

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

*Implementation of the National Suicide Hotline
Improvement Act of 2018*

*The Use of N11 Codes and Other Abbreviated
Dialing Arrangements*

WC Docket No. 18-336

CC Docket No. 92-105

COMMENTS OF TGM CONSULTING

December 6, 2018

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TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION AND SUMMARY	3
II. THE INDUSTRY NEEDS TO FOCUS THEIR EFFORTS ON THE VIABLILTY ON TDM NETWORKS	4
III. A NEW COVERED DIALING CODE IS VIABLE ON TDM NETWORKS	5
IV. CERTAIN SOLUTIONS COULD CREATE NEW BILLING REQUIREMENTS	7
V. AN N11 CODE IS PREFERRED	8
VI. CONCLUSION	9

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I. INTRODUCTION AND SUMMARY

I support Congress’s effort to implement a simple, easy-to-remember 3-digit dialing code for the National Suicide Prevention Lifeline via the National Suicide Hotline Improvement Act of 2018¹. The Act refers to the code as a “covered dialing code” and it can potentially take any format including N11 (where N equals a number between 2-9). The Act directs the FCC to work with other agencies to address this issue. On November 8th, 2018 in a letter from the Federal Communications Commission (FCC) to the Chair of the North American Numbering Council (NANC), the FCC directed the NANC to

¹ National Suicide Hotline Improvement Act of 2018,
<https://www.congress.gov/bill/115th-congress/house-bill/2345/text?format=txt>

² FCC letter to NANC Chair, <https://ecfsapi.fcc.gov/file/1108161310842/DOC->

address this issue². In that letter the FCC asked the NANC to consider the feasibility of a covered dialing code preceded by a star (*) or number (#) sign, in addition to other issues.

As a subject matter expert on the technical aspects of numbering and how it relates to telecom networking, I will provide input from that perspective. In this filing I will provide further detail on the answers to these questions:

- Is it feasible to deploy a new covered dialing code for this purpose? Yes.
- Is an N11 code preferred over other covered dialing codes? Yes.
- Is there a preferred N11 code? Not yet, but it's clear that 711 and 911 are not candidates.
- Is a code preceded by a * or # symbol feasible? No.

The filing will focus on two areas – the feasibility on older technology networks and the preference for an N11 code versus another covered dialing code.

This filing will not address the preference of a covered dialing code versus a toll free number, other than to say that from a public awareness and consumer memorization perspective the answer would seem to be self evident.

II. THE INDUSTRY NEEDS TO FOCUS THEIR EFFORTS ON THE VIABILITY ON TDM NETWORKS

The telecom network can be divided into two categories; old equipment based on a technology called Time Division Multiplex (TDM), and new equipment based on Internet Protocol (IP). TDM networks are limited when it comes to deploying new features and functions. The vendors that made the equipment no longer support them or update them. The operating system's software for the switches, called generic software,

² FCC letter to NANC Chair, <https://ecfsapi.fcc.gov/file/1108161310842/DOC-355003A1.pdf>

has not been updated for years and never will be. However, the equipment is programmable. That is, the carriers are able to program them to add, for example, a new area code. These programs are called translations. Some new functionality can be implemented using translations.

IP equipment is both programmable and still receives generic updates from the vendor. There's no reason to spend any effort trying to determine whether a covered dialing code would be feasible on those networks because we know it is.

The vast majority of mobile networks are IP. VoIP networks are also IP. Major carriers such as Verizon, AT&T and Comcast have been updating their networks to IP for years. IP networks now carry the majority of traffic on the telecom network.

While even the large carriers still have TDM equipment in their networks, it is generally believed that most of the TDM equipment is in rural landline networks. It is hard to say how much of the traffic originates and is carried on TDM networks, but it is safe to assume that it is a meaningful percentage. When trying to implement new functionality nationally, the feasibility on TDM networks must be considered. This has been an ongoing issue while the industry attempts to address new functionality such as anti-robocalling measures and nationwide number portability.

III. A NEW COVERED DIALING CODE IS VIABLE ON TDM NETWORKS

I'd like to address two issues before addressing the feasibility of a new covered dialing code. First, a preceding * or # is most likely not feasible on many TDM networks. While they can be deployed for feature activation and deactivation, such as *69 for automatic callback, this is very different functionality than what is being sought for the Hotline. For the Hotline we want to translate a covered dialing code into a 10-digit number to be routed to a call center. This functionality with a preceding * or #

would be very rare, if it exists at all, on a TDM network. The industry should spend very little time researching the feasibility of a preceding * or #. Second, the 911 network is a highly complex, special purpose, parallel network to the telecom network. It has evolved over the years to integrate mobile, VoIP and sophisticated location functionality. The Hotline can be integrated into the existing telecom network and does not need a separate network like the 911 network.

N11 codes are deployed today and new ones have been deployed in the recent past. Having said that, the Hotline functionality is a bit different from typical N11 codes such as 311 and 411. 311 translated to a local 10-digit geographic number and routed to a local call center. For example, 311 dialed in NYC goes to a NYC call center (or at least one that knows the call came from NYC and is prepared to answer questions about NYC). Conversely 311 dialed in Dallas goes to a Dallas call center. 411, alternatively, is routed directly to the customer's carrier (or an entity that is acting on behalf of the customer's carrier).

Currently the Hotline call centers are reached by dialing a toll free number. The toll free number is translated to a 10-digit geographic number in the network and routed to the appropriate call center. There are a number of call centers around the country, but they are clearly not local to everywhere. Ideally the covered dialing code could be translated to the existing toll free number, thus avoiding any transport charges incurred by the originating carrier. It's possible that this functionality is restricted in some TDM switches, and the code needs to be translated to a geographic number³. It's also possible

³ We would use the existing geographic numbers associated with the toll free number.

that some TDM switches can't translate a code into what would be considered a long distance number.

So the first preference is to translate the code into one of the existing toll free numbers, the second preference is to translate it into an existing geographic number. If neither of those is possible then the call needs to be sent to a network that can translate the code. That is, the carrier would need to contract with a company that it can hand off the call to that can translate the code and transport the call to the call center. The TDM equipment should be able to route a covered dialing code to a trunk group connected to a transport provider. Smaller carriers likely already have a carrier that transports out of region calls for them. This is similar to a process I proposed, called Non-Geographic Location Routing Number (NGLRN), for providing a solution to Nationwide Number Portability⁴ (NNP). The industry should not continue to be severely limited based on the presence of TDM equipment in the network. There needs to be a way to integrate the TDM networks with the IP networks.

IV. CERTAIN SOLUTIONS COULD CREATE NEW BILLING REQUIREMENTS

The solutions where the call is translated to a geographic number or handed off to another carrier could create new billing requirements. The originating carrier may have to pay to transport the call. Today with the toll free number, the infrastructure is in place to bill the entity receiving the call, the Federal Government, not the entity originating the call. With these solutions the industry may have to devise a process for the originating carriers to bill the government. This could mean a new billing process where a number of carriers submit bills regularly to recover the cost of the calls. While this is obviously

⁴ NGLRN solution for NNP, <https://ecfsapi.fcc.gov/file/112806555400/11-28-18%20Ex%20parte%20filing.pdf>

achievable (i.e., it is not a technical limitation); devising, implementing and operating a new billing process would create additional cost on the industry and the Federal Government.

V. AN N11 CODE IS PREFERRED

There are two main benefits to utilizing an N11 code – we know that TDM networks will be able to support them because they do today and people recognize N11 as a special service.

The alternative to N11 is to use an Easily Recognizable Code⁵ (ERC) such as 222. While there seemingly would be no issue with TDM networks supporting an ERC as a covered dialing code, it is uncommon today so we need to be wary that it may not be supported. It's possible that N11 translations tables are specific to the N11 format and it may not be possible to add an ERC in the same manner that an N11 code is added.

In addition using an ERC takes away an area code from being able to be used in the future to provide numbers to consumers. The N11 codes are already removed from the inventory of potential growth area codes. Even though the North American Numbering Plan (NANP) should never exhaust⁶, a decision to remove an area code from the growth pool is one that should be very carefully considered. Using an ERC could

⁵ ERCs are maintained by the North American Numbering Plan Administrator in its area code inventory. The vast majority are in reserved status.

⁶ If the NANP were to exhaust we would have to expand the number of digits in a NANP number beyond 10 to 12 or more. The population of the NANP countries is about 370M and there are 6.4B possible numbers in the NANP. This provides over 15 numbers for every person. Today there is a utilization rate of between 2-3 numbers per person. Furthermore, if we ever felt we were in danger of exhausting the NANP we would implement conservation measures, such as individual telephone number allocation (as opposed to the block allocation that we do today which strands unassigned numbers on carrier's networks).

create a precedent that takes out area codes for similar, but less important, purposes. It could also create demand from other NANP countries, such as Canada, for similar codes.

It has been proposed that existing N11 codes, such as 211, be used for also supporting the Hotline. The Hotline seems to have a very critical special purpose. Sharing this purpose with another less critical purpose should be closely evaluated. In addition, this could make the Hotline dependent on another entity, i.e., the entity operating the N11 code service. If an N11 code were to be used it would seem that it should be reassigned specifically to the Hotline.

While I can't recommend a specific N11 code at this point, it is clear that 711 and 911 are not candidates because they support existing regulatory mandated services. In addition it's possible that 411 should not be a candidate because many recognize it as supporting directory assistance. This could cause confusion to potential callers.

I recommend that anyone interested in this issue read the US Department of Veteran Affairs' excellent overview and recommendation regarding the N11 codes and their potential to be used for the Hotline⁷.

VI. CONCLUSION

Deploying a covered dialing code nationwide, including TDM network, seems to be feasible. There may be a need for a new billing process for calls to the Hotline. An N11 code would be the preferred format. More work is required to evaluate which of the existing N11 codes could be repurposed to support the Hotline.

⁷ U.S. Department of Veteran Affairs filing on the National Suicide Hotline Improvement Act of 2018, <https://ecfsapi.fcc.gov/file/1203972218987/FCC%20Comments%20WC%2018-336%20CC%2092-105%20VA%20JHurlbert.pdf>

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Respectfully Submitted,

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