



Maximizing Federal Funding to Close the K–12 Digital Divide

A primer for state broadband stakeholders

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Introduction

In March of 2020, nearly one third of all K–12 students in the country lived in a home without either internet service, a device adequate for distance learning, or both. Since then, the federal government has set aside billions of dollars to connect these students—and all Americans—by expanding and upgrading broadband infrastructure, addressing affordability, and providing ongoing digital inclusion support. This funding gives states an unprecedented opportunity to close their digital divides for good.

Common Sense developed this primer and the associated [guide](#) to federal broadband funding programs to help states maximize this opportunity.¹ Our recommended policies are based on independent [research](#) into the educational digital divide and through consultation with [partners](#) in the education, technology, and government sectors. The recommendations are organized into four parts: 1) School-Led Digital Needs Assessments; 2) State-Led Coordination and Planning; 3) Building 21st Century Infrastructure; and 4) Empowering Local Institutions. We will continuously update these documents to incorporate your feedback and the latest developments at the state and federal level.

Part 1: School-Led Digital Needs Assessments

Perhaps the easiest way to make a meaningful difference in the digital divide is by connecting disconnected students. This approach has many advantages: Data about students is uniquely granular and allows states to precisely target their limited resources; students have existing connections to institutions (schools) that have experience with

¹ See the [Guide](#) for a summary of broadband programs available through the Infrastructure Investment and Jobs Act (passed Nov. 2021), the American Rescue Plan Act (passed Mar. 2021), the Consolidated Appropriations Act (passed Dec. 2020), and other sources.

government programs and reporting requirements; schools are well suited to coordinate technology specifications, IT support, digital navigators, and digital inclusion resources; and finally, students use broadband for an essential and universally important service—education. This combination of qualities ensures that any money spent on student connectivity can quickly and efficiently shrink the digital divide.

The first step to connect students is to identify which students are in need and where they live. Prior to the pandemic, this was difficult because there were few reliable sources of data about which student households were in the digital divide. But the pandemic changed this by spurring schools to begin collecting information about their students' connectivity. The data that has resulted from these school-led “digital needs assessments” (DNAs) is uniquely valuable because it is routinely updated, granular to the address level, and easily aggregated.

Thus, we believe that one of the simplest and most meaningful actions a state can take to permanently close the digital divide is by making school-led DNAs permanent. States can do this in the following ways:

- **Use State Directives:** Direct Local Education Agencies (LEAs) to collect Homework Gap data and report it to the state on a recurring basis.² Not only will this ensure ongoing and comprehensive data collection, but a state directive in the form of a statute, executive order, or rule will incentivize vendors of student information services (SIS) to offer robust, affordable, and easy-to-use data solutions. Schools routinely work with these vendors to manage their data, and adding new DNA fields can be relatively simple.
- **Standardize Metrics:** Standardized data can be aggregated across schools into comprehensive broadband maps and datasets. The Council of Chief State School Officers (CCSSO) suggests a set of common metrics for this purpose.³ State Departments of Education can implement such metrics through data collection policies, and they can work with SIS vendors to push the standards out to local K–12 institutions. The metrics should include information about the student or teacher's household such as:
 - The availability of broadband service—including the type, speed, and cost of service—and whether the household is subscribed;
 - The type and number of household computers and/or devices;

² [Virginia's](#) Department of Education requires LEAs to report on home broadband and device access through its Student Record Collection process.

³ CCSSO Home Digital Access Data Collection: [Blueprint for State Education Leaders](#).

- The student, caregiver, and/or teacher's need for IT and digital literacy support;
- Location and demographic information (compliant with FERPA and state student privacy law);
- Primary language(s) spoken and other needs considerations.
- **Partner with ISPs:** Internet service providers (ISPs) have good data about which households are in the digital divide, and they can be valuable partners to locate disconnected students.⁴ EducationSuperHighway's K–12 Bridge to Broadband program, which has established data sharing agreements with national ISP associations, is designed to facilitate such collaborations.⁵
- **Clarify Privacy Laws:** It will be easier for ISPs to share data if there are clear laws regarding student data confidentiality.⁶ The Center for Democracy and Technology offers guidance about student data and its uses.⁷
- **Create Broadband Maps:** Use DNA data to create high-quality maps of broadband speed and availability. Maps created with this data can provide an up-to-date, address-level picture of the digital divide and help justify grants, challenge provider claims, and inform ongoing state broadband plans and investments.

Part 2: State-Led Coordination and Planning

Recent federal programs give state governments an unprecedented degree of control over how broadband money is spent in their state. Thus, it is more important than ever for states to effectively promote collaboration among local stakeholders. Broadband projects can require years of sustained coordination between diverse coalitions; they can be highly technical and require plans that span decades; and they have direct implications for a range of public interests, including education, healthcare, business, agriculture, housing, transportation, and government services. To ensure that all of these factors are considered when deploying broadband funds, states should take the following steps:

- **Create a Broadband Office:** Coordinate the flow of federal dollars across agencies and programs through a state broadband office. If your state does not have a state broadband office, consider creating one.⁸ A broadband office can lead state broadband projects, unify work across government agencies, advise local

⁴ [North Dakota](#) partnered with its ISP community to connect nearly 95% of unconnected student households.

⁵ EducationSuperHighway [K–12 Bridge to Broadband](#).

⁶ [Georgia](#) passed a data confidentiality law and created the most detailed broadband map in the nation.

⁷ The Center for Democracy and Technology [report](#): Closing the Homework Gap While Protecting Student Privacy

⁸ The National Governors Association [reports](#) that over 20 states have broadband offices. The [Colorado](#) Broadband Office is one example. See also an [analysis](#) by Pew Charitable Trusts.

governments, organize coalitions, create broadband and digital equity plans, and serve as a data clearinghouse.⁹

- **Create Broadband Plans:** A broadband plan is a requirement for some federal grant programs, and it can boost competitiveness for others.¹⁰ Broadband plans should include: analyses of barriers to construction and adoption; broadband technical specifications; goals and measurable success criteria; plans for assessment and oversight; coordination with local stakeholders; implications for the state's workforce, government, and goals; and a digital equity strategy that addresses non-infrastructure needs and adoption activities (e.g. affordability support, digital navigators, IT support, job-skills training, and digital citizenship).¹¹ The cost of planning and capacity building can be covered by Treasury and NTIA programs.
- **Identify Essential Uses:** Consult stakeholders to determine which uses of broadband are essential in your state. For example, the pandemic has shown why a household should be able to simultaneously engage in remote work, distance learning, video streaming, and telehealth.¹² Ask stakeholders to identify such examples of essential uses in their communities and also to anticipate future essential uses. Once you have this list, determine what speeds are necessary to enable these use cases. Use those speeds to establish minimum standards when deploying publicly-funded networks.
- **Redefine Unserved and Underserved:** Gather public input to determine which areas should be considered unserved or underserved. Consider incorporating the cost of service and technical specifications of essential uses into these definitions, because, if service is available but unaffordable¹³ or unusable, residents are not truly served. Expansive definitions that incorporate community feedback will ensure that vulnerable populations aren't left behind.
- **Plan for Administrative Costs:** Set aside state funding for administrative costs, such as mapping support, feasibility studies, and program creation, management, and assessment. Local governments will also need support with these costs, so consider setting up a grant program for local planning and administration.
- **Implement Data Sharing:** Support data sharing agreements between state, federal, and local databases that house eligibility information to streamline the participation of eligible households in cost-support programs (e.g. the [Affordable](#)

⁹ Brookings [report](#) on bridging the divide with digital equity offices.

¹⁰ Pew Research [found](#) that states with plans score higher for some federal grant programs.

¹¹ [Seattle's](#) digital equity plan.

¹² Common Sense and BCG analysis [found](#) that robust distance learning required speeds of at least 200/10.

¹³ Doug Dawson in a Pots and Pans blog [post](#).

[Connectivity Program \(ACP\)](#) and [Lifeline](#)). For example, ensure that your state is participating in the [National Verifier database](#).¹⁴

- **Create a State USF:** Establish state-level source of funding to augment federal subsidies, such as a state supplement to [Lifeline](#) or [E-rate](#).¹⁵ A state fund can be used in conjunction with data sharing, and it can also help maintain connectivity after federal cost-support programs are discontinued, as may happen with the [Emergency Connectivity Fund](#) (ECF) and the [ACP](#).

Part 3: Building 21st Century Infrastructure

A large percentage of recent federal funds can be used to deploy and improve broadband infrastructure. States may never again have access to this many deployment dollars, and so they should use this opportunity to create networks that will be useful for decades. To build such 21st century infrastructure, states should consider the following policies:

- **Support Municipal and Cooperative Broadband Efforts:** Eliminate or allow exceptions to laws that prevent municipalities, electric utilities, and co-ops from providing broadband service; provide funding for feasibility studies; and allow municipalities to issue bonds to finance infrastructure.¹⁶ Also, ensure that public fiber assets are mapped and available for municipal use so that municipalities can maximize existing assets.
- **Use ARPA's Flexibility:** ARPA's State and Local Fiscal Recovery Funds (SLFRF) and the Capital Projects Fund (CapX) have flexible rules relative to past sources of broadband funding. For example, the Recovery Funds do not restrict infrastructure deployment to areas that fall below speed thresholds; instead, they simply require an "identified need for additional broadband infrastructure investment." Consider using ARPA funds on projects that may not have been possible before.¹⁷
- **Address Digital Redlining:** Historically, some ISPs have avoided building networks in low-income urban communities because the ISPs do not believe they can attract enough subscribers to justify the investment. This is known as "digital redlining," and states should identify and support these overlooked communities with a

¹⁴ [The National Verifier Database](#). See also: According to a GAO [report](#) from January 2021, only 20 states currently participate in data sharing with the National Verifier. States who participate drive higher enrollment than states who do not.

¹⁵ According to a 2019 [report](#) from the National Regulatory Research Institute, 42 states provided some form of universal service support. See also: [Kentucky](#) augments the federal lifeline subsidy with an additional state-funded discount.

¹⁶ [Washington](#) recently removed restrictions on municipal broadband. [Allentown, PA](#) is using ARPA funds to build a public fiber network, but state laws limit municipal services, and so the city will use a public-private partnership. [Arkansas](#) recently enacted a law that explicitly allows municipalities to finance broadband infrastructure with debt.

¹⁷ ILSR's [list](#) of ARPA funded projects.

combination of targeted deployment, cost-support, and digital inclusion programs.¹⁸

- **Connect Public Housing:** Prioritize public housing for deployment and public Wi-Fi projects. Such uses are presumptively eligible for Treasury's SLFRF and CapX and NTIA's BEAD program, and they can be a relatively fast and low-cost way to connect many households. By connecting these buildings, states can increase the uptake of federal low-income cost-support programs, like the [ACP](#). Also, consider updating construction rules so that public housing is built with internal fiber networks and are able to offer multiple ISPs.¹⁹
- **Streamline Permitting:** Permitting issues can be a bottleneck for broadband deployment because they increase legal costs and delay construction timelines. Some last-mile providers have reported that legal fees for permitting can account for 50% of a project's cost.²⁰ Consider discussing issues with federal and tribal partners,²¹ simplifying the state permitting process, centralizing requests online, and hiring additional staff.²²
- **Enact "Dig Once" Policies:** Require public and private excavators to install extra fiber or conduit and to notify local ISPs whenever ground will be broken in the public right-of-way.²³
- **Buy Fiber Early:** Supply chain issues are causing the cost of fiber to rise; consider buying fiber now before prices rise further.²⁴ Stockpiled fiber can be used as a component of future state grants.
- **Implement State Standards:** Require publicly funded infrastructure to be open access, meet high speed and low latency standards, offer low-cost service options, and provide tech support and training.²⁵ A common, future-proof target is 100 Mbps symmetrical service.²⁶

¹⁸ [Delaware](#) used CARES funding to connect students that qualify for various federal assistance programs. [Alabama](#) used CARES funding to provide vouchers for free internet service to all households with K-12 students who qualify for the National School Lunch Program. Participants in this program were eventually transferred to EBB.

¹⁹ The New York City Department of Housing Preservation and Development adopted a new set of [design guidelines](#) meant to "ensure newly constructed buildings promote equity, health, and sustainability" and included specific requirements for internal networking for broadband.

²⁰ According to Arizona's [Broadband Task Force Report](#).

²¹ USDA's Forest Service and the Department of the Interior's Bureau of Land Management and Bureau of Indian Affairs.

²² [Ohio](#) launched an E-Permitting system to streamline broadband construction requests.

²³ Arizona's ["Dig Once"](#) legislation.

²⁴ Doug Dawson discussing Vermont on [Episode 15](#) of ILSR's Community Broadband Bits Podcast.

²⁵ A Benton [report](#) on how open access networks increase competition and lower consumer costs. See also: [Minnesota](#) scores applicants on a 120 point scale which includes a 10 point category for "broadband adoption assistance."

²⁶ A bipartisan group of Senators [called](#) on the FCC to make 100 Mbps symmetrical the standard for new infrastructure deployments.

Part 4: Empowering Local Institutions

Though states are the direct recipients of most federal broadband funding, only local entities can ensure that broadband's benefits are fully integrated into the community. These entities include local governments, tribal governments, public utility commissions, cooperatives, local ISPs, schools, libraries, clubs, churches, and nonprofits. To help these entities inform planning and drive broadband adoption, states should consider these policies:

- **Leverage Community Knowledge:** Include local institutions in efforts to promote cost-support programs and digital inclusion resources. These institutions will have a good grasp of how to communicate with local populations, including what languages to use, where and how to advertise, and other important cultural knowledge that only local groups may know.²⁷
- **Anchor Institutions:** Build middle-mile infrastructure to anchor institutions, such as schools and libraries, and use these institutions to provide internet to the surrounding communities.²⁸ These institutions are well positioned to house digital navigators and to promote digital inclusion resources and activities.
- **Promote Existing Benefits:** Many eligible households do not participate in existing cost-support programs.²⁹ Create PSAs about benefits and digital resources and use community partners to distribute them and assist with enrollment.³⁰
- **Plan for Digital Inclusion:** Set aside budgets for digital inclusion efforts (e.g. IT support, skills training, digital citizenship, digital navigators). Include schools, libraries, community centers, and other anchor institutions in these plans. These institutions are connected to important communities and have administrative experience managing government programs.³¹ Also, consider a grant program to incentivize and support entities that promote adoption of broadband and devices.³²

²⁷ The Hunt Institute has a [guide](#) for considering English learners in digital divide programs and outreach.

²⁸ Murray School District in [Utah](#) and the [New York Public Library](#) are providing free, high-speed internet to nearby communities by broadcasting over Citizens Broadband Radio Service (CBRS). [SHLB](#) is leading the Anchor Connectivity Group to foster these local initiatives.

²⁹ Only 16% of eligible households participate in EBB, according to a [report](#) by EducationSuperHighway.

³⁰ [California's](#) Advanced Services Fund Adoption Account provides funding to local governments, anchor institutions, and nonprofits to support broadband adoption activities.

³¹ The National Digital Inclusion Alliance has many [resources](#) for this work. See also: [Maryland](#) is considering a bill that would create a statewide Office of Digital Inclusion.

³² [Boston's](#) Digital Equity Fund is an example of a local fund that supports digital inclusion and adoption efforts. The [California Digital Divide Innovation Challenge](#) greenlit proposals that promote broadband among students.

Common Sense is here to help. If you have questions about these recommendations, please contact Drew Garner, State Broadband Policy Fellow, at dgarner@commonsense.org.

You can find additional resources from Common Sense about the Homework Gap [here](#).