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Broadband action guides

The SNG roadmap for broadband planning – *enabling sustainable broadband strategies*

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In order to develop sustainable broadband strategies that are well-tuned to the needs of their constituents, states, counties and local communities need to identify “un-served” areas (those without access to any broadband service other than satellite), as well as the multiple categories of “under-served” and “under-utilized” areas.

In this whitepaper, SNG discusses its views about the best way to enable sustainable broadband strategies.

The SNG roadmap for broadband planning

Investment in broadband plays a critical role in maintaining a region's international competitiveness. Governments at the state, county and community level currently find themselves with a unique opportunity for investment in broadband due to the federal stimulus fund. How can government-level decision makers ensure that they maximize this opportunity?

To prepare a strategy that addresses broadband coverage/supply gaps effectively and expeditiously, broadband planners need to rely on the most accurate knowledge of broadband deployment in their areas. They need to compile the geographically granular "broadband supply" data necessary to create maps that provide a solid foundation for analysis and highly effective

network planning. They need to identify "un-served" areas (those without access to any broadband service other than satellite), as well as the multiple categories of "under-served" and "under-utilized" areas.

While investing in broadband infrastructure to fill the gaps in un-served and under-served areas is the priority for immediate attention, equally important is the need to have those networks utilized as fully as possible to maximize sustainability and economic stimulus. Taking steps to encourage and facilitate utilization is equally important to making competitive and affordable high-speed access available in order to achieve economic impact from the infrastructure investments.

Un-served, under-served or under-utilized?

While it is relatively straightforward to identify "un-served" areas, it is more challenging to identify "under-served" or "under-utilized" areas, since these reflect the relationships among multiple supply and demand factors.

Under-served areas suffer service deficiencies tied to various "supply" factors, including data rates, affordability, competition, service quality and upgradeability. These supply deficiencies constrain the ability of businesses, organizations and households to realize the potential benefits of broadband. For example, an engineering firm,

architects tele-working from home, and a health care facility might find wireless, DSL or cable broadband limiting if they are trying to video-conference, or using an online collaboration platform to analyze building plans or x-rays in real-time. Another example is a school teacher not using online learning resources because the network is unreliable and often 'goes down' during a class. Such unmet demand would benefit from a next generation broadband network like fiber, which provides the bandwidth and reliability needed to benefit from these and other "e-solutions."

Under-utilized areas, on the other hand, have access to broadband capacity that is not used to its full potential by businesses, organizations or households. This demand-deficiency reflects a range of barriers, including: insufficient awareness of new opportunities and business models that can be enabled by a reliable high-speed connection to the Internet; lack of knowledge or expertise to implement appropriate e-solutions; and concerns about security or privacy. An example of this is a firm that is connected by fiber but does not fully

integrate its internal processes with online supply chains and financial systems, due to security concerns or insufficient awareness of e-solutions well suited to its business.

To be effective and sustainable, a “broadband data and mapping” solution must identify these under-served and under-utilized areas and provide insights about how to better address their needs via broadband and e-solutions.

Working with service providers

A key component of any effective broadband mapping solution is to assist states in negotiating agreements to obtain geographically granular broadband availability data from service providers. To ensure this is done most effectively and expeditiously, we suggest leveraging the experience, expertise and contract templates developed in pioneering states that have successfully negotiated such agreements (e.g. VA, MA, NC).

Since access to and use of service provider-provided data is generally restricted (to avoid revealing company-specific and perhaps also

platform-specific data), its primary use is to generate maps and analysis focused on un-served areas (those areas where there is either no access to broadband, satellite-only access), enabling states to move quickly in targeting ARRA network investment grants to un-served areas.

Efforts should be made to obtain more granular speed data from service providers in order to map and analyze availability by multiple speed tiers – because that is a key element in distinguishing under-served and under-utilized areas.

Obtaining data from other sources

We also strongly recommend the collection and integration of data from sources others than service providers, to obtain the “full range” of data needed to identify, analyze and address various categories of “under-served” areas. This also provides a “quality control” check on the accuracy of supply data provided by service providers.

These supplementary sources of data include:

- supply and demand data provided by end-users via online collection tools, which include address-level location data for each respondent;
- A “crowdsourcing” model in which households and businesses provide their location and supply and demand characteristics via web sites and automated telephone response systems;

- Broadband availability data gathered from FCC and other public and private databases, and from web sites and other sources providing availability, price and speed data by address, community or zip code;
- Speed and other technical performance tests, gathered and analyzed in

cooperation with groups such as Measurement Lab, the emerging leader in this area; M-Lab was founded by Google, New America Foundation's Open Technology Institute, the PlanetLab global research consortium and academic researchers.

Analysis & deliverables

We suggest carefully gathering, comparing and integrating data obtained in a multi-source approach. The methodology should include ongoing follow-up research focused on resolving inconsistencies among them, and on areas with the most severe deficiencies in broadband supply (un-served, under-served), and imbalances between supply and demand (under-served, under-utilized). This provides local leaders and stakeholders with data and insights to identify economic and social priorities for bridging identified gaps, including those with the most significant and immediate impacts on the local economy.

The results of this research examining supply and demand factors should be made available to local leaders and stakeholders in a range of formats. These may include:

- Maps that identify un-served, under-served and under-utilized areas that can be used for analysis of broadband supply and demand, which is needed to develop sustainable broadband strategies

- Charts, tables and graphs of findings that can be used for analysis of broadband supply against current and potential demand (by geography, or business sector), preparing business plans, and requests for funding
- Reports and summary documents that can be shared with key stakeholders and used as reference documents in requests for funding
- Presentations that can be used to share findings with key stakeholders, potential funders, or the general public.

The SNG approach

To develop sound and sustainable broadband strategies, policymakers need access to in-depth data on broadband demand, by geography and/or business sector.

The analysis and integration of broadband supply and demand data is a unique and valuable feature of SNG's solution that we have applied in numerous communities and regions in the US and Canada. The market supply and demand findings need to be addressed through market development and demand promotion strategies, which SNG develops in collaboration with communities, regions, and organizations such as the Knight Center of Digital Excellence and OneCommunity.

SNG's approach to data collection is to gather as much supply data as possible from service providers, and to supplement this with data collected from other sources that are unconstrained by service providers-imposed confidentiality agreements.

SNG then integrates this full set of supply data with the value-rich set of demand-related data gathered via SNG's unique and field-proven e-Solutions Benchmarking research tools.

The result is a rich, policy-relevant and transparent body of data, analysis, and maps that are uniquely well suited to help states, counties and communities target and prioritize NTIA and RUS grants and develop sustainable broadband strategies.

The SNG solution also allows policymakers to cost-effectively track and evaluate the results of their broadband strategies, to insure these remain optimally effective as both the fast-changing broadband sector and their state's economy evolve over time. With a vision to revitalize communities by leveraging broadband for regional economic development, SNG brings field tested tools and a unique strategic focus that accelerates both the deployment of critical broadband infrastructure and its use by local business and industry.

We also offer data and reports designed to help individual businesses and organizations benefit from SNG research and more fully realize the benefits available from broadband and e-solutions. We do this by identifying usage gaps in broadband and e-solutions and quantifying the potential new revenues or cost savings achievable by implementing appropriate e-solutions.