OUR WORLD, OUR WATER Lake Tahoe's Val

The average person consumes 140 gailor of water a day

An average 1,400,000 tons of water evaporates in every 24 hours, yet this drops the take level only of If the water that evaporates from the take every 24 would supply the daily requirements of a population

The United States uses about 346,000 million gallons of fresh water every day

SOUTH TAHOE HIGH SCHOOL sustaining a community





Lake Tahoe students must be prepared to succeed beyond high school. A cross-functional team of district leaders, school administrators, teachers, students and design professionals realized that viable pathways must be created to increase the college-going rate.

This dedicated group worked together to create, program, fund and design exceptional CTE programs to sustain this community.

Nestled in the High Sierra Mountains, among majestic peaks, world-class ski resorts, and giant sequoias, is a school that means business about preparing its students for the future. The goal is to give these students specialized training, experience, and opportunities in high tech, curriculum-driven facilities in the spirit that they will have what they need to stay in the community and thrive.

THE STORY / background

In 2007 the Angora Fire threatened this rural community and **South Tahoe High School** was the emergency operation center to fight the wildfire. The fire burned right up to the library. This event inspired a movement to improve the high school as a community resource.



There is a resilience in rural communities that face disasters as the citizenry accept catastrophes like the Angora Fire as part of its life.

The community of South Lake Tahoe High responded to adversity with enthusiasm and hope that they could **build something better for future generations**.



THE STORY / background

At 6,250' above sea level, the remote and isolated location of Lake Tahoe limits educational resources and career exploration opportunities for students. A popular tourist destination, the small resident population is described as 'poverty with a view' by locals, with a majority of the population eligible for free/reduced lunch.

Faced with unique challenges, this community is committed to having their students learn skills which will both expand economic opportunities in the basin and preserve the **"Tahoe Culture."**

"Develop Skills that Sustain a Community"

"...As a superintendent, I see that it's a respect thing. When you build this for kids, it's saying to visitors and the community this is our most important priority: taking care of our youth."

> -Jim Tarwater, Superintendent Lake Tahoe Unified School District









- 1 Classroom Building
- 2 Green Academy
- 3 Tahoe Arts + Design Academy
- 4 Gym + Sports Medicine
- 5 Student Union

5 Buildings on one Campus unite an entire Community

SCOPE

29,200 SF
27,300 SF
15,000 SF Mode
37,000 SF Mode
18,000 SF

9,200 SF 7,300 SF 5,000 SF Modernization + 11,000 SF Addition 7,000 SF Modernization + 7,500 SF Addition 8,000 SF



Classroom Building	\$12,100,000	\$ 8,100,000 State Funding :: Overcrowding Relief Grant (ORG)	67%
Green Academy	\$12,700,000	\$ 5,900,000 State Funding :: Career Technical Education Grant	39%
Tahoe Arts + Design Academy	\$13,300,000	\$ 1,400,000 State Funding :: Performing Arts Modernization	10%
		\$ 3,000,000 State Funding :: Career Technical Education Grant	22%
Gym + Sports Medicine	\$8,070,000	\$ 2,200,000 State Funding :: Career Technical Education Grant	27%
Student Union	\$7,680,000	\$ 2,200,000 State Funding :: Joint Use Grant	28%
		\$ 1,800,000 State Funding :: Professional Development Grant	23%
	\$54,820,000	\$ 24,600,000	44%

No funding eligibility from the state State funding required to have a local 50% match Local match required passage of a community bond

11.11

THE MISSION / creating opportunities

"The Lake Tahoe Unified School District, working collaboratively with parents and the community, aims to provide quality learning environments that prepare students for becoming responsible, contributing citizens." [LTUSD Mission Statement]

The District's mission went beyond educating students, the effort created learning to include creating learning opportunities that will **sustain a community**.

"We believe that unity will be a product of this collective vision."

-LTUSD Board of Education



The Angora Fire happened in August. Within a few months, the design and planning team was hired and the process began. There was a huge momentum to make these projects a reality; community engagement, grant writing, and goal setting. The team was determined to move quickly and unveil a building every year.

COLLABORATE

"I graduated here, from South Tahoe High School. It really needed a facelift and more than that, it just needed to be repurposed. The kids really feel like, because there was so much money, and effort, and time, and thought put into all of these programs that it's something special—and respect it—and do something with it to help them do something with their lives. That's what it's all about; it's all about them."

 Bob Grant, Visual Performing Arts Chairman South Tahoe High School **COMMUNITY ENGAGEMENT** / a roadmap for the future



ENGAGE TEAM Master Plan Architect Community Outreach Strategy Financial Planning

ESTABLISH MASTER PLAN PROCESS Formed District Master Plan Committee Toured School Site + One-on-One HS Staff Interviews District Leadership Meeting Survey [Polling] to gage Community Support

JANUARY 10, 2008 "If you could dream..." Outreach Process High School Site + Program Opportunities

FEBRUARY 7, 2008 Site Survey / Needs Assessment Findings Report Site Concept Diagramming

FEBRUARY 14, 2008 Funding Source Analysis Cost Estimates + Scope Prioritization

FEBRUARY 28, 2008 Program Recommendations Local Bond Campaign Process Kick-Off



COMMUNITY ENGAGEMENT / building consensus

A Committee consisting of community members, parents, staff members and students was convened to gather information on the aging infrastructure, making recommendations and prioritizing the scope of facility plans.

PROGRAM DESCRIPTION	COST	DISTRICT & COMMUNITY PRIORITIZATION	Total Votes:
1. "Green" Academy CTE Bldg	\$12,087,297	والماصا والمالي والمالية والمالية والمالية والمالية والمالية	
(New New 8 Teaching Station Auto, Constr	uction, CAD, &	Art/Design Spaces – 21, 800sf)	
2. New ORG Classroom Bldg	\$12,969,764		
(New 15 Teaching Station Classroom Build	ng to Replace Po	ortables – 27,000sf)	
3. Media/Design Arts CTE Bldg	\$7,230,258		
(New 3 Teaching Station Media/Design/Edi	ing Performing	Arts Spaces – 10,125sf)	
4. Performing Arts Modernization	\$6,144,813	$\star \star \star \star \star \bullet \bullet \bullet \star \bullet \star \star \star \star \bullet$	33 POINTS
(Complete Theater Upgrade, Includes Dev	elopment of New	Production & Managerial Arts CTE Academy)	
5. Physical Education Expansion	\$2,769,982		18 POINTS
(New Weight Room, & PE/Health Classro	om – 7,000sf w/o	Gym)	
6. PE Building Modernization	\$3,827,020		12 POINTS
(Upgrade Gyms, & Reconfigure Spaces to	Support PE Prog	ram Locker Room Functional Needs)	
7. Stadium/Field Upgrades	\$2,250,000		23 POINTS
(Includes New Synthetic Turf, Bleachers,	and Stadium Fiel	d House Concessions/Toilet/Team Rooms – 5,000sf)	
8. Bldg 'G' Student Union	\$3,010,508	***	23 POINTS
(Reconfigure Shops Bldg into New Student	t Union/Food Ser	vice Facilities – 13,000sf)	
9. New Campus Mall/Arcade	\$1,151,593		12 POINTS
(Construct New Campus Mall & Covered	Walkway Link to	All Buildings – 10,000sf)	
10.Reconfigure Auto Drop-Off	\$807,410		
(Enhance Student Safety & Vehicular Tra	ffic Flows)		
11.New School Entrance Plaza	\$258,096		
(Demo Existing Parking Lot & Construct	New Entry Hards	scape – Linked w/ Scope #10)	

COMMUNITY ENGAGEMENT PROCESS / stakeholders

CROSS-FUNCTIONAL TEAM

This dedicated group worked quickly together to create, program, fund and design these innovative educational programs.

(2) Board of Education Members

COMMUNITY MEMBERS

Chamber of Commerce /Parent City Assistant Manager /Parent Small Business Owner /Parent Parent Attorney /Parent Waste Management /Parent Small Business Owner /Parent Local Hospital Project Manager Real Estate Agent / Parent

DISTRICT

Director of Human Resources Chief Financial Officer Superintendent Director of Facilities

LOCAL SCHOOLS

Community School Principal Community School Parent (Bijou) Community School Parent (Sierra) Community School Instructor/Parent Middle School FBI /Parent Middle School Principal CSEA President STEA President

HIGH SCHOOL

Principal Small Business Owner / Parent





The HS and District faculty interact with community members during interactive sessions. The meetings built consensus to achieve their mission.



The committee elicited District and Community input, to establish site plan alternatives that are evaluated by all committee participants.

To create value both for the school community and the community at large, the planning process looked at the long term goals and aspirations of the community.

From the beginning of the planning process, the community was dedicated in providing state of the art facilities that would impact the students. Beyond understanding the common goals, the design for the projects at South Tahoe High School needed to create opportunities that would change the perception for current and future residents of South Tahoe.

The process included educational, social and community goals:





The educational goals provide a value in a curriculumdriven and process-driven experience. Students are using real-world equipment and project based learning. By the time they enter college or career, they are beyond prepared.

The local engagement created full ownership by the community. The facilities are available for use by local colleges, community meetings, and the city.

The community desired cost effectively planned improvements that are efficient while maximizing opportunities to **transform the campus environment**.



The committee wanted to leverage the delivery method. With the lease/lease-back approach, they could build local support for the bond by using at least 30% Local Contractors.

STRENGTHS - COMMUNITY SUPPORT -RECOGNIZED FOR EXCELLENCE IN EDUCATION - 600D SCHOOLS = INCREASED PROPERTY VALUES - NO PERCEPTION OF WASTE ("KOOP TANDE BUVE") - LEARNED FROM MEASURE 'L' PROBLEMS. * SCHOOLS ARE COMMUNITY GATHERING SPACES - DUAL IMMORSION /LATINO COMMITMENT CHALLENGES -· ABSENTEE OWNERSHIP W/NO OWERSHIP · LACK OF KNOW LEDGE OF PAST FACILITY IM PROVEMENTS OMEASURE S (CITY/COUNTY) NEG. MOMORIUS OPPORTUMITIES - BUILD ON CHANGE IN LEADERSHIP -ADDITIONAL FACILITIES FOR COMMUNITY USE - IMPROVE DISTRICT COMMUNITY - ENVIRONMENTAL IMPRIVEMENT FAMILIES TEACH KIDS "KEEP TAHOE BLVE"

COMMUNITY ENGAGEMENT PROCESS / challenges

EDUCATIONAL

- Address the climbing drop-out rate
- Enhance an innovative educational program with facilities that support 21st century learners

SOCIAL

- Attract professionals to live in a tourist destination, often described as 'poverty with a view' by locals, by increasing the amenities and student performance at the community's high school
- Demonstrate to the community that the tax dollars of their local bond are re-building their community
- Create contextual buildings with rustic Alpine aesthetic desired by the City and Tahoe Regional Planning Agency

POLITICAL

- Build support for a local bond
- Build trust with the community given poor track record on previous projects
- Demonstrate new district leadership's ability to listen and support the community

ENVIRONMENTAL

- Maintain the clarity of Lake Tahoe and protect a fragile environment by proving the district's level of sustainability.
- Use the building as an extension of the learning environment :: Learning happens everywhere



Existing buildings, designed without understanding the climate, created unsafe conditions during the winter months. The citizens wanted a campus that would better support all aspects of students development.

The grants written for these innovative programs were the result of a dedicated effort by the district. Two staff were given one week off with a paid substitute so they could focus on the successful grant writing.

Energized and enthusiastic staff worked hard to ensure that new facilities would match the educational goals they had established.

COMMITTMENT

STHS FACULTY

All counselors, as well as the core group of CTE teachers will be involved in the recruitment of students into the program.

Lake Tahoe Community College (LTCC)

A partner located within 5 miles of South Tahoe High School use the high school to offer classes in the evening.



At 6.6% the STHS drop rate was almost double the state rate of 3.7%. This, combined with the fact that only 26% of graduating students are eligible to apply to 4-year colleges/universities, prompted the staff to take a long hard look at how to meet the needs of all of their students.



EDUCATIONAL ENVIRONMENT / educational guidelines

The District's Master Plan Education Guidelines focused on supporting the whole student, in providing educational spaces that create learning opportunities for every child to achieve success.



Tahoe Arts and Design Academy











Green Technology Academy



ENCOURAGE LIFE LONG LEARNING

Learning 21st Century problem solving, critical thinking and communication "soft" skills that students will need throughout their lifetime requires a different organizational framework and was the inspiration for this HS educational program.

SPECIALIZED CURRICULUM

Improve specialized curriculum to expand and better prepare students for entrance into specialized higher education programs or local work force professions.

EMBRACE SOCIAL LEARNING

Thought was given to the social space on campus, often enclosed circulation space with writable wall surfaces, to provide larger 'social eddy's' that terminate in a campus or mountain view and reinforce that learning happens everywhere.





The curriculum led the design for these projects. The design for the educational environment is based on the specific nature of the programs overlaid with themes that create an engaging learning environment. General learning space is enhanced with technology and varied types of furniture to move easily into new configurations to support a variety of educational approaches and learning styles.

Providing spaces for hands on learning and teamwork as well as passive learning areas influenced the design for the classroom building. For instance, the furniture design for the Business program allows for students to work individually & then reconfigure to group work, preparing them for collaborative career environments.



The goal is that this generation of learners should not have to wonder, 'when would I need to know this?' The engagement at STHS will teach practical applications with cross-curriculum opportunities.



"The architecture students might design a building while working with the construction students, and then take it to the arts department for a model or water color rendering," says Ivone Larson, Principal of South Tahoe High School. "They learn how to collaborate on projects, in real time—from vehicles, to building designs and green fuel management."





Every aspect of the STHS CTE Media and Design Arts School is designed to provide students with solid, practical knowledge and authentic experiences that will help them reach their career and educational goals. Technology at the TADA (Tahoe Arts + Design Academy) is an integral part of the learning.

> As part of the opening research and planning for the facility, the design team & STHS students toured several production studios in Los Angeles, which ultimately helped guide the task of making the space as high-tech and professional as possible.

There was great emphasis placed on the planning and design of the Tahoe Arts and Design Academy, every student will use this space as they are required to create a Digital Portfolio of their educational 'career.'

The new facilities won't only be utilized by students. Participants in the Digital Photography Institute are able to take advantage of the facilities at the school in the TADA building. The program is a collaboration between the high school and the Lake Tahoe Educational Foundation; part of the profits from the three day program will go into the general fund for the school facilities as they will need money for maintenance of computers and software in the future.





CONTINUOUS ENGAGEMENT / building tours during the process













EDUCATIONAL ENVIRONMENT / flexible environment + integrated technology

Technically advanced "smart" classrooms at South Tahoe High School have become a model for learning in the 21st century with flexible group furniture and operable partitions dividing the room.





EDUCATIONAL ENVIRONMENT / preparing for success

Students in the academy will experience a full business model complete with CEOs and job teams. They will learn to design and implement a business plan to help them create, market and sell a product over length of the course.







EDUCATIONAL ENVIRONMENT / collaboration + cross-curriculum

The Process of design is strengthened as students can freely move between spaces that allow them to ideate, create and prototype their ideas.



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"I think it's pretty cool. Its new and nice, we'll be able to do so much more." -STHS Student





"The architecture students might design a building while working with the construction students, and then take it to the arts department for a model or water color rendering," -Ivone Larson, Principal South Tahoe High School





"They learn how to collaborate on projects, in real time—from understanding the mechanics of vehicles, to building designs, and green fuel management."

-Mike Patterson, Teacher South Tahoe High School

EDUCATIONAL ENVIRONMENT

At TADA the state-of-the-art facilities have been designed to enable students to develop, record, and produce their own television programs, theater productions, and/or film projects in both studio and live audience settings. The Green Academy studios support the maturation of the idea thru design and student construction.



Additionally, as the STHS Media and Design Arts School is located at the entrance to South Tahoe High School with an entrance lobby showcasing student work, students, families and the community will be able to interface with the Academy daily.







students for careers or further education in these fields.

EDUCATIONAL ENVIRONMENT

The filming studio with a combined broadcast room is a modernization of the existing Choral Classroom. As students are working in the Broadcast room, they have a view of the camera feed on displays to control the settings for the recording. Students are selfrunning both the software and high-tech audio visual equipment, they are engaged and motivated.



"We have rooms that reflect the programs. You don't often have that."

> -Jim Tarwater, Superintendent Lake Tahoe Unified School District





Funded partially by two Joint-Use applications through the State's SFP, the new Student Union at South Tahoe HS features a full-service kitchen, open, flexible dining/assembly area and three convertible classroom spaces.

The design provides high-tech connectivity for today's students, encouraging them to collaborate and 'linger longer' on campus while the classroom area can be quickly converted from one large lecture space to two or three separate classrooms.



Prior to the construction of the new Student Union, there was no cafeteria or multi-purpose facility on the High School campus. Students were eating lunch in their cars, in hallways or outdoors. The new facility is filled with natural light and technology that will accommodate student dining, directed studies and extra-curricular student activities.

The District states that 30% more lunches are being served.





The Student Union will be used by the City for staff training and development, community meetings, non-profit organization events and, in the case of emergency, as a community operations center

>> PHYSICAL ENVIRONMENT / context



DESIGN OPPORTUNITIES:

Hand De

Contextual buildings with rustic Alpine aesthetic desired by the City

Take advantage of gifts of the site while responding to educational program.

AND REAL PROPERTY

Create a living laboratory for their construction technology program but also throughout the campus to demonstrate how students can affect their own environment.

>> PHYSICAL ENVIRONMENT / approach

The projects are a direct response to educational program and severe climate to transform the school's identity. A steep southern pitch promotes snow melt that falls into a dedicated collection area. The shallow northern pitch, used minimally, collects snow for longer duration. CMU provides durability and thermal mass, complemented with recycled fiber cement panels that provide fire resistance. The roof's wood structure and building systems are exposed to become a living laboratory and educational tool for smart green design.







>> PHYSICAL ENVIRONMENT / approach

The classroom building anchors the north end of campus and is the gateway for students entering from the bus dropoff and athletic fields.





The innovative roof form directs the melting snow into a single area, shared with the Student Union, to be collected and treated. This design allowed the existing student circulation pattern to remain.





TADA differentiates itself with large expanses of glazing and graphics at both lobbies to welcome the public.





VIEW FROM CAMPUS ENTRY ROAD





>> PHYSICAL ENVIRONMENT / inspirational

Most of the school year takes place during snow conditions, the school must be able to operate and remain productive through severe winter storms. Building design must address heavy snow loads, snow plow access, and multi-agency permits for construction in an environmentally sensitive area.

Regulated by the Tahoe Regional Planning Agency, these five new construction and two renovation projects provided the opportunity to collect and infiltrate storm water runoff. Precipitation is collected in cobble trenches providing additional opportunity to infiltrate the soil. Excess water is conveyed either to the existing detention basin or new subsurface "storm chambers" located under the new student parking lot. Both solutions allow onsite storm water to recharge the groundwater and fulfill the local mission 'Keep Tahoe Blue'.



These important environmental strategies are illustrated on signage throughout the campus to educate the students and community.



About **36.5%** of the value of subcontractor work at STHS was awarded to locally owned subcontractors



✓ To provide excellent schools and classrooms to maintain student enrollment and retain excellent teachers.

✓ To improve local schools to keep our community vital and stable.

✓ To provide quality physical education, athletic and performing arts facilities and programs to ensure a well-rounded educational experience.

✓ To ensure our schools are safe and central gathering places.

✓ Increased student performance with better-designed and healthier facilities.

✓ Raise awareness of the impact and advantages of high performing schools

The process led to a successful mission of creating spaces that enrich the lives of everyone involved. Students, teachers, parents, district leaders and community members couldn't be more proud.



PROCESS RESULTS / achieving goals

The proof is in the community feedback: (via Twitter)





"Students are so excited about the programs – we have several cases where students were not attending, and after implementation of the new facilities and programs, we can't keep them away from school!"

> -Ivone Larson, Principal South Tahoe High School

PROCESS RESULTS & PROJECT ACHIEVEMENTS / achieving goals

south tahoe high school ...where students live the dream & commit to their futures