

Eric Smith, Director
Office of Innovation and Entrepreneurship
Economic Development Administration
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Dear Director Smith,

The following is submitted on behalf of the [Alliance for Learning Innovation](#) in response to the “Request for Information on Implementation of the Regional Technology and Innovation Hub Program.”

5. Please share specific examples of evidence-based or evidence-informed investments, interventions, or policies, including those implemented in other countries, that would support technology-based economic development, particularly at the scale required to enable U.S. leadership in technology and innovation sectors critical to economic and national security.

A current missing element from U.S. regional approaches to technology-based economic development is authentic engagement and collaboration with the K-12 education system. K-12 education is critical to ensure the longevity and scaling of any investment in technology-based economic development. Without well-developed pathways that begin in K-12, the talent needed to continue to build on technology-based economic development investments made by EDA will be missing. Human capital is essential to enabling U.S. leadership in technology and innovation sectors critical to economic and national security. A 2020 Organization for Economic Co-operation and Development report demonstrated the connection between strong K-12 school systems and regional and national economic growth.¹

EDA should consider the following opportunities to better integrate K-12 education within Tech Hubs:

- Strongly encourage and incentivize the inclusion and development of Career and Technical Education (CTE) programs and pathways. Research from the Career & Technical Education Research Network demonstrates the positive impact CTE programs have on high school students’ career and college readiness.² CTE is generally organized around Career Clusters and Career Pathways.³ Tech Hubs represent a key opportunity to expand the use of these clusters and pathways in industries of tomorrow like biotechnology, semiconductor manufacturing, and additive manufacturing among other industries. Ensuring students are ready to enter the workforce is a crucial element to supporting U.S. leadership in current and future technology and innovation sectors.
- An example of inclusion of the K-12 sector in place-based economic development is the California Regional K-16 Education Collaboratives Grant Program. The program funded regional collaboratives across the state to align K-12 education and CTE training with each participating region’s strategic economic development goals, with an explicit focus on addressing equity gaps and promoting regional resiliency.⁴
- While EDA has identified apprenticeships as a proven earn-and-learn model, Tech Hubs should strongly encourage the use of pre- and youth apprenticeships. The U.S. Department of Labor has clearly established the impact apprenticeships have on employment and wages.⁵ Yet, efforts to

¹ <https://www.oecd.org/education/The-economic-impacts-of-coronavirus-covid-19-learning-losses.pdf>

² <https://cteresearchnetwork.org/index.php/>

³ https://cte.careertech.org/sites/default/files/CareerClustersPathways_0.pdf

⁴ <https://www.iff.org/points-of-view/advancing-equity-economic-prosperity-california-regional-collaboratives/>

⁵ <https://www.apprenticeship.gov/sites/default/files/dol-industry-factsheet-apprenticeship101-v10.pdf>

develop pre- and youth apprenticeships have been mixed. Tech Hubs present an opportunity to foster the development of apprenticeship explicitly focused on youth.⁶

- Tech Hubs must incorporate education technology in how they engage learners and develop their workforce. As an EdSurge analysis noted, education technology has shifted from being reactive to proactive and innovative in recent years. This shift has allowed schools to evolve to better meet student and community needs.⁷ Because of the growing trend in utilizing technology to drive education innovation, the K-12 sector will be able to meaningfully contribute within a larger technology-based economic development investment, if they are included.

While institutions of higher education are regularly engaged by EDA and other federal agencies interested in economic development, K-12 engagement is less common. EDA should use the Tech Hub opportunity to more fully engage the K-12 education system to ensure the technology-based economic development goals of the Tech Hubs program are met in an equitable and sustainable way.

18. What else should EDA consider when building this program, including but not limited to alignment with other Federal programs?

EDA is to be commended for their commitment to fostering constructive collaborations among a wide range of new and traditional economic development stakeholders, including public and private sector entities. When building the Tech Hubs program, EDA should consider ways to engage K-12 stakeholders. While elementary and secondary schools are considered optional partners in consortia's applying for the Tech Hubs program, strong priority should be given to proposals that include and involve K-12 partners, including both formal and informal educators and school leaders, in the planning and implementation of Tech Hubs funding.

K-12 engagement is critical for the following reasons:

- As Bruno Manno notes in his book *Opportunity to Rise*, parents and other K-12 education stakeholders play a vital role in finding and creating opportunities for students to succeed in their communities through collaborations with employers and state governments.⁸
- Tech Hub investments will not be sustainable without a pipeline of talent to continue to grow the technology area over time, and engagement with K-12 stakeholders is needed to ensure educators and families are preparing students for careers in the region's chosen technology field.
- Successful K-12 engagement can be accomplished by ensuring that EDA is including federal programs like the U.S. Department of Education's (ED) Rural Postsecondary & Economic Development (RPED) Program, Minority Science and Engineering Improvement Program (MSEIP), and Promise Neighborhoods (PN), among other ED programs.

To be direct, without vigorous, authentic, and collaborative engagement with the K-12 education system, Tech Hubs will likely experience short-term success but lack the sustaining power needed to substantially

⁶ "Most (96.5 percent in 2021) youth apprentices are registered in programs that serve both adults and youth rather than youth apprenticeship programs that exclusively serve youth."

https://www.dol.gov/sites/dolgov/files/OASP/evaluation/one-pagers/Apprenticeship-Evidence-Building-Portfolio_State-and_Youth-Apprenticeship-CombinedOnePager.pdf

⁷ <https://www.edsurge.com/research/guides/how-is-technology-shaping-the-future-of-k-12-education>

⁸

<https://www.waltonfamilyfoundation.org/stories/k-12-education/rethinking-k-12-education-pathways-to-social-and-economic-mobility>

transform communities and regions that have struggled to capture the benefits technology-based economic development has had for a few select regions in the U.S.

21. How can EDA ensure input from, and engagement with, community members in the administration of the Tech Hubs program, particularly for underserved community members?

EDA can ensure input from underserved communities by requiring the involvement of community stakeholders and community-based organizations that are focused on advancing economic and social mobility. By involving groups that have local context and focused on systemic change, EDA can help advance economic development in a holistic and bottom-up manner. Requiring authentic collaborations with underserved, rural, and tribal communities should be part of any evaluation of a Tech Hub proposal.