Sent to:
NBRArfc2016@ntia.doc.gov

Subject: ''National Broadband Research Agenda''

Date: Oct. 11, 2016

From: Frank Odasz
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Posted Online at http://lone-eagles.com/NBRA-Lone-Eagle-input-final.docx

This NBRA submission addresses four
specific areas: (i) Broadband technology;
(ii) broadband deployment, adoption,
and utilization by individual, business,
and institutional users; (iii) assessment
of economic and social impacts; and (iv)
opportunities for federal leadership in
data collection, research, and overall coordination.

but also an overall strategic plan that is achievable.

NTIA and NSF also encourage
interested parties to recommend any
other suggestions (e.g., research topics,
implementation approaches) if the
concepts are not articulated in this
notice.

Preface:
For 35 years, I've watched the disconnect between the Federal agencies and the rural and
tribal grassroots realities regarding "authenticated online best practices." This NBRA
input document below addresses what's been routinely missed related to the current
request for NBRA input, and includes links to past whitepapers to multiple federal
agencies by the author to provide insights for;
"How the Top Down can partner meaningfully with the Bottom up."

Looking back, how is it the FCC allowed telcos to promote speeds they didn't actually
deliver for so many years? "Speeds may be up to…"??? This is not honest advertising.
And, how is it "adoption" for so many years has been defined as paying a subscription,
and nothing more? I read on the Internet, the four major telcos spent $700 million in one

year lobbying the beltway?!

President Obama's final State of the Union speech stressed broadband as a means for unleashing the creativity of all Americans. If this goal is to be taken seriously, new research on motivated self-empowerment dynamics will be necessary;
I.E. **Unleashing Creativity**
http://lone-eagles.com/unleashing-creativity.pdf

Just this past month (Sept. 2016) generalized promises like the following cause concern as to how out of touch the federal agencies may actually be in understanding the real challenges citizens face learning how to best benefit from broadband, in an era of accelerating change, particularly regarding low-literacy, low income ethnic minorities, and other vulnerable populations.

From: BroadbandUSA <BroadbandUSA@ntia.doc.gov>
Subject: NTIA: DIGITALLY UNCONNECTED IN THE U.S.: Who's Not Online and Why?
Date: September 30, 2016

> This quote below from the BroadbandUSA director of minority telecom development office of policy analysis and development is something I'm concerned about regarding presumptions related to rural and tribal America.
>
> Digitally connected Americans are the modern workers, creative innovators, and new customers who will help sustain our nation's global competitiveness.
>
> This same posting, along with previous BroadbandUSA postings, state; Tens of millions of rural and ethnic Americans don't see the need for, or benefits from, subscribing to broadband.

Candidly, the history of the politics of control has been top down. And the politics of appearances, represented by the soundbyte immediately above, makes good press, but is so naïve as to be counter to progress for America's Global Competitiveness. The politics of transparency are today a fundamental part of what needs to be researched. I.E. Real benefits and how to most quickly attain them. Measurements define success. What gets measured gets done.

For the Feds to learn from grassroots lessons learned, both past and future, participatory action research is necessary, new metrics, and new methods. GIGO is a computer term related to Data Analytics;
Garbage In, Garbage Out.

Academic research from a 60,000 ft perspective, needs ground-truthing at the ground level. That new data gathering innovations are fundamentally necessary begs the question of whether anyone will respond to this document, noting no one responded to past

whitepaper submissions including: BOC input, BTOP, NTIA/APEC, FCC, published book chapters, and published articles. (Available online within http://lone-eagles.com/incubator.htm)

The final BOC report points in the right direction, peer success stories are sought by most non-adopters. While I will be brief in summarizing key research opportunities, extensive writings are online with over 30 years of lessons learned as an early adapter presenting nationally and internationally (APEC/ITU) on rural and indigenous broadband training best practices, Elearning, Community Networking, Rural Ecommerce and Telework Strategies, and much more.

John Horrigan's Pew Digital Readiness Gaps report states, most Americans don't know how to use the Internet to learn as related to elearning. There's so much more to this, most low-income citizens have attitudes that are more anti-literacy than attitudes toward being proactive motivated self-directed learners.

While the technologies have changed at an accelerating rate, it is the resistance to new ideas and opportunities at all levels that has been my most profound discovery, as it defies common sense.

Lone Eagle Consulting's most recent NTIA technical assistance pilot projects with Alaska Native villages, showcasing new metrics and
Lone Eagle Consulting's previous published articles are in my NTIA online handout, http://lone-eagles.com/NTIA-Big-Sky.html expanding on the relevance of two Alaska Native NTIA technical assistance projects. In my experience, both rural and tribal leaders, as well as citizens, tend to avoid recognizing the innovations of others, preferring to do their own thing….which in a world of booming innovation can be self-defeating as opposed to "*actively seeking solutions that are already working for others like you."

The opportunity for research is to explore how best to teach openmindedness as essential to learning how to be creative and to consciously innovate. More details in the Unleashing Creativity article referenced above, and related articles nationally published written by the author.

This isn't something the federal agencies can do effectively for tribes and rural communities, but federal agencies can identify workable models for smarter collaboration on an **ongoing basis** for those who choose to be intentionally innovative. This openness to innovation, and to learning from others, is fundamental to sustainability in a world of accelerating change. For many, it is also a radical cultural shift.

The Alaska Native Tradition of Creative Adaptation
http://youtu.be/90TtB-fwv5Y?list=UUbNItcwaxU_q3w-GlPPzI6
Recommended is this 8 minute video summary of an NTIA pilot in Metlakatla, Alaska, with citizens sharing their perspectives after discovering what they didn't know that they needed to know, about broadband-enabled applications. The carefully written narrative reframes the context for the cultural relevance of broadband and innovation generally.

This video inspired the second NTIA technical assistance pilot,
The Alaska Native Innovations Incubator;
http://lone-eagles.com/incubator.htm

Lone Eagle Consulting's BOC input (10 pages) at
http://lone-eagles.com/BOC-RFC-Lone-Eagle-Consulting.doc
is an important addendum to this NBRA input document and is also linked
within the online handout presented during tribal and rural sessions at NTIA's Big Sky
(Montana) Regional Workshop, Aug. 31-Sept 1, 2016.

Lone Eagle Consulting's
Native Self-Empowerment Webtour
Click through this webtour online at
http://lone-eagles.com/NTIA-big-sky.html
This one link has links to key whitepapers, online innovations, published articles and
more, by the author, to be researched for methodologies on many levels.

30 years of Independent Research via aggressive direct rural and tribal innovations:

In 1983, my mission statement for independent direct participatory action research began
my career. **"What's the best good people can learn to do, online, for themselves and
others?"**

In 1985, I joined the faculty for Western Montana College, a 100 year old teachers
college. I created the Big Sky Telegraph, 1988-1998, an online rural education network
connecting over 100 one-room schools, **specifically to learn directly from teachers**
what they would embrace getting online to the Big Sky Telegraph. A Massively Open
Online Course was created in 1988 to allow scalable self-directed online learning,
offering a diploma and embroidered patch; acknowledging those who made the choice to
take first steps online; "forging the online trail that others might follow."
A published history; http://lone-eagles.com/history.htm 2003

> **The Big Sky Telegraph online rural education network, 1988-1998, was cited**
> **for excellence by the Whitehouse and 4 congressional OTA reports, and**
> **many books and articles.**

In 1997, I left the University to become Lone Eagle Consulting, with a very specific
mission to discover and maintain authenticated best practices for online self-
empowerment. I spent 80 days delivering the first Internet workshops for 11 Alaska
Native villages. The mission statement is short, and is more important today, 20 years
later, than ever;
http://lone-eagles.com/mission.htm

As of today, October 10, 2016, I am reflecting on lessons learned from my nearly 30
years consecutively teaching rural teachers and citizens online.

Motivating anyone to love learning, whether govt leaders, academics, or diverse citizens at all levels, hasn't been addressed by researchers.

That I've met with as much resistance to learning new opportunities the digital world offers, by top leaders, and academics, as I have with low-literacy citizens in dysfunctional ethnic villages and communities, should be of interest to NBRA. I was told in a village "Elders don't want to hear about something they know nothing about." This remark was delivered to me as I was presenting to an Alaska Native Youth and Elders conference on digitally preserving elder's wisdom and stories for all future generations."

That over the past 3 decades I've met with this same resistance from Governors, Senators, and elected leaders at all levels, and is only one of many such 'lessons learned.' But, I believe we are all now beginning to realize that; "In times of change, learners inherit the Earth."

Typically, it is the kids within families who deliver insights to their parents and teachers on how much has changed in our increasingly digital world.

The pace of accelerating change has been faster than most Americans' ability to keep up, but we're realizing sustainability requires paying closer attention to the dramatic changes happening daily all around us. With a majority overwhelmed and intimidated, attempts at retrenching to maintain the status quo are understandable, but also we are beginning to understand that somehow, learning to keep up with which changes can be positive, and which changes need to be consciously avoided, might require smarter collaboration with peers who know more than we do?!

Summative Points:
This NBRA submission addresses four
specific areas: (i) Broadband technology;

I remember reading when BTOP was first announced "BTOP is joined by the Gates Foundation with a mission to fund a great number of grassroots innovations; from which to discover the best innovations which can then be brought to scale nationally." Great idea; never happened?   Politics.

For the record; BTOP was a major positive innovation at a time of partisan conflict, and while bold and historic, the following points are presented in the context of lessons learned which agree with the recent Broadband Opportunity Council Report.

BTOP missed broad innovations related to mobile devices, social media, effective self-directed Elearning, online peer collaborative sharing, and entry-level digital entrepreneurship, which are today still key areas for innovation.

BTOP's toolkit celebrated grantees curriculums only, initially ignoring vast grassroots innovations from non-grantees. Mobile learning and mobile entrepreneurship is booming, and smartphones are how most global citizens, and low income Americans, are initially

introduced to the Internet. Apps are easier and increasingly powerful, as a major new "platform for innovation."

Smartphones in Alaska Native villages have been widely accepted, as opposed to home broadband (costs and low speeds). But, abuses like cyberbullying and spreading rumors are rampant. That 4 billion young and poor global citizens will come online by 2020 requires understanding the most scalable mobile self-directed Elearning innovations now evolving, as well as messaging for purposeful engagement.

IMPORTANT:

4 billion young, mostly poor, people are projected to come online for the first time; by 2020.

America's youth, First Americans in particular, given broadband access, even limited to smartphones, now have a global voice, and the choice as to how to use it; specifically to share traditional Native values for all global citizens to be stewards of the Earth, and of our one human family.

"We're all in the same canoe, and we all need to learn how to paddle in the same direction."

Take 15 minutes and watch the following three videos.

Bold: How to Go Big, Create Wealth and Impact the World
http://www.boldbook.com/?orid=107716&opid=1
A short video that talks about amazing new opportunities.
More at www.boldbook.com

See how Google and Facebook plan to bring 4 billion young people online from all over the world using mobile devices, and microsatellites, by 2020 using balloons and solar-powered drones. SERIOUSLY?!

Airbus Zepher solar powered drone microsatellites
https://www.youtube.com/watch?v=cwfbEMe5a4I

Google loon balloons
https://www.youtube.com/watch?v=HOndhtfIXSY

(ii) broadband deployment, adoption,
and utilization by individual, business,
and institutional users;

"We'll make it or break it at the Individual level"

Current emphasis on anchor institutions has a role, but personalized fast track learning for

diverse needs of diverse citizens cannot be presumed. Peer mentors, and "Everyone both learner and teacher, consumer and producer," is the way forward.

BTOP and its primarily institutional grantees, minimized collaborative sharing, and inclusion of non-grantee innovators, avoiding the scalable efficiencies of Elearning, online sharing, and peer evaluations to sustain a collection of peer authenticated best practices.

I.E. A clearinghouse methodology to maintain the best peer-authenticated fast-track training by specific needs, requiring the least time, cost, effort, and prerequisite literacy, with emphasis on inviting all innovative contributions has yet to be created.

(iii) assessment of economic and social impacts;

For all the talk about digital inclusion and citizen engagement, far too little attention has gone into informing citizens how to make a social impact, and/or where to find "entry level digital entrepreneurship" best practices.

Economics: Uber and AirBNB don't require fast broadband, as recent examples of the emerging exponential potential dynamics happening all around us.   Too often research is looking backward more than forward, limited to existing data, and lacking imagination and partnerships with the same folks they are hoping to provide insights to, resulting from their research.

Most current digital literacy training via institutions is decades behind the times. Learn more: http://lone-eagles.com/mass-innovation.pdf

and (iv)
opportunities for federal leadership in
data collection, research, and overall coordination.

but also an overall strategic plan that is achievable.

Reframing broadband (a vague technical outdated term) is necessary. With the emergence of the WWW, I promoted "online benefits" as offering self-directed learning using the world's knowledge base, self-publishing to a global audience, the exponential power of effective collaborative sharing, including Elearning, and that these successive steps lead to the level of enlightened expectations.

With 4 billion young and poor learners due to come online by 2020 via major tech company microsatellite schemes, America's global competitiveness hangs on whether we can effectively communicate how they can participate in "life, liberty, and the pursuit of happiness" with engagement and marketing innovations to directly counter ISIS's social media marketing of hate and violence. If America can help these 4 billion engage effective as participants in the global Internet economy, to reduce the global economic disparities that typically lead to war, then America's global competitiveness is viable.

Sample notable resources as evidence of consistent right-thinking easily 10 years ahead of the mainstream.

Echoes in the Electronic Wind:
   A Native American Cross-cultural Internet Guide
http://lone-eagles.com/nativeguide.htm
After 80 days delivering the first Internet workshops in 11 Alaska Native village schools, in 1998, I created a Native American Cross-cultural Self-directed Internet guide
with examples of web-based innovations from many tribes to inspire and inform those unaware of what's possible. Shared as a neatly formatted, non-technical print book, with simple explanations for those new to the Internet as to the four successive levels of self-empowerment and the Internet style of learning, the online version allows for easy clicking among the topical web tours by category.
A printable WORD version is downloadable at the above link.

The original guide was titled Common Ground, and shared via the ERIC online clearinghouse when it was first created. It was funded by USAID and created for K12 educators as well as all self-directed learners. And it is available in every library that still has the ERIC database on microfiche.
A simple visual construct graphic for the four levels of self-empowerment:
http://lone-eagles.com/fourlev.htm

Lone Eagle Consulting's other print guides include **Rural Ecommerce and Telework Strategies,** a non-technical guide for rural leaders. This and more are online without restriction at http://lone-eagles.com/guides.htm

Big Skies and Lone Eagles
A published chapter as an early adapter of Elearning is at http://lone-eagles.com/history.htm 30 pages, 2004, written and published in a book **"Online Learning: Personal Reflections on the Transformation of Education"**

The above chapter includes key perspectives from one of the most aggressive grassroots champions of the original community networking movement from the mid-80's to mid-90's; David R. Hughes, the Cowboy Cursor, whose legacy website includes innovative NSF grants and much more; http://davehugheslegacy.net   A model American innovator, retired Army colonel, and prolific writer and activist.

Howard Rheingold's seminal book **"The Virtual Community; Homesteading the Electronic Frontier"** has a chapter on the Big Sky Telegraph online rural network, 1993. See "Electronic Frontiers and Online Activists" Chapter nine, at
http://www.well.com/~hlr/vcbook/

Right Ideas at Apparently, the Wrong Time?

Rural innovation diffusion dynamics evolve slowly.

As a Lone Eagle, I was unfettered by the limitations of the university, or working for a corporation, or governmental agency. I was able to develop my own skills for keeping current in an era of accelerating change, and learned how to be intentionally innovative, open-minded, and to enjoy the personal learning adventure which began in 1983 by tasking myself to be aggressive to seek out understanding for "What's the best good people can learn to do, online, for themselves, and others?"

In 1998, I was able to realize my dream of being self-sufficient, online, and living in a remote ranch house near Dillon, Montana. My priority was learning what's possible, not the love of money, with the hope I might someday lend my wings to others, providing a free scalable global first step up for global citizens who want to participate in making the world a better place for everyone.

Nostalgia; Did we forget the key goal of the National Information Infrastructure?

I Googled: **effective national information infrastructure can only come from the citizens themselves.**

And found this:

The National Information Infrastructure's purpose is to link people together to empower them on many levels. The former Congressional Office of Technology Assessment reports **"The diversity of innovative applications required to create a successful NII can only come from the citizens themselves."**

Here are two first page hits from the above google search with two of my writings from 20 years ago with themes only now being recognized as relevant;

And this paper I wrote for the ATT learning network which distributed 1000 copies of my community networking guide at a conference in San Diego in 2003; I still have the big box labeled "Community Networking Guide" with 80 pages similar to the guide referenced above. (Echoes in the Electronic Wind.)

http://www.communitydevelopment.uiuc.edu/commtele/heca/odasz.txt
I was on the founding board of the Consortium for School Networking, cosn.org which has thrived, having celebrated its 25th anniversary this June, and also the founding board of the Association for Community Networking, 1993-2003, which disappeared after a decade of championing local community networks as online capacity-building digital inclusion early innovations. Here's my 1996 concept paper as an early articulation of what NTIA and Connect Alaska funded 2014-2015.

Concept Paper for the Creation of
The Association For Community Networking Incubator 1996
http://lone-eagles.com/articles/incubat.htm

The Rural Telecom Congress, RTC, was created 17 years ago by grassroots champions experimenting with how getting online via BBS's could build community capacity as citizens innovated with "getting online locally." http://www.ruraltelecon.org   The first conferences were hosted at the Aspen Institute.

A researchable topic would be to ask the RTC board, and known greybeards of the original community networking movement "What's changed in your perception regarding the vision of online opportunities then, and now?"

Conclusion:
Importantly, Jordana Barton (Dallas Federal Reserve) and Tim Herwig (treasury) are working on an Impacts report due to be released soon, related to Jordana's recent release of a Federal Reserve Funding Guide.

Jordana presented in Austin, April 2016 for the Rural Telecom Congress and Broadband Communities national conference. We got a chance to talk at length about the national and international indigenous broadband empowerment priorities of the Federal Reserve.

Of course, federal reserve bank incentives for PWI, CRA, and investing in LMI communities beg the question of what models for digital inclusion, community innovation incubators, and fast-track meaningful measurable best practices outcomes, can banks use to make the best possible investments, noting the challenges for adoption and training engagement and outcomes. Infrastructure is the easy part.

Extensive implementation models and motivating short workshops, like web-raisings, are available online. Foundations participating in the www.Netgainchallenge.org were tasked by the BOC report to explore funding scalable innovations, but many won't accept unsolicited proposals. This is not unlike NSF asking for input, then putting a deadline date to end opportunities for ongoing contributions?

Investment banks would likely want to know specifics on how broadband training investments can produce measurable outcomes, and I've been working on short term, small cultural community implementation models in this regard for over 15 years. The key is creating local heroes in the short term creating a culture of creativity with ongoing local sharing events as more and more learners….become teachers and mentors, learning to enjoy the satisfaction of sharing their most exciting new digital discoveries.

I'd advise 3 or more simultaneous 1-3 month pilot projects, so each project's participants can be learning from each other's innovations, and follow-on funding incentives which depend on who produces the most results in simple metrics such as # of participants, # of regular events, # of new media cultural content posted, etc. - Consider Friday Community Tech nights where everyone is invited to show-off their latest discoveries from smartphone apps to digital entrepreneurship successes, to new ways of celebrating and preserving cultures, while at the same time becoming global citizens.

The recent **Tribal Fast Facts from the Whitehouse** is impressive, but if I were a Native American seeking, for example, to learn what Native Youth community projects from the Center for Native American Youth might be replicable for my community, and/or to review specific "best practices" from other tribes, and/or, the many other federally supported tribal initiatives, the challenge seems overwhelming as there are pieces scattered across a couple dozen agencies?

For example; How would Native youth find NTIA's unique two Alaska Native village technical assistance pilots and the wealth of resources each pilot has posted online? Such is the challenge for the Top Down to learn to meaningfully partner with the Bottom Up.

Continue Reading:
Lone Eagle Consulting's BOC input (10 pages)
http://lone-eagles.com/BOC-RFC-Lone-Eagle-Consulting.doc
Includes significant specific research topics and methodologies not recopied in this NBRA doc.

Extensive uniquely relevant resources are within the online handout below shared at NTIA's Big Sky Workshop, Aug. 31-Sept 1, 2016,

Lone Eagle Consulting's
Native Self-Empowerment Webtour
Click through this webtour online at
http://lone-eagles.com/NTIA-big-sky.html
This one link has links to key whitepapers, online innovations, published articles and more, by the author, to be researched for methodologies on many levels. **Two recent and unique Alaska Native NTIA technical assistance pilot project models and resources** are recommended for careful review related to their scalable significance.