

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Nationwide Number Portability)	WC Docket No. 17-244
)	
Numbering Policies for Modern Communications)	WC Docket No. 13-97
)	

**COMMENTS
OF
NTCA–THE RURAL BROADBAND ASSOCIATION**

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I. INTRODUCTION & SUMMARY

NTCA–The Rural Broadband Association (“NTCA”)¹ hereby submits these comments in response to the Notice of Proposed Rulemaking and Notice of Inquiry (“*NPRM*” or “*NOI*”)² adopted by the Federal Communications Commission (“Commission”) in the above-captioned proceeding. The *NPRM* and *NOI* seek comment on methods by which the Commission can enable more widespread adoption of nationwide number portability (“NNP”) functionality, at times also referred to as non-geographic number portability (“NGNP”). NTCA is a member of the North American Numbering Council (“NANC”) and, as a representative of small, rural carriers with both wireline and wireless operations, has a unique perspective on NNP and has long engaged on this subject as well as number portability issues more generally.

NTCA welcomes a thoughtful dialogue regarding how best to implement NNP functionality for the benefit of consumers and carriers nationwide. Indeed, if done right, NNP

¹ NTCA represents nearly 850 small rural incumbent local exchange carriers (“RLECs”). All of NTCA’s members provide quality voice and broadband services, and many of its members provide wireless, cable, satellite, and long distance and other advanced communications services to their rural communities.

² *Nationwide Number Portability*, WC Docket No. 17-244, *Numbering Policies for Modern Communications*, WC Docket No. 13-97, Notice of Proposed Rulemaking and Notice of Inquiry, FCC 17-133 (rel. Oct. 26, 2017) (“*NPRM*” or “*NOI*”).

functionality can provide great benefits. That said, it is also important that the Commission proceed carefully to protect consumers and ensure that public safety concerns and relative operator burdens are addressed in any such transition. A failure to thoroughly identify, consider, and rectify or otherwise address the ramifications of changes to the Commission's rules could frustrate (rather than further) consumer expectations and threaten public safety as well if calls are misrouted or dropped. Moreover, the foisting of costs on carriers that have no relationship or privity with either the carrier providing NNP porting capability or that carrier's customer would be highly problematic.

Fortunately, a path forward exists to enable implementation with minimal disruption or confusion pending longer-term review and consideration by industry experts. Assuming there is serious interest specifically in implementing NNP—and that this debate is not driven by an underlying desire to transfer the costs of such implementation away from those that benefit from NNP—this can be done today by carriers desiring to offer this feature. Specifically, carriers interested in offering NNP porting capability can do so right now through commercial arrangements. These agreements offer the Commission and interested carriers an expeditious and straightforward path toward enabling the immediate implementation of NNP functionality while broader, more potentially complex options are considered by the industry taking into account evolutions in underlying networks and databases.

II. CARRIER IMPLEMENTATION OF NATIONWIDE NUMBER PORTABILITY MUST NOT DISRUPT OTHERS IN THE INDUSTRY OR CONFUSE CONSUMERS.

It is worth noting as an initial matter that, to the extent there is value and interest in NNP, such functionality can be enabled today via the use of commercial agreements between carriers interested in providing such a service and other carriers that can offer any transport or other

services and features necessary to support this functionality. Indeed, this is the most direct and immediate route to the desired outcome; as the Alliance for Telecommunications Industry Solutions (“ATIS”) Technical Report on a Nationwide Number Portability Study³ made abundantly clear, it is the least complicated, least time-consuming, and least disruptive means of allowing those that want to provide NNP capability to consumers the ability to do so.

As an initial matter, subject to making sure that any such functionality does not confuse customers or disrupt industry practices without appropriate planning, NTCA supports the ability to respond to consumers’ desire to retain their telephone number “whether changing service providers, moving from one neighborhood to another, or relocating across the country.”⁴ As the *NPRM/NOI* states, consumers and businesses place a significant value on their telephone number, and thus a move (in a geographic sense) or a move (in the sense of changing providers) should not require a consumer to give up the valuable resource that is their telephone number. Indeed, it is likely that some NTCA members might seek to adopt NNP functionality as a method of attracting new customers, particularly for their wireless affiliates but for their wireline business as well. In that sense, NTCA and its members have a deep and sincere interest in the Commission enabling such functionality in an expeditious manner.

However, any such implementation must also be careful and thoughtful. In particular, the Commission should take care to ensure that the potential elimination of certain rules inextricably tied to the overall architecture of how calls are routed or existing industry practices does not have unintended consequences. A lack of care or attention to the ramifications of rule changes or a

³ Alliance for Telecomm. Indus. Sols., *ATIS Standard – ATIS-1000071, Technical Report on a Nationwide Number Portability Study, Technical Report* (2016) (“*ATIS Report*”).

⁴ *NPRM/NOI*, ¶ 1.

hasty move to enable NNP functionality via amendments to Commission rules without accompanying safeguards can have very real, negative consequences for rural consumers. A less than thorough, rushed process of forcing NNP functionality via substantial changes to existing practices and databases could have negative implications for public safety and consumer protection if calls are inadvertently misrouted or dropped, and fundamental fairness could also be undermined in terms of the responsibility for implementation among all affected operators. Moreover, having lived through the seemingly unending scourge of “call incompleteness” issues that have plagued rural Americans unabated for several years,⁵ rural carriers are understandably concerned about the possibility of changes to call routing practices unaccompanied by certain safeguards to protect consumers.

Turning to the options at hand for implementation, with the significant exception of one option (commercial agreements), each proposed method of enabling NNP functionality as discussed in the *NPRM* and *NOI* has certain, previously identified drawbacks that would likely require additional rules and still-to-be-fully-vetted, far-reaching modifications to industry practices to avoid consumer or industry disruption. Adoption of these options must also avoid an unfair allocation of the costs of NNP implementation among service providers and network operators. In fact, in some cases (particularly in the case of proposals contained in the *NOI*), analysis of these options by industry experts is incomplete or risks introducing unnecessary complexity into the Commission’s rules and the overall process of routing calls. That introduces the very real possibility that any safeguards adopted to avert those consumer harms noted above

⁵ See Comments of NTCA–The Rural Broadband Association, WC Docket No. 13-39 (fil. Aug. 3, 2017) (summarizing the long history of calls to rural America failing to complete and discussing the Commission’s numerous failed attempts to address the issue before adopting the record keeping and reporting requirements that curbed but did not eliminate the problem.).

could in turn inject even more complexity into the system in a manner that outweighs the benefits of enabling this service. Such a result may in turn force the Commission to repeatedly “play catch-up” with respect to chasing down problems that arise. This is particularly true with respect to elimination of the N-1 query requirement as proposed by the *NPRM* that, as discussed further below, is tied to a larger architecture with respect to how calls are routed. This further underscores the necessity of not proceeding with undue haste, and the wisdom of considering instead the most obvious, readily available path to implement NNP right now in lieu of making sweeping changes that remake existing practices, arrangements, and architectures.

With respect to the concept of fundamental fairness, the Commission must also ensure that the costs created by any rules adopted to enable carriers to offer NNP functionality are borne in the first instance by those seeking to implement and benefit from NNP and that such do not fall instead on other operators. Specifically, no carrier—and especially smaller providers—should be forced to incur uncompensated costs (for example, for database “dips” or transport costs to distant locations far outside their small service areas) simply to enable *other* carriers to offer NNP functionality, especially when the benefit of that new service accrues entirely to those other carriers and their new customers.⁶

In an effort to help “issue spot” potential consumer and/or industry disruption and cost transfers that could result from certain methods of implementing NNP, NTCA in 2016 submitted for consideration to the NANC an overview of various “call flow scenarios” that would be

⁶ It is worth noting again that many NTCA members may ultimately choose to implement and offer NNP, and NTCA is supportive too of broader exploration of industry solutions to NNP implementation that can resolve concerns about cost and burden allocation. But in the interim, as described in the paragraphs that follow, there is no reason or justification to foist the costs of implementation—such as massive transport costs—largely upon smaller providers like those in NTCA’s membership that are *not* offering NNP functionality today.

presented by NNP implementation.⁷ These scenarios involve three hypothetical carriers—one rural wireline provider and two regional wireless carriers. As these call flow scenarios demonstrate, even this one narrow, relatively simple fact pattern involving intramodal porting and calls placed between the “porting-in” carrier’s new customer and one small RLEC presented numerous questions and highlighted the sizeable risk of foisting uncompensated costs wholly on a small provider not itself involved in NNP implementation.

As just one example (additional scenarios are available in Appendix A to these comments), assume for the purposes of this discussion:

- Wireless Carrier 1 is a regional wireless carrier based in Dallas, TX (Dallas MTA).
- Wireless Carrier 2 is a regional wireless carrier based in Minneapolis, MN (Minneapolis MTA).
- RLEC is a wireline carrier based in rural TX (Dallas MTA).
- Assumptions made for the purposes of this fact pattern:
 - Wireless Carrier 2 and RLEC do NOT have direct interconnections in place.
 - Wireless Carrier 2 does NOT have any operations/physical network presence in the Dallas MTA.

Wireline to Wireless Call (Rural Texas Calling Dallas Number Ported to Minneapolis, Physically Located in Minneapolis)

- Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the “Dallas” telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- RLEC customer (rural Texas, Dallas MTA) calls Wireless Carrier 2 customer with a Dallas telephone number while the latter is *physically in Minneapolis*.

⁷ NTCA *ex parte* letter to Chairman Kane, Betty Ann Kane, Chairman Public Service Commission of the District of Columbia, WC Docket No. 13-97, WC Docket No. 07-149, WC Docket No. 09-109, CC Docket No. 95-116, GN Docket No. 13-5 (fil. Mar. 16, 2016) (“April 2016 NTCA letter”).

This narrow fact pattern produces several questions, chief among them the routing and network responsibility for completing calls in this scenario and how to ensure that the costs of implementing NNP are borne by those benefitting from offering such a service to potential customers. In terms of alternatives on the table to potentially answer these questions and enable NNP on an industry-wide basis—such as the use of National Location Routing Numbers (“National LRNs”) or Non-Geographic LRNs (“NGLRNs”)—as the *NOI* acknowledges, industry-wide adoption of these proposals will require, among other things: (1) switch upgrades by carriers of all sizes, (2) changes to carriers’ call routing practices in use today, (3) changes to tariffs, (4) changes to toll-free database processing, (5) changes to subscriber billing, and (6) changes to caller ID practices. Moreover, in the case of NGLRNs, the Commission would need to establish and oversee “an industry-led body to create a certification process”⁸ for non-geographic gateways to route calls to the appropriate end point. Resolution of these issues and then a transition period to enable the industry to adapt to the use of National LRNs or NGLRNs may take several years and create significant transaction costs for all involved, while also threatening again to foist substantial routing burdens and interstate transport costs onto a small RLEC that is for all intents and purposes an “innocent bystander” in the context of NNP implementation.

The *ATIS Report* only confirms the complexity and potentially costly nature of undertaking NNP implementation via alternatives such as some of those identified by the *NOI*. Among other things, ATIS found that a National LRNs approach could create several problems for consumers, such as “call completion issues...when routing to [telephone numbers] that have

⁸ *NOI*, ¶ 52.

moved from a specific rate center/LATA geography to anywhere within the national footprint.”⁹ The ATIS report also found that National LRNs could negatively impact consumers by interfering with certain call blocking software and caller ID, in addition to potentially creating customer confusion with respect to billing.¹⁰

The NGLRNs approach fares little better upon initial review. As the prolonged discussion of NGLRNs implementation in the *ATIS Report* indicates,¹¹ this approach will require, among many other things, that providers “enter into an agreement with [a non-geographic] transport provider to complete calls to [NGLRNs].”¹² As the *ATIS Report* notes, this will require development of policies to govern such arrangements.¹³ In fact this issue is only one of several identified by ATIS—issues that in total represent a nearly wholesale reconsideration of how calls are routed, how numbering resources are allocated, and how carriers are compensated for the transport of calls to distant locations.

By contrast, if commercial arrangements were used in the scenario described above (and indeed in any other scenario as well), completion of the call originated by the RLEC customer in the Dallas MTA can be seamlessly accomplished *today* via a simple agreement between that porting-in carrier (Wireless Carrier 2) and a third-party capable of operating, as the NOI states, as the “third party network.”¹⁴ In stark contrast to the other approaches described above and in the *NOI*, the use of commercial agreements obviates the need for changes to existing databases,

⁹ *ATIS Report*, p. 14.

¹⁰ *Id.*

¹¹ *Id.*, pp. 21-26.

¹² *Id.*, p. 23.

¹³ *Id.*

¹⁴ *NOI*, ¶ 57.

minimizes confusion on the part of the customers on either end of the call, and averts the placement of any additional burdens on other carriers involved in the transaction. To the contrary, existing routing practices and databases can be used without change, and the use of commercial agreements rightly places the *logistical* and *financial* responsibility for implementing NNP functionality on the carrier interested in marketing and offering that service—rather than foisting costs on carriers that have no relationship or privity with either the carrier providing NNP porting capability or that carrier’s customer.¹⁵

In sum, an answer to most of the complications raised by options presented in the *NPRM/NOI* and the *ATIS Report* is readily available. In contrast to the several identified NNP “solutions” that presented so many obvious and thorny complications in the April 2016 NTCA letter and required so many pages of discussion as to implementation concerns in the *ATIS Report*, the alternative of “commercial agreements” offers the best and most immediate option.¹⁶ It could not be better stated than the summary of the NANC LNP Working Group NGNP subcommittee as quoted in the *NOI*, wherein that expert body found “that the commercial

¹⁵ To be clear, commercial agreements as proposed herein are not a perfect solution; they are merely the most straight-forward option available to the Commission to encourage carriers interested in doing so to adopt NNP as a service *today*. This approach is also the least disruptive method—for consumers and industry alike—of enabling NNP within existing network architectures and carrier practices while broader, more potentially complex options are considered and evolutions in underlying networks and databases continue. Still, it must be acknowledged that some customer confusion may arise and that steps can be taken to mitigate its impact. For example, in a scenario where a subscriber from California moves to rural South Dakota and takes her number, in a NNP environment, other “local” consumers in South Dakota may ask why, when calling someone they understand is actually a neighbor (albeit with a California number), that call is treated as long distance in nature. Of course, that is of less concern than the customer in the rural South Dakota town dialing what they think is a local call and having to pay toll charges as a surprise because the dialed number was ported away to California. Ultimately, commercial agreements can help solve the latter issue by ensuring that the porting-in provider assumes all of the financial and logistical responsibilities that come with offering NNP as a functionality. The Commission can further minimize confusion by requiring *all porting-in carriers* to disclose to consumers (residential and business) any ramifications of NNP service such as a possible assumption of toll charges by the end-user going forward. In addition, a porting-in carrier that lacks interconnection agreements with local providers and that as a result must assess its new customer toll or other charges to complete local calls should be required to disclose those charges to potential customers.

¹⁶ *NOI*, ¶¶ 56-57.

agreement solution *was the only one that could be supported without significant changes or impacts to NPAC or service provider systems.*¹⁷ Put another way, *nothing in the Commission's rules stands in the way of carriers offering NNP as a service to potential customers right now.*

Indeed, the fact that NNP functionality can be *achieved today without invasive or intrusive regulatory disruption of existing industry practices* is a point worth underscoring. Not only does the “commercial agreements” option minimize risk of disruption or confusion for consumers or the industry, it offers those carriers interested in offering NNP as a service a method by which to do so *right now*, without the need for substantial changes to Commission rules. This stands in stark contrast to the other proposals contained in the *NPRM and NOI*, each of which opens up the prospect of greater potential disruption, improper allocation of costs, customer confusion, and the need for greater regulation.

In short, while it makes sense to continue *industry discussions* about potentially better ways of implementing NNP in the long run, NNP functionality can be implemented today via commercial agreements without any need for regulator action. By implementing NNP via commercial agreements right away with minimal regulatory intervention, the question of *future accommodation* of NNP in evolving architectures can then be turned back to the industry bodies where it rightly belongs.

III. THE COMMISSION SHOULD AVOID OTHER RULE CHANGES THAT COULD HAVE UNINTENDED CONSEQUENCES AND COULD IMPOSE COSTS ON SMALL PROVIDERS.

As noted above, any consideration of how to enable carriers to offer NNP functionality should guard against the inadvertent misrouting of calls and should place the financial and

¹⁷ *Id.*, ¶ 56 (emphasis added) (citing North American Numbering Council, Local Number Portability Administration Working Group, *White Paper on Non-Geographic Number Portability* (Aug. 30, 2016) (*NGNP White Paper*)).

logistical responsibility for providing the service on those carriers marketing and offering that functionality to end-users. The Commission should also avoid unnecessary complexity. In the context of the *NOI*, as discussed above, this should prompt the choice of commercial agreements as the optimal means of implementing NNP; within the context of the *NPRM*, this should cause the Commission to proceed with caution in considering any elimination of the N-1 query requirement. More specifically, any such proposal should only be considered *as part of* a longer-term movement toward NNP within future network and routing database architectures *after* the industry has completed work on assessing those options, rather than prematurely as a step of its own in advance.

The *NPRM* seeks comment on eliminating the N-1 query requirement as a method of “accomodat[ing] the architectures of NNP proposals and to reflect the evolving marketplace.”¹⁸ As an initial matter, the *NPRM* is correct that a future state of affairs in which industry consensus is achieved with respect to NNP functionality in evolving architectures could necessitate the elimination of the N-1 query requirement. However, the N-1 provision is only one small part of a larger, industry-wide architecture in use today with respect to how calls are routed all across the United States. A “one-off” elimination of this requirement—absent additional provisions to safeguard against misrouted or dropped calls and in advance again of industry-led discussions about how to evolve the current architecture—could “pull at the threads” of Commission rules and industry practices and agreements with unknown consequences for consumers.

In fact, the *ATIS Report* relied on by the *NPRM/NNP* seems to acknowledge this reality. Specifically, the *ATIS Report* discussion on this issue—while stating that elimination of the N-1 query requirement does not lead to “a new requirement that originating carriers query the

¹⁸ *NPRM*, ¶ 19.

NPAC”¹⁹ for every outbound call—also goes on to state that it is “important to ensure the call is queried before it gets to the network that assigned the CO code.”²⁰ In other words, elimination of the N-1 query requirement could—absent additional rules assigning that responsibility to *some party*—could produce a situation in which *no party* assumes the responsibility for a database query necessary to properly route outbound calls. Misrouted and/or dropped calls would frustrate consumers and place public safety at risk.

In addition—and of even greater concern for smaller operators like those in NTCA’s membership—the *ATIS Report* goes on to observe that, in the wake of any elimination of the N-1 query requirement, “it is possible that the IXC could want to charge the originating carrier for the query.”²¹ Put another way, “elimination” of the N-1 query would not really eliminate anything at all—it would simply transfer the actual, or at least the financial, duty to determine how to route calls to small businesses like the rural providers in NTCA’s membership. Leaving the ultimate resolution of the financial responsibility for the database query to industry negotiations introduces additional and unnecessary disruption as originating and interexchange providers inevitably battle back-and-forth on the proper assignment of these costs. And a failure to come to an agreement could, again, result in misrouted or dropped calls to the detriment of consumers.

All of the above is not intended to argue for retention of the N-1 query requirement in perpetuity. But the best approach here is a holistic review of the ramifications (pro and con) of the alternatives identified in the *NOI* by industry experts such as the NANC and its working group on NNP as well as the ATIS, with a charge as part of that to consider whether and how to

¹⁹ *Id.*, ¶ 23, citing *ATIS Report*, p. 23.

²⁰ *ATIS Report*, p. 23.

²¹ *Id.*

eliminate the N-1 query as part of that more comprehensive, industry-led migration. Each alternative should be properly vetted by those experts and the industry as a whole to ensure that issues identified above (and any others that may affect consumers, public safety and the proper apportionment of costs) are resolved. As the discussion contained in the *NOI* makes clear, the long-term solution to enabling NNP functionality—whether that be the adoption of National LRNs or NGLRNs or some other proposal—will require a wholesale reconsideration of routing, rating, and tariff issues among others. Such work should be left to the industry in lieu of being driven by Commission fiat, and elimination of the N-1 rule is best viewed as a complement to and critical part of that still incomplete work of broader industry consideration of the options contained in the *NOI*.

IV. CONCLUSION

For all of the reasons discussed above, the Commission should pause before “pulling at the threads” of its existing numbering rules absent a fuller understanding of the ramifications of doing so and while industry bodies consider the long-term proposals set forth in the *NOI*. Instead, carriers interested in offering NNP today are free to utilize commercial agreements to do so and should take that route pending an industry-led effort to adopt a solution.

Respectfully submitted,



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December 27, 2017



March 16, 2016

Honorable Betty Ann Kane
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Re: Nationwide Number Portability

WC Docket No. 13-97: *Numbering Policies for Modern Communications*

WC Docket No. 07-149: *Telcordia Technologies, Inc. Petition to Reform Amendment 57 and to Order a Competitive Bidding Process for Number Portability Administration*

WC Docket No. 09-109: *Petition of Telcordia Technologies, Inc. to Reform or Strike Amendment 70, to Institute Competitive Bidding for Number Portability Administration, and to End the NAPM LLC's Interim Role in Number Portability Administration Contract Management*

CC Docket No. 95-116: *Telephone Number Portability*

GN Docket No. 13-5: *Technology Transitions*

Dear Chairman Kane,

NTCA–The Rural Broadband Association (“NTCA”) hereby submits this letter to discuss the issue of nationwide number portability (“NNP”), at times also referred to as non-geographic number portability (“NGNP”). NTCA is a member of the North American Numbering Council (“NANC”) and, as a representative of small, rural carriers with both wireline and wireless operations,¹ has a unique perspective on the issue.

The Chief of the Federal Communications Commission’s (“Commission”) Wireline Competition Bureau (“WCB”) has requested that the NANC “evaluate and recommend actions to enable nationwide wireless number portability through technical modifications to the location routing

¹ NTCA represents nearly 900 rural rate-of-return regulated telecommunications providers (“RLECs”). All of NTCA’s members are full service local exchange carriers and broadband providers, and many of its members provide wireless, cable, satellite, and long distance and other competitive services to their communities. Of particular relevance to this letter, NTCA estimates that approximately 40% of its members provide mobile wireless services.

number system used to route wireless- and wireline originated calls to ported numbers.”² As part of its direction to NANC, the WCB listed certain specific consumer and regulatory issues that should be part of NANC’s consideration,³ and these issues were assigned to various NANC working groups in December 2015.

Resolution of the issues identified in the WCB’s November 2015 letter will be critical to ensuring that NNP can be implemented in a seamless manner that maximizes consumer benefits and minimizes adverse impacts. NTCA submits this letter to ensure that certain specific considerations or details beyond those broadly identified in the November 2015 letter are not overlooked, as the failure to properly address these issues could negatively affect not only rural Americans in particular, but also those in more urban markets that wish to communicate with them. More specifically, to ensure the transition to a NNP environment could be a success for every American, there are a number of routing and networking questions with respect to the implementation of NNP that must be resolved prior to such implementation.

NTCA recognizes the interest of consumers in being permitted to “keep” their number even as they switch carriers and move geographically. Indeed, NTCA anticipates that certain of its members may seek to utilize NNP, if implemented, to attract new customers, particularly in the wireless context. But as a general matter, any resolution of questions related to NNP implementation must look to the touchstones of public safety, consumer protection, and fundamental fairness in the responsibility for implementation among all affected operators. In particular, the offering of NNP functionality to a consumer by any one carrier must not lead to confusion for other consumers or reduce the level of service they expect to receive in terms of the seamless completion of calls or the prices they pay for placement of any given kind of call. Nor should NNP implementation impose on other operators any additional, incremental responsibilities (such as routing and transport) associated with such implementation. Rather, it is only fair and equitable that the carrier benefitting directly from providing NNP to its customers should then bear the full responsibility for ensuring that functionality does not disrupt the completion of calls or foist costs on other operators. Carriers offering such a service are likely to do so for competitive reasons, as a method of product differentiation designed to attract and retain subscribers. These carriers should not be provided then with the advantage of having the incremental costs that will arise due to their implementation of such new functionality be paid for by other carriers and their customers. Moreover, public safety and consumer protection demand that under no circumstances should calls be dropped or misrouted due to a lack of clarity with respect to the “rules of the road” for routing calls to numbers ported on a nongeographic basis.

NTCA is encouraged to see that the Future of Numbering (“FoN”) Working Group apparently has already started to consider such issues.⁴ Questions regarding the applicability of tolls, tariffs,

² Letter from Matthew S. DelNero to the Honorable Betty Ann Kane, Chairman Public Service Commission of the District of Columbia (Nov. 16, 2015) (“November 2015 Letter”).

³ *Id.*, p. 2.

⁴ Future of Numbering Working Group, Interim Report to the NANC, Nationwide Number Portability (Feb. 8, 2016). As the FoN report notes, the FCC specifically outlined these in its November

and taxes, as well as related matters of costs and cost recovery, must be examined in detail before any action with respect to NNP can be finalized and changes approved by the Commission. Indeed, NTCA has identified at least two specific areas of technical concern relating to routing and network responsibility that must be resolved as part of any NNP implementation.

First, it would appear that NNP implementation would require every carrier to migrate from performing Local Number Portability (“LNP”) queries (or “database dips”) only in the context of originated non-native “local” calls (as is the case today) to performing dips in the future on *every* call originated to the customer of another carrier. For RLECs with only a few other carriers in their local calling area, this could result in the requisite number of dips moving from relatively few per month to hundreds of thousands per month or more. The costs and other burdens of expanding the scope of such LNP queries in such a massive manner must be factored into an assessment of NNP implementation, especially as they might adversely affect smaller and rural operators.

Second, and likely more importantly, in the absence of careful thought and definition in advance, implementation of NNP functionality could cause: (a) significant provider confusion in routing and transport responsibilities associated with calls to and from numbers ported on a nongeographic basis; (b) significant customer confusion as to what is a local or long distance call; and (c) the foisting of costs on smaller and rural carriers that have no relationship or privity with either the carrier providing NNP porting capability or that carrier’s consumer. For example, where NNP has been implemented, the information returned from a LNP query might indicate that a call that appeared “local” in the past should now be routed by an RLEC across country to another carrier with whom the RLEC otherwise has no involvement or relationship, resulting in the treatment of that as a “long distance call” for the consumer and necessitating the routing and transport of that call via an interexchange carrier for what otherwise would have been a local call routed and transported via local interconnection arrangements. Thus, if routing rules, switch translations, and interconnection and transport obligations are all not thought through and well-defined, there would appear to be substantial risk of customer confusion, routing confusion, and potential transport and interconnection disputes among network operators – certainly, no carrier should be obligated to bear the financial and operational responsibility to carry (or pick up) a call hundreds or thousands of miles away simply because *another carrier* has ported a number there. Again, to be clear, this is not to say that NTCA opposes NNP implementation – but, as a NANC working group has already recognized,⁵ such implementation must not confuse consumers, and moreover, those seeking and benefitting most directly from its implementation should bear complete responsibility for successful and seamless routing of calls and any and all costs arising from transport and routing to accommodate such implementation.

2015 letter as among the issues to be examined and addressed by the NANC, and the NANC Chair in turn referred those to the FoN Working Group.

⁵ See, NANC Local Number Portability Administration Working Group, White Paper on Non-Geographic Number Portability (Feb. 19, 2015), at 9-11.

Moreover, while these questions arise in the immediate context of today's network architectures, it is important to note too that questions related to transport, interconnection, and routing will remain just as relevant and pressing even in an "all-IP world" – unless service quality is not a concern and the presumption is that voice calls can be commingled with other data and transmitted via "public Internet" routing rather than being transmitted via means that assure service levels. As many have noted in the past, even in an "all-IP world," and even if one were to assume that service quality levels were *not* important in the transmission of voice calls, the costs of transport are not free and someone must always assume the responsibility of taking data (including but not limited to voice calls) from point A to point Z.⁶ Such burdens will continue to be particularly acute for smaller carriers that lack a national transport network of their own.

In the Appendix contained herein, to help aid the discussion and illustrate the potential issues presented, NTCA outlines a variety of potential call flow scenarios for which these important questions related to routing and network responsibility must be examined and resolved. There are likely technical solutions to all of the issues noted above for each of the eight call flow scenarios identified in the attachment hereto – but implementation of NNP must examine and care for such issues, and must ultimately ensure that those benefitting most directly from NNP (which, once again, may at times include NTCA members) bear the full financial and operational responsibilities arising out of its implementation. NTCA therefore believes that the NANC must include, as part of any response to the Commission regarding the issues laid out in the November 2015 Letter, both identification of these as specific concerns that arise in the context of NNP recommendations and suggestions as to how these issues related to routing and network responsibility will be resolved in a matter that promotes public safety, consumer protection, and competitive equity among operators.

Thank you for your attention to this correspondence. Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being filed via ECFS.

Respectfully Submitted,

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⁶ *Ex Parte* Letter from Robert C. Barber, General Attorney, AT&T Services, Inc., to Marlene H. Dortch, Secretary, Commission, WC Docket 10-90; CC Docket No. 01-92; GN Docket No. 14-28 (filed July 30, 2014), at Attachment pp. 15-18 (describing how "Carriage of Traffic is Not Without Cost" even in an all-IP ecosystem, and highlighting the sizeable "Cost Implications of Carrying Additional Traffic" even for one of the largest carriers in the United States with a national network footprint).

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APPENDIX

BASELINE FACT PATTERN FOR CALL FLOW SCENARIOS

For purposes of the Call Flow Scenarios that follow, assume in each case:

- Wireless Carrier 1 is a regional wireless carrier based in Dallas, TX (Dallas MTA).
- Wireless Carrier 2 is a regional wireless carrier based in Minneapolis, MN (Minneapolis MTA).
- RLEC is a wireline carrier based in rural TX (Dallas MTA).
- Assumptions made for the purposes of this fact pattern:
 - Wireless Carrier 2 and RLEC do NOT have direct interconnections in place.
 - Wireless Carrier 2 does NOT have any operations/physical network presence in the Dallas MTA.

SCENARIO A1 – Wireline to Wireless Call (Rural Texas Calling Minneapolis Number Ported to Dallas, Physically Located in Dallas)

- Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the “Minneapolis” telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- RLEC customer (rural TX, Dallas MTA) calls Wireless Carrier 1 customer with a Minneapolis telephone number while the latter is *physically in* Dallas.

SCENARIO A2 – Wireline to Wireless Call (Rural Texas Calling Minneapolis Number Ported to Dallas, Physically Traveling Elsewhere)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the “Minneapolis” telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- RLEC customer (rural TX, Dallas MTA) calls Wireless Carrier 1 customer with a Minneapolis telephone number and while the latter is *traveling somewhere other than* Dallas.

SCENARIO B1 – Wireline to Wireless Call (Rural Texas Calling Dallas Number Ported to Minneapolis, Physically Located in Minneapolis)

- Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the “Dallas” telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.

- RLEC customer (rural Texas, Dallas MTA) calls Wireless Carrier 2 customer with a Dallas telephone number while the latter is *physically in* Minneapolis.

SCENARIO B2 – Wireline to Wireless Call (Rural Texas Calling Dallas Number Ported to Minneapolis, Physically Traveling Back to Dallas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the “Dallas” telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- RLEC customer (rural Texas, Dallas MTA) calls Wireless Carrier 2 customer with a Dallas telephone number and while the latter is *traveling back to* Dallas.

SCENARIO C1 – Wireless to Wireline Call (Minneapolis Number Ported to Dallas, Physically Located in Dallas, Calling Rural Texas)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the “Minneapolis” telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- Wireless Carrier 1 customer with a Minneapolis telephone number while *physically in* Dallas calls RLEC customer (rural Texas, Dallas MTA).

SCENARIO C2 – Wireless to Wireline Call (Minneapolis Number Ported to Dallas, Physically Traveling Elsewhere, Calling Rural Texas)

- Same as A1 – Wireless Carrier 2 customer in Minnesota moves to Dallas and requests to have the “Minneapolis” telephone number ported from Wireless Carrier 2 that provides regional service in Minneapolis to Wireless Carrier 1 that provides regional service in Dallas.
- Wireless Carrier 1 customer with a Minneapolis telephone number and while *traveling somewhere other than* Dallas calls RLEC customer (rural Texas, Dallas MTA).

SCENARIO D1 – Wireless to Wireline Call (Dallas Number Ported to Minneapolis, Physically Located in Minneapolis, Calling Rural Texas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the “Dallas” telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- Wireless Carrier 2 customer with a Dallas telephone number while physically in Minneapolis calls RLEC customer (rural Texas).

SCENARIO D2 – Wireless to Wireline Call (Dallas Number Ported to Minneapolis, Physically Traveling Back to Dallas, Calling Rural Texas)

- Same as B1 – Wireless Carrier 1 customer in Dallas moves to Minneapolis and requests to have the “Dallas” telephone number ported from Wireless Carrier 1 that provides regional service in Dallas to Wireless Carrier 2 that provides regional service in Minneapolis.
- Wireless Carrier 2 customer with a Dallas telephone number and while *traveling back to Dallas* calls RLEC customer (rural Texas, Dallas MTA).