In August 2014, EducationSuperHighway partnered with Arkansas' Office of the Governor and the Arkansas Department of Education (ADE) to develop a plan to lead the nation in meeting the ConnectED goal of connecting all students to high-speed broadband. Our work was conducted in two phases. First, we collected data from 260 districts representing 99% of schools and students to analyze the current state of broadband connectivity in Arkansas' K-12 districts. Based on this analysis, we then developed a plan to meet the current ConnectED and FCC Internet access target of 100 Kbps/student by the summer of 2015 and the long-term target of 1 Mbps/student by the summer of 2018.

Arkansas is well positioned to achieve the ConnectED goals as a result of ADE's $11M annual investment to provide Internet access to all K-12 districts. If deployed effectively, our analysis suggests that this investment is sufficient to meet the 100 Kbps/student target across all districts. In addition, by leveraging this investment to obtain approximately $30M per year in federal E-rate funds, Arkansas can meet the 2018 Internet access target within ADE's existing budget.

Unfortunately, the ADE's current investment in the Arkansas Public School Computer Network (APSCN) is doing little to meet the needs of Arkansas' public school students. While 58% of Arkansas districts meet the current ConnectED 100 Kbps/student target (versus 37% nationally), EducationSuperHighway's analysis shows that this is due primarily to the fiber-based Internet access purchases that 90% of districts make on their own. In contrast, because APSCN utilizes mostly antiquated network services delivered over copper, none of the districts that rely solely on APSCN meet the 100 Kbps/student goal.

As seen in Figure 1, direct school district Internet access purchases account for 95% of the broadband available in Arkansas K-12 schools while the average price per Mbps ($13) is 95% less than ADE's $286/Mbps APSCN contract. This suggests that ADE can significantly increase the Internet access it provides to districts by more effectively utilizing its $11M annual investment.

![Figure 1: APSCN accounts for 58% of total Internet access spend in Arkansas, but contributes only 5% of total connectivity](image-url)

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Understanding this opportunity, EducationSuperHighway engaged the Arkansas broadband service provider community and other stakeholders to inform our strategy for meeting the current and 2018 ConnectED goals. After analyzing bandwidth requirements, expected costs, and technical and qualitative aspects of potential solutions, we concluded that **connecting districts to an aggregated statewide network for Internet access is likely to be the most effective means for Arkansas to meet the ConnectED goals within its existing budget.**

![Figure 2: Aggregating demand significantly reduces costs](image)

A well executed state network maximizes the opportunity to use economies of scale to deliver Internet access at the lowest cost, especially as demand for Internet access continues to grow. This strategy builds on the demonstrated ability of the state APSCN network to provide districts with reliable Internet access and good customer service, while enabling significant improvement in speeds and cost effectiveness. In addition, a state network solution will free ADE and E-rate resources for other key network components, such as connectivity and equipment within each district's network.

Implementation of a state K-12 Internet access network can take many forms, with other states successfully utilizing both public and private organizations to implement and manage the network. Arkansas leaders should consider every option moving forward and would be well served to adopt the best practice of involving school district technical leaders and superintendents in the next phase of planning.

EducationSuperHighway expects that planning and implementing a state network will take 12-18 months and, consequently, **we recommend a two-part strategy for upgrading Arkansas' K-12 schools to the current and 2018 ConnectED goals.**

1. Redeploy ADE's $11M Internet access budget so that all districts meet the 100 Kbps/student target by July 2015.
   a. Immediately conduct an RFP process to provide all districts that rely entirely on APSCN for Internet access and those whose direct Internet access contracts expire in 2015 with 100 Kbps/student.
   b. Provide subsidies to all districts with continuing direct Internet access contracts to either upgrade their bandwidth to 100 Kbps/student or offset their Internet access expense.

2. Simultaneously, plan and implement a statewide Internet access aggregation network with the goal of launching the network in 2016 and connecting 90%+ of districts by 2018.¹

¹ ~10% of districts have existing contracts that terminate in 2019
In support of this recommendation, EducationSuperHighway has worked with ADE to prepare an RFP that implements the first part of the strategy. We also committed to providing resources to support both the RFP process and continued planning for a long-term statewide solution at no charge to the state or its K-12 schools.

Arkansas has an unprecedented opportunity to lead the nation in upgrading the Internet access to its K-12 schools in a comprehensive and cost-effective way. We urge Arkansas’ state leadership and ADE to promptly take action to implement these strategies so that the state does not miss the window for ensuring that every student has the high-speed broadband they need for digital learning in 2015 and beyond.

EducationSuperHighway is the leading non-profit focused on upgrading the Internet infrastructure in America’s K-12 public schools. We believe that digital learning represents an unprecedented opportunity to provide every student with equal access to educational opportunity and that every school requires high-speed broadband to make that opportunity a reality.

EducationSuperHighway’s data-driven programs help accelerate upgrades in America’s schools. We work to raise awareness of the school connectivity gap, provide technical and procurement expertise to states and districts, and advocate on behalf of students to influence policy decisions. Our work has helped shape President Obama’s ConnectED initiative and served as a catalyst for modernization of the Federal Communications Commission’s E-rate program.

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