

HOW TO BUILD COMMUNITY RESILIENCE, STARTING WITH K-12 SCHOOLS

By John Anderson, M.A., M. Phil.

Executive Summary

The planning and development field has defined resilience as the “capability to prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to social well-being, the economy, and the environment.”¹ More recently, increasing attention has been paid to the capability to adapt to changing conditions. This is based on the notion that our world functions as a series of highly complex interconnected systems.²

To this end, planning and development experts are focusing on managing chronic stresses (e.g. high unemployment, water shortages) and acute shocks (e.g. earthquakes, terrorist attacks) to these systems³. In the process, they are discovering that resilience solutions often exist already within our communities in the form of K-12 schools.

This white paper focuses on leveraging and bridging K-12 institutional services and infrastructure that support resilience. Indeed, resilience opportunities abound in and beyond the classroom. As teachers train the next wave of resilient citizens, schools themselves function as community hubs with elements critical for regional resilience:

- Places for assembly
- Health care facilities
- Transportation services and infrastructure
- Law enforcement
- Social services
- Emergency communications systems
- Backup energy systems
- Energy efficiency and renewable energy infrastructure
- Property suitable for water diversion, conservation, and storage
- Agricultural land, sometimes in dense urban areas

Our K-12 schools present enormous potential to lead by example in creating and sustaining resilient communities—and a more resilient society.



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A Circular System

As educational institutions, K-12 schools are already imperative to regional resilience—but their role as such is often secondary. Elevating and formalizing K-12 institutions' role in resilience planning—while integrating resilience education into the classroom curricula—will help to mitigate risks prior to, during, and after major events.

Lessons from Higher Learning

In the February 2018 edition of NACUBO's Business Officer Magazine, several higher education institutions throughout the U.S. provided examples of their efforts to propel a systems-oriented mindset for existing and emerging threats⁴. While founded around resilience in the wake of disasters and trauma (Resilience Center Newtown CT, Resilience Center for Veterans and Families New York, to name two), the desired outcomes include enhancing a community's ability to sustain well-being regardless of the short-term crisis. As research hubs, these institutions have the power to increase momentum around people's understanding of resilience. They also serve to help others holistically view a community's future, no matter what vulnerabilities they face.

Building on this same “forward looking” view of resilience, K-12 institutions—which educate society's next leaders—provide an ideal framework for circular societal resilience.

Where K-12 Institutions Take Us

Looking at the groundbreaking work of the 100 Resilient Cities organization, and the recommendations in its *Safer and Stronger Cities – Strategies for Advocating for Federal Resilience Policy (2018)*, the foundational role K-12 institutions play in building societal resilience becomes clear. Specifically, these institutions:

- Promote safe and resilient infrastructure. This mission is accomplished by building new schools, repairing and modernizing school facilities and infrastructure, and promoting joint planning with local communities. For example, since 1999, the Los Angeles Unified School District has committed over \$27 billion in community-approved bond funding to provide new and upgraded safe and healthy learning environments.
- Support the resilience of healthy economies. A well-trained workforce is a lynchpin for national safety and resilience, and workforces start their training in the K-12 system.
- Improve public safety and justice. The nation could save \$18.5 billion if the high school male graduation rate increased by only five percentage points⁶.

Getting Students Involved

Many K-12 schools integrate resilience training programs into their curriculum. Douglas County School District in Colorado, for example, created the Resilient Me wellness program to encourage elementary students to activate sources of strength and apply them to all areas of life⁷.

While classroom education is a great foundation for community resilience, efforts only work when students observe and participate in resilience learning. K-12 institutions should incorporate resilience into both teaching and infrastructure, giving students practical knowledge about how they can help strengthen their campus and beyond.

For example, many students travel to and from school on buses. School transportation managers operate, maintain, and upgrade these fleets to mitigate risks from crashes, air and noise pollution, and breakdowns. But how many students are aware of these important efforts that create a safer, healthier environment for them and their families? Cultivating a mindset that identifies opportunities for resilience allows students, teachers, and administrators to see how beneficial buses may be in a natural disaster that requires evacuation.

Connecting classroom learning with real-life experience will also help to create resilient citizens. Administrators and teachers must buy in to the goal of resilience and receive the tools for achieving it, including a current institutionally endorsed resilience model and plan.

Leveraging Existing Assets

K-12 systems are integral to other local, regional, and state government functions. In many communities, they are hubs of everyday modern life—thereby serving as an efficient means of communicating resilience priorities, practices, and information during a crisis.

As a result, they often have the necessary framework for resilience in place, including established lines of communication and an awareness of necessary resources. More resilient communities are possible when schools are used to their full potential.

Low-Tech Solutions for High Success Rates

During a crisis, communication is everything. Communicating amid emergencies must be simple, not unpredictable, burdensome or expensive. These priorities align with the top communication objectives of K-12 institutions, according to survey findings from Motorola¹⁰:

- Create a safer and secure campus environment.
- Have “always available” communication.
- Help school personnel work more efficiently.
- Connect directly to first responders.

In many cases, low-tech solutions (e.g., low-voltage and battery powered communication systems, diesel generators, short wave radio, loudspeakers, sirens, flares, and other visual warnings) can prove more effective, especially when networks go down. In addition to the low-tech systems dedicated to emergency first responders, schools also continue to use low-tech systems for inter- and intra-campus communications, thereby disseminating information more broadly across a community during crises.

Creating Your Resilience Plan

Resilience is built on deliberate strategy. To successfully implement resilient practices for your K-12 institutions and broader community, follow these steps:

1. Audit current institutional systems and infrastructure to determine existing centers for resilience
2. Recommend how to efficiently integrate existing resources into a coherent and effective organization, possibly by breaking down internal institutional barriers

Ready to Answer the Call

In the early morning of March 19, 2018 two trains collided and derailed in Georgetown, Kentucky⁸. Nearby residents were evacuated because a substance had spilled during the crash and ignited a fire. Thankfully, the local school district had a plan in place to shelter hundreds of residents in case of an emergency. School buses were dispatched for neighborhood residents who couldn't drive, and the Red Cross was on the scene with snacks.

And in August 2017, when Hurricane Harvey threatened Port Arthur, Texas, school buses and drivers from the Port Arthur Independent School District transported hundreds of people to emergency shelters⁹.

Both incidents exemplify the value of leveraging K-12 infrastructure during emergency response situations—a smart use of resources from both logistical and economic standpoints.

3. Identify potential sources of funding for resilience initiatives and facilitate the application processes
4. Create an integrated Resilience Plan which:
 - Establishes goals and metrics for success
 - Clearly identifies what contribution each internal department must make to the established goals
 - Assigns roles and responsibilities
 - Documents policies and procedures to attain resilience across the institution
 - Defines feedback processes to ensure that the plan is integrated into curriculum and allows the institution to adapt over time
5. Identify external stakeholders with complementary resources for community resilience:
 - Develop a matrix to establish clear lines of communication and hierarchy of responsibilities between stakeholders
 - Recommend strategies to reduce redundancy and the potential for conflicting priorities, especially during a crisis
6. Recommend tools to monitor the resilience of the overall community and to ensure that all stakeholders are current with best practices from around the world.

Coming Full Circle

Assigning responsibility for resilience within K-12 Institutions and developing a unified plan will lead to a circular system of resilience across served communities.

According to the International Federation of the Red Cross and Red Crescent Societies, a safe and resilient community¹¹:

1. **Is knowledgeable and healthy.** It has the ability to assess, manage, and monitor its risks. It can learn new skills and build on past experiences.
2. **Is organized.** It has the capacity to identify problems, establish priorities, and act.
3. **Is connected.** It has relationships with external actors who provide a wider supportive environment, and supply goods and services when needed.
4. **Has infrastructure and services.** It has strong housing, transport, power, water, and sanitation systems. It has the ability to maintain, repair, and renovate them.
5. **Has economic opportunities.** It has a diverse range of employment opportunities, income, and financial services. It is flexible, resourceful, and has the capacity to accept uncertainty.
6. **Can manage its natural assets.** It recognizes their value and has the ability to protect, enhance, and maintain them.

K-12 Institutions – as stand-alone entities or in partnership with other local or regional governmental institutions – already have responsibility for managing each of these societal priorities, including the most important natural asset: students. It makes sense that we, as leaders in a civil society, support development of a circular system of resilience led by our schools.



About the Author

John has honed his leadership skills throughout his 30-plus years of strategic planning experience in challenging public-sector, retail, consulting and manufacturing arenas. John has a proven track record of leading multi-disciplinary teams in a variety of tasks ranging from: managing environmental forensics studies, ensuring CEQA/NEPA compliance, assessing risk, and conducting research in the Education sector and beyond. John is also recognized as a thought leader in his field with contributions to numerous publications and reports.

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About Harris + Associates

Harris has experience in resilience planning and implementation as well as planning and developing K-12 facilities that: are physically safe and secure; provide critical services for communities; mitigate risks to students, staff and neighbor and have building systems that are sound and efficient and which align with instructional requirements and vision. Harris helps K-12 institutions and partner agencies plan, organize, develop, document, implement, and maintain a resilience program that enhances the quality of life across communities where they operate.

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¹“SuperFund Climate Change Adaptation,” United States Environmental Protection Agency, <https://www.epa.gov/superfund/superfund-climate-change-adaptation>.

²“Resilient Cities,” The World Bank, 2017, <http://www.worldbank.org/en/topic/urbandevelopment/brief/resilient-cities-program>.

³“100 Resilient Cities,” 100 Resilient Cities, 2018, <https://www.100resilientcities.org/>.

⁴Karla Hignite, “Joining Forces,” 100 Resilient Cities, 2018, <https://businessofficermagazine.org/features/joining-forces/>.

⁵“Safer and Stronger Cities: Strategies for Advocating for Federal Resilience Policy,” 100 Resilient Cities, 2018, <http://100resilientcities.org/wp-content/uploads/2018/03/100-Resilient-Cities-Safer-and-Stronger-Cities-Final-PDF.pdf>

⁶“Resilient Me,” Douglas County School District,

<https://www.dcsdk12.org/mental-health/resilient-me>.

⁷“Saving Futures, Saving Dollars: The Impact of Education on Crime Reduction and Earnings,” Alliance for Excellent Education, 2013, <https://all4ed.org/wp-content/uploads/2013/09/SavingFutures.pdf>.

⁸Associated Press, “4 people injured after trains collide, derail in Kentucky,” USA Today, March 19, 2018, <https://www.usatoday.com/story/news/nation-now/2018/03/19/what-hell-4-people-injured-when-trains-collide-derail-kentucky/437234002/>.

⁹Cindy Long, “Public Schools Offer Shelter from the Storm,” NEA Today, September 15, 2017, <http://neatoday.org/2017/09/15/public-schools-offer-shelter-from-the-storm/>.

¹⁰“2015 Study: Communication Trends Shaping K-12 School Safety,” Motorola, 2015, <https://www.motorolasolutions.com/content/dam/msi/docs/solutions/education/2015-k-12-education-survey-white-paper.pdf>.

¹¹“Characteristics of a Safe and Resilient Community: Community Based Disaster Risk Reduction Study,” ARUP International Development, September 2011, http://www.ifrc.org/PageFiles/96986/Final_Characteristics_Report.pdf.

<http://100resilientcities.org/wp-content/uploads/2018/03/100-Resilient-Cities-Safer-and-Stronger-Cities-Final-PDF.pdf>

