BEFORE THE NEBRASKA PUBLIC SERVICE COMMISSION

In the Matter of the Nebraska Public Service Commission, on its own Motion, to consider revisions to the universal service fund contribution methodology  | Application No. NUSF-100 PI-193

REPLY TESTIMONY OF DON PRICE ON BEHALF OF CTIA – THE WIRELESS ASSOCIATION®

April 21, 2017

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Nebraska Public Service Commission
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I. INTRODUCTION AND BACKGROUND

Q. Please state your name and business address.
A. My name is Don Price. My business address is 2304 S Lakeline Blvd, #221, Cedar Park, TX, 78613.

Q. By whom are you employed, and in what capacity?
A. I am an independent consultant specializing in public policy issues in the communications industry.

Q. Are you the same Don Price who previously filed direct testimony in this proceeding?
A. Yes, I am.

Q. What is the purpose of your testimony?
A. My testimony responds to issues raised in the other parties’ testimonies filed in this proceeding on March 21, 2017. I will explain that none of the testimonies provide a basis for the Commission to move forward with the proposals in its February 22, 2017 Order, which were unsupported by any evidence, or to impose an additional $27M in Nebraska Universal Service Fund ("NUSF") assessments on Nebraskans. I recommend instead that the Commission urge the Federal State Joint Board on Universal Service to comprehensively address contribution reform. My testimony explains why other witnesses’ testimonies do not constitute a legitimate basis for the Commission’s proposal to eliminate the current NUSF contribution mechanism. Rather, the testimonies identify fundamental legal and policy
concerns, including conflicts with federal and state statutory policies.

Beyond those threshold issues, numerous practical, administrative, and
other implementation problems are expressed. I also present to the
Commission information on potential customer impacts, demonstrating that
the Commission has no basis to conclude that any proposed contribution
mechanism satisfies the statutory requirements for funding the NUSF. In
sum, the testimony overwhelmingly supports keeping the existing
contribution mechanism for the present.

My testimony also discusses the other witnesses’ testimonies
regarding the Commission’s proposed NUSF budget, and their
recommendations that the Commission defer action on that budget to a
separate proceeding. I explain why the testimonies of the RIC witnesses do
not compensate for the substantial lack of record evidence for the proposed
NUSF budget, and instead raise additional matters for consideration.

Q. Please provide any preliminary comments you have for the
Commission.

A. There is little disagreement as to the importance of broadband for
Nebraska’s future. But as I explained in my direct testimony, the
Commission’s proposal of a massive increase to the NUSF, funded by
ratepayers, more than two-thirds of which would go to pay for a single form
of wired broadband technology, is contrary to state and federal policy.
Because of the Commission’s emphasis on funding fiber networks, and
endorsement of that specific technology (without even attempting to
evaluate alternatives), the proposals are not supported by the statutory
requirement that "telecommunications and information services" (not
"facilities") be made available through the NUSF. And the proposals are
inconsistent with both federal and state policy requirements of
technological and competitive neutrality, and make no effort to demonstrate
that they represent an "efficient" method of distributing universal service
funding. Tellingly, the proposals give no indication that they comply with
the statutory requirement that NUSF funding is no more than "sufficient" to
meet the other statutory obligations. Indeed, lacking any consideration of
other alternatives, some of which may be lower cost, the Commission cannot
make a finding based on record evidence of the level at which NUSF funding
is "sufficient" to meet statutory objectives. The Commission is bound by the
policy direction set forth by the Legislature, and as CenturyLink witness
Lubeck states:

The Commission cannot ignore either the current legislative policy
or the consumer consequences of the changes it is proposing.\(^1\)

Relating to the "consumer consequences" of its proposals, CTIA previously
advised the Commission that "Nebraska ranks second among the states for
the highest wireless taxes and fees on monthly wireless service, at a
combined federal and state rate of 24.99%."\(^2\) As I will explain, the record

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\(^1\) Lubeck Direct at 3.
\(^2\) Comments of CTIA in Response to the Commission's April 5, 2016 Order Seeking Further Comments, filed June 6, 2016, at footnote 5.
contains no support for adding an even greater burden on wireless
consumers in Nebraska.

If policymakers desire to establish a broadband funding mechanism
in Nebraska, the better approach would be to phase down the existing voice-
focused NUSF. In its place, a mechanism to fund broadband could be
established by general revenues, as recommended in my direct testimony.³
A significant benefit of this approach is that relying on general revenues to
fund broadband would resolve the Commission's concerns with the current
NUSF funding mechanism.

II. THE COMMISSION SHOULD NOT MODIFY THE NUSF CONTRIBUTION
MECHANISM

A. The Record Does Not Support a Conclusion That the NUSF is Imperiled
by the Existing Contribution Mechanism, or That a New Mechanism
Would Be Beneficial

Q. Do the testimonies support the Commission's conclusion that a new
contribution mechanism is necessary?

A. No. They contain only vague references to the existing contribution
mechanism not being "stable," but no witness has presented evidence to
demonstrate that the NUSF is threatened at current funding levels. As an
example, RIC witness Ken Pfister argues that "the meshing of federal and
state USF programs cannot continue without reform of the state
contributions mechanism."⁴ However, he offers no historical NUSF data,

³ Price Direct at 12.
⁴ Pfister direct at 7-8 (emphasis added).
analysis of recent fund receipts, or other information to support his dire
conclusion. Instead, he merely refers to prior Commission Orders, arguing as
a “fact” “that the current revenue-based NUSF contribution mechanism is
unstable and thus lacks predictability.”5 As discussed in my direct testimony,
the PSC’s website shows a steady (and increasing) reserve,6 so Mr. Pfister’s
conclusion is contradicted by the only data in the record.

Furthermore, Mr. Pfister’s statement about the fund’s lack of
“predictability” is inconsistent with the Commission’s own Orders that make
predictions about anticipated declines in NUSF revenues.7

Q. **Are there other reasons supporting your statement that there is no
evidence supporting the Commission’s claim that a new contribution
mechanism is necessary?**

A. Yes. Nebraska is not unique in seeing declining revenues for its universal
service program. Other states are seeing similar trends. The Commission,
however, is presently alone in tentatively deciding to adopt introduce a novel
contribution mechanism. As CTIA and others have noted previously in this
docket, any new funding mechanism should be developed only after federal
reform has been announced. Before this Commission moves forward on USF
reform, it should work with other states to urge the Federal State Joint Board
on Universal Service to comprehensively address contribution reform

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5 Pfister direct at 4. See also, Brigham Direct at 4 – “the NUSF ... is demonstrably unsustainable under
its current revenues-based contributions methodology,” citing only the Commission’s February 22
Order.


focusing on federal and state issues. CTIA and its member companies would be pleased to work with the Joint Board and other stakeholders toward developing comprehensive reform of universal service funding mechanisms in a fair, rational, and sustainable manner. The result of that process would yield a result that providers can implement, and avoid many of the problems identified here, as the Commission would avoid misaligning the NUSF with the federal program.

Q. **What other reasons weigh against adopting the Commission’s proposed contribution mechanism?**

A. A Commission decision to move forward should be based on specific evidence that the NUSF would be improved by implementing the proposed contribution mechanism. But no specific evidence has been presented. Rather, the few witnesses that support implementing a connections-based mechanism express only vague abstractions. For example, the testimony of Windstream witness William F. Kreutz poses the question “would the Proposed Mechanism provide stable and predictable funding?” Mr. Kreutz’s response is “generally, yes.” Elsewhere, Mr. Kreutz states:

> *In theory, a connection-based mechanism can be an equitable way of funding universal service.*

Windstream’s testimony presents a theoretical comparison of generic connection-based and revenue-based mechanisms, with no reference to specifics of the Commission’s proposed mechanism.

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8 Kreutz direct at 9. Emphasis added.
A similarly general statement appears in the testimony of RIC witness Pfister.

As a policy and practical matter, flat rate surcharges are straightforward for consumers to understand and can be more readily explained...  

Such statements do not represent endorsements of the Commission's proposed mechanism. Rather, they support only a hypothetical or idealized connections-based mechanism that does not exist (and has not been proposed).

The alternate proposal of RIC witness Pfister is inconsistent with the principles of connections-based mechanisms. Mr. Pfister seeks to compensate for what he views as a flaw in the Commission's proposal that would eliminate the "NUSF surcharge assessment on certain telecommunications services – for example, intrastate toll service." This appears to contradict his own testimony that a benefit of connections-based mechanisms is "remov[ing] from the equation the concept of "use" of services." But Mr. Pfister fails to explain what it means to have an "intrastate toll connection," or why that is its own category of "connection" and not included in the category of "local exchange switched access lines."

The RICs' proposal appears to be a form of hybrid contribution mechanism that will only further complicate carriers' administration of NUSF contribution obligations and raises its own set of problems.

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9 Pfister direct at 9.
10 Id., at 12 (emphasis added).
11 Id., at 9.
B. The Proposed Contribution Mechanism Is Problematic

Q. How would you characterize the witnesses' testimonies on the Commission's proposed mechanism?

A. The testimonies detail a variety of concerns, including significant unresolved policy and legal questions and a variety of "red flags" pertaining to operational, administrative, and reporting issues.

Q. Please elaborate.

A. Importantly, the Commission's proposal is not consistent with the limits of its jurisdictional authority. The Commission is preempted by the FCC's 2015 Open Internet Order from imposing NUSF surcharges on broadband Internet Access Services (BIAS). As stated by Charter's witness Joseph Gillan, "[t]he "proposed definition of "connection" is flawed because it proposes to assess services beyond the limits of the Commission's jurisdiction." He notes that it fails to exempt wired or wireless "channels" used for BIAS (notwithstanding the Commission's statements that it does not intend to assess BIAS). CTIA's comments of August 3, 2016 and August 25, 2016 explain in detail why it is highly complicated and risky to implement a connections-based methodology without knowing the results of the FCC's efforts toward contribution reform. For all these reasons, the Commission's proposed definition of "connection" is not legally sustainable.

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12 Mr. Pfister acknowledges this current limitation in his direct testimony at 12.
13 Gillan Direct at 5.
14 Id., at 6
Q. What other policy and legal questions have the witnesses raised regarding the Commission’s proposed mechanism?

A. Virtually every witness illustrates or concludes that the proposal is neither competitively neutral nor nondiscriminatory, both of which are required by the NUSF enabling statute, although witnesses’ specific concerns vary.\textsuperscript{15} Even RIC witness Pfister, who is generally supportive of the Commission’s proposals, expressed “reservations about the competitive neutrality of the Commission’s proposal [and] significant concerns regarding the level of surcharges proposed for ... business customers.”\textsuperscript{16} Windstream witness Mr. Kreutz observes in one portion of his testimony that “the Proposed Mechanism appears to be reasonably headed in the right direction,”\textsuperscript{17} but states that it is “difficult to determine” whether the proposal meets the statutory requirements of competitive and technological neutrality.\textsuperscript{18}

Similar concerns are raised by other witnesses. CenturyLink’s witness Lubeck concludes that “[h]aving different surcharges for mobile and fixed wireline residential connections would be \textit{neither equitable nor nondiscriminatory}.”\textsuperscript{19} He further observes that “[h]aving wildly different surcharges for mobile business connections and fixed wireline business connections is \textit{not competitively neutral}.”\textsuperscript{20} Level 3’s witness Hollick expresses concern “that the proposal outlined in Attachment A would not

\textsuperscript{16} Pfister Direct at 11 (emphasis added).
\textsuperscript{17} Kreutz Direct at 7.
\textsuperscript{18} “It’s difficult to determine if the Proposed Mechanism is competitively and technologically neutral.” Id.
\textsuperscript{19} Lubeck Direct at 4 (emphasis added).
\textsuperscript{20} Id., at 5 (emphasis added).
result in an equitable and nondiscriminatory assessment on all customer
classes, and could have a disproportionate impact on enterprise
customers...."21 Charter's witness Gillan concludes that the "proposed
surcharges, particularly with respect to fixed business services, are
arbitrary and appear to violate federal law."22 And addressing the potential
that the proposed mechanism would impose disproportionate burdens on
certain providers, Mr. Gillan questions "whether the NUSF would be
administered consistently with the requirements of section 254(f) of the
Federal Act, which requires state universal service funds to be implemented
"on an equitable and nondiscriminatory basis.""23

It is telling that witnesses representing varying perspectives and
different aspects of the industry express similar concerns, strongly
suggesting that the Commission's proposed contribution mechanism has
virtually no legal or policy support.

Q. Have the witnesses voiced other areas of criticism of the Commission's
proposed contribution mechanism?

A. Yes. The testimony of Charter witness Gillan raises the threshold (and
extremely thorny) matter of jurisdictional allocations of mixed use facilities
(or connections). As noted above, both regulators and the industry have
developed processes and systems - including allocators - for usage and
revenues for such situations. These are not without complications, but

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21 Hollick Direct at 2.
22 Gillan Direct at 5.
23 Id., at 13.
substantial cooperative efforts over the years by all participants have
addressed many problems. As a result, these processes and systems are
workable. For Nebraska to move unilaterally to a novel and untested
correlation-based mechanism would mean throwing out much or all of that
experience. As characterized by Mr. Gillan:

Today's need to attribute revenue [between jurisdictions] is
difficult enough, it is essentially impossible with connections.24

Other witnesses simply ignore the problems inherent in the Commission's
proposed approach. For example, Mr. Pfister makes the remarkable
statement in his Attachment One that both "local consumer connections"
and "local business connections" are assessed as "100% intrastate
service."25 He offers no explanation how this is consistent with existing
federal regulations requiring specific allocations of different types of
facilities.26 Were Mr. Pfister correct, not only would his scheme directly
violate federal regulations, but it would also totally disregard the statutory
requirement that federal and state universal support contribution
mechanisms must complement each other. Instead, he merely asserts that it
is reasonable to require customers to pay both a federal USF contribution
and an NUSF surcharge on the same "connection," with no effort to
coordinate the two jurisdictional requirements. Without such coordination,
the Commission's plan will almost certainly violate federal law.

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24 Gillan Direct at 8. Emphasis added.
25 Pfister Direct at 29.
idx?SID=579d5100afc4517e915313601d2cb894&mc=true&node=sg47.2.36.1142.sg4&rgn=div7
Q. What other areas of criticism exist in the Commission's proposal?

A. One example raised by witnesses with knowledge of larger enterprise customers is that the FCC's Form 477 does not capture telephone numbers.\(^{27}\) This means the Commission's proposal cannot be implemented at present, and it would need to work with the providers to develop reporting requirements on this issue - requirements that would be unnecessary for universal service contributions in any other jurisdiction, creating administrative waste for providers.

An unrelated concern (with both technical and policy/legal implications) arises from the Commission's proposal to rely on FCC Form 477 data. The FCC's Form 477 only collects information from facilities-based providers.\(^{28}\) Relying on Form 477 data means the Commission would have no information on - and therefore no means to collect contributions from - resellers, including wireless resellers, which constitute a substantial share of the wireless market. This would require resolution to enable the Commission to conclude that any new contribution mechanism meets the legislature’s requirement that NUSF funding be nondiscriminatory and competitively neutral.

Q. What about RCTN witness Brigham's testimony that the Commission could utilize information filed with the North American Number Plan

\(^{27}\) Hollick Direct at 7; Gillan Direct at 10.

\(^{28}\) Facilities-based Providers of Mobile Telephony Service are required to file FCC Form 477. FCC Form 477 Instructions (December 15, 2016 version) at 8. "Mobile voice service resellers" are expressly "not facilities-based providers for Form 477 purposes."
Administrator (NANPA) on FCC Form 502 (the Numbering Resource Utilization Report (NRUF))? 

A: For the reasons discussed by Charter witness Gillan and Level 3 witness Hollick, telephone numbers are not synonymous with “connections” for enterprise customers. The Form 502 information on numbers provides no information that would assist the Commission or NUSF administrator in distinguishing the two. NANPA’s Form 502 information does not save the Commission’s proposed contribution mechanism.

C. The Commission Lacks Sufficient Information to Evaluate Its Proposals

Q. What information should the Commission review to evaluate the various proposals?

A. Regulators typically are hesitant to render decisions when the consequences are uncertain. The Commission sought information from the parties on customer impact.29 The testimony of staff witness Mr. Robbins presents no analyses demonstrating the expected impact of any proposal on any customer class. The testimony of Mr. Pfister, however, does present information on the expected effect of the RIC alternative proposal on residential wireline customers. Below, I present impacts of the various

29 The February 22, 2017 Order asks the parties to comment “on how to achieve the appropriate balance between meeting the desired goals of each program with the coterminous impact of the surcharge level on consumers.” Order at 25.
proposed surcharges for residential wireline customers, using the
information in Mr. Pfister’s Attachment One.

A word of caution is in order. Because the Commission has chosen to
proceed simultaneously with both a novel contribution mechanism and a
significantly expanded NUSF budget, no analysis can separate the individual
impact of one proposal from the other. As Charter witness Gillan noted, the
Commission’s combined proposals make “it impossible to distinguish cause
and effect.”

Q. How were these residential impact comparisons developed?

A. The assumptions presented by Mr. Pfister in support of the RIC alternative
proposal were used. He estimates the impact of RIC’s proposal on
residential customers to be a 31% increase. His two key assumptions are
1) a $19.95 monthly “base rate” charged to residential wireline local service
customers, and 2) a residential wireline customer average of $7.50 each
month for other “assessable intrastate services.” These assumptions allow
Mr. Pfister to estimate a surcharge from the first assumption of $1.39, to
which he adds a $0.52 surcharge (for other “assessable services,” his second
assumption), for an estimated residential wireline customer surcharge of
$1.91. This amount represents what a residential wireline customer might
pay under the current NUSF contribution mechanism, and I refer to it as the
baseline.

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30 Gillan Direct at 15.
31 In Pfister’s Attachment One, he estimates that the proposed $2.50 surcharge represents a $0.59
increase, or 31%, above the $1.91 “baseline” surcharge. See Note 2 to Pfister Attachment One.
As you can see in the table below, the first two columns contain the name of the entity proposing the wireline residential surcharge and the corresponding proposed surcharge amount. Although Mr. Pfister presented the estimated impact from the alternate RIC proposal, he did not use his baseline information to estimate impacts for the other proposals. I offer those here.

<table>
<thead>
<tr>
<th>Recommending Party</th>
<th>Proposal</th>
<th>Percent Change</th>
<th>CTIA Alternate Baseline 1 (Note 2)</th>
<th>CTIA Alternate Baseline 2 (Note 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIC</td>
<td>$2.50</td>
<td>31%</td>
<td>$1.39</td>
<td>$1.22</td>
</tr>
<tr>
<td>PSC</td>
<td>$1.24</td>
<td>-35%</td>
<td>-11%</td>
<td>2%</td>
</tr>
<tr>
<td>Robbins 1/2</td>
<td>$1.29</td>
<td>-32%</td>
<td>-7%</td>
<td>6%</td>
</tr>
<tr>
<td>Robbins 3</td>
<td>$4.63</td>
<td>142%</td>
<td>233%</td>
<td>280%</td>
</tr>
</tbody>
</table>

*Note 1: Pfister Attachment One, Note 2*

*Note 2: Pfister assumptions, excluding additional "other assessable revenues" of $7.50*

*Note 3: Assumes $17.50 residential local service rate, excluding additional "other assessable revenues" of $7.50*

Q. Please explain CTIA Alternate Baseline 1.

A. This column makes one modification to Mr. Pfister's assumptions – specifically, his assumption of an assumed $7.50 in residential monthly expenditures on "other assessable intrastate services." This alternative takes into consideration the fact residential customers who spend less than
the average currently are assessed a smaller amount than Mr. Pfister’s estimated $1.91. This column estimates a surcharge amount (under the current mechanism) of $1.39 for residential wireline customers who have no vertical services or toll usage (consistent with Mr. Pfister’s Attachment One).

Although the record contains no data on the portion of customers at varying levels of toll usage, there can be no question that a portion of households with wireline phones rarely use them. The Centers for Disease Control and Prevention conducts regular analyses of household telephone usage in the U.S. Its most recent report states:

[S]ome people living in households with landlines cannot be reached on those landlines because they rely on wireless telephones for all or almost all of their calls.32

The CDC has published state-level data indicating that the proportion of Nebraska households categorized as “wireless mostly” is 16%.33 Additionally, data compiled by the Federal and State Staff for the Federal-State Joint Board on Universal Service reveals that “toll service” revenues for the entire industry have declined by nearly half over the past ten years.34 Even without Nebraska-specific detail, it is undisputed that “toll” usage continues to decline. There is a portion of residential wireline customers for

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whom Mr. Pfister’s assumption of additional “assessable revenues” does not
apply. CTIA Alternate Baseline 1 depicts the likely effect of the various
proposals on those customers.

Q. Please explain CTIA Alternate Baseline 2.
A. This column represents a second modification to Mr. Pfister’s assumptions,
capturing estimates for the approximately 13,000 Nebraska wireline
residential customers whose monthly “base rate” is below his assumed
monthly rate of $19.95. This yields a different baseline under the current
mechanism of $1.22 ($17.5 * 0.0695 = $1.22). This column depicts the
impact of the various proposals on these customers. The RIC proposal, for
example, would effectively double the NUSF burden for such a customer who
purchases no other “assessable intrastate services,” increasing his or her
USF assessment by 105%.

Q. What conclusions can the Commission draw from the above table?
A. The Commission can draw several conclusions from this presentation. One,
determining the true impact on residential wireline customers requires a
substantial amount of data on customers’ purchasing habits – data that has
not been presented. Two, because of the added complication of a proposal

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35 The Commission’s website shows ten ILECs, with more than 13,000 customers, with pending rate
increases. The monthly wireline local service rates for these customers is $17.50. See,
http://www.psc.nebraska.gov/telecom/telecom_pending_rate_increases.html. While some or all of
these ILECs are on the record regarding their intent to raise their rates, their current rates remain
relevant.

36 At a “base rate” of $17.50, the existing revenue-based surcharge would be $1.21, meaning the RIC
proposal of $2.50 adds $1.29, for an increase of 105%. For Mr. Pfister’s “average” customer who
purchases $7.50 in other “assessable services,” the existing surcharge would be $1.74 (6.95% on
$25.00 revenues – $17.50 plus $7.50). For these customers, the RIC $2.50 surcharge proposal
would mean a 44% increase in the NUSF surcharge.
to significantly increase the NUSF budget, the Commission cannot determine
the customer impact of the contribution mechanism alone. Three, Mr.
Pfister’s assumed "average" residential wireline customer can help the
parties determine who are "winners and losers" in the Commission's
proposals. Mr. Pfister calculates that an "average" residential customer
today is paying $1.91 under the existing NUSF contribution mechanism. In
contrast, the Commission's February 22 Order proposes a $1.24 residential
surcharge under its new proposed contribution mechanism. To the extent
Mr. Pfister's estimations are realistic, the Commission's proposed residential
surcharge of $1.24 surcharge represents a $0.67 (35%) reduction to the
estimated current $1.91 surcharge. Because the Commission is also
proposing to expand the NUSF by nearly $30 million to support a
"broadband everywhere" initiative, this result is nonsensical and
unsustainable. Wireline residential customers would be major
beneficiaries of the Fixed Broadband Fund, and yet the Commission
proposes to give that customer class a 35% reduction while increasing the
fund by 60%! The result also demonstrates the wisdom of those witnesses
who urge the Commission to consider these issues in separate
proceedings.37

Q. Have you developed an analysis of the potential impact on wireless
customers of the various proposals?

37 See, e.g., the direct testimonies of Gillan, Hollick, Lubeck, and Price.
A. Yes. The starting point was a monthly per-line charge of $40.00 for a voice/data bundle. Using a 65/35 apportionment between data/text and voice, the “assessable” revenues for both federal and state universal service is $14.00 (.35 * $40.00 = $14.00). The intrastate proportion of the telecommunications component is based on aggregate industry data from the Universal Service Administrative Company (“USAC”) website.38

Calculation of Wireless Baseline NUSF Surcharge

<table>
<thead>
<tr>
<th>Bundle Service Charge (Per Line)</th>
<th>$40.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bundle Component</td>
<td>Share</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
<tr>
<td>Data/text</td>
<td>65%</td>
</tr>
<tr>
<td>Voice</td>
<td>35%</td>
</tr>
<tr>
<td>Intrastate Portion of Voice (Note)</td>
<td>72.7%</td>
</tr>
<tr>
<td>&quot;Baseline&quot; Wireless Surcharge</td>
<td>6.95%</td>
</tr>
</tbody>
</table>

The baseline surcharge amount (per wireless line) resulting from these calculations is $0.71, allowing a determination of wireless customer impacts using the various proposed wireless surcharges, as shown below.

Wireless Customer Impact Analysis

<table>
<thead>
<tr>
<th>Proposing Party</th>
<th>Proposed Mobile Surcharge</th>
<th>Wireless Baseline NUSF Surcharge (per-line)</th>
<th>$§ Increase</th>
<th>Per-line Mobile Customer Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJC</td>
<td>$1.57</td>
<td>$0.71</td>
<td>$0.86</td>
<td>+121%</td>
</tr>
<tr>
<td>Commission Order</td>
<td>$1.29</td>
<td>$0.71</td>
<td>$0.58</td>
<td>+82%</td>
</tr>
<tr>
<td>Robbins 1/2/3</td>
<td>$1.29</td>
<td>$0.71</td>
<td>$0.58</td>
<td>+82%</td>
</tr>
</tbody>
</table>

38 Data from USAC 2015 Detailed Telecom Revenues; Table S.1.1; Total Retail Mobile Service Revenues -- Intrastate as fraction of Total (Intrastate, Interstate, and International).
Q. Please explain the results displayed in the table.

A. The first two columns display each proposed mobile surcharge adjacent to the entity proposing that surcharge amount. The third column contains the $0.71 Wireless Baseline NUSF surcharge described above, and the fourth column ("$$ Increase") is derived by subtracting each proposed wireless surcharge from the baseline amount. The fifth column ("Per-line Mobile Customer Impact") depicts the percent change for each proposed wireless surcharge. Of course, because they are “per line” calculations, the number would be multiplied for each line in a household's family plan.

There is one row in the table that requires additional explanation. The row labeled "RIC alt" represents a modification to one aspect of the RIC proposal. In place of the FCC's "safe harbor" percentage of 62.9% used by Mr. Pfister to determine the intrastate portion of the voice component, "RIC alt" uses the 72.7% intrastate revenue factor used in calculating the "Wireless Baseline NUSF surcharge" discussed above, based on actual industry data. In my opinion, the "RIC alt" calculation is consistent with the logic used by Mr. Pfister but based on more accurate data.

As can be seen, each of the proposals would significantly increase the burden on wireless customers – all of them nearly or more than doubling the monthly surcharge amounts. Recall that Nebraska is already second highest in combined federal and state wireless taxes and fees. These results demonstrate that adopting any of the proposals would put Nebraska in the
unenviable position of having the highest combined state and federal taxes and fees on wireless, with a devastating impact on Nebraska’s wireless customers and competitiveness.

Q. Do you have any concluding comments on the issue of customer impact?

A. Yes. This portion of my testimony demonstrates that implementing a new contribution mechanism and expanding the NUSF based on the record would have potentially significant impacts on at least some customer classes. Further, the Commission has no basis to conclude that adopting any of the proposals will satisfy the statutory requirements that NUSF contributions be nondiscriminatory and competitively neutral. Indeed, the notations included in the Commission’s proposals confirm that several key inputs are completely unsubstantiated: “No data to support these allocations” and “Assumed % for illustrative purposes.”

D. The Record Shows That Adopting a New Contribution Mechanism Would Create More Problems Than it Would Resolve

Q. Will the proposed contribution mechanism create problems?

A. Yes. Revenue-based funding mechanisms have existed for years, and the success of those mechanisms is due to coordination and cooperation by regulators and providers in multiple jurisdictions. Adopting an entirely new, unprecedented and untried mechanism for Nebraska and Nebraska

39 See Attachment to February 22, 2017 Order; Robbins Direct at Attachments “Alternative 1,” “Alternative 2” and “Alternative 3.”
alone would toss out the entirety of that collective experience and expose
the NUSF to significantly more uncertainty than currently exists. As Charter
witness Gillan stated:

"a revenue-based contribution arrangement is a system with
known (and corrected, to the extent correctable) flaws, while a
connection-based regime is a system of yet-to-be appreciated
distortions, inevitable complexities and significant transaction
costs."\textsuperscript{40}

In other words, the Commission is seeking to replace a flawed but workable
mechanism with a novel, untried and untested mechanism for Nebraska,
without working with other states and the FCC, without any assurances that
the new mechanism will accomplish its intended purpose. Furthermore, the
Commission has no estimates on the cost of implementation, and no basis to
conclude that it is reasonable to move forward toward implementation.\textsuperscript{41}

Even if the Commission is to move forward, doing so will generate
substantial costs for the industry, and the Commission should consider the
amount of reimbursement from NUSF funds it will provide to defray those
Nebraska-specific costs.

Q. **What specific implementation concerns have the witnesses raised?**

A. Witnesses raised concerns about providers’ ability to administer the
Commission’s proposed mechanism.\textsuperscript{42} A number of witnesses mentioned
problems with trying to bill the Commission’s proposed tiered system of

\textsuperscript{40} Gillan Direct at 4 (emphasis in original).

\textsuperscript{41} As Level 3 witness Hollick stated: "a connections-based mechanism entails complexities that have
not been fully assessed because this type of connections-based contribution mechanism does not
exist anywhere in the country." Hollick Direct at 2.

\textsuperscript{42} See Kreutz Direct at 10: "the business surcharge poses challenges for administration."
business surcharges. CenturyLink, for example, expressed concern that implementation would require a "large number of significant process and program changes."43 And CenturyLink further cautioned the Commission "that providers will not be able to properly calculate the business surcharge in their systems based on the tiers listed in Attachment A."44 Similarly, Level 3 warned the Commission that implementation of its proposed mechanism "would require modifications to several internal systems and might necessitate a manual process to deal with Nebraska invoices, injecting the potential for error and delay."45 These issues should give the Commission pause, raising the very real possibility that businesses across the state could experience additional billing errors and possibly delays in receiving bills from providers.

Q. What other problems would result from the Commission’s proposed contribution mechanism?

A. The Commission anticipates that adoption of its proposed contribution mechanism would be a step forward for the NUSF, but the facts suggest otherwise. For example, the NUSF today assesses the surcharge on intrastate dedicated circuits -- private lines and special access circuits. These unquestionably are “connections,” but the Commission would forego NUSF collections from those services under its proposal, raising questions of

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43 Lubeck Direct at 1.
44 Id., at 6.
45 Hollick Direct at 6.
competitive neutrality. For years, this has been recognized as a flaw in the potential use of Form 477 information as a basis for a new contribution mechanism. The FCC concluded, in its 2012 Further Notice of Proposed Rulemaking, that "because the [Form 477] is designed mainly to track residential connections, it does not capture many connections provided to businesses, governmental entities, and other large institutions." No witness has provided a recommendation to correct this substantial limitation. This underscores the fact that implementing the Commission’s proposed contribution mechanism would favor certain services and thereby deprive the NUSF of certain known (and quantifiable) funding sources. With a completely unknown and untested replacement mechanism, this clearly would be a step backward for the NUSF.

E. The Commission Has Not Adequately Addressed The Timing for Implementing a New Contribution Mechanism

Q. What implementation issues have the witnesses discussed?
A. There are many issues arising out of the proposed business surcharges, including whether providers’ back office systems would be able to properly calculate the various surcharges. Additionally, the testimony includes additional implementation issues that would have to be resolved before a connections-based mechanism could be initiated. For example:

46 This concern applies with equal force to the alternate proposals, none of which would include dedicated circuits.
- "CenturyLink is concerned that providers will not be able to properly calculate the business surcharge in their systems based on the tiers listed in Attachment A."\textsuperscript{48}

- "Nothing in our back-office systems currently associates working telephone numbers" with the billing and invoice systems that we use to generate invoices for business customers."\textsuperscript{49}

- "... the Commission's Proposal would impose significant costs for data collection, billing, and reporting systems...."\textsuperscript{50}

- "Business Fixed Voice surcharge tiers are difficult to understand and may be very complex to implement...."\textsuperscript{51}

- "Surcharge tiers present "challenges to administration," and "assuming that the mechanism could be billed, the ongoing operational tasks associated with a variable surcharge would be burdensome."\textsuperscript{52}

These testimonies demonstrate that, even if the proposed mechanism could overcome the numerous problems described herein, moving forward exposes the NUSF to delays and uncertainties, and would add unknown costs to NUSF administration.

Q. \textbf{What other issues affect the likely timing of implementation?}

A. The testimonies raise substantial reporting issues that would need to be addressed,\textsuperscript{53} meaning the Commission would need to develop novel reporting obligations, thereby delaying implementation.

The Commission has yet to address that providers would need time to implement a new mechanism, and has made no mention of a grace period for providers to make the necessary systems modifications. Nor has the

\textsuperscript{48} Lubeck Direct at 6.
\textsuperscript{49} Hollick Direct at 6.
\textsuperscript{50} Id.
\textsuperscript{51} Kreutz Direct at 7-8.
\textsuperscript{52} Kreutz Direct at 7-8.
\textsuperscript{53} See, Hollick Direct at 7: "FCC Form 477 data does not capture working telephone numbers.” See also Gillan at 9 discussing the flaws in equating telephone numbers with “connections.”
Commission noted the very real possibility that all providers' implementation efforts will be wasted if or when the FCC modifies the federal contribution mechanism.

The testimonies also explain to the Commission that providers will incur costs to implement a novel collection mechanism. Mr. Gillan stated that "moving away from [a revenue-based] system will be complex, costly, confusing, and will likely need to be duplicated if the FCC ultimately changes the federal system."\(^{54}\) He likewise cautioned that "the costs to operate a connections-based system will be higher than the existing system... [and] would impose new costs on both industry and its administrator in the form of new data collection and reporting requirements, necessitating changes to billing and reporting systems."\(^{55}\) These issues explain why the Commission has no reliable estimates regarding how long providers will need to implement a new contribution mechanism, or the cost of such implementation. Nor has the Commission addressed the implications of adopting a new mechanism that may be cost-prohibitive to implement for a single state.

III. The Commission Should Defer Into Another Proceeding the Question of Expanding the NUSF

Q. Why should the Commission defer its proposed NUSF budget into a different proceeding?

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\(^{54}\) Gillan Direct at 4-5.
\(^{55}\) Gillan Direct at 13.
A. The Commission’s Order initiating this proceeding explained that the purpose was “to consider revisions to the contribution mechanism of the Nebraska Universal Service Fund ("NUSF").” The subsequent decision to propose a nearly $30 million increase to the fund raises numerous complicated issues that demand close investigation – issues that cannot be given appropriate consideration in this proceeding. In a recent op-ed piece recommending that broadband be included in any infrastructure plan considered by Congress, the authors point to significant waste pursuant to previous broadband efforts, describing how:

billions in stimulus money was wasted by the Department of Agriculture’s Rural Utility Service. Its many sins included funding projects in population centers that already had broadband, poor project management and a failure to properly vet loan applicants, many of whom defaulted. RUS promised to connect 7 million rural Americans. The actual number may be as low as 200,000. 56

The authors offer several areas for consideration by policymakers, including the need to address “nonfinancial causes” of the digital divide. They point out that “over half of consumers who don’t have Internet service at home – largely older and rural Americans and those with less education – say they don’t want or need it, even if it were free.” The critical point here is that infrastructure spending requires critical oversight, and funding, by itself, is insufficient to ensure that consumers reap appropriate benefits.

Consideration of these and other critical issues demands a full exploration in

a separate proceeding, one that will ensure the Commission's appropriate
oversight of NUSF contributions from Nebraskans.

Q. **Does the record support the massive NUSF expansion proposed in the Commission's February 22 Order?**

A. No. My direct testimony explained the many reasons why the Commission should not expand the NUSF, including legal/policy issues and the absence of reasonable estimates of the amount of funding needed – indeed, the absence of any record evidence supporting the Commission's proposals. My concerns were echoed in the testimonies of the other witnesses. For example, CenturyLink witness Lubeck states several times in the context of the Commission's proposed NUSF budget that "no information is provided" supporting elements of the proposal, and concludes:

> With such a significant increase in NUSF funding available, more information should be provided for the proposed budget for each of the programs to ensure that the funds are being used appropriately.

And Charter's witness Gillan stated unequivocally that issues surrounding the size of the NUSF should be considered in a different proceeding. The Commission should acknowledge that information in the record does not support its proposal to massively expand the NUSF.

In addition, the statement by CenturyLink's Mr. Lubeck that "no information is provided that explains how the Commission determined" the

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57 Lubeck Direct at 6.
proposed Fixed Broadband Fund\(^5\) raises an important point. The
Commission’s proposal gives no explanation as to how it intends to
safeguard against providers obtaining double-recovery from the state and
federal programs. Unless the Commission defers the NUSF expansion to
another proceeding where it can develop such safeguards, it would be
patently unreasonable to substantially add -- by $27 million -- to the existing
funding burden on Nebraskans.

Q. The RIC witnesses have provided additional information in their
testimonies. Does that information support the proposed NUSF
budget?

A. No. My direct testimony presented several arguments why the Commission
should not adopt its proposed Fixed Broadband Fund.\(^6\) Nothing in the RIC
witnesses’ testimony resolves the issues I described. Several aspects of
federal broadband funding do not appear to have been evaluated by the
Commission, including:

- The FCC’s awards of CAF II model-based support to
  Nebraska price cap companies that, over the next several
  years, could exceed $150 million.\(^7\)
- Similarly, the FCC is providing additional support for
  broadband development by rate-of-return companies

\(^5\) Id., at 7.
\(^6\) In his testimony, Mr. Pfister refers to the proposed Fixed Broadband Fund as the “High Cost
Fund.”
\(^7\) See, FCC CAF - A-CAM 2.3.2, Authorization Report Version 2.0 (January 24, 2017). See also,
funding disbursement information from the Universal Service Administrative Company, available at
perhaps more than $20M annually – that this Commission has not taken account of.\(^{61}\)

- The FCC’s CAF II auctions will award nearly $200 million per year for 10 years, for additional broadband deployment in price cap territories.\(^{62}\)

- The FCC is proceeding with Mobility Fund Phase II, which will make $453M/year in support available to address areas unserved by 4G LTE. Support will total $4.5B over the 10-year funding period.\(^{63}\)

- The FCC has budgeted up to $500 million per year for the Remote Areas Fund, to be awarded by reverse auction after the CAF II auction is conducted.\(^{64}\)

Internet access service is an interstate service, the revenues and expenses for which are in the interstate jurisdiction, so the Commission would need to determine how it will safeguard against providers obtaining double-recovery from the state and federal programs.

Q. **Have you reviewed the analysis presented as RIC witness Kranner’s Attachment Three?**

A. Yes. Ms. Kranner’s Attachment Three appears to summarize information only from the “Nebraska State Model.” She testifies to having worked with the Alternative Connect America Cost Model (“A-CAM”), and recognizes the FCC’s use of the A-CAM “in connection with its analysis and decisions relating to Federal USF support to be provided to rural rate-of-return carriers.”\(^{65}\) But she makes no further mention of the A-CAM, nor does she explain how its results compare with data from the Nebraska State Model.

\(^{61}\) Id.
\(^{62}\) Id.
\(^{63}\) Id.
\(^{64}\) Id.
\(^{65}\) Kranner Direct at 5-6.
Q. What is the significance of the A-CAM relative to Ms. Kranner's Attachment Three?

A. I have reviewed Nebraska-specific information from the FCC's A-CAM Report Version 7.0, and provide that information as Attachment Two. As illustrated, these data paint a very different picture than is seen in Kranner's Attachment Three. Nebraska rate-of-return carriers taking advantage of the federal funding "offer" of $43.6 million would be positioned to extend broadband\textsuperscript{66} to more than 22,000 households, or two thirds of all unserved households in their service territories. While this data pertains only to those rate-of-return carriers, it raises suspicion about any conclusions drawn from Kranner's Attachment Three. As a result, the Commission should not move forward with its proposed NUSF budget without giving substantial attention to the numerous federal initiatives to fund broadband deployment – matters that are better evaluated in a separate proceeding.

IV. Additional Issues

Q. Are there other issues raised by the witnesses that you wish to address?

A. Yes. RIC witness Pfister's testimony contains a discussion about network usage that CTIA believes is one-sided and possibly misleading. Specifically, Mr. Pfister states:

\textsuperscript{66} At speeds of at least 10/1 Mbps, where 10 Mbps is download speed and 1 Mbps is upload speed.
Consumers and other service providers use the RIC companies’ and other companies’ networks to enable voice and data communications to be sent and received. Consumers use these networks to place and receive calls. Further, mobile telephone users also utilize these networks for the provision of Wi-Fi services that allow such users to receive data through their mobile devices, and in my experience, to do so without incurring usage charges.\footnote{Pfister Direct at 5 (emphasis added).}

Certainly, Wi-Fi usage is widespread. My wife and I have multiple mobile devices that we connect to broadband using the Wi-Fi network in our home. Visiting friends and relatives likewise use that Wi-Fi. Many commercial establishments provide Wi-Fi as a convenience for their customers. The portion of Mr. Pfister’s discussion that is troubling is the phrase “without incurring usage charges.” This implies that the RICs’ networks are being used unfairly, and that is not true. First, my home Wi-Fi example is illustrative. I am the consumer in that case, and I am paying for the underlying service(s). In this example, I have a reasonable expectation to use my Wi-Fi in whatever legitimate manner I choose, consistent with the Terms of Service. And it simply is ludicrous to think that I would levy a “usage charge” on myself or my guests. The same generally applies for commercial Wi-Fi (although some establishments, including, for instance, hotel chains, do require payment for access to Wi-Fi).

Second, all interconnected providers derive a \textit{mutual benefit} from connectivity. A requirement of interconnection has been the hallmark of U.S. telecommunications policy for one hundred years, and \textit{every}
telecommunications provider has an interconnection obligation pursuant to
the Communications Act. The end user customers of the RIC companies
certainly place calls using their wireline phones to mobile customers, and
mobile providers do not levy “usage charges” to wireline providers for use
of their mobile networks. These points explain why the referenced
passage from Mr. Pfister’s testimony is misleading.

V. Summary
Q. Please summarize your testimony.
A. My testimony responded to numerous issues raised in the parties’
testimonies filed in this proceeding on March 21, 2017. I explained that the
record contains no historical NUSF data, no analysis of recent fund receipts,
nor any other information demonstrating that the existing contribution
mechanism represents a threat to the NUSF. Rather than moving forward
with an obviously flawed, novel, and untested contribution mechanism that
will cost Nebraska ratepayers an additional $27M per year without
justification, I recommended that the Commission work with the Federal
State Joint Board on Universal Service to comprehensively address
contribution reform in a manner that streamlines administration and
facilitates – not complicates – compliance. I described the serious legal and
policy concerns identified in the testimonies, including how the proposed

68 Historically, there has been a significant imbalance in the intercarrier compensation regime
whereby mobile providers were required to pay wireline providers usage charges for certain traffic,
whereas mobile providers were prohibited from charging wireline providers in a reciprocal
manner.
mechanism conflicts with federal and state statutory policies. I also
recounted the several practical, administrative, and other implementation
problems identified by the witnesses – problems that counsel against “going
it alone” in the absence of guidance from the FCC and without working with
other states, and adopting a novel contribution mechanism. My testimony
presented analyses of the likely customer impact of the proposals on
wireline residential customers and on wireless consumers. This
information demonstrates that the Commission does not have sufficient
information to conclude that any of the proposals before it meet the
statutory requirement that NUSF contributions be assessed in a
nondiscriminatory and competitively neutral manner.

Further, I noted the other witnesses’ testimonies describing several
ways in which adopting a new contribution mechanism would be a step
backward. For example, the proposals would remove contribution
obligations from some existing sources of NUSF contributions, including
intrastate private lines and special access circuits, apparently tilting the
competitive playing field in favor of those services. Further, the other
witnesses explain numerous implementation issues that the Commission
has not acknowledged – issues that, even if the Commission could overcome
the numerous flaws that counsel against moving forward with a new
contribution mechanism, add significant uncertainty as to whether, or when,
such a new mechanism could be implemented. Collectively, the witnesses’
testimony overwhelmingly supports keeping the existing contribution mechanism.

Finally, my testimony discussed others’ testimonies regarding the Commission’s proposed NUSF budget, pointing out that the majority recommends deferring action on the much-expanded budget to a separate proceeding, providing an opportunity for the Commission to give proper consideration to the numerous unanswered questions and absence of evidence in this record. I explained why the testimonies of the RIC witnesses have not compensated for the substantial lack of record evidence for the proposed NUSF budget. Rather, as I explained, those witnesses raise issues – such as coordination of funding from the federal USF mechanism – that are appropriately considered in a separate proceeding.

Q. **Does this conclude your testimony at this time?**

A. Yes.
Should broadband be included in the Trump infrastructure plan?

By Blair Levin and Larry Downes  April 5

A House Energy and Commerce Subcommittee recently reviewed options for completing America’s impressive progress in deploying broadband infrastructure. Unlike other issues, there is bipartisan agreement on the importance of putting the 21st century’s most valuable technology into the hands of all Americans, and especially those in rural and tribal areas who have the fewest, if any, options for getting online. There’s even broad agreement on how to do it.

As the White House and Congress develop an infrastructure plan promised during the campaign, many, including senators, House members and mayors, are urging that broadband be included. While our crumbling 20th-century infrastructure of roads, bridges, water and mass transit clearly need more immediate attention and the bulk of the funding, we agree that broadband should be included, balancing fixes to the past with providing for the future.

As always, the devil will be in the details. On that score, there are valuable lessons from the last large federal infrastructure effort, the 2009 Recovery Act. One of the most valuable results of that effort was one that cost almost nothing — the creation of a National Broadband Plan, which one of us directed. The plan stimulated private providers and new entrants to accelerate investments in next-generation fiber and mobile networks, and raised alarm bells heeded by Congress and the Federal Communications
Commission to allocate much more radio spectrum for future technologies. Those well-timed decisions will now provide the foundation for 5G technologies that will jump-start the next wave of disruptive innovation over the next 10 years.

But while some of the direct investments in “shovel-ready” broadband build-out projects were successful, billions in stimulus money was wasted by the Department of Agriculture’s Rural Utility Service. Its many sins included funding projects in population centers that already had broadband, poor project management and a failure to properly vet loan applicants, many of whom defaulted. RUS promised to connect 7 million rural Americans. The actual number may be as low as 200,000.

To avoid these and other costly mistakes, here are eight simple ground rules we hope Congress will follow in crafting broadband-related infrastructure incentives:

1. **Limit and carefully control direct investment funds.** Congress should consider setting aside a modest portion of any new infrastructure fund, say $20 billion, for a one-time rural broadband acceleration program. Carriers would be offered subsidies to build out in rural areas currently without a broadband provider, with the requirement of implementing technologies with sufficient bandwidth to support future growth, perhaps up to 100 Mbps speeds. To avoid problems that plagued the Recovery Act’s scattered broadband initiatives, the acceleration program should be managed entirely by one agency, with strict controls to help ensure troubled projects get attention (or cut off) sooner rather than later.

Calculation of specific subsidies should be made on a per-location basis, determining how much is needed to overcome otherwise prohibitive build-out costs.

2. **Don’t offer ongoing support.** To date, efforts to provide universal access to rural broadband infrastructure has suffered from a structural flaw. The FCC provides payments in the form of small ongoing annual subsidies, even in areas when all that was needed was an initial capital investment. As a
result, it can take years for providers to recoup their own capital investments, creating incentives to build piecemeal in rural areas, and to make decisions based on what providers believe the government will fund rather than on what consumers want.

Future investments should avoid this error by offering carefully structured one-time subsidies, saving billions in ongoing costs. While some high-cost areas will continue to need both one-time capital and operating support, the emphasis should be on locations for which capital support alone can overcome the need for further government subsidy.

3. Use **market mechanisms where possible**. After establishing the per-location subsidy needed, the government may find there are more providers willing to build in underserved rural and tribal areas than there are funds to support them. If so, the FCC should run a reverse auction among competing providers to bid down the per-location cost. Commission Chairman Ajit Pai has already proposed such a solution to improve the efficiency of existing universal service programs, with the goal of letting market forces deliver “the best deal available” to maximize limited funds.

4. **Extend “Dig Once/Climb Once” policies on government property**. Lack of coordination between broadband and other infrastructure projects wastes time and resources. At least two bills circulating in Congress now would expand a “Dig Once” rule, requiring installation of broadband conduit whenever roads are being dug up for any reason, along with a “Climb Once” policy whenever new equipment is being added to existing utility poles. Dig Once alone can reduce the cost of deploying fiber under highways in urban areas up to 33 percent and up to 16 percent in rural areas, according to the Government Accountability Office. A coalition of public policy think tanks recommended at a recent hearing that the policy be expanded to state roads, and to all public rights of way adjoining roads. We agree.

5. **Improve government processes that hinder private investment**. Direct expenditure of taxpayer or borrowed funds is not the only tool available to accelerate broadband investment. For providers, the
costs of dealing with slow and overly bureaucratic local governments can be significant and, at the margins, have already proven decisive in which cities get new private infrastructure investment and which ones do not. Simply providing a single point of contact within a local government can make a big difference in both speed and cost of deployment, along with access to city property and streamlined zoning processes. Best practices should be established at the federal level in the infrastructure bill.

6. **Embrace emerging technologies.** For the most sparsely populated and geologically challenging parts of the United States, the economics of laying fiber-optic cable are unlikely to make sense any time soon, even with subsidies. So the question becomes not only what alternative broadband technologies are best suited to rural and mountainous regions, but how to encourage providers to deploy them. In many rural areas, for example, fixed wireless technologies have proven themselves capable of providing high-speed, last-mile connections to homes and businesses. Satellite-based solutions have also matured, as have hybrid fiber/copper technologies using existing telephone lines. No matter how the infrastructure bill provides for broadband in these locations, it should do so on a technology-neutral basis to encourage continued development of new options.

7. **Address nonfinancial causes of the digital divide.** Availability and even price are not the only things holding back broadband adoption. As we have noted, over half of consumers who don’t have Internet service at home — largely older and rural Americans and those with less education — say they don’t want or need it, even if it were free. Part of that resistance comes from the fact that unconnected Americans don’t know how to use a computer or even a smartphone, let alone how to install and maintain networking equipment inside or outside their home. Whatever funding the infrastructure law provides for broadband will be wasted if some of that support isn’t directed to providing hands-on education, perhaps through community groups and senior centers, as well as simple interfaces for basic technical service.

8. **Use the bully pulpit to encourage digital want-nots.** Solving the training and support issues of the least tech-savvy users won’t fully answer
the relevance problem. Digital want-nots also need to understand the value of getting online. These include the obvious benefits of connecting to family and friends and expanding entertainment options. But there are more fundamental ways emerging technologies, including the Internet of Things and smart homes and communities, can improve quality of life, especially for seniors hoping to age in place in their homes. Many of these benefits were detailed in the National Broadband Plan, but neither the FCC nor the White House used it to promote a vision of tomorrow that would make getting online today irresistible. Public education about why the infrastructure bill is spending money on broadband will be critical to getting value from our investment.

Overall, improving broadband infrastructure will require spending federal funds more wisely, but, more important, providing incentives for private investors to reallocate their own capital in ways that ultimately benefit everyone. In some cases, spending money isn’t even required.

Following these basic steps will maximize the value of taxpayer money spent on broadband infrastructure. More to the point, they can multiply government spending through continued private investment, accelerating efforts to close the digital divide and bring the least-connected parts of the country into our growing digital conversation. That’s truly a win-win-win.

*Blair Levin is a nonresident senior fellow at the Brookings Institution. In 2009, he oversaw development of the National Broadband Plan. Larry Downes is project director at the Georgetown Center for Business and Public Policy and co-author of “Big Bang Disruption: Strategy in the Age of Devastating Innovation” (Portfolio 2014).*

Downes is co-author with Paul Nunes of “Big Bang Disruption: Strategy in the Age of Devastating Innovation” (Portfolio 2014). He is a project director at the Georgetown Center for Business and Public Policy. 🐓 Follow @larrydownes
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Report 5.2 - Broadband Obligations - Utilizes a Funding Benchmark of SSLS. Extremely High Cost Threshold Not Applicable, Funding Cap Max $200 per Location, Wired and Wireless equal Two
August 3, 2016
Respectfully submitted this 21st day of April, 2017.

By
Loel P. Brooks, #15352
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and

Benjamin J. Aron
Director, State Regulatory and External Affairs
CTIA
1400 16th Street, NW, Suite 600
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(202) 736-3683
baron@ctia.org

On behalf of CTIA
CERTIFICATE OF SERVICE

I certify that on the 21st day of April 2017, one original, five copies and an electronic copy of the foregoing Reply Testimony of Don Price on behalf of CTIA -- the Wireless Association, in Application No. NUSF-100/PI-193, were delivered to:

<table>
<thead>
<tr>
<th>Sue Vanicek</th>
<th>Brandy Zierott</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:sue.vanicek@nebraska.gov">sue.vanicek@nebraska.gov</a></td>
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<td>Shana Knutson</td>
<td><a href="mailto:Psc.nusf-filings@nebraska.gov">Psc.nusf-filings@nebraska.gov</a></td>
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<td><a href="mailto:Shana.knutson@nebraska.gov">Shana.knutson@nebraska.gov</a></td>
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</tr>
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</table>

Loel P. Brooks
CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 21st day of April, 2017, an electronic copy of the foregoing Reply Testimony of Don Price on behalf of CTIA – the Wireless Association, in Application No. NUSF-100/PI-193, was delivered to:

<table>
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<tr>
<th>Rural Independent Co.’s:</th>
<th>CenturyLink:</th>
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<td><a href="mailto:pschudel@woodsaitken.com">pschudel@woodsaitken.com</a></td>
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<td><a href="mailto:apollock@remboltlawfirm.com">apollock@remboltlawfirm.com</a></td>
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<td><a href="mailto:kwoods@fh2.com">kwoods@fh2.com</a></td>
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<tr>
<td></td>
<td><a href="mailto:Michael.moore@charter.com">Michael.moore@charter.com</a></td>
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</tbody>
</table>

| Level 3 Communications: | |
|------------------------||
| Pamela.hollick@level3.com | |

Loel P. Brooks