



Center on
Inclusive Technology
& Education Systems

CITES Framework Field Guide Leadership



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Welcome

Welcome to the Center on Inclusive Technology & Education Systems (CITES) Framework Field Guide. The Field Guide is a practical roadmap to help districts implement the CITES Framework. The Field Guide is designed for district leaders involved with or overseeing technology in the areas of assistive technology (AT), educational technology (EdTech), or information technology (InfoTech). No matter your sphere of influence in a district, the CITES Field Guide will help you start where you are with creating inclusive technology systems.

About CITES

The CITES project, funded by the US Department of Education, Office of Special Education Programs, aims to assist school districts to create and sustain inclusive technology ecosystems that foster intentional collaboration between educational technology (EdTech), assistive technology (AT), and information technology (InfoTech) to benefit students with disabilities and all students. CITES collaborates with partners and districts to achieve three main goals:

- Build the capacity of school districts to use an evidence-based framework to develop, implement, and refine comprehensive, equitable technology ecosystems that include AT, EdTech, and InfoTech;
- Increase the knowledge of educators of how to apply principles of Universal Design for Learning (UDL) and evidence-based practices to maximize integrated use of technology throughout instruction; and
- Support more effective and inclusive implementation of AT, EdTech, and InfoTech for the benefit of all students, including students with disabilities and their families.

About the CITES Framework

CITES uses an iterative, design-thinking process to create the Framework over the course of the project (2018 - 2023). The CITES Framework is based on current research and understanding gained from the project's [Knowledge Development Districts](#). Knowledge Development Districts serve as an exemplar in one or more areas of inclusive technology implementation.

CITES tests and refines the Framework practices in collaboration and co-development with Framework Development Districts. The [Framework Development Districts](#) made a long-term commitment with CITES to try out evidence-based practices and provide cyclical feedback on what works to build an inclusive technology ecosystem. What is learned together informs the development of the CITES Framework.

Who should use the CITES Field Guide?

- District and Building Administrators
- Assistive Technology Leads
- Directors of Education Technology
- Directors of Teaching and Learning (Curriculum)
- Chief Information Technology Officers
- Anyone interested in learning more about inclusive technology systems

How to Use the Field Guide

The CITES Framework Field Guide offers a systematic process of creating and sustaining an inclusive technology ecosystem.

The CITES Framework practices can be approached as a step-by-step process or as a “just-in-time” resource that focuses on specific areas most needed in the district. Each Framework practice offers a video training tutorial and a comprehensive self-assessment and goal-setting tool. CITES has incorporated district case stories and vignettes, resources, and research to support the district’s journey toward a more inclusive, collaborative technology ecosystem.


Check out the CITES “**Five Things**” **article series** about what EdTech, AssistiveTech, and District Leaders need to know about inclusive technology systems.

Find it on the UDL Center Blog. medium.com/udl-center

The following are **foundational questions** to contemplate before beginning the process:

- Does the district have a commitment to diversity, equity, and inclusion?
- Does the district have a technology plan, or is it considering developing a technology plan? Is the district ready and committed to that plan reflecting an inclusive technology system?
- Is the district able to create a collaborative leadership team? Is the leadership team empowered to make administrative decisions? The key to “making it happen” instead of “letting it happen” includes accountability for developing the support systems, resolving issues that arise, and monitoring and achieving positive results.

Reflect on the foundational questions.



CITES Framework

The CITES Framework is being developed in phases. The current version of the Framework Field Guide begins with leadership. Why start with leadership? Leadership is one of the most critical determinants of the success of creating an inclusive technology ecosystem. Leaders set the tone, create the culture, and can motivate internal and external stakeholders to move toward a vision of inclusion. The CITES leadership practices promote the development of a balanced and inclusive technology infrastructure that examines AT, EdTech, and InfoTech as part of a technology ecosystem.

CITES leadership practices include:

- [Create a community-wide vision and aligned goals](#)
- [Develop a strategic technology implementation plan.](#)
- [Measure progress for continuous improvement.](#)
- [Develop clear outcomes for professional learning.](#)
- [Take ownership of infrastructure development](#)

Learn more by watching the Leadership Overview video on the Leadership Overview section of the CITES website. cites.cast.org/leadership/intro-leadership-netp

Create a Community-Wide Vision and Aligned Goals

An essential role of leadership in education is to work with staff, students, families, and the community to create a vision for a system that helps students reach their potential. One way to move toward the inclusive technology vision we are discussing is to build a team that includes people who offer a variety of perspectives. There are internal stakeholders involved with technology, such as educational or instructional coordinators, assistive technology coordinators, and those who work in information technology. And general and special education teachers, parents, and students can also offer important perspectives on inclusive technology. Finally, don't forget about external stakeholders—business leaders, community nonprofits, and agencies—including the wider community ensure that everyone is working towards a vision they can support.

List the members of your **technology leadership team** and the roles they play. Who else might need to be included and why? Who are the **external stakeholders** to include?

Family Engagement

Students and families are at the center of any technology initiative. Leaders establish opportunities for families to be co-creators of technology programs and services so that all students can participate in and benefit from the technology ecosystem. Involving parents and caregivers in opportunities to learn about AT and EdTech empowers them as critical parts of teaching and learning. Leaders establish opportunities to obtain feedback regarding the extent to which families feel engaged and use this feedback to improve communication and participation.

How an Inclusive Technology Ecosystem Supported the Shift to Remote Learning

Tomball (TX) Independent School District (TISD) recognized the need for an inclusive technology ecosystem long before the COVID-19 crisis. It brought together leadership and staff from EdTech, InfoTech, AT to collaboratively plan for technology to meet the needs of all students. Although the team acknowledged the challenges of responding to school-building closures during the COVID-19 pandemic and identified areas for improvement, it credited the leadership practices implemented as instrumental in supporting the district's transition to remote learning.

[Read TISD's full case story](#)



Learn more by watching the **Creating a Community-Wide Vision and Aligned Goals** video on the CITES website. cites.cast.org/leadership/create-vision-goals

Actions that lead to a shared vision and aligned goals include:

- Engage a leadership team of internal and external stakeholders.
- Create a shared vision and identify goals that align with the vision of a balanced and inclusive technology ecosystem.
- Communicate the shared vision and goals in ways that promote a positive learning climate and culture, foster collaborative relationships, and model accessible and inclusive technology practices.

Poway Unified's Story

Poway Unified School District serves approximately 36,500 students in San Diego, California. During the 2017-2018 academic year, the district developed a 3-year strategic plan for technology based on the Future Ready Framework. In order to build a community-wide vision and shared goals for technology, district leaders knew that they would need early and meaningful engagement with stakeholders to create opportunities for improved collaboration, both internally and externally. Early in the development of the plan, the leadership team invited stakeholders from across the district to participate in the planning process. A total of 55 district stakeholders were engaged, including teachers, parents, students, community members, and school board members. Through multiple meetings with stakeholders over the course of approximately six months, the district planning team was able to build a vision for technology that reflected the goals of the community.



This shared vision and a culture of collaboration further supported Poway as they moved from planning to the implementation of technology initiatives and programs.

Regular meetings between district-level leaders from information technology, assistive technology (AT), and the Technology and Innovation department (EdTech), ensure that staff collaborates to address challenges specific to the use of assistive technology, as well as other technologies that support

the needs of students with disabilities. The three departments working together have streamlined technology integration and improved efficiency in the delivery of support for teachers and students. Prior to this collaborative shift, many existing technology tools and supports were underutilized, and AT staff were frequently inundated with requests for support with technology tools. Working from a shared commitment to equitable learning opportunities for every student, the three departments collaborate to identify existing resources that provide needed supports and to provide training for teachers on the accessible technology supports available in the classroom.

Develop a Strategic Technology Implementation Plan

A strategic technology implementation plan is the mechanism to shift practice toward a more inclusive technology ecosystem. A district's strategic technology plan is a roadmap that establishes goals, objectives, and actions for synergizing the work of AT, EdTech, and InfoTech teams while assuring that each entity fulfills its primary duties.

Leaders foster a team of internal and external stakeholders involved in all areas of plan development. This includes technology funding, device and materials selection and acquisition, classroom technology integration, maintenance of technology, and ongoing evaluation of effectiveness. A strategic plan to establish an equitable, balanced, and inclusive technology ecosystem creates intentional connections across internal departments and emphasizes community and family engagement.

Key planning questions to consider are:

- How does your technology plan explain how AT, EdTech, and InfoTech departments work together?
- Does your district technology plan's budget reflect an inclusive system?
- What improvements could be addressed through the budget?

Notes on key planning questions:

Learn more by watching the Develop a Strategic Technology Implementation Plan video on the CITES website. cites.cast.org/leadership/develop--strategic-technology-implementation-plan

Actions that lead to a strategic technology implementation plan include:

- Create a comprehensive technology plan in which AT, EdTech, and InfoTech are balanced throughout the plan.
- Create goals, benchmarks, timelines, and responsibilities that move toward achieving the vision of an inclusive technology ecosystem.
- Communicate all aspects of the technology plan to key stakeholders across the district, including families and the community.

Terminology

The terminology regarding technology can be confusing and overwhelming. Some terms such as “accessible” have different meanings across district departments and in the general public. Therefore, it is imperative when developing a technology plan to try to come to a common understanding of the terms used. The technology vocabulary has a significant impact on the plan for moving toward an inclusive technology system. This common understanding may be achieved in formal ways, such as the development of a districtwide glossary, or in informal ways, such as consistent usage of terms.

At CITES we define the three overarching categories of technology the following ways:

- **Instructional technology** or **educational technology** is the use of technologies, such as devices, computers, and software applications, that help facilitate learning. CITES uses EdTech as a comprehensive term for learning technologies
- **Informational technology**—which we call InfoTech—is an overarching category of technology, also called information and communication technology or infrastructure technology, that encompasses the components of computers, networking hardware, and software that provides the backbone to deliver educational technology.
- **Assistive technology**, also called AT, is technology used by an individual with a disability to help increase, improve, or maintain their functional capabilities. The definitions of assistive technology devices and assistive technology services are codified in several federal statutes, including the Individuals with Disabilities Education Act (IDEA).



Intermediate District 287's Story

Intermediate District 287 serves 11 member districts in the West Metro area of Minneapolis, providing unique programming to meet the needs of students with disabilities. "Accessible from the start," serves as a guiding principle for District 287 and is a critical element of their strategic planning for technology. Rather than a strategic plan that is developed, but rarely referred to, their plan drives every aspect of their work from budget decisions to communications with the community to agendas for staff meetings.

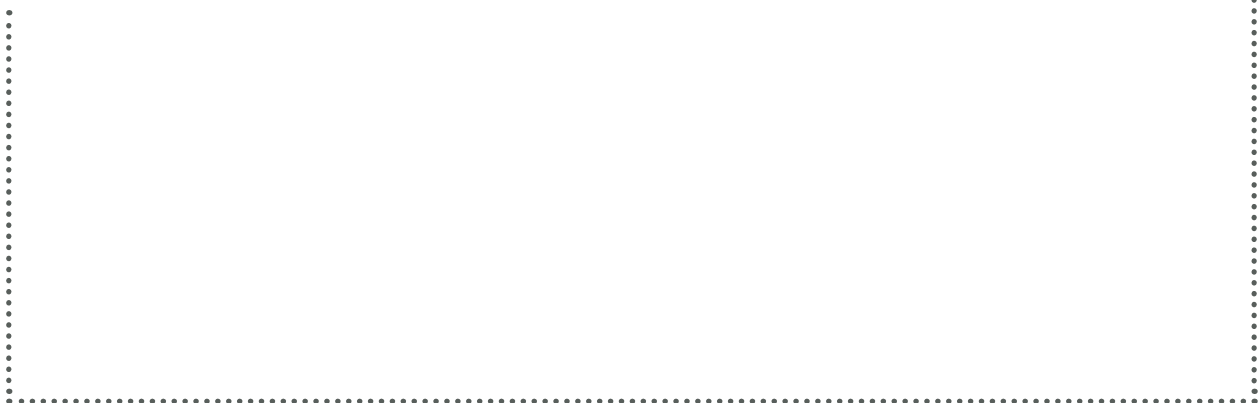
In practice, this means that Intermediate District 287 takes explicit steps to both implement their strategic plan and to ensure that resources are allocated to support it. For example, during each budget cycle, decisions about the budget are conducted through the lens of the identified strategic priorities. Budgetary requests from the superintendent are directly aligned and support the strategic plan. This process is mirrored in staff and team meetings throughout the district. For example, agenda items and discussions are organized around strategic priorities reflected in communications with the community. The District credits their success in creating a shared community-wide vision for technology and a culture of sustainability with their adherence to a well-developed strategic plan.

Measure Progress for Continuous Improvement

Measuring the impact of a balanced and inclusive technology plan is critical to ensuring equitable learning opportunities for all students, including those with disabilities. District leaders collect, analyze, and use data gathered across a system as part of a continuous improvement cycle. Ongoing data-collection activities enable leaders to shift and realign implementation strategies and resources to better support teaching and learning.

Though every technology plan is different and evaluation is conducted for different purposes, most evaluations will generally follow the same basic steps that lead to using the results to make improvements to programs. One basic step is to be clear on the questions the district is trying to answer. A **logic model** is a helpful graphic representation of what you hope to accomplish, showing relationships among project goals, activities, outputs, and outcomes. Creating a simple logic model can serve as a starting point and help focus the questions, which in turn will lead to clarifying what data will be needed to measure the effectiveness of the technology project's implementation and outcomes.

Reflect on the **district data collected about AT, EdTech, and InfoTech**. What actions can be taken based on the data analysis?



Learn more by watching the **Measure Progress for Continuous Improvement** video on the CITES website. cites.cast.org/leadership/measure-progress-continuous-improvement

Actions that lead to measuring progress for continuous improvement include:

- Create a data collection plan that is robust and aligned to the district's goals and timelines
- Analyze the data to determine equitable technology access and use for all students.
- Take actions based on the data to ensure that all student populations have the opportunity to participate and benefit from technology for learning.
- Communicate the results of data collection and analysis through effective mechanisms for sharing results and progress.

Tomball ISD's Story

Tomball Independent School District serves approximately 18,000 students in Tomball, Texas. The district has grown rapidly in recent years, with shifts in district demographics and student needs. To address changing student needs, the district's vision focuses on technology tools with built-in accessibility features that can benefit students throughout the district, in both general and special education.



The district's technology implementation plan began as a pilot study when a review of data found that students who were not currently identified with an IEP or a 504 plan were struggling and had limited access to resources that could support them. The AT department put together a proposal for a joint project that brings together general education, special education, instructional technology, related services and ESL teachers to conduct a needs assessment and identify primary barriers from multiple perspectives. Data collected during the pilot demonstrated improved outcomes and increased student access, so the team moved forward with district-wide implementation the following year. Goals and related data points were identified within the district strategic plan and plans for each school building to ensure that training was embedded in the professional development schedule, as well as in parent meetings, open house and personalized trainings. Data collection included requests for support, tool usage by campus, number of trainings, relationship between integration and hours of PD received, and student outcomes by tool usage. Throughout the process, the district used data to drive improvement to the implementation. Initial barriers identified during the pilot study were addressed during full implementation; data collected during full implementation were then used to identify additional needs to provide scaffolding for students.

Develop Clear Outcomes for Professional Learning

Leaders develop clear outcomes for professional learning aligned with their vision. Well-chosen professional learning opportunities enable leaders to cultivate a culture of equitable, inclusive, and accessible teaching and learning. By establishing and communicating clear outcomes for professional learning, leaders can support a vision of learning for each and every student by honoring each and every adult learner.

It starts with clarity. Learning is strengthened when there is clarity about expectations and outcomes. Developing a professional learning plan that clearly establishes expectations around the use of not just technology, but inclusive technology (including AT!) can reinforce inclusive pedagogy. Clearly establishing and communicating these expectations has a powerful impact.

Professional learning can model equity by offering a range of just-in-time, job-embedded activities that empower educators to be fluent users of both AT and EdTech. Once fluent, educators can grow into creative and collaborative problem solvers who are able to work together to address the opportunities and challenges encountered during teaching and learning. Differentiated learning opportunities equip all stakeholders with the knowledge and skills needed to fulfill their technology-related roles and responsibilities.

Key questions to consider to develop **clear outcomes for professional learning** in an inclusive technology ecosystem are:

- Does professional learning in the district support implementation AT, EdTech, and InfoTech to improve student learning?
- Do district AT, EdTech, and InfoTech departments collaborate and communicate well?

How District Leaders Enhance Staff Capacity to Build an Inclusive Technology Ecosystem That Improves Outcomes For Every Learner

Bartholomew Consolidated School Corporation (BCSC), in Columbus, Indiana, has developed and implemented a technology plan that supports a vision of deeper learning for all students. In order to create an inclusive ecosystem that brings together EdTech, InfoTech and AT, the leadership team in BCSC has focused on providing ongoing coaching and support to help all teachers understand and implement the wide range of assistive and accessible technology supports available to them. They also aim to deepen teachers' understanding of how AT and EdTech can support the UDL framework, which is their guiding principle for instruction.



[**Read BCSC's full case story**](#)

Learn more by watching the Develop Clear Outcomes for Professional Learning video on the CITES website. cites.cast.org/leadership/develop-professional-learning-outcomes

Actions that lead to the development of clear outcomes for professional learning include:

- Prioritize professional learning support for an inclusive technology ecosystem.
- Build capacity through varied and collaborative learning opportunities.

Bellevue's Story

Bellevue Public Schools is a suburban district south of Omaha, Nebraska serving approximately 10,000 students. The seeds for the district's technology vision and planning were planted years ago with a goal of moving towards a 1:1 model district-wide that is now moving forward with this vision as part of a 5-year strategic plan. Before initiating their implementation efforts, the district leadership team conducted considerable research on which technology tools would be best for both students and staff. They recognized that their technology implementation efforts that focused on "handing out devices" would not succeed and focused on planning for innovative use, sustainability, and ongoing professional development and training.



To support the 1:1 initiative, the district's professional development model includes six full days of training on blended learning with technology; ongoing classroom-based coaching; and built-in collaboration time for teachers to work together to share ideas, experiences, challenges and successes. The Bellevue team noted that a critical part of their success has been a focus on sustainability and continuous improvement. Building capacity and growing teacher leaders is a primary goal of all professional development in the district. These teacher leaders work to keep the vision going even in the event of staffing changes and turnover. Bellevue places an emphasis on continuous training and coaching for all teachers. The readers recommend that other districts recognize that this is an attainable process that requires a "go slow to go fast" approach and that it requires time in planning and implementing.

Take Ownership of Infrastructure Development

A comprehensive technology infrastructure supports learning wherever and whenever it takes place. In a balanced, inclusive technology ecosystem, powerful learning devices and high-quality digital learning materials are available and usable by the broadest range of learners possible. These considerations include the interoperability of AT and EdTech. It takes a collective commitment by leaders to ensure the accessibility of learning materials and technologies


Ensuring that purchased technologies, resources, and educational materials are widely usable and accessible to all is a critical part of infrastructure development. Creating policies that include accessibility standards, specifically [Section 508 of the Rehabilitation Act](#), help establish critical standards for the adoption of technologies and content. Web designers, developers, and publishers can use the [Web Content Accessibility Guidelines](#), also referred to as WCAG, to ensure the content being created meets the federal specifications laid out in Section 508. Ensuring all procured items meet or exceed these guidelines is a great start at developing an inclusive technology infrastructure.

District policies can enhance the procurement process by offering guidance on procuring high-quality digital learning content that meets accessibility criteria and for testing accessible content for its compatibility with AT used in the district. Developing and implementing these policies as part of an infrastructure process can support the development of inclusive technology infrastructure. Ideally, leaders will share decision-making authority, as accessibility and interoperability decisions permeate across all areas of infrastructure, from funding to classroom use.

Key questions to consider about **infrastructure** are:

- Is there a shared responsibility for creating an inclusive technology ecosystem?
- Are the roles and responsibilities regarding AT, accessibility, and technology procurement well defined?
- How do all the key stakeholders give input and participate in decision making regarding technology infrastructure?

Notes on key infrastructure questions:



Learn more by watching the Take Ownership of Infrastructure Development video on the CITES website. cites.cast.org/leadership/infrastructure-development

Actions that lead to a shared ownership of infrastructure development include:

- Define ownership of the district technology plan.
- Develop technology procurement policies that include interoperability and accessibility considerations.

Bethlehem's Story

Bethlehem Central School District is a suburban district of approximately 5,000 students in Delmar, New York. The district has worked collaboratively to implement a vision for technology that ensures that all voices are involved in planning as part of building an inclusive AT and EdTech infrastructure supported by information technology. The district recognized that effective technology implementation to support the needs of all students requires a strong technology infrastructure of hardware, software, and broadband capacity. Working to “de-silo” departments and created shared ownership for technology infrastructure has been a critical part of building a successful and sustainable technology ecosystem in the district.



This culture change did not happen overnight—the expectation for collaboration has taken considerable time and dedication to build. For example, the district created a network technician position within the special education department. The establishment of this role allowed the district to (1) build internal capacity to support specialized hardware and software needs of teachers and students and (2) ensure that the information technology team understood both the working of the technology systems and how best to meet the needs of special education students. The involvement of both voices in infrastructure planning has helped the district avoid unintended consequences in policy and system changes that may impact the customized setups for individual students and their AT supports.

Summary

AT, EdTech and InfoTech are here to stay. While all of them fill increasingly important roles in the landscape of education, COVID-19 demonstrated significant inequities of technology availability and accessibility for students with disabilities. The “siloes” nature of AT, EdTech and InfoTech departments, in far too many cases, contributed to disproportionate impacts of the pandemic on students with disabilities and their families. CITES partner districts and other model districts, however, demonstrated that they can better respond to uncertainty when their leaders focus on inclusive technology systems that collaborate and coordinate across AT, EdTech, and InfoTech.



The time is now to transform our educational technology systems. District technology leaders, in collaboration with families and the community, can increase the inclusive use of technology to enable and improve learning at all levels, in all places and for students of all backgrounds. The CITES Framework offers a “how to guide” to build district capacity to create inclusive technology systems that ultimately support a district’s vision of diversity, equity, and inclusion.

Appendix

CITES Self-Assessment for District Leaders

The purpose of the CITES Self-Assessment and Goal Setting tool is to enable districts to collect data as part of a continuous improvement process. Baseline data established by the self-assessment can be used to inform district goals and to measure progress toward reaching those goals.

[Print the Self-Assessment All-in-One Guide \(PDF\)](#)

Alternative versions:

- [Self-Assessment Tool All-in-One \(MS Word\)](#)
- [Self-Assessment Tool All-in-One \(Google Doc\)](#)

Logic Model Template

Goals	Inputs	Outputs		Outcomes		
		Activities	Participants	Short	Medium	Long
Goal 1						
Goal 3						
Goal 3						
		Process Measures:		Outcome Measures:		

Resources

[4 Ways That Leadership Teams Create Conditions for Success in Schools](#) (Bill & Melinda Gates Foundation)

[Are Your Technology Initiatives Working?](#) (AIR/Center on Technology and Disability)

[Building on a Firm Foundation: Supporting Students with More Intensive Support Needs in UDL Environments](#) (AEM Center at CAST)

[Creating a Cycle of Continuous Improvement Through Instructional Rounds \(National Council of Professors of Educational Administration \(NCPEA\)\)](#)

[Communicating Digital Accessibility Requirements \(CAST/National AEM Center\)](#)

[Digital Accessibility Toolkit: What Education Leaders Need to Know \(AIR/Center on Technology and Disability\)](#)

[Effective Teacher Professional Development \(Learning Policy Institute\)](#)

[Empowered Superintendents Toolkit \(Consortium for School Networking \(CoSN\)\)](#)

[Exploratory Research on Designing Online Communities \(Office of EdTech, US Dept of Education\)](#)

[Facilitating Technology Implementation: Strategic Planning for AT Specialists and Administrators \(PowerUp What Works\)](#)

[Future Ready District Technology Assessment \(Future Ready Schools\)](#)

[Guide to EdTech Procurement \(Digital Learning Now!\)](#)

[Meaningful Local Engagement Under ESSA: A Handbook for LEA and School Leaders \(Council of Chief State School Officers \(CCSSO\) and Partners for Each and Every Child\)](#)

[Research, Technology, & Students With Disabilities: Assessing Progress of Your Technology Initiatives Guide for State and Local Education Leaders \(AIR/Center on Technology and Disability\)](#)

[Power Up Your Professional Development \(PowerUp What Works, AIR\)](#)

[So You Think You Want to Innovate? Emerging Lessons and a New Tool for State and District Leaders Working to Build a Culture of Innovation \(2Revolutions and The Learning Accelerator\)](#)

[Strategies for Implementing Personalized Learning While Evidence and Resources Are Underdeveloped \(RAND Corporation\)](#)

[Vetting for Accessibility \(CAST/National AEM Center\)](#)

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