# October 2023
# North American Numbering Plan (NANP) Exhaust Analysis

## Introduction

NANPA projects the exhaust of the NANP based upon the current NPA Exhaust Analysis and the utilization and forecast data submitted by service providers via the Numbering Resource/Utilization Forecast Report ("NRUF") process. The following assumptions were also used in this exhaust analysis.

## October 2023 NANP Exhaust Projection Assumptions

The following is a list of assumptions used in the development of the October 2023 NANP exhaust projection prepared by NANPA.

1. The NANP exhaust study uses as its basis the Central Office ("CO") code demand, which includes service provider and thousands-block pooling forecasts, historical CO code assignments and other Numbering Plan Area ("NPA")-specific information, calculated for each respective NPA. The monthly CO code demand is calculated in the NPA exhaust analysis using statistical analyses similar to the analysis NANPA uses to forecast the exhaust of NPAs, i.e., SP forecasts and historical CO code assignment data.

2. A new NPA will be required when the number of assigned and unavailable CO codes reaches 800.

3. It is assumed that each new NPA will require the same number of unassignable codes as the current NPA. Generally, the unassignable CO codes in the existing NPAs are duplicated in the new NPA. There may be times, however, when additional CO codes in the new NPA are marked unassignable.

4. No assumptions were made with regard to the relief method implemented (*i.e.,* NPA split vs. overlay).

5. The CO code demand for an exhausting NPA will be continued after NPA relief. By doing so, the demand for both the existing and new NPAs will be considered for the geographic area covered by the original NPA.

6. To account for the variability of demand, a sensitivity analysis was performed to the CO code demand (i.e., demand will be increased or decreased by increments of 10%) to depict the impact on NANP exhaust.

## Results based on Assumptions

As recognized in previous NANP exhaust analyses, the model is sensitive to the yearly CO code demand rate. Using the October 2023 NPA Exhaust Analysis and the CO code demand included in the NRUF submissions, an average yearly forecasted CO code demand rate of 6,581 CO codes was calculated.

| Year | Annual Forecasted CO Code Demand |
|------|------|
| 2019 | 2,926 |
| 2020 | 4,030 |
| 2021 | 4,966 |
| 2022 | 6,561 |
| 2023 | 6,581 |

To project the exhaust of the NANP, an average annual forecasted demand of 6,581 CO codes was used. This demand factors in the forecast data submitted as part of the August 2023 NRUF process and the demand in non-US NANP member area codes.[1]

Model Based on Projected Demand

Using an average forecasted CO code demand rate of 6,581 codes assigned per year, the projected NANP exhaust date is 2051 assuming the quantity of NPAs remains at 679.

This figure of 679 NPAs is derived as follows: 800 NPAs less the 11 NPAs that are unavailable[2] for assignment: N11 NPA codes (8), 555 and 950 NPA codes (2), and 988 NPA code (1); and less the 110 NPAs that are reserved[3] for: NANP expansion (80), 880 – 887 and 889 toll-free NPA codes (9) and non-geographic NPA codes[4] (21).

## Sensitivity Analysis

For comparison purposes, NANPA also performed a sensitivity analysis using an average annual demand of 7,898 CO codes, a 20% increase in the base model demand. This analysis resulted in a projected exhaust of 2045.

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[1] NANPA included an annual forecast of 1,414 CO codes for non-US NANP member countries.
[2] Per Section 4.2, NPA Allocation Plan And Assignment Guidelines, ATIS-0300055.
[3] Per Section 4.3 and 11.0, NPA Allocation Plan And Assignment Guidelines, ATIS-0300055.
[4] Includes 21 NPA codes, 17 reserved for non-geographic services (538, 542, 543, 545, 547, 549, 552, 553, 554, 556, 569, 578, 589, 550, 535, 546, and 558) and 4 reserved for Canada (644, 655, 677 and 688).