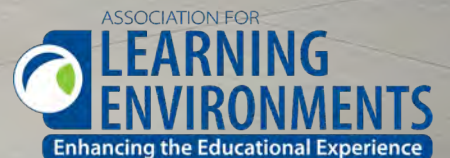


Orange High School **STEM** Center

ORANGE UNIFIED SCHOOL DISTRICT | ORANGE, CA



Executive Summary

2013

A 2013 facilities condition assessment which identified Orange High School's (OHS) existing facilities as **"poor" in nearly every category** was the impetus for the development of a visionary master plan for the campus, which was built in 1953 to provide the school, founded in 1903, with a permanent home. With such a **storied 120+ year history**, Panther pride runs deep in this community. Finding the balance between the needs of 21st century learners and the community's passion for OHS' rich history inspired a vision for transformation of the flagship campus, where **75% of students receive free and reduced lunch and 25% are English Language Learners**. Using District Planning Guidelines to ensure equity with the District's four other high schools, the planning team guided OHS stakeholders through a robust engagement process, designed to build trust and understanding in a community which had long struggled to gain support for general obligation bonds. A 2014 bond was unsuccessful, but in 2016, Orange Unified School District finally passed a \$288 million bond to fund critical facilities improvements across the district.

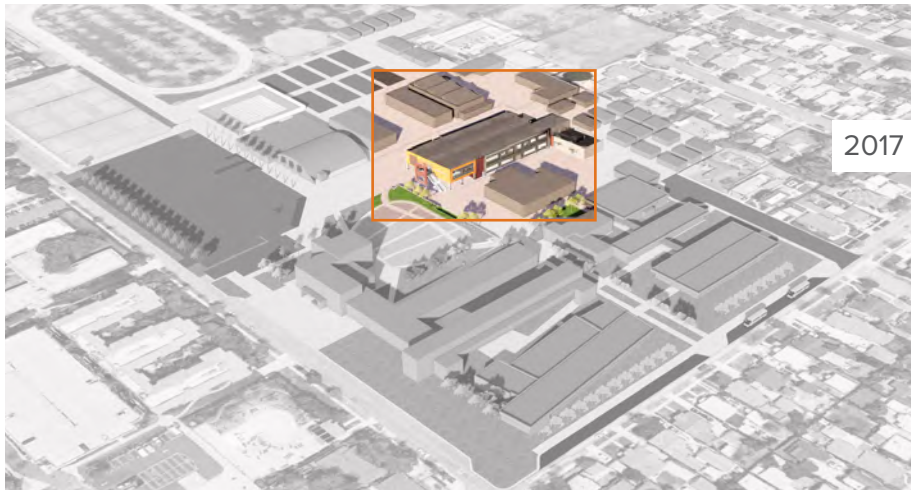
OHS' entire master plan is estimated at nearly \$200 million, but with a local bond passed, it was finally time to implement the long-awaited first phase. After a **rigorous engagement process**, the stakeholders had spoken, and a 21st century STEM Center would be the first step in the transformation, replacing aging and undersized portable classrooms with sustainable, flexible and technology-rich learning environments and science labs to accommodate project-based, hands-on learning. **The new 48,000 square foot STEM Center was completed in 2020**, bringing the first step of the vision to life and setting the stage for the rest of the campus' transformation.



Scope of Work & Budget

As the first project in OHS' master plan implementation and the campus' **first major project in more than 50 years**, the new \$52 million STEM Center project leveraged portable replacement to create a 21st century learning environment for the sciences and other key campus programs.

With **12 spacious and technology-rich labs**, the 48,000 square foot facility includes four chemistry labs, indoor-outdoor connections, and flexible furnishings which allow for easy transition between lecture, group work, and lab configurations.



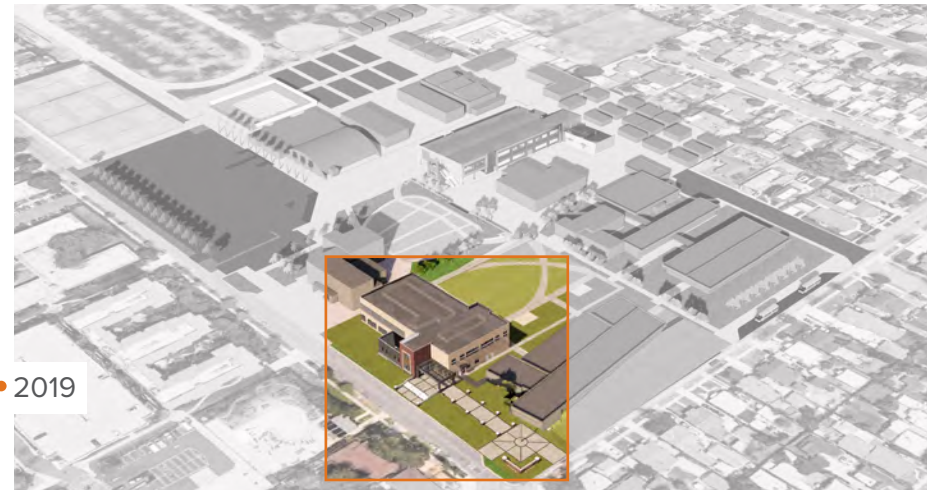
2017

The first phase of OHS' transformation replaced portable classrooms with a dense, two-story STEM Center.



2014

The dated OHS campus had received minimal improvements over the years and handled growth with portable additions. A facilities condition assessment and master plan identified three key challenges: **1. Portables**, **2. No clear campus front door**, **3. Inadequate science learning environments**



2019

Currently in design, Phase 2 is a new front door for OHS - a new Administration and Classroom Building - which will be adjacent to the new Alumni Plaza, **creating a new community face** for the campus and fostering connection with thousands of alumni.

School & Community Engagement

In this diverse suburban neighborhood of Orange County, CA, stakeholder involvement was of paramount importance. The District had struggled with community support for facilities funding (general obligation bonds) in the past, so **developing community trust and endorsement was a key goal for both the master plan and the new STEM Center**. With robust engagement and transparency, momentum and participation grew, engaging all key stakeholders—students, staff, alumni, parents and members of the community. Meetings and activities were conducted in both English and Spanish to ensure the broadest participations. As part of the engagement process, the **design team used a variety of tools to communicate** with the various stakeholders, including Awareness Tours, Hands-on Planning with “puzzle pieces”, Prioritization Activities, and Social Media.



2014



Prioritization “Monopoly” Working in small groups, stakeholders had to reach consensus on how to spend their limited monopoly money. **This exercise created an intense dialogue; one that ultimately resulted in an implementation strategy that put learning environments first!**



School & Community Engagement

2014

Located just blocks from Chapman University, **OHS stakeholders drew inspiration from the university campus, which regularly gives students a glimpse into the collegiate experience.** Aspiring to not only emulate their collegiate neighbor, but also create a welcoming front door to foster connection between alumni and community members alike became key opportunities for the campus.



Orange High School (Future Alumni Plaza)



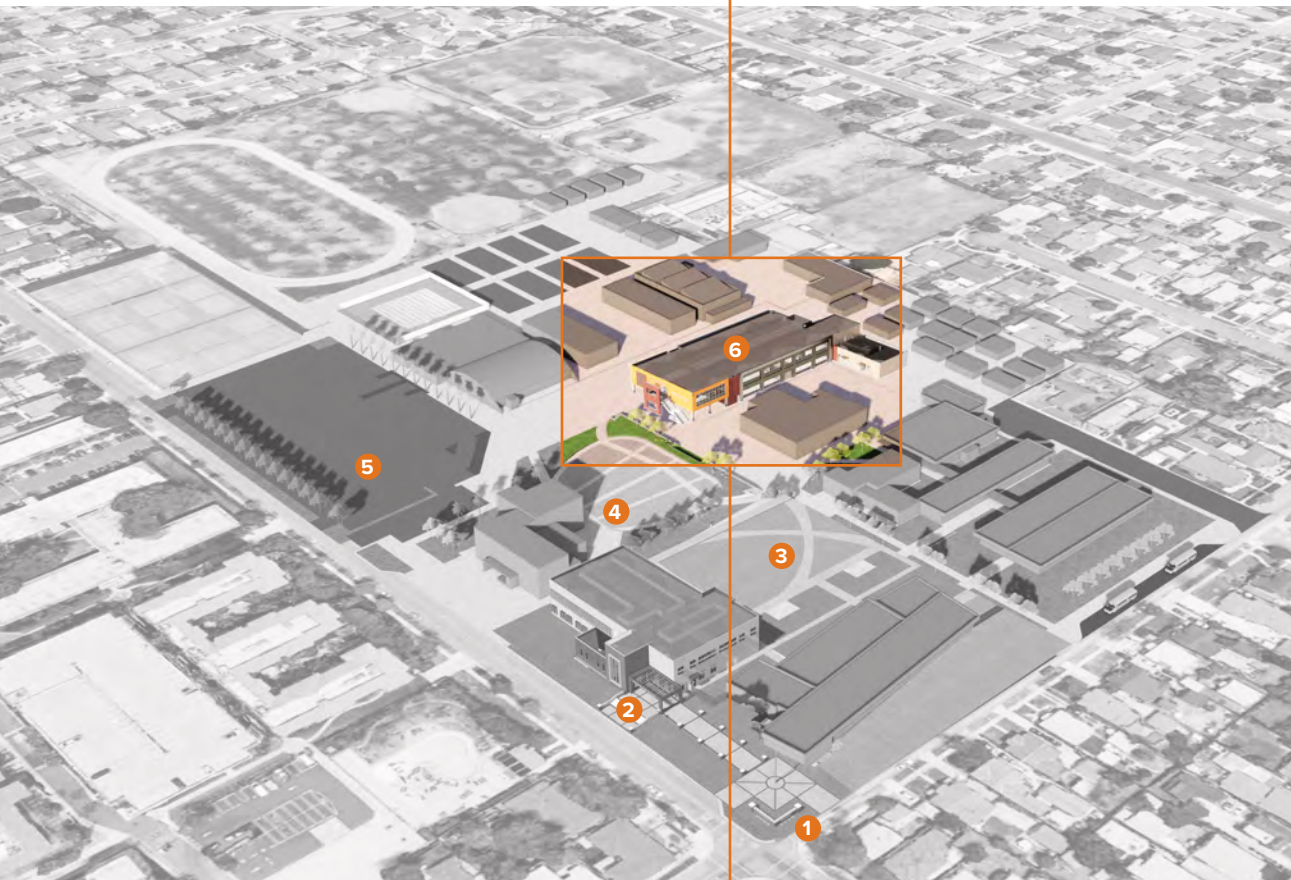
Chapman University (Science Building)



Site Context

Design for a strategic addition in the form of a classroom and administration building adjacent to the future Alumni Plaza is currently underway. Together, **these new campus features will create connection and aid students in envisioning their own pathways** beyond their OHS experience, whether to Chapman, other major universities, or to careers inspired by their opportunities at OHS.

- 1 Future Alumni Plaza
- 2 Future Administration & Classroom Building
- 3 Student Quad
- 4 Outdoor Open Air Theater
- 5 Parking
- 6 New STEM Center





Aging, **undersized and ill-equipped science labs** did not support a 21st century science curriculum. Additionally, a lack of science labs meant that many OHS students were required to take science in classrooms without appropriate infrastructure, **requiring that they carry water from the restrooms in a bucket when needed for experiments.**

Educational Environment

A 2013 facilities condition assessment which **identified OHS' existing facilities as "poor" in nearly every category**, described a campus ripe for transformation. Using District-wide Planning Guidelines and Educational Specifications as the guide the design team envisioned a vibrant addition, in the form of a new STEM Center, to bring the campus' science facilities into the 21st century.



In the new STEM Center, **spacious, flexible labs** provide students with easy access to water, gas, and technology which allows teachers to easily broadcast demonstrations to all students. Labs are spacious enough to **accommodate 40 students at a time and provide ample space** to provide dedicated areas for lecture and lab activities.



Educational Environment

At the front of the new building, a **large covered patio—known as Panther Pavilion—** provides ample space for outdoor student gathering and project-based learning. The two-story entry staircase is the **perfect location to conduct the classic "egg drop" physics experiment.**



Educational Environment

Open, airy labs and classrooms with **roll-up garage doors provide daylighting and connection to the outdoors**, blurring the lines between indoors and out and taking advantage of natural ventilation opportunities in the temperate Orange County climate.



Educational Environment

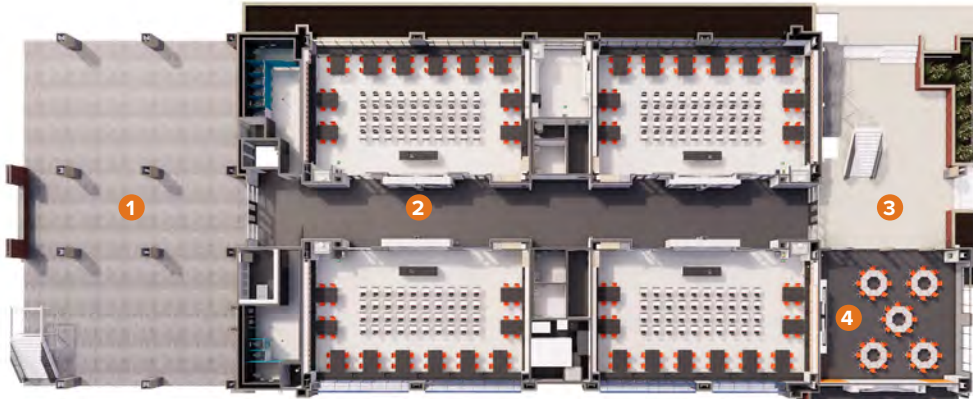
NextGEN learning environments blur the confines of the traditional classroom, providing flexibility and opportunity engage students in different ways. Spacious classrooms, coupled with flexible furnishings, allow for an **easy transition between informal student gathering space and yoga class.**



Educational Environment

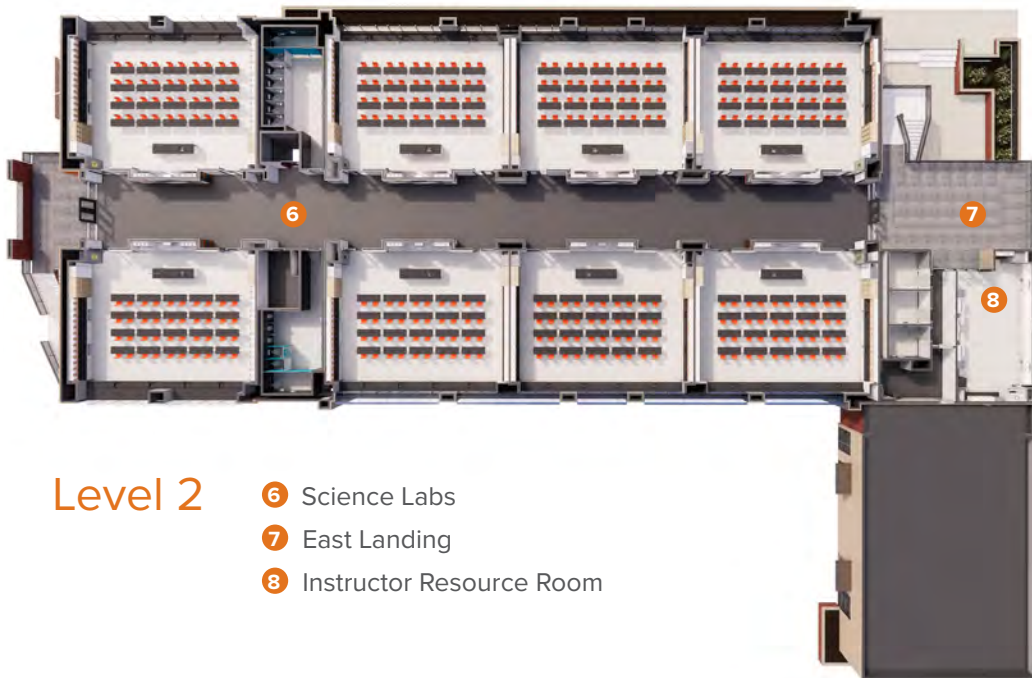
Embracing the building as a teaching tool, **custom wall graphics put science on display** throughout the new facility, engaging students and increasing the potential to spark an interest in the sciences.

Physical Environment



Level 1

- 1 Panther Pavilion
- 2 Chemistry Labs
- 3 East Patio
- 4 Non-Severe Learning Environment
- 5 Medically Fragile Learning Environment



Level 2

- 6 Science Labs
- 7 East Landing
- 8 Instructor Resource Room

Providing 12 science labs and flexible classrooms, the new **STEM Center emphasizes flexibility and state-of-the-art learning environments**. Ample outdoor connections, including the large covered West Patio and the East Landing, coupled with wide corridors allow for student gathering and hands-on learning opportunities.

OHS houses a medically-fragile student program. Previously located in aging and inadequate facilities, these ground floor, **light-filled spaces** provide flexible learning environments, including **space for life skills development**, for these self-contained programs.



Physical Environment

Sustainable design is expected by today's stakeholders. While OHS did not pursue any specific sustainability goals, the STEM Center was **designed with sustainability in mind**, from building orientation, to daylighting in classrooms, and **selection of healthy and sustainable materials and finishes**.



Physical Environment

The elevated learning environment provides indoor- outdoor connections and state-of-the-art technology, creating vibrant spaces where **science, technology, engineering and math** collide to enhance the student experience through transparency and connection.

Results of the Process & Project

While the new STEM Center was completed during Summer 2020, due to COVID-19 OHS students, faculty, and staff were not able to return to their new and improved campus until early 2021. While they had to wait longer than planned to check out their new building, the wait was worth it and the response from students, staff and community members alike has been extremely positive.

“When you work in an environment that is safe, nice, clean and modern...your brain will follow it.”

– Diana Fascenelli - Bond Oversight Committee

From the first master planning stakeholder engagement meeting, creating the vision for OHS' future has been community driven. Without support and buy-in from the Orange community needed to pass a bond, none of the vision would be possible. Community passion has translated into intentional priorities that make a difference: state-of-the-art learning environments and a new campus front door.

Looking ahead, Orange High School's next transformation will create Alumni Corner, a welcoming entry plaza that will create a new front door to the community, while honoring the generations of OHS graduates.



Future Front Door



Scan this QR code to see a short video of the Orange High School STEM Complex Reactions





Results of the Process & Project

As the first step in OHS' transformation, **the STEM Center embodies Panther Pride**, from its orange facade to the large Panther mascot above the entry and even in the orange that appears in the wall murals throughout the interior.



Results of the Process & Project

As OHS' first major project in more than 50 years, the new STEM Center creates a **vibrant and inspiring space** on the campus where students can truly envision their futures.