

Upgrading

NEW MEXICO HIGH SCHOOL PERFORMING ARTS FACILITIES

The Unseen Needs Behind the Curtains

Duane Smith Auditorium in Los Alamos High School

**A Proposal
to
New Mexico's
Legislative Education Study Committee,
Legislative Finance Committee,
& Public School Capital Outlay Oversight Task Force**

September 25, 2024

Prepared by
New Mexico High School Musical Theatre Awards



Aztec High School



Lovington High School

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Executive Summary

- High school performing arts spaces in New Mexico are in constant use by high school performing arts classes; elementary, middle, and high school performing groups; other high school departments; teacher meetings and training; and for important community events.
- These facilities are often inadequate as academic and performance spaces because they lack simple attendant facilities such as dressing rooms, scene shops, costume shops, and more.
- They are very often outfitted with outdated lighting, sound, and other equipment.
- This proposal would allocate \$20 million from the public school capital outlay fund to improve New Mexico's public and charter high school performing arts facilities.
- Benefits include greater student engagement among performing arts students, better academic facilities for them (especially those training in technical theater), and greater likelihood of further academic and/or professional success after high school.
- Upgrades would bring school facilities and their equipment into the 21st century.
- The proposal includes photos from several schools to serve as examples of the issues most high schools currently face.
- Explanations are included about how some of the changes would benefit students in specific ways, including for career options and further academic success.
- A schedule of sample costs is included to outline the range of expenses that could be covered by this allocation.
- Important considerations include the significant number of students affected; the affect on careers and further education; collecting data to determine the results of this fund on student engagement; and considering this as a first step in the long-term goal of providing full funding for high school performing arts programs, facilities, and equipment maintenance.



Farmington High School students perform *Grease* on their stage while their technical team runs lights and sound. The theatre was renovated in 2018. The theatre's house occupies a former auxiliary gym. Architectural remnants of the gym not ideal for performing arts— high ceilings, box-like shape, flat floor in the seating area — are still evident in the space.



Computer technology becomes outdated every 3-5 years, according to experts. By this metric, the electronic equipment installed in the Atrisco Heritage Academy High School Performing Arts Center (above) in 2008 when the school opened, and which is still in use, is thrice overdue for replacement. As nice as the theater looks, it was built without a scene shop or costume shop. It has no paint sink. It is an incomplete facility. Their only power tools were supplied by the drama teacher. That means students have no proper space or equipment in which to build the physical elements of their shows. This facility, like so many across New Mexico, needs upgrades to its spaces and its equipment to fully serve its performing arts students and community.

Proposal

Allocate \$20 million from the public school capital outlay fund to upgrade performing arts facilities and equipment in New Mexico's public and charter high schools.

The fund could be made available for:

- Stages, theaters, and auditoriums to supply soft goods, rigging, and any small structural changes to accommodate technical upgrades;
- Support facilities such as rehearsal rooms, scene shops, dressing rooms, or similar spaces;
- Equipment updates to bring devices — light boards, sound boards, lighting equipment, sound equipment, projectors or video walls, etc. — up to current standards;
- Tools; equipment; pre-built set stock — stairs, platforms, wagons, doors, and windows — or materials for basic set stock, to give schools the essentials for theatrical and related productions;
- Other theater/performing arts-related needs identified by individual schools.

Why This Proposal?

High school auditoriums in New Mexico serve as theaters, concert halls, assemblages, rehearsal rooms, technical theater laboratories, dance recital halls, classrooms, community gathering sites, town halls, and — in some cases — churches. They may serve students from the time they are kindergartners through their last days as high school seniors, even hosting graduation ceremonies. Many students will perform in our high school theaters as elementary, middle, and high school students, singing, dancing, acting, playing musical instruments, orating, and debating.

Those high school spaces are far too often ill-equipped, outdated, and incomplete facilities, in particular for the many performances they host. That is also true for those spaces as classrooms, rehearsal rooms, and technical theater or performance laboratories. These sub-par facilities hamper the classes and performances they are intended to host. When we also understand that drama programs provide training for students interested in working in the state's booming film industry, those shortcomings become even more problematic.

This proposal aims to amend as many of those problems as possible.



Supporting Students, Schools & Communities

When we build a high school gymnasium, we also build locker rooms, equipment storage, HVAC, bleachers, restrooms, and other attendant facilities. The school's students see all these facilities as the school's support for sports-related activities, which keep athletically-inclined students engaged and active in the school. Approximately 55% of high school students participate in sports. The other 45% do not.

Performing arts students see the shortcomings of theater facilities, and determine that adults do not care about what they consider important, what keeps them coming to school every day. In spite of reams of data that tell us that the performing arts are just as important as athletics for keeping students in school, performing arts facilities in New Mexico are consistently ill-equipped and poorly maintained, even while performing arts students make up a significant portion of the 45% of high school students not engaged by athletics.

Many schools do not provide a full complement of facilities and equipment to suit the educational and co-curricular needs of their student performers and technicians. Marshall Middle School Auditorium in Clovis, used for high school, community, and touring shows, has no dressing rooms. Mayfield High School has only four makeup stations in each of their two dressing rooms with no private changing spaces or bathrooms, so they use the public restrooms as cast bathrooms and changing rooms. Several high schools, including Organ Mountain High School, Aztec High School, and Atrisco Heritage Academy High School, have no scene, prop, or costume shops or storage facilities. How can a drama teacher offer a proper curriculum in technical theater with no scene shop? How can we expect any performers — high school and others — to perform in theaters that offer no dressing room space?

In some cases, a bit of indirect funding could help performing arts programs. Both Roswell High School and Los Lunas High School have reported that their stages are used by the school for storage. Funding for more storage space at the school might be one of the best solutions for those schools, though not all money should be directed for indirect solutions, and if alternative funding for those issues could be identified, that would be a better solution.

The number of students affected by this fund would be significant. Consider this: drama teachers responding to a survey² indicated that their programs affected more students than played on any of their schools' football teams. The number in drama was often double the number of varsity football players. When you add in all students who perform in musical programs — band, orchestra, chorus, jazz ensemble, show choir, etc. — the number of students affected by the poor condition of their performing arts facilities, attendant spaces, and equipment (or lack thereof) becomes extraordinary to consider for each high school in the state.

This fund can help our state's high schools provide appropriate teaching spaces and basic amenities.



Supporting Student Career & Academic Goals

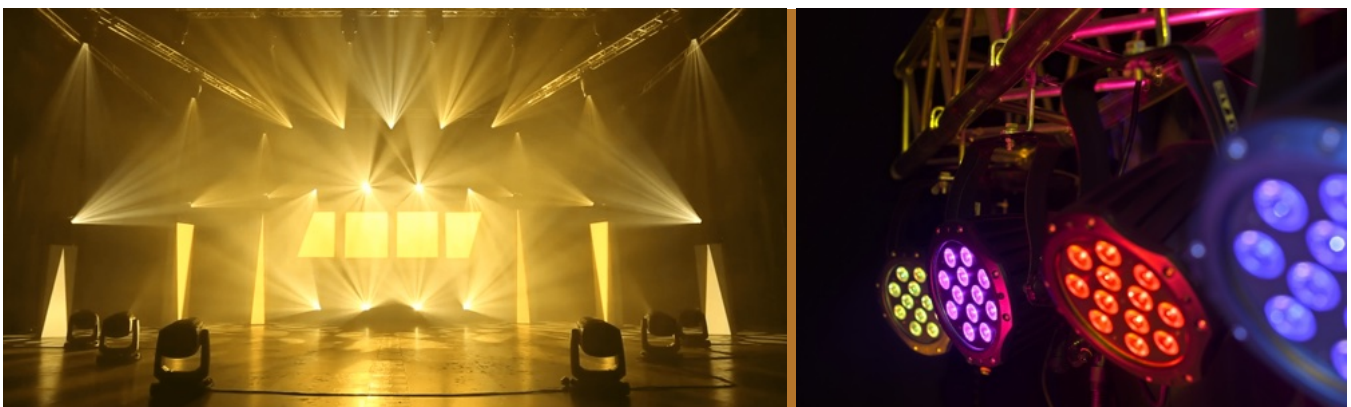
Setting aside \$20 million from the public school capital outlay fund for performing arts facility and equipment upgrades would bring our schools into the 21st century and offer students real-world experience in the entertainment industry.

- It would allow students interested in a career in theater, the music industry, or film (many theater skills cross over into film; see appendix below) to have the knowledge and experience that comes from working with current technology.
- Students going on to post-secondary education would no longer start behind their college classmates because their high school equipment was outdated, broken, nonfunctional, or nonexistent.
- Technical theater students can go on to jobs running audio/visual equipment for schools, colleges, businesses, and governmental entities.

Reported State of High School Facilities

In another survey³ of high school drama teachers, who use and most often manage and maintain their school's theaters, we found a very long list of needs for upgrades and repair or replacement of current equipment and facilities. In too many cases, the schools did not have appropriate facilities for 21st Century performing arts instruction, especially for technical theater students.

For example, teaching students about lighting controls on an analog board or for analog instruments is pointless: lighting equipment in collegiate and professional (film, concert, and theatrical) circumstances are digital. Students should know how to program a light board to make it and the instruments it controls fully functional. There are even jobs in the industry for board programmers. None of that can be accomplished on an analog board.



Intelligent or automated lights (left) move, alter light beams from narrow to broad, change focus, add shadows or patterns to the light, or do all of that at once, either immediately or slowly, depending on how they are programmed. They also require specific cabling that carries a digital signal to the lights from the light board. LED stage lights (right), while stationary, can replace three or more incandescent fixtures. Each can be programmed to change color on cue, again as quickly or as slowly as is needed for the performance.

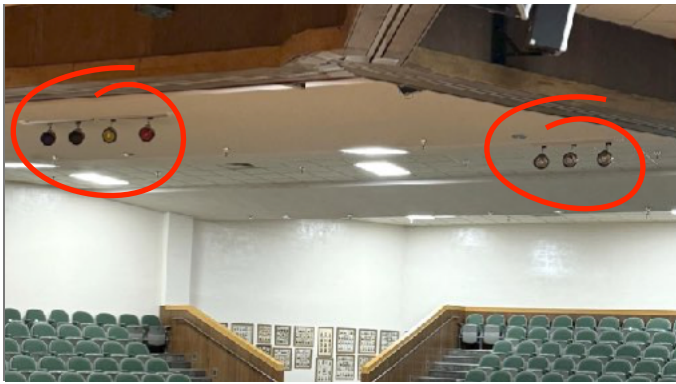
Summary of Survey Results

Teachers report that their facilities need:

- Digital light and/or sound boards, an industry standard in theatre and film, to replace analog equipment; and Intelligent and LED lights — standard equipment in theatre and film — that can only be fully operated with digital boards;
- New microphones and speakers to improve live audio and to allow students to work with industry-standard equipment;
- Dedicated shop space to allow schools to build and store sets, costumes, and props;
- New stage curtains and other soft goods to replace those damaged by wear and tear or dry-rot;
- Dressing room facilities — some schools have none, others need upgrades;
- Repairs to or replacement of dangerously damaged stage floors;
- Proper tools, basic but costly set stock (stair units, platforms, casters, doors, windows), and safety equipment;
 - * A significant number of theaters have no scene shop in which to build their set pieces, making pre-built, paintable set stock a viable option for them;
- Computers for design labs (scenic, lighting, and costuming) and video and audio editing, with appropriate software;
- Rehearsal space for the drama program which would free up more time on the stage for all performing groups;
- An array of repairs to their facilities to fix leaks, broken seats, inoperable exhaust vents, electrical circuits damaged by lightning, nonfunctional microphone jacks in the stage floor, and much more.



The 20-year-old light board in Santa Teresa High School (left) cannot offer students a relevant education in lighting technology. The digital light board (right) meets current industry standards for controlling moving instruments, and instruments that change color and light patterns. Digital boards can be programmed to handle nearly an unlimited number of cues. Current theatrical shows can have well over 100 cues in each act requiring multiple full shifts of lighting within seconds, something that cannot be accomplished on an analog board.



Lighting in Texico High School is nearly non-existent. Their stage lights are track lights in the ceiling (circled, left) with art gallery-style dimmer switches to control them (right).

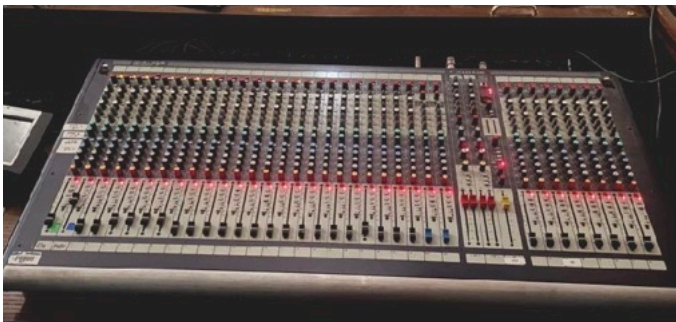


A Note on Audio

In 2017, the FCC auctioned off a portion of the radio spectrum that had been used by theater companies for their wireless microphones. The microphones send a signal from the performer to a wireless receiver using radio waves. The FCC reallocated a smaller slice of the broadband radio spectrum to those theaters, including high schools.

Any high school with microphones that operated in the bandwidth that the FCC auctioned off had until July 2020 to replace that equipment, which could easily cost \$10,000 to \$20,000 or more. But in 2020, COVID shut down live theater in our schools. As the schools reopened well after the July 2020 deadline, they found that their wireless microphones no longer functioned and they did not have the budget to replace them. We are still finding schools facing this issue and a big bill to replace their equipment.

Where it used to be possible for a show to use up to 25 wireless microphones, now most shows use 12-15 to avoid interference from others using the broadband spectrum — fast food drive through windows, taxis, emergency responders — including other microphones in the show. Wireless microphone companies are engineering new devices that make it possible for more devices to use the same spectrum, but those devices are expensive.



The analog sound board (left) was installed in 2007 in Volcano Vista High School when the school opened. It may have been purchased used, according to the drama teacher. That means it is older than any freshman entering the drama program this year and possibly older than any senior. It also means those students cannot store sound settings to use again for similar cues, nor sit in a variety of seats in the house to hear the sound like a patron and adjust the sound board remotely from an iPad like you can with the digital board (right).

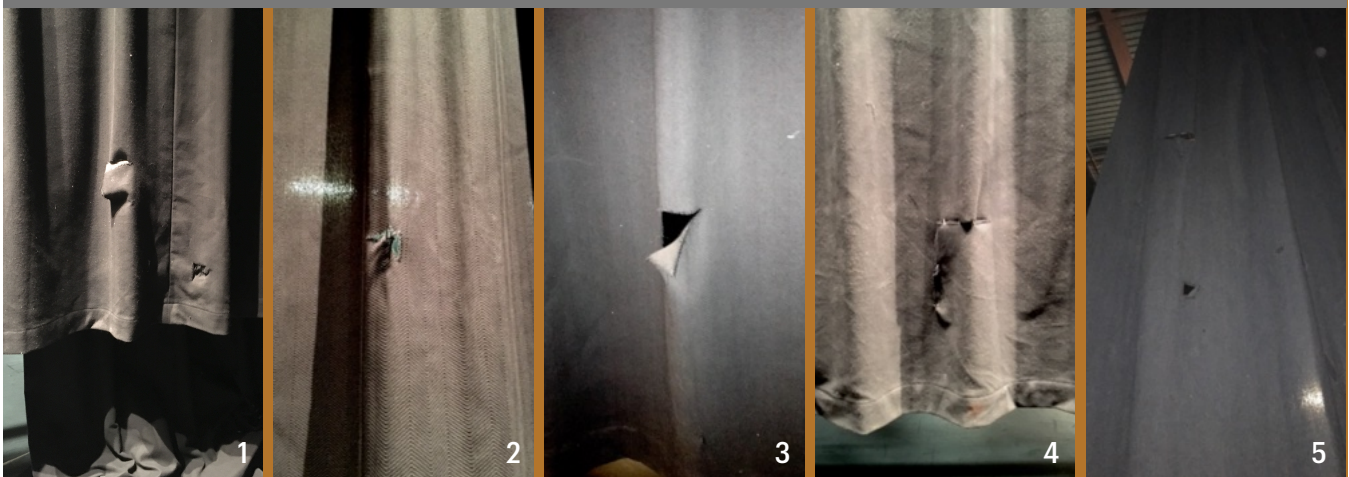
Curtains and Soft Goods



A cyclorama (cyc) provides a great surface for lighting designers and projection artists to create backdrops for theater, ranging from the abstract, like the design used for the 2023 Enchantment Awards (left), to realistic sunsets or night skies. To work, cycs must be stretched tight with an unmarred surface to avoid having rips, seams, or patches inadvertently appear in any of those scenes created with light. The damaged cyc (right) on the Las Cruces High School stage no longer stays taut and has spots of paint on it (inset). Those two problems insert wrinkles and dark patches in any sunsets created with lighting and distort any projected images.

The splashes of paint likely happened because the scene shop at Las Cruces High is not big enough to let students assemble and paint full sets in it. That leaves the stage as the only space big enough in which to paint a set, which can be hazardous to cycs and curtains. Many high school theaters in the state do not have a cyc, even though it is one of the most useful elements in theater. Having a cyc gives budding lighting designers a great canvas on which to work.

Curtains on stages all over the state are in disrepair. These, from Piedra Vista High School, are representative. Many have holes. Many more are threadbare. You are not supposed to see light coming through them as you can in pictures 2 and 5.



Sample Costs

Item	Cost estimates	Considerations
Digital light board	\$ 16,500	ETC Ion XE 20 with 2 monitors
Standard LED lighting package	\$ 183,600	8 intelligent lights, 16 Source IVs, 40 Source Pars, 10 cyc strips
Electrical upgrades, required cables	\$ 36,700	Dimmer upgrades, data splitters, required cables
Digital sound board	\$ 15,000	48-channel with I/O wall boxes, Dante cards, 10" touch portable screen
Speaker package	\$ 65,000	Line array with subwoofers, 5 stage monitors
Microphone package	\$ 72,000	19 headset mics, 5 handheld, antenna systems, rechargeable batteries & chargers
Scene shop (separate building)	\$ 29,790	30' x 30' metal building, 20' ceiling, shell only, shipped to the school. Construction and all related costs not included and will vary depending on the site chosen for it.
Scene shop (renovated space)	\$ 225,000	30' x 30' renovated space, 20' ceiling
Costume shop (separate building)	\$ 19,695	20' x 20' metal building, 12' ceiling, shell only, shipped to the school. Construction and all related costs not included and will vary depending on the site chosen for it.
Costume shop (renovated space)	\$ 100,000	20' x 20' renovated space
New stage curtains	\$ 50,000	Package of main and other curtains
Cyclorama	\$ 940	16' x 30' natural, plus shipping, hardware and installation
Mirrors for rehearsal space	\$ 2,150	24' wide x 6' tall, plus installation
Rehearsal space	\$ 104,680	Portable classroom. Plus steps/ramp, power, alarms, AC, heat
Projector	\$ 4,200	6,000 lumens, 4k, short throw
Video wall	\$ 80,000	16' x 9'
Dressing Rooms	\$ 112,500	\$250/Sq. Ft., including 1 bathroom, 2 changing rooms and 12 makeup stations
Computer for design labs	\$ 2,700	Apple Computer to run Q-Lab and other design software (Q-Lab is the industry standard for sound and only runs on Macs)
Q-Lab for lighting and sound	\$ 990	Per computer per year
Power tool package for scene shop	\$ 2,631	Cordless drills (3), circular saws (2), jig saw (1), miter saw with bench, ShopVac, lockable tool cabinet
Theatrical sewing machine	\$ 1,040	To handle more fabrics; to prepare students for professional work
Stage weights	\$ 370	10 saddle sandbags, 25 pounds each

Sample Costs (cont.)

Item	Cost estimates	Considerations
32-piece basic set stock	\$ 7,600	Door, wall units, two windows, platforms, stairs, ramp, pylons
Choral risers	\$ 1,100	Per unit; each unit accommodates 12
Music stands with dollies	\$ 5,510	60 music stands plus 6 dollies
Musical instrument cabinets	\$ 1,250	Price varies depending on size
Upright piano	\$ 10,000	Yamaha upright piano
Yamaha keyboard	\$ 2,600	Stage Piano model
Conductor's podium	\$ 1,400	Usually used for bands and orchestras

All sample costs are based on research by New Mexico High School Musical Theatre Awards. Costs are intended to give the legislature an idea of the expense for the various upgrades noted by drama teachers as needed for their facilities and serve as an indication for the need of the overall amount of funds requested. These costs should not be regarded as final for any one project. Costs will vary for each school depending on their specific circumstances, priorities, and purchasing process. Schools may purchase elements directly from manufacturers and hire any attendant installation or construction separately, or purchase the element through local vendors to include, for example, shipping and installation. We make no recommendation for any brands listed above. Any brand item listed serves only as a reference point for cost estimating purposes.



A lightning strike at Valencia High School knocked out connections from the audio board (right) to audio equipment located in other parts of the theater. Efforts to repair the damage have been futile. The school may have to replace all the built-in cabling for its audio system to get it to work.

Allocation and Distribution

We recommend allocating this funding from the public school capital outlay fund, for distribution by either PSFA or PED or a combination of the two. We recommend consideration of these three options for distribution.

1. **Proposal Process.** Schools submit proposals for their upgrades to either Public Schools Facilities Authority (PSFA) or Public Education Department (PED). Proposals could be submitted to both, depending on how capital versus programmatic money is allocated. Proposals would have a specific deadline. The agency/agencies review the applications, rank them, and award money based on those rankings. Not all requests would be funded. The review process may create a delay in funding (e.g., submit by September 30, receive funding by February 1).
2. **Opt-In Process.** PSFA and/or PED send letters to all schools July 1 telling them they may be eligible for funding. Schools must opt in with proof of a performing arts program, with some preference for drama programs included. Money is distributed based on State Equalization Guarantee formulas. Reports on money spent are due quarterly until the completion of the upgrade to ensure that money is spent on performing arts facilities and equipment.
3. **Award Process.** Schools submit applications to PSFA and/or PED. Awards are reviewed by a panel made up of PSFA/PED employees and/or select panelists. The panel awards as many proposals as possible, though likely not at the full amount requested. Schools are sent award letters and must submit new budgets that respond to the amount awarded. (This is a process similar to the way New Mexico Arts distributes funds.)

Whichever process is chosen will be fleshed out to provide more detail.

Any requests or applications for funds from the schools, or progress reports after funds are received, must bear the signatures of the school principal and the fine arts coordinator, at the very least, and may also require the signature of the drama teacher for that school, who would serve as the local expert on any facilities upgrades and equipment purchases.

All capital funds distributed should be given a three-year window for completion in case of unexpected delays, though most drama teachers will do everything in their power to get upgrades completed quickly.

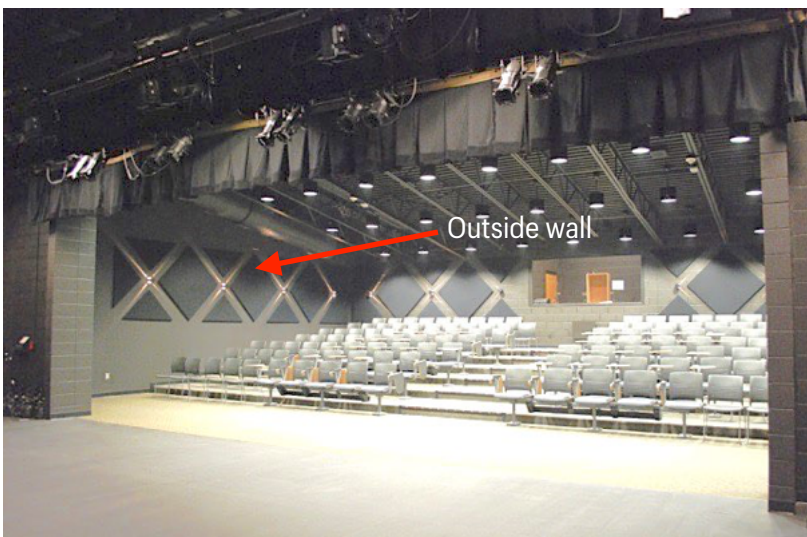


Moreno Valley Charter High School would like to upgrade its multi-purpose performance space (left) with retractable seating (right) as well as convert a shipping container it owns into a scene shop.



Important Considerations

- Given that any high school student body breaks into two nearly equal halves — athletes and non-athletes (page 6 above) — any school spending capital project, extra-curricular, and discretionary funds solely or predominantly on facilities and equipment for its athletes is ignoring the other half of its students or relegating them to second class status among their peers. Importantly, students notice this and instantly calculate the value they have been assigned in their own schools. That calculation drives student engagement results. If schools are only willing to engage with some of the students for their interests, why should the other students engage with their schools?
- Funding performing arts upgrades makes students in those programs as excited to come to school as funding sports facility upgrades excites athletes. What's more, the arts provide students with career opportunities in great number. Approximately 5 million people are employed in the United States in the performing arts. Millions more sing, dance, play music, act, or create theatre in their communities as amateurs, adding vibrancy to the lives of so many.
- Any school receiving funds through this initiative should be required to submit specific aggregate data prior to receiving the funds — possibly attendance, test scores, and graduation rates — and submit the same data after improvements have been made. Another set of data, both quantitative and qualitative, can assess student engagement levels, especially around larger projects that could have an impact on those measures.
- The Public School Capital Outlay Council may need to revisit adequacy standards for school performing arts facilities. With so many schools not having the basics for performing arts — dressing rooms, set construction space, costume storage, wing space — it becomes clear that current standards are not delivering adequate spaces. The only specification for performing arts is this sentence: "Dedicated art classrooms, excluding performing arts, shall have a sink." Drama programs need sinks, for painting and for dressing rooms, and so much more. As schools upgrade and modernize their facilities, having appropriate standards for performing arts facilities will help schools better prepare students for careers and further academic pursuits.
- This funding should not be considered a one-and-done exercise. In the performing arts, as in all academic pursuits, things break or wear out. Technology advances. Paint cans and nail buckets need refilling. And, critically, this funding will not fix everything that needs fixing. It will, however, be a much needed beginning.



Mayfield High School's theatre met adequacy standards when it was built. However, the line of the outside wall continues backstage, leaving less than 8 feet of wing space on either side. (Wing space hides actors, sets, furniture, and props not in the current scene.) Mayfield's ceiling height was limited by the roofline of the gym next to it and severely restricts scenic and lighting options. They have no dressing room sinks and no scene shop.

7 Good Reasons Why This Allocation Could Improve Student Outcomes

1. Students enrolled in Arts courses are more likely to attend, be engaged in, and graduate from school, and teachers in schools with higher levels of Arts education report greater parental engagement. (*Doing Well and Doing Good by Doing Art* (Catterall, James S))
2. Arts education opportunities enable children from financially challenged circumstances to have a more level playing field in school. (Eric Cooper, president/founder, National Urban Alliance for Effective Education)
3. Students who take multiple Arts courses show greater overall academic success, scoring 58 points higher on the verbal portion of the SATs and 38 points higher for math. ("Critical Evidence: How the Arts Benefit Student Achievement" (Ruppert, Sandra S., National Assembly of State Arts Agencies))
4. Through the Arts, students gain confidence in their achievements, showing improved writing abilities and more aspirations for higher education than their peers, especially for students from financially challenging backgrounds. (*Doing Well and Doing Good by Doing Art* (Catterall, James S))
5. Statistically, just over half a high school's student body participates in sports. Arts funding helps to engage students who cannot or will not play sports. Fun fact: in New Mexico high schools with both drama and football programs, more students participate in drama than play football. (National statistics from *Doing Well and Doing Good by Doing Art* (Catterall, James S); local statistics compiled by NMHSMTA)
6. More than 70% of companies say creativity is the primary skill they seek when hiring. (*Forbes Magazine*, January 28, 2024)
7. 93% of Americans say the Arts are a vital part of a child's education and 2 of 3 parents have taken action to support Arts education in schools. ("Critical Evidence: How the Arts Benefit Student Achievement" (Ruppert, Sandra S., National Assembly of State Arts Agencies))

For a more detailed presentation of information on how having the Arts in schools helps students, please watch [a short presentation](#) created for the New Mexico Coalition of Education Leaders by New Mexico Art Education Association, New Mexico High School Musical Theatre Awards, New Mexico Thespians, Opera Unlimited, and Santa Fe Opera.

Footnotes

1. *Doing Well and Doing Good by Doing Art*. Catterall, James S.
2. Survey conducted by New Mexico High School Musical Theatre Awards — 99-Second Survey (May 2024). Pertinent Question: How many students overall participated in your (drama) program this school year? Data for this question was compared to the number of players listed in online football team rosters for schools that had both programs.
3. Survey conducted by New Mexico High School Musical Theatre Awards — Infrastructure Questionnaire (January 2024). 25 unique responses from high school drama teachers detailing what they would do with \$100,000 to upgrade their equipment and/or facilities.

Appendix: Film and Video Jobs Where Theater Training Can Apply

Film and video are big business in New Mexico. Theater programs train students to work in film in so many ways. Below is a list of a number of film jobs where training in theater can be an excellent starting point:

- Producers
- Assistant Producer
- Production Assistant
- Director
- Actor
- Costume designer
- Costume assistant
- Wardrobe supervisor
- Wardrobe assistant
- Lighting designer
- Lighting technician
- Gaffer
- Key grip
- Sound engineer
- Sound designer
- A/V technician
- ADR recordist
- Prop master
- Props maker
- Scenic/set designer
- Scenic artist
- Set decorator
- Set construction
- Scenic painter
- Construction coordinator
- Casting associate
- Creature designer
- Electrician
- Foley artist
- Makeup artist
- Mechanical effects
- Rigging electric or grip
- Stage manager

Photo Credits

(Listed left to right, top to bottom)

- Cover: Billy Tubb
- Page 2: Mandolynn Browning, Aztec High School; Elijah Estrada, Lovington High School
- Page 3: Susie Parker, Focus Daily News
- Page 4: Farmington High School Theatre Department
- Page 5: FBT Architects
- Page 6: Patrick Coulee for Thompson Construction, Inc. (Gymnasium); FBT Architects (Theater)
- Page 7: Mandolynn Browning, Aztec High School; Elissa Contreras, Organ Mountain High School
- Page 8: LAV Studio, Croatia (left); learnstagelighting.com (right)
- Page 9: Rick Martinez, Santa Teresa High School (left); Knight Sound & Lighting (right)
- Page 10: Patty OHare, Texico Schools (2 photos, top); Amy Hughes, Volcano Vista High School (bottom left); Allen & Heath (bottom right)
- Page 11: Hank Henley, Enchantment Awards (top left); Peyton Womble, Las Cruces High School (photo and inset, top right); Billy Tubb (5 photos, bottom)
- Page 13: Dekker Perich Sabatini
- Page 14: Elizabeth Tafoya, Moreno Valley Charter High School (left); Audience Systems Ltd. (right)
- Page 15: ESA Construction

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