AREA CODE RELIEF

FREQUENTLY ASKED QUESTIONS

Table of Contents

Need for a New Area Code

Why are we running out of numbers?

In recent years, a combination of new technologies and increased consumer demand for regular telephones in homes and offices, cellular and PCS phones, pagers, lines used for fax machines, modems, internet access, and other uses have strained existing telephone number resources. Also, new local telephone service providers need telephone numbers in order to provide service to their customer. All of these factors have resulted in an increased demand for numbers here in this state. As a result, telephone number shortages have occurred at the prefix level.

Why are we adding a new area code?

Due to the many choices in service providers, significant increases in products and additional lines, and the limit to the amount of resources in an area code that can be allocated to telecommunication providers, it has become necessary to add the new area code to the impacted area.

Will the cost of calls change because of a new area code?

No, calls that were local before the introduction of the new area code will remain local calls. Local calling areas do not change when a new area code is established. It is distance, time of day and length of call that determine the price of a call. NANPA has no information on individual carrier's rate plans or customer local calling areas.

How does a new area code affect other services?

911 Services will NOT be affected by the introduction of a new area code. Emergency calls will continue to be handled just as they are today.

411 Services will NOT be affected by the introduction of a new area code. Directory assistance calls will continue to be handled just as they are today. And, there is no change in the cost of a directory assistance call.

All directories, as they are published, will be updated to reflect the new area code. Directories in a geographic area affected by overlay will publish the area code along with the seven-digit telephone number for each directory listing.

Individual customers are responsible for any changes to listings appearing in other directories. Each customer is responsible for telephone numbers appearing in any display advertising.

How are numbers added in this state?

An area code (technically called a Numbering Plan Area Code, NPA Code,) serves a geographic area and consists of 792 available prefixes, each consisting of 10,000 numbers. A prefix (NXX) is the three-digit number that is between the area code and the 4-digit line number. An area code would consist of 1,000 prefixes (NXXs) **if** all of the numbers 0 through 9 were utilized. However, N is a number from 2 to 9 and X is a number from 0 to 9. Since no prefixes begin with 0 (0XX) or 1 (1XX) because these digits serve special functions in the network, this eliminates 200 prefixes. In addition, N11 prefixes are not available except as special use prefixes, e.g. 911 for Emergency Services so this eliminates 8 more prefixes from assignment to individual companies. This accounts for the 792 prefixes available in an area code.

Numbers are allocated to telecommunications service providers by prefix consisting of 10,000 numbers. As the 792 prefixes are allocated, the area code approaches exhaust. Exhaust, in turn, creates the need for an additional area code for that particular geographic area. The telecommunications industry has implemented code optimization measures to reduce the rate of code exhaust and improve code utilization rates. These measures include thousands-block number pooling, utilization threshold requirements and rate center consolidations where possible.

Telecommunications service providers request prefixes from the NANPA. NANPA assigns new prefixes, monitors the usage of prefixes within an area code and forecasts when an area code will most likely exhaust and a new area code will be required.

What is the planning process to establish a new area code?

The NANPA notifies the state regulatory commission and the telecommunication industry three (3) years in advance of when it is anticipated that a particular area code will run out of prefixes.

The area code planning process begins with NANPA and the telecommunications industry group meeting to identify viable solutions. When developing and evaluating area code relief plans, the industry is required to follow regulations established by the Federal Communications Commission (FCC), and the state commissions, as well as the telecommunications industry guidelines. The industry is also constrained to follow rate area boundaries.

After feasible alternatives are developed, the industry strives to reach consensus on the best plan for the area as a whole. The plan, with the industry's recommendation, is then submitted to the state commission. If the industry is unable to reach consensus on a relief plan, the planning results are submitted to the state commission.

Who decides who receives the new area code?

The state commission makes the final decision on all area code relief plans. If an area code split is approved, they decide which area will retain the existing area code or receives a new area code.

Why not assign a new area code to faxes/wireless services?

Perhaps the most common suggestion from the public threatened with an unwelcome area code change is to create an area code that can be assigned to wireless services, fax machines, or other non-wireline, non-voice uses, e.g. credit card verification and Point of Sale (this is called a Specialize Overlay). The FCC (Declaratory Ruling and Order, FCC Docket 95-19, IAD File No. 94-102, adopted January 12, 1995) has essentially banned such a use of area codes. This Order specifically precludes area code plans that exclude a particular kind of telecommunications service from an area code or that segregate services and technologies into different area codes. The FCC's decision sought to protect new telecommunications services from discrimination or disadvantage. If a new area code were assigned to cellular services, for example, all calls between a cellular customer and a wireline customer would require 10 digits while a wireline-to-wireline call could be made with seven digits. Such a dialing disparity would favor wireline customers at the expense of cellular customers. Currently, with local number portability – wireline numbers are now being ported to wireless service providers as well as wireless numbers being ported to wireline service providers. As a result, there is a co-mingling of technologies within assigned blocks and codes that prevents them from being separated by area codes.

It should be noted that the FCC does permit a state to request special authority to implement a Specialized Overlay. Such a request is only granted on the premise that mandatory 10-digit dialing for all calls will be phased in with the overlay complex. To date, no state granted FCC authority for a Specialized Overly has acted on it.

Why not add digits to the telephone number instead of adding area codes?

People have also suggested various means of expanding the current dialing plan which permits seven-digit dialing within an area code and require 10-digit dialing between area codes. The most frequent suggestion was adding an 8th digit to the customer line number. However, the United States is an integral part of the North American Numbering Plan and cannot unilaterally make changes in the dialing protocol that other regions, indeed countries, rely upon. National planners are studying means of expanding the numbering system. Such changes will have to be made on a multi-national basis and will almost certainly require years to implement in a coordinated manner. Such efforts will not eliminate the need for area code relief in the immediate future.

What is a rate area?

A rate area, also known as a rate center, is that geographic area containing one or more wire centers, used as the basis to define local and toll-calling area. When communities were smaller, the rate area was the center of each community's greatest concentration of population, such as the post office or other centrally located points. As communities grew and population centers changed, planners connected large population centers by drawing vertical and horizontal lines across a map of the United States. When the vertical and horizontal lines intersected, a rate center was identified, and the distance between rate centers (which became the basis of long distance and toll rates) was measured in airline miles. Local and long distance telephone companies in the United States use rate areas to calculate the rates that are charged for telephone calls.

What is a wire center?

A *wire center* is a building in which local switching systems are installed and where the outside lines, or wire, leading to customer premises is connected to the central office equipment. A *wire center boundary* is the perimeter of the area surrounding a wire center containing all customers whose lines are physically connected to a switching system at that wire center. There may be one or more wire centers within each rate center.

Why don't area code boundaries conform to Municipal or County boundaries?

When the telecommunications industry considers new area code boundaries it is obliged to follow rate area boundaries which reflect the physical infrastructure that enables telecommunications service. The alternative to following these boundaries would be to rip out in-ground facilities and re-wire affected customers at a tremendous cost.

The grid of telephone wires was in most cases laid down prior to municipal boundaries, which tend to change more frequently. Implementing relief is very costly to telecommunication companies under optimal circumstances as well as technically challenging.

AREA CODE RELIEF IMPLEMENTATION

What are the methods of area code relief?

The most common method is adding another area code to the same geographic area as an overlay. A second method is a geographic split.

What is the overlay method of area code relief?

An area code overlay occurs when more than one area code serves the same geographic area. In an area code overlay, relief is provided by opening up a new area code within the same geographic area as the area code requiring relief. With an overlay, all current customers keep their area code and telephone number. Numbers from this new area code may be assigned to new telephone customers or those adding additional lines. Because two area codes reside in the same geography, all calls must be dialed using the area code + the seven-digit telephone number (10 digits). (Some states require 1+10-digit dialing.)

What are the attributes of overlays?

- With an overlay there will be multiple area codes for each geographic area and it will end further shrinking of the geographic size of the area code. Subsequent relief will likely be another overlay. Overlays avoid the need for public and political involvement concerning split boundaries and which side should retain the old area code.

- An overlay will not require existing customers to change their area code. There is no need to revise stationery, business cards and advertising unless they contain only seven-digit phone numbers.

- An overlay will require customers to dial 10 digits (or 1+10 digits) for all calls within the geographic area. With the change in the dialing plan for calls within the geographic area, some states require customer education.

Why must an overlay apply to all services?

An overlay provides a second area code within the same geography as the first. The FCC has prescribed measures for overlays to mitigate any anti-competitive effects that would advantage incumbent providers and disadvantage new providers and their customers.

Why is it necessary to dial the area code + the seven-digit number (10 digits) for overlays?

Ten-digit dialing is a regulatory requirement established for an overlay area code by the FCC in its Second Report and Order (FCC 96-333) to mitigate any anti-competitive effects that would advantage incumbent providers and disadvantage new providers and their customers and to ensure dialing parity between the two area codes.

This dialing requirement results from a concern that customers in the original area code and customers with the overlay area code would have different dialing arrangements for the same geographic area. Those in the original area code could reach a party in their same geographic area with a seven digit call, while those in the overlay area code would have to dial 10 digits to reach the same party.

How is a new area code introduced in an overlay?

An overlay area code is introduced in three steps. The steps are designed to guide consumers by familiarizing them with the new area code and dialing plan change that is required with an overlay.

- *Formal 10-Digit Permissive Dialing:*

During a determined formal *permissive 10-digit dialing* period, customers are encouraged to begin using the area code + the seven-digit number to place all calls within the area code, although calls will still complete if only the seven-digit number is dialed. During this time safety systems, alarms, PBX's, fax machine calling lists, speed dialers, private entry access systems, auto-dialers and out-dialing lists on personal computer should be reprogrammed.

- *Mandatory 10-Digit Dialing:*

Mandatory10-digit* dialing begins at the end of the formal permissive dialing period. Callers must use the area code + the seven digit number for all calls within the area code. Calls incorrectly dialed using only seven digits will be referred to a recording which will inform the calling party it is necessary to dial the area code + the seven-digit telephone number to complete the call. This recorded announcement will remain indefinitely.

> *(Some states require 1+10-digit dialing.)

- *Introduction of New Overlay Area Code:*

  Numbers in the overlay area code are introduced at the beginning or shortly after the mandatory 10-digit dialing begins.

How will an overlay and 10-digit dialing impact home and business telephone service?

Customers currently in the impacted area code should begin dialing and making changes after permissive dialing begins in preparation for the scheduled mandatory dialing date. Both residential and business customers should:

- Dial all calls using the area code + the seven-digit number (10 digits).

- If you have equipment or services that are programmed to dial out using only seven digits, it's important to reprogram to 10-digit dialing on all calls before the mandatory dialing date. Update any call-forwarding, automatic-dial, speed-dial features and out-dialing lists on personal computers to dial 10 digits for all calls.

- Update items such as stationery and checks to include 10-digit numbers.

- Let family, friends and business associates know about your 10-digit number.

- Teach children their 10-digit telephone number and how to dial home.

- Educate elderly relatives and friends on the need to dial 10 digits.

<u>Additionally business customers should:</u>

- Update life safety systems, fax machines, private dial access entry and PBXs. (Contact your equipment vendor if you need assistance.)

- Update other sophisticated services and equipment such as message detail recording equipment, alternate route or least-cost routing systems, toll restriction, mobile telephone service, cellular telephone service, alarm circuits and PC modems.

- Include 10-digit numbers on all printed materials, such as stationery, checks, business cards, advertisements, promotional items, brochures, and catalogs.

- Inform employees and customers about 10-digit dialing, and request that they dial <u>all calls</u> by using 10 digits.

- Notify alarm service providers of 10-digit dialing requirement so alarm service records and equipment can be updated as needed.

- Test telephone equipment to determine if it can dial and accept 10-digit dialed calls. Questions regarding changes in telephone equipment should be directed to equipment vendors. ***Any updates or changes to equipment must be made prior to the scheduled mandatory dialing date.***

- At least thirty days prior to the start of permissive dialing, a test number will be established. This will allow business customers to verify that their equipment can complete calls to the new area code. The test number will only be active for a specified time period.

What is the geographic split method of area code relief?

The exhausting area code is split into two geographic areas, leaving the existing area code to serve one side of the geographic area and assigning a new area code to the remaining area.

What are the attributes of geographic splits?

- Splits provide a single area code for each geographic area. Future splits will reduce the geographic size of the area code.

- Splits require an area code change for approximately one half of customer's numbers in a two-way split and two thirds of customer's numbers in a three way split. Stationery, business cards and advertising will need to be revised by customers receiving the new area code.

- Geographic splits permit seven-digit dialing within an area code.

How is a new area code introduced in a geographic split?

A new area code is introduced in two steps. These steps are designed to guide consumers, familiarize them with the new area code, and facilitate the correct use of that code. The steps include the following:

- *Permissive Dialing:*

  The *permissive dialing** period begins with the introduction of the new area code and generally lasts approximately six months. It provides a 'get acquainted' transition period for the new area code.

  Permissive dialing allows the old and new area code customers to call between the two area codes using seven-digit dialing. During this period, customers should begin to use the area code + the telephone number although calls will still complete if only the seven-digit telephone number is dialed. Customers, from outside the area, can call the new area code by dialing either the old or the new area code + the telephone number; the call will complete during the *permissive period.*

  (* The permissive dialing period varies in length per state commission decision.)

- *Mandatory Dialing:*

  Approximately six months after the introduction of the new area code, an *intercept recording** period will begin. At this time, callers **must use the appropriate area code** plus the telephone number. Calls incorrectly dialed will be referred to a recording throughout the recording period. It will inform the calling party that the new area code must be used to complete the call.

  After the completion of the *recorded announcement* period, if customers do not use the correct area code they may reach a wrong number or a recording.

  (* The recording period varies in length per commission decision.)

How will an area code split impact home and business telephone service?

If your area code changes, you should notify family, friends and business associates of the change. You may also need to change stationery, business card and other printed material or reprogram your equipment to reflect the change.

Other changes that may be required include: address books, advertisements, alarm equipment, automatic dialers, bill statements, business cards, checks, computer lists, electronic banking information, emergency contact lists, identification bracelets, fax machines, health provider cards, number plate on your telephone, pet ID tags, and speed dial lists.

<u>Additionally, business customers should check for</u>:

Impacts with PBX and other business equipment:
Some business customers may need to upgrade or adjust their equipment to handle the new area code. *Not all business equipment will require upgrading*. Call routing lists may also need to be changed. If you have questions regarding your equipment, please contact your vendor for additional information or assistance.

Impacts to Integrated Service Digital Network (ISDN) Customers:
SOME ISDN equipment may have the area code included in the Service Profile Identifier (SPID). If so, that equipment must be reprogrammed to accommodate the new area code. ISDN customers will be notified of the specific date that they need to reprogram their SPID. If the SPID is not reprogrammed on that date, the ISDN equipment won't work.

If you have any questions, contact your equipment vendor or the manufacturer to determine if the SPID in your equipment requires reprogramming. In some cases, instruction manuals or other documents provided with the equipment may show you how to make the necessary changes.

Impacts to Least Cost Routing:
Customers with PBXs that use the Least Cost Routing feature may require upgrades to their PBX or they can eliminate the Least Cost Routing feature and allow the local exchange carrier to route the traffic.

Test number available for new area code:
Once the new area code has been determined, a test number will be established at least 30 days prior to the start of permissive dialing. This will allow business customers to verify that their equipment can complete calls to the new area code. The test number may be obtained from the associated planning letter for each area code on the NANPA website.

Who is responsible for costs incurred to update customer phone equipment, if necessary?

Ten-digit dialing and area code modifications are the result of normal growth in this state and costs incurred for updating equipment are the responsibility of individual customers.

Where to get prefix and area code information?

Contact your local service provider for information using the number listed in your bill. Also, visit the NANPA website to view assigned area code prefix information.

Who is the official source of area code information?

The North American Numbering Plan Administrator publishes area code information on its website: https://www.nationalnanpa.com.

PROJECTING AREA CODE EXHAUST

How are the area code exhaust projections developed? What input is used to develop projected area code exhaust dates?

The methodology used in development of area code exhaust forecasts incorporates the data elements listed below:

- Historical monthly central office code assignment data
- Service provider forecast for codes/blocks collected via the NRUF report process
- Pooling Administrator forecasts for codes, which factors in the inventory of pooled blocks in the area code
- Actual central office code demand as compared to predicted demand from last area code exhaust projection
- Changes in the quantity of unavailable NXX codes
- Number of rate centers in the area code
- Number of service providers in the area code
- Total quantity of codes available for assignment
- Number of service providers that provided forecast data for the area code
- Recent area code relief activity
- Central office code rationing amounts (and length of time in rationing)
- Other miscellaneous data (e.g., last relief, split vs. overlay)

Using the central office code demand as a basis, and factoring in the Pooling Administrator and service provider forecasts, NANPA develops an average, monthly central office code demand rate for each area code. In addition, NANPA also creates a pool of central office codes (referred to as a growth pool) to offset any potential large request for codes by a single service provider. In doing so, it reduces the fluctuations in the exhaust projection that may be caused by a singular event.

When does NANPA produce the exhaust dates?

NANPA publishes new area code exhaust projections in April and October of each year.

What happens if there is a significant change that may impact the exhaust date of an area code? (For example, a large return of CO codes, a new forecast by a service provider entering the area code.)

If it is necessary to revise an area code exhaust forecast prior to next publication date, NANPA will publish a "delta" NRUF containing the updated NPA exhaust projection and post this information to the NANPA website.

How is the NANP exhaust projection developed?

A detailed description of the NANP exhaust methodology can be found on the NANPA website under "Reports."

In essence, using the monthly CO code demand for each area code as calculated in the individual area code exhaust analysis, and straight-lining this demand beyond the five-year time frame included in NRUF submissions, creates an average yearly demand rate of for central office codes.   For comparison purposes, NANPA performs a sensitivity analysis by increasing or decreasing the average annual central office code demand to see its impact on the projected NANP exhaust.

What events could happen to drastically change the forecasted exhaust date of an area code?

Listed below are events/actions that could significantly change the forecasted exhaust date of an area code:

- Introduction of thousand-block number pooling;
- Declaring an area code in 'jeopardy' of exhausting prior to area code relief and the subsequent implementation of central office code rationing; and
- The completion of area code relief and the introduction of a relief area code

Whom to contact with your questions and comments?

Questions or comments can be referred to your local service provider. Questions can also be referred to the State Commission and NANPA (https://www.nationalnanpa.com).

GLOSSARY OF TERMS

CO Code	(Central Office Code) Central Office Codes may also be referred to as prefixes or NXXs.
Community of Interest	Many items can be considered as a "Community of Interest" such as a city, closely located cities, a neighborhood, a business with multiple locations, government agencies that serve a wide area (not just one entity, i.e., county sheriff department) or other agencies/businesses with multiple locations. Basically, it involves common interests and common needs. The telecommunications industry also looks at dialing patterns to identify communities of interest.
Cut Date	The date (Effective Date) by which routing changes must be completed of the assigned area code. Also, the date by which the area code becomes active.
Exhaust	A point in time at which the quantity of telephone numbers at the prefix level within an existing area code equals zero.
FCC	Federal Communications Commission
Geographic Split	The exhausting area code is split into two or more geographic areas, leaving the existing area code to serve one side of the geographic area and assigning new area codes to the remaining areas.
Growth	Growth and demand for telephone numbers are not specifically tied to population. With the technology explosion and the advent of local competition in the telecommunications industry (to provide local service), more and more telephone numbers are needed. Growth is measured in the demand for telephone numbers.
INC	Industry Numbering Committee, a standing committee of the Alliance for Telecommunications Industry Solutions (ATIS) that provides an open forum to address and resolve industry-wide issues associated with the planning, administrations, allocation, assignment and use of numbering resources and related dialing considerations for public telecommunications with the North American Numbering Plan (NANP) area.
LNP	Local Number Portability
MSAG	Master Street Address Guide (Database for 911)
NANP	North American Numbering Plan
NANPA	North American Numbering Plan Administration or North American Numbering Plan Administrator
NPA	Numbering Plan Area (Area Code)

NRUF	Numbering Resource Utilization/Forecast – Process used by NANPA to collect utilization and forecast data from service providers on a semi-annual basis.
NXX	An NXX (prefix) is the three-digit number that is between the area code and the 4-digit line number, where _N_ is a number from 2 to 9 and X is a number from 0 to 9.
Overlay	An area code overlay occurs when more than one area code serves the same geographic area.
Pooling Administrator	The entity or entities responsible for administering a thousands-block number pool.
Prefix	See description of CODE or NXX
PSAP	Public Service Access Point - "For 9-1-1 Services"
Relief	NPA Code Relief - Refers to an activity that must be performed when an area code nears exhaust of the 792 prefix capacity.
Service Provider Number Portability	The ability to keep your current telephone number and have service from any telecommunications service providers within the same rate area.
Thousands-Block Number Pooling	The process by which the 10,000 numbers in a central office code (NXX) are separated into ten sequential blocks of 1,000 numbers each (thousands-block) and allocated separately within a rate center.
Wireless	Cellular, Paging, Specialized Mobile Radio (SMR) and Personal Communications Service (PCS) services.