these technologies operate goes right to the heart of the ability of businesses to meet the needs of their customers and clients.

I have been asked to specifically address three issues on this topic today:

1. The burdens on, and costs of, the impending area code change on local businesses in the Kalamazoo regional area;
2. Our Chamber's perspective on the options considered, and ultimately adopted, in the 616 area code proceeding at the Michigan State Public Utility Commission; and
3. Any general observations, from the perspective of local businesses, on the need for numbering conservation and management.

On the first issue, regarding the impending burdens and costs of our upcoming area code change on local business—they are significant, particularly to small business.

A business' telephone and fax machine numbers are critically important to its ability to effectively communicate to current and potential customers, vendors, suppliers and governmental officials.

That becomes readily apparent when you recognize that these numbers are included on every business' stationery, envelopes, business cards, marketing brochures, the sides of company vehicles, websites, and included in all print, radio and television advertising. It is part of a company's identity. The cost to change this information for each and every one of these items adds up rapidly. The impact is even greater on small businesses, because they have more of their overall marketing and operating budgets tied up in these basic tools of doing business.

Internally, there are other costs as well. The databases of many firms, particularly smaller ones, are not equipped to make global changes to the area code fields of each customer or contact they contain. That means significant staff time must be devoted to manually changing each of the entries residing in these business' databases. On top of that the cost of production for notification cards, mail processing and postage must be accounted for, in order to notify all customers, clients and other necessary parties about the change in area code.

In our nonprofit office of 32 employees we estimate that, at a minimum, it will cost us about $60,000 to reprint all of the materials that currently contain our old 616 area code.

The other challenge is the time and effort it takes to try to reclaim, or replace, as much of the material with the old data on it as possible that has been distributed. In addition, it is nearly impossible to measure what kind of impact that the resulting customer confusion and inconvenience will have, as they try to obtain information, assistance, or make a purchase using outdated materials which a business is unable to reclaim or replace.

The cost to change phone and fax data can be just as disruptive—if not more so—than relocating your company to a new location.

Which brings us to the second issue I have been asked to address:Our perspective on the decision to utilize a geographic split in our region to meet the challenge of the exhaustion of the 616 area code, rather than using an overlay approach.

The problem of area code exhaustion forced our community into making an extremely difficult choice. Keep the area code we currently have and add a new one for those requesting new phone lines, or give up an area code we have all used for decades. We ultimately decided to utilize a geographic split. Why, you might ask, did we opt for this solution? Especially after considering all of the associated costs I just outlined. The decision was pretty much made for us due to circumstances.

No one particularly cared to implement an overlay system. As I mentioned earlier, prior to coming to Kalamazoo, I lived in Maryland, where we underwent a similar process. That community opted to implement an overlay. The result of that decision turned out to be extremely confusing to everyone involved. People on the same road, or in the same building could have different area codes. Businesses that needed to add additional lines, or other means of communication, had to develop ways to track which of their phone lines were designated to which area code. Consequently, it often caused coordination problems with internal communications. Households that decided to add computer lines, cell phones, or additional phone lines were also forced to use a different area code. To make matters worse, callers were then forced to dial ten-digit numbers instead of the traditional seven they had been accustomed to.

In Kalamazoo we decided we didn't want to deal with these issues. We also wanted to take a long-term view of the situation. By adopting a new area code we believe we have given ourselves a longer timeframe to work within before we once again exhaust the number of phone lines associated with our new area code. We also knew that the community of Grand Rapids to our north was adamantly opposed to giving up the 616 area code. Because Grand Rapids is a much larger metropolitan area, we didn't want to be forced into accepting the overlay option. We also knew we didn't have the population base or political clout to keep the 616 area code in our community and force others to move to a geographic split—so we went down the path of least resistance.

However, just because this is the method we chose to adopt, don't think we are happy with all of the additional costs, inconvenience and potential confusion that await us.

Which brings us to the third point you have asked me to discuss—our observations on the need for numbering conservation and management.

I believe there is an opportunity for the federal government to show some leadership on this very important issue. Businesses usually operate more effectively in an environment of consistency and predictability. If business leaders are given the ability to know, up front, how the problem of area code exhaustion will be handled, from jurisdiction to jurisdiction, we have gone a long way in helping them to plan accordingly for the future. In today's global economy very few firms operate within the confines of one municipality, one county, or one state. Requiring businesses to try to anticipate how each individual region or state public service commission will address the problem of area code exhaustion adds an additional, unnecessary burden. It would be extremely helpful if there were a prescribed method set forth by a federal authority on how to address this issue as it arises from region to region. It should be well thought out, and able to be implemented gradually, so as to ease the difficulties that can be experienced during an area code transition. This would help businesses to plan effectively for the future.

So, what types of things can the federal government do to achieve this?

Obviously, as with any item in short supply, one of the first things reasonable people should do is to implement conservation measures. The archaic practice of allocating 10,000 phone numbers to new rate centers that are established within various markets throughout the country needs to end. Voluntary participation in number pooling has shown that this can be an effective tool in conserving available numbers within area codes. We should make this a standard practice.

While many think the proliferation of the use of new technology by individuals, such as cellular phones, additional computer lines, pagers, and home offices is the driving force behind the shortage of available numbers within area codes, it isn't.

The number of phone numbers being allocated to these devices pales in comparison to the millions of available numbers being gobbled up by the inefficient allocation of blocks of 10,000 numbers to new rate centers. Currently, with each new provider—such as companies offering services for cellular phones, pagers, local calling, and Internet accounts—that enters a market being treated as it own rate center the resulting strain on the system is enormous. I think we need to reduce this allocation to blocks of no more than 1,000 numbers. We have a good start toward that goal with the FCC's action in 2000, which ordered carriers to install switch software enabling phone number blocks of 1,000 instead of 10,000. We need to codify and universally implement this practice of number pooling to help preserve our current area code system as long as we can.

The second strategy we should pursue is to utilize an overlay for specific technologies. There is no reason that lines that carry data such as, modems, ATMs and other automated phone connections between machines need to use area codes that have traditionally been used by individuals. I am also advocating that we implement an overlay strategy for new wireless phone technologies. These technologies are not as firmly entrenched within the nation's communities as our traditional phone systems. Additionally, to maximize the conservation of numbers, we need to make sure that all such geographic splits strictly follow rate center boundaries.

And finally, I believe we should set a timeline, and begin planning on a national level, for the eventual introduction of a Local Number Portability system. With the great strides that have been made in the area of telecommunications technology it is reasonable to believe that within the next few years we should be able to accomplish this goal. The time has come to embrace this crucial strategy for the future. If people were able to use their established phone numbers wherever they go, regardless of service provider—just like a social security number—it would greatly alleviate the breakneck pace at which this nation is currently consuming numbers within area codes.

I thank you for your time and kind consideration of my testimony today.

Mr. UPTON. We'll let you know that Mr. Markey still needs that help today.

Mr. Manning, it is my understanding there is, what, 269 area codes now in place. Is that right?

Mr. MANNING. Well, in actuality, sir, there is a few more assigned. It depends on how you count them——

Mr. UPTON. A few more assigned, okay.

Mr. MANNING. [continuing] and ones actually in service.

Mr. UPTON. Because, you know, in my district we add this new one coming up here soon that's in place next year. But how many—using some—that type of formula, how many are we going to have in place by the end of 1903? And how many again do you expect that we'll have in—new ones or total in place by 2004? What is the trend line that we're on?

Mr. MANNING. I would have to look at the specific area code by area code data to determine exactly the number of area codes we'll be adding over the next couple of years, and that certainly can be done. What we have done is projected those area codes that under present conditions and looking at future forecasts are going to be exhausting over the next several years.

When you look at that, what we have found from the recent projections is a number of those area codes are moving out in terms of their projections, due to the variety of issues and items that we have discussed here. But you can expect at least in this year alone we have assigned just two area codes in 2002 so far, so we're beginning to feel the effects of all of these measures on the assignments of resources today.

Mr. UPTON. Part of it I know that—one of the reasons there is a slowdown is because of the—in the top 100 MSAs we have gone down to 1,000 block numbers. Have you thought about doing some-

thing along the lines that Mr. Long suggested, and that is look for some differential between individuals using equipment versus machine-to-machine communication, and how easy or hard would that be, to try and implement something like that—ATMs, gas stations.

Mr. MANNING. The principal avenue in doing that is basically being able to determine how those numbers are used and identify what a specific number is used for. Presently, our organization does not have that information. The service providers would generally know how those numbers are being used.

An inventory would have to be taken basically on an area code by area code basis to quantify the quantity of numbers that you're dealing with that meet whatever specification parameters that you put together to see how many potential numbers there are that you could eventually mine out, put into another area code or another resource, and then turn around and make it available to consumers.

Ms. ATTWOOD. I was just going to say I think that it is a really facially appealing notion, and I think that it is certainly worth exploring, and it is certainly something I know Chairman Lynch has been very active in trying to pursue. But I think it is important to understand that it is not as easy as it sounds. And as a technical matter, the idea that we could differentiate between the lines is something that at this point that translation is not at all clear.

I think it is sort of analytically akin to saying if we could find those consumers that really don't care about their numbers being changed, we could save a lot of numbers. And that's absolutely true, but differentiating among those lines really is going to take a lot more work on all of our parts. But it is an idea worth exploring.

Mr. UPTON. Ms. Attwood, I know that they looked at the 1,000 block changes in the top 100 MSAs. Is there any consideration—since it has appeared to work pretty well from everyone's standard, do you think there is some possibility that we'll expand it to all MSAs versus just the top 100?

Ms. ATTWOOD. Certainly, the idea of expanding the benefits of number pooling are actively being looked at. And we are in the process of an 18-month rollout to get to all 100 of those MSAs. But I think, as some of the witnesses have accounted for—there are also costs associated with expanding number pooling. Carriers have to bear those costs. Ultimately, consumers bear those costs as we move.

And so there is a cost-benefit analysis, but I think we're seeing such great strides in conservation using—focusing on the top 100 MSAs that absolutely in the future I think we're going to be seeing not only increasing geographically but also going down to exploring issues of single number porting and pooling.

Mr. UPTON. Mr. Long, I know that the—you and I are very aware of this exchange change coming, area code change coming. What do you think the sentiment is among Kalamazoo area businesses? Do you think more than half of them realize that this is going to—is coming in the next couple of weeks and in place early next year? Or do you think they are going to just get caught up and on it, and say, "Oh, my gosh, wish we had known that before we ordered this stationery."

Mr. LONG. Well, I think it is really been a quiet—it is really been a quiet concern. You haven't hit businesses, really, standing up, and causing demonstrations on the corner. But we started to talk to many of the businesses quite a while ago when this was first initiated and started to say to them, "Look at your scheduling, look at your ordering time lines, and decide now how are you going to handle that. If you're going to be—if you're going to need to order stationery, try to put it off to a specific time, or bring it up—or bring it forward. If you're going to get involved in computer systems, be aware of it now."

And I think that's probably one of the things that's really going to impact the small businesses, even though they are not even thinking about it now, and that's the impact in the computers and the various ways that they have to change the phone numbers in the computers.

We also have businesses that do a lot of work with faxing, and the system that has those fax numbers all loaded in their memory base all needs to be changed. And I think what usually happens is businesses think that they can handle it, and are ready to handle it, but then it really impacts them quite a lot more.

I had a situation in Kalamazoo. A charter company, a bus charter company—it is a family owned company, it is an African-American owned company. And their impact on changing the addresses, the phone numbers on their buses, changing the phone numbers on many of the—on all of their materials really surprised them. I talked to them a couple of days ago, and this impact has been great, probably 15 percent of their operating cost.

And so it impacts them greatly, and what generally happens is no matter how much you tell folks about these kind of things, certain things will come up and snap at them. And I think that's what is going to happen in the computer portion of it.

Mr. UPTON. Well, thank you very much.

Mr. Sawyer.

Mr. SAWYER. Thank you, Mr. Chairman. I really want to compliment you on having put together a tremendous panel here. The discussion has been very useful.

Mr. UPTON. I want you to know we tried to do this last September, and we had other events take over.

Mr. SAWYER. I understand. I have some questions that I have prepared. But because Ms. Harman has really been such a leader on the issues that surround this, and she cannot be here, she has asked me to ask some questions on her behalf. So understand that that's what I am doing here.

Let me begin with you, Ms. Attwood. Could you just give me quick responses to the specific actions that were outlined by California? What about wireless local number portability?

Ms. ATTWOOD. Well, there is no question that come November 24 there will be pooling by wireless carriers. The fact that there will be pooling will greatly allow additional conservation measures. For example, we'll be able to go to the 1,000 block pooling, and that should in fact even improve the projections that we have done to date on area code relief.

With the question of number porting, local number porting, we have before us at the Commission a request by Verizon Wireless

and other members of the wireless community to delay the deadline of November 24. And the significance of that request really goes to the additional conservation measures that Chairman Lynch mentioned, the individual number porting solutions. They don't go to the existing or current rollout of number pooling at the 1,000 level.

So I could let the wireless representative speak to the merits of the forbearance petition before us. I can just comment that parties in this, and members of this committee, have divided on the question of whether we ought to extend that deadline or permit there to be a continuation, and there are benefits—arguments made on both sides.

Mr. SAWYER. What about raising the contamination threshold?

Ms. ATTWOOD. First of all, I just have to object. We need to come up, Loretta, with a better name than contaminated numbers.

I think—in this day and age—I think really what you are talking about is an additional conservation measure, and I think more study needs to be done. The 10 percent threshold was determined on the basis of the studies and the industry projections at the time. It really wasn't controverted. We have nothing currently before us at the Commission suggesting an increase to a 25 percent level.

I think, as I understand the information that California has been able to look at, it looks like, at least with respect to California, there might be some benefit in considering an increase in that level. But there are costs associated with increasing it, because when you do increase that level you are talking about porting flows and porting volumes, impacting those, increasing potential errors in porting the numbers back, and so we really need to look at it more closely.

And, again, the 10 percent level was one that the industry felt comfortable with—it was the recommendation. So, but we're perfectly willing to explore that further.

Mr. SAWYER. Well, what about unassigned number porting?

Ms. ATTWOOD. Well, again, unassigned number porting has real potential. It is something that we view, at least as of now, in the future because right now the costs associated with 1,000 block pooling have, are just been being borne now by the industry and all of the associated implementation of that, and I—but I think that California is really in the lead in trying to continue the pressure on these alternatives and look into the future.

Mr. SAWYER. Mr. Manning, as neutral numbering administrator, do you agree with Ms. Miller that the crisis has passed and that demand for numbers is on the decline?

Mr. MANNING. Well, in remarks in my testimony, I remarked to the idea that we have peaks and valleys. Certainly, in 1999 and 2000, we were at a peak in terms of what we were seeing in the industry, and I would certainly say we may be, on a national level, at a valley. But I think if you go around this room here today, I think you will get your own assessment of what is considered a peak and a valley. And many of the States are facing some very serious issues with number exhaust, and for that reason the issue is foremost.

Mr. SAWYER. So the pressure has waned, but you are suggesting that it is not waning for long.

Mr. MANNING. Well, I would suggest from a numbering—national numbering perspective we may see a little bit better light at the end of the tunnel because of what we have seen. But all in all, when you really focus on it, you look at it on an area code by area code basis, and everybody faces that particular problem and must deal with those issues.

So even through from a national perspective we may be a little bit better picture, when you look at it on a local basis, depending upon where you are, that picture could be fairly difficult to deal with.

Mr. SAWYER. Thank you.

Mr. UPTON. Mr. Shimkus. No, Mr. Bass.

Mr. BASS. I will yield.

Mr. UPTON. Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. I want to enter in the record an article from the St. Louis Post Dispatch on September 2, 2000, pretty close to when we were—and it really identifies all of this stuff, especially this 10,000 block issue down to 1,000. I am going to just read a few sections of it.

Yet Aiken—he is an investor—already has been given 690,000 unused phone numbers in the 618 area code. He needs telephone numbers in each of the 69 districts known in the industry as rate centers in his proposed service area. Those numbers come in blocks of 10,000. So 69 times—and then, the third point is, even in the 847, the Illinois area code closest to exhaustion of the number supply, only about half of the available numbers actually are in use.

And then, the plan known as number pooling, which is what we are talking about, calls for numbers to be assigned in 1,000 number blocks rather than in 10,000 number blocks. And it—there is nothing that fires up people more than the fact that their area code may be changed or moved, so I think it is commendable that we move and break down these blocks.

My question to my staff was—a small investor who wants to get into the telephone business—I am not sure they would want to do that these days right now—is there any—you put together a business plan, and you have to raise capital. So you have to have a market area. You have got to have numbers if you are going to do that.

So this guy has to apply based upon what is required. The question: has anyone—has there been a question raised to the FCC about what is a—if you want local competition, what is a startup number or numbers that they need to be somewhat competitive? I mean, if you go down to 1,000 number blocks, if he, instead of having 690,000, if he has 69,000, or if he has 6,900, has anyone raised the issue of we—we have been involved in this big debate about competition in the market.

But if we flip on the other side and we limit the amount—or is there a limiting, or can they just continue to apply for more based upon their need, if we go down to 1,000 blocks?

Ms. ATTWOOD. They can continue to apply, but I—if you——

Ms. LYNCH. I can just tell you some of the data we have seen in California. We have had carriers come in asking with only 500 customers. And if they are a wireless carrier, they get 10,000 numbers.

Mr. SHIMKUS. Right.

Ms. LYNCH. And if they are a wireline carrier, they get 1,000 until they can show us that they have more customers. So one of the benefits to the local small business of pooling and of porting is that there are more numbers in that area code available, and maybe more numbers in the rate center, which would be a particular geographical area.

Mr. SHIMKUS. Yes. I think what happened in the 618 debate is that they actually, then, went back to the person who held all of these numbers, and they gave him back like 10 percent of the numbers, which kind of forestalled a crisis. But they still may be holding twice as many as what they need, so I applaud this move and it should relieve some of the pressure from the chamber of commerce and people who don't want to give up their issue.

I raised a point, and I would like to ask Mr. O'Connor and Ms. Miller about the cost in the implementation of local number portability. And the—also, the additional cost and capital investment for the implementation of e-911. Usually, when we have these type of hearings, Anna Eshoo is here ranting and screaming and hollering, which she——

Mr. SAWYER. Not Anna.

Mr. SHIMKUS. [continuing] which I appreciate, but her—of her desire to get e-911 rolled out sooner rather than later. There are technical problems and costs incurred. Are we not prioritizing well? And are we having—should we also talk about the cost of implementing e-911 and the cost of implementing local number portability, and realize that we may not be able to do both at the same time, and we ought to say which one is a priority before we worry about local number portability? And, again, I will throw that to—and then anyone who may want to talk, but Mr. O'Connor first, and Ms. Miller.

Mr. O'CONNOR. Well, on that particular question, Congressman, I think I will defer to Ms. Miller because——

Mr. SHIMKUS. Verizon doesn't have a position? They are happy with e-911 and the costs incurred?

Mr. O'CONNOR. Verizon has e-911 and is completely LNP capable, local number portability capable.

Mr. SHIMKUS. Does Verizon have—but Verizon doesn't have the second stage of identifying location.

Mr. O'CONNOR. Correct. Not Verizon wireline business, no.

Mr. SHIMKUS. Right. But I am talking about wireless. You know, the second stage is for people to geographically, through GPS, to identify where you are at.

Mr. O'CONNOR. Right. And on the wireless side, I don't represent wireless, but——

Mr. SHIMKUS. That is right.

Mr. O'CONNOR. [continuing] being part of the corporation and being familiar with the petition, I know that a wireless concern—and I really think Anna can address this with probably more specificity than I can—is that doing local number portability and e-911 at the same time is extremely problematic for the industry.

Mr. SHIMKUS. And Ms. Miller?

Ms. MILLER. Yes. I am not VoiceStream Wireless' expert on 911, but we are working diligently to implement 911. I am familiar from

participation on industry committees with problems associated with 911 and the implementation of wireless number portability and——

Mr. SHIMKUS. My point is just we ought to just make sure—sometimes these issues, we address them separately but they are not really separate, especially in capital investment of corporations and the costs they have to incur.

Mr. Chairman, I will just end up by saying, if we have local number portability, we in essence will eventually evolve to an overlaid system. We know that. And so that is the other debate that we have. If you allow people to transport, we are going to have area codes that are mixed throughout the country. And that may be something we want; that may be something we don't want. And that is still part of the same debate.

And I will yield back my time. Thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mr. Bass.

Mr. BASS. Thank you, Mr. Chairman.

Ms. Lynch, on the Internet, you have had some Internet companies that have gone bankrupt in California that had exchange codes. What happens when that happens? Can the State PUC take it over and reassign it, reclaim it? And if so, how fast do they do it? And is there any legislative action or anything required here?

Ms. LYNCH. Well, technically, they need to go through the plan administrator, who is Mr. Manning.

Mr. BASS. Right.

Ms. LYNCH. But we——

Mr. BASS. Maybe I would like to address the same question to him, then, after——

Ms. LYNCH. But we went after those kinds of companies more quickly, because when we did the utilization studies, just to count the numbers that were in use and the ones that were unused in each telephone company and each area code in California, we found that many of the companies really didn't know how they were using their numbers. They had vast different categories, and they called them all used when in fact they weren't used.

They were waiting for an expansion of a university that wasn't planned for 10 years, things like that, and they would just keep 50,000 numbers on hand in case that university wanted to expand and still use the same prefix. And so we started going after some of those unused numbers.

In doing so, we found companies that had stopped doing business in California, and no one had gotten around to saying, "Give us the numbers back." So, frankly, we pushed the NANPA to push those companies to take the numbers back, and then we then pushed NANPA to help us reassign those numbers to folks who needed them.

Mr. BASS. So it is NANPA's responsibility, really, to regulate that facet of number allocation?

Mr. MANNING. Well, it is part of the number assignment and reclamation process. We work very closely with States like California and others to identify resources that are not being used, primarily central office codes. And in most instances we find that a carrier

going out of service, we can identify that carrier, and we can get those resources back.

Mr. BASS. Quickly or not? Can you—do you have a fast way of doing it?

Mr. MANNING. It can happen fairly quickly.

Mr. BASS. By that, what do you mean? A year?

Mr. MANNING. Oh, no. No. We can do this in a matter of a couple months to get the resource on back, and then turn it around and make it available. There are, naturally, instances where it might take a little bit longer. What we have experienced in the industry to date is a lot of local service providers going out of service, and we have been working with States and the industry to go after those codes, get them returned, or, at least in instances where there are ported numbers out of those codes, to find new code holders for those resources.

Mr. BASS. Is this a significant number of—this is a significant issue for you. It is helping——

Mr. MANNING. Yes, sir. It is a significant issue, really, quite lately with the economic situation and the like. that we have turned a lot of our resources, as well as State resources, to trying to reclaim as many of these codes as possible and make them available.

Mr. BASS. Thank you, Mr. Chairman.

Mr. UPTON. Thank you.

Mrs. Wilson.

Mrs. WILSON. Thank you, Mr. Chairman. I appreciate your having this hearing. This is a very important issue in New Mexico as well.

Last summer Albuquerque was faced with area code exhaustion, and last May the New Mexico Public Utility Commission, which we call our PRC, ruled to adopt new area codes for the Albuquerque and Santa Fe areas while allowing the rest of the State to keep the current 505 area code, which sparked a huge controversy in the State of New Mexico with Albuquerque and Santa Fe being the largest of the metropolitan areas, and actually the ones that are growing quite fast.

There was a great deal of angst and hoopla that caused NeuStar to reconsider and revisit the area code issue. And NeuStar did discover that New Mexico area codes were much more—or New Mexico's phone numbers were much more available than originally thought. And so the addition of a new area code has been delayed until a new study, which is due out at the end of this month, is completed. And I am glad that we have been able to delay this, because it is a huge inconvenience and cost for people if it is avoidable by managing this system better.

This is an important issue for small business and also for people who just don't want to change their phone numbers or don't want to have to use 10 digits if we don't have to call the next town over. So I think better management of this system is probably an answer, and I am glad to hear some of the ideas put forward today.

Mr. Chairman, there was a previously scheduled hearing that I know we had to delay that you had scheduled, and it got bumped. But the president of the 505 Coalition in New Mexico was going to testify at that previous hearing, and with your permission I would like to submit his testimony for the record.

Mr. UPTON. Without objection. This was actually, I think, scheduled twice. I think we—9/11, and then I think we had this little thing called anthrax, and it just seemed like this was the one that got bumped because of those things.

Mrs. WILSON. But I would ask unanimous consent to submit his prepared testimony for the record.

Mr. UPTON. Without objection.

Mrs. WILSON. He was unable to come back today, but I think it is—New Mexico is an interesting case study and how some of this might be able to be avoided with better management to the system.

I yield the balance of my time, Mr. Chairman. Thank you.

Mr. UPTON. Great.

Tom, do you have—I have got a couple of questions. Do you have a couple of quick questions?

Mr. SAWYER. You go, and then I will go.

Mr. UPTON. Okay. We're hoping that Ms. Harman comes back from the work on the legislation. But if a vote is called, my guess is that that will probably end things for the morning.

A couple of things. As I listen to the testimony and comments of my colleagues, I think, really, in a couple of ways we are quite lucky. One, to a degree I guess you could say, the declining growth of the wireless industry, what's happening, all of the changes in technology, I look at my own computer and I don't need a fax machine anymore. I don't need that second line.

I look at, with broadband, different providers that are out there, different things that happen. And, obviously, with the 1,000 block pooling, we're seeing some positive changes in terms of where we were in the late 1990's, which could have created the flags like we had with Y2K.

My goodness, we're going to have to add another digit to the code, or we're going to have to do the 10-digit dialing for everyone. And we're going to run out of numbers, and it is going to be a massive problem before we get very long, and it'll cost trillions of dollars maybe to try and fix it if we went beyond much longer.

And I am just wondering if you all have any other ideas beyond the 1,000 block pooling, looking at all MSAs. I do think that Mr. Long's comment about individual use technology versus, you know, machines talking to each other makes a lot of sense, particularly when you just think about all of those machines that are out there, whether they be on the gas station pump or anything else, where we could make some sizable reductions, and maybe each one of you can just go down the line and just, if you have got any other ideas that you think ought to be on the table for folks to think about, so we never get to that Y2K brink, but with area codes in some different setting 20, 30 years from now.

Ms. ATTWOOD. Well, I think the testimony indicated a lot of it. I don't want to rehash, although I think we have identified things like looking at the contamination level. I hate to use that, but looking at that, looking at whether there should be individual porting, looking at whether there ought to be unassigned numbers—oh, yes, that's a good one, too—my helpful staff.

Something not in our control—the Federal control, but at the State level—and we're working closely with States—is rate center consolidation. We're talking about the need to make that geo-

graphic area bigger, so that we can in fact see some more additional optimization measures. That's a good one.

Ms. LYNCH. Chairman Upton, I think you have put your finger on it, because when I joined the NANC just 2½ years ago, they were talking about being on the brink. They were talking about expanding the entire system as of 2012, and basically that train had almost left the station. Effective numbering conservation meant that that train stayed at the station. And, in fact, now it is getting further and further into the future that we have to think about that.

But even with the declining economy and the give-back of numbers, NeuStar's current forecasts show that 46 more codes across the Nation will exhaust by the end of 2005—in the next 3 years, 46 more codes. And I would submit 10 of—well, I know that 10 of those are in California that are at risk. And I would submit that most of those codes need not be split. In fact, those splits will be unnecessary, because California went around and counted up the numbers and found out that there are millions of unused numbers.

Now we need mechanisms to get those numbers back, and Ms. Attwood noted some of the mechanisms. But I would suggest that the FCC do a study, and I think that your area code in Michigan, and, Mrs. Wilson, your area code——

Mr. UPTON. I am going to call Ed Markey's old phone number and see if anybody answers.

Ms. LYNCH. And 505 in New Mexico and——

Mr. UPTON. Eddie. I will ask for Eddie.

Ms. LYNCH. [continuing] hopefully 310 in California will be part of that study. We found, when we started to do utilization studies—everybody said it couldn't be done, because the companies didn't keep the numbers that way. Well, it was done, and we did it relatively quickly and relatively effectively.

Why doesn't the FCC do a study of how many of those computer-to-computer or machine-to-machine numbers are out there? You know, OnStar, that GM product where you press a button in your car——

Mr. UPTON. It is a good one.

Ms. LYNCH. [continuing] I mean, you can just go talk to GM. I bet you they know how many computer-to-computer numbers they have got. I bet you that fax companies know how many computer-to-computer numbers they have got. I don't think it is actually as difficult as might be portrayed, but let us take a couple of area codes and find out.

And I would just—and then, in addition, of course, LNP capability. If we moved to LNP capability, as the wireline industry already has, as the wireless industry promised to do and has now received effectively a 5-year exemption, that will also solve a lot of our problems.

So we have several small measures, but the next big hurdle, which I would submit half the industry has already done, is LNP capability. And if we can get over that hurdle for the wireless guys, then we will have many more years to deal with the number-to-number area code issue effectively.

Mr. UPTON. I know my time has expired. But does anyone have a particular comment they want to make before I yield to Mr. Sawyer? Yes, Ms. Miller.

Ms. MILLER. Yes, I would like to make a comment. I think another major threshold for the wireless industry is the implementation of 1,000 block pooling from wireless carriers. And many States had been proactive with implementing pooling. There has been benefits there for the land line industry. The wireless industry is one of the fastest-growing industry segments in telecommunications, and we look forward to being able to utilize all of those unutilized land line numbers.

So I think that the benefits of wireless number pooling have not yet been fully realized or reflected in the information that's submitted to the NAPA and used to forecast NAPA exhaust.

I also would like to point out that Congress mandated number portability as a policy to eliminate a barrier to competition in the land line industry between incumbent and competitive local exchange carriers. And, really, the land line industry implemented number portability.

They were fully implemented in the top 100 MSAs by the end of 1998, but it is my belief that there is no real evidence that number portability is a number conservation or number optimization measure, because it was during that period between 1998 and 2000 that we had this unprecedented use/exhaust of area codes.

So based on land line experience, I am not convinced that number portability is necessarily a number optimization benefit or measure. But I really believe that the implementation of number pooling will significantly benefit the wireless industry and better utilize area codes.

And I wanted to follow up, too, with my question for Mr. Gillmor. In that context, wireless carriers do have limited resources. There has been a lot of regulatory mandates that the wireless industry is trying to implement, and, quite frankly, there are capacity issues and workload issues with trying to do a simultaneous implementation of number pooling and number portability.

And in terms of priorities, we really would like to focus our resources on e-911, and also with the implementation of number pooling, because we believe that it is a very beneficial number conservation measure.

Mr. UPTON. Okay. Thank you.

Mr. Sawyer.

Mr. SAWYER. Your answer just flows right into the kind of question I wanted to ask next. The questions that you're answering are coming largely from the point of view as a business decision, and that's important. We're looking at these same issues from the point of view of policy decisions and how we can make this whole system work together.

And following up on Mr. Shimkus' question, the question of capital formation is a critical question within even the largest and fastest-growing of industries. So what I would like you to do is talk about that question of capital formation as we look at the kinds of things that we're talking about here with pooling and local number portability, and at the same time the lifting of the spectrum cap in order to move to 3G, and from the point of view of limited re-

sources, capital formation, and the struggle to make the best kind of business decisions.

Ms. MILLER. I don't feel qualified to address all of those issues in terms of overall business strategy. Certainly, I am not an expert in spectrum management. But I do know and have worked intensely through the North American Numbering Council working groups to address the implementation issues associated with number portability to come up with what it will take for the wireless industry to accomplish that, to work with the wireless industry in fully understanding everything that needs to be done to accomplish 1,000 block number pooling.

And it is a tremendous impact for the wireless industry—the implementation of number portability I think is even more challenging than the land line industry because of the need to support nationwide roaming. And, basically, because of the need to support nationwide roaming, wireless carriers are—outside the top 100 MSAs are affected, as well as those inside the top 100 MSAs.

So they actually, in order to do roaming, they have to spend money to make their switches LNP capable to support roamers. So the requirement for number portability for the wireless industry is much more expansive for wireless carriers, because even those outside the top 100 MSAs that roam have to make changes to support portability. And also, those changes are necessary to support pooled numbers.

So from a priority standpoint, my—you know, my primary goal is number conservation, and for the wireless industry to have adequate access to numbering resources so that we can grow and compete. So from a priority standpoint, I see 1,000 block number pooling as being more beneficial to number conservation in the wireless industry at this point.

But I am certainly open—I know that California and other States have done an excellent job in using number pooling to extend the life of the area codes, and that down the road it—you know, on a nationwide basis, probably number pooling will take care of most of the problems. But there are certain areas in this country where, because of competition and the dense population, that I think some of the other items that have been discussed this morning could be evaluated.

And I participated also on some of the other States' discussions on technology-specific overlays and agree with the challenge in identifying——

Mr. SAWYER. Real quickly, before my time runs out again, could I ask Ms. Lynch to comment on your sense of the role of local number portability.

Ms. LYNCH. Sure. I think it is key and critical to move to the next level to make sure that we don't have to expand the system, and also to prevent those businesses that have to switch from undergoing such a burden. But there is a point at which we have to look at capital investment, and the FCC already did that.

In granting the wireless industry its second extension in February 1999, it did so explicitly saying that they were granting the extension only so that wireless providers could build out their networks to provide greater coverage. They have got that extension

twice before, precisely so that they could put their money elsewhere.

I would submit now it is time for them to put their money in LNP capability, so that the Nation's businesses don't have to bear the burden versus the wireless carriers.

Mr. SAWYER. Thank you both for your responses. Appreciate it.

Mr. UPTON. Mr. Bass, do you have any other questions?

Mr. BASS. No further questions, Mr. Chairman.

Mr. UPTON. Mr. Sawyer, any more? Well, I am going to leave the record open, because I know that Ms. Harman really had a number of questions, and she has been a leader in pushing me to have this hearing. It was out of both of our control to have this last fall, and a couple of times we had it rescheduled.

So if you wouldn't mind, if she does have additional questions, we'll submit them to you in writing. If you could respond back in a fairly short order, we'll make sure that we include it as part of the record.

We appreciate your assistance in coming long distances, including a redeye, I think, right? Is that right? And it is very enlightening for all of us, and we look forward to working with all of you.

Thank you.

[Whereupon, at 11:50 a.m., the subcommittee was adjourned.]