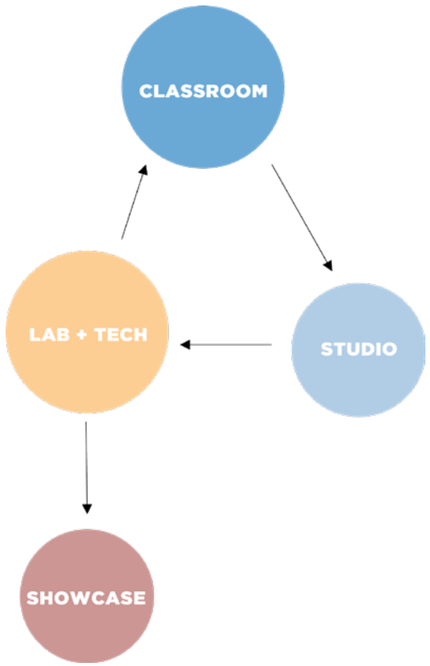
5. Strategies

The Master Plan strategies provide an actionable framework for improving the quality, quantity, operations, and flow of facilities on campus and fulfilling the vision outlined in the Guiding Principles. Strategies are not designs, nor are they specific plans for individual school sites; they are high-level, data-driven approaches to addressing NMCUSD's facility needs throughout the district.

	Active Learning Environments	Safe and Inviting Campuses	Image and Identity of Each School	Optimize Indoor and Outdoor Spaces	Promote Health and Wellness	Financial and Operational Sustainability
Leverage Shared Use of High-Value Spaces				●		●
Reduce Pressure on Multipurpose Rooms and Cafeterias with Outdoor Dining and Gathering Spaces		●		●	●	●
Transform Classrooms into 'Active', STEAM-ready Learning Environments	●			●	●	
Extend Learning Outdoors by Providing Appropriate Spaces for Outdoor Learning, Recreation, and Gathering	●			●	●	
Retire Portables by Leveraging Space in Existing Facilities and/or Replacing with Permanent Structures	●		●		●	●
Improve Energy Efficiency and Indoor Air Quality through Passive, Commonsense Measures		●			●	●
Preemptively Mitigate Risks due to Climate Change		●			●	●
Identify Uses and Partners for Optimizing Use of Vacant Sites					●	●
Increase the Curb Appeal of each School Site with High Impact, Low-Cost Aesthetic and Functional Improvements		●	●			●
Realign Campuses with Appropriate School Enrollment	●	●	●	●	●	●

5.1 Leverage Shared Use of High-Value Spaces



Because the district does not have infinite resources, it has to maximize the utilization of the facilities and assets it already has before committing to costlier new construction options. Maximizing utilization means using spaces and facilities as much as possible. For spaces that have high demand at specific times - like cafeterias, tech labs, and gyms – the district can make small architectural investments coupled with scheduling adjustments to better direct flow between high-value spaces.

Another strategy would be to break down individual courses that utilize high demand spaces into components of time (e.g., lecture time, lab time, prototyping time) and collocate spaces to coordinate flow between them during a single class block. CTE tech spaces are good candidates for this type of approach where high-cost equipment used by multiple pathways (3D scanners, for instance) could be collocated into one tech lab and made accessible to several classes concurrently

5.2 Reduce Pressure on Multipurpose Rooms and Cafeterias with Outdoor Dining and Gathering Spaces

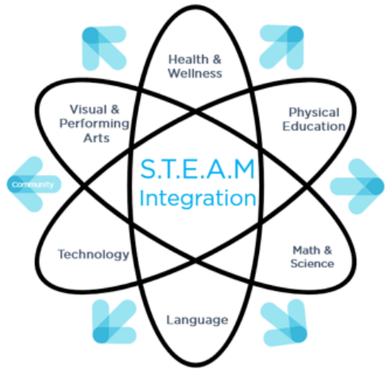
Multipurpose rooms and cafeterias represent one such space suffering from over-use, a condition that requires multiple lunch periods per day, stresses food service operations, and impairs student enjoyment of NMCUSD's world class nutrition and food service program. To reduce the load on these spaces, and improve the student experience, the planning team recommends creating outdoor dining and gathering areas adjacent and visible to cafeterias and MPRs . At the elementary school level, these spaces must be easily observable from main dining areas to enable easy supervision. At the middle school and high school level, the provision of drop-down space in lobbies or outdoor areas can be combined with expanded grab-and-go offerings to dramatically reduce the strain on cafeteria facilities. Creating shaded spaces for students to gather and dine outside the dining room will help reduce overcrowding in the multi-purpose rooms and cafeterias, enabling easier scheduling and a more pleasant experience for students, teachers and staff.

Condor Cafe at NMCHS

El Sol Academy, Santa Ana

5.3 Create Active Learning Environments and S.T.E.A.M Integration

The District has defined a strong STEAM (Science, Technology, Engineering, Arts, and Math) -based curriculum that requires a variety of flexible environments to support collaboration, creativity, movement, and exploration. At the earliest ages, this integrated learning model requires that students become active participants in the learning process and move out of traditional passive teaching models confined by the four walls of a traditional classroom.



To support active learning, classrooms must have:

- Lightweight, easily movable furniture
- Accessible technology
- Open storage for projects
- Direct access to outdoor learning labs and breakout areas

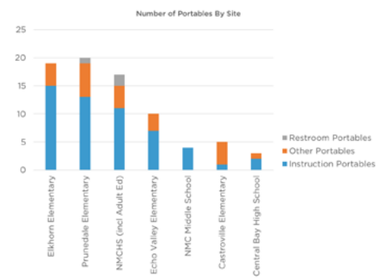
While the District's current classroom environments have some of these characteristics, for the most part they lack the flexibility and space required and make little use of outdoor spaces. The NMCHS multi-media center embodies many of the aspects of flexibility that NMCUSD would like to implement more. For more information about indoor and outdoor classroom requirements, please refer to the Education Specifications.

5.4 Extend Learning Outdoors by Providing Appropriate Spaces for Outdoor Learning, Recreation, and Gathering

Unlike urban school districts, NMCUSD's campuses enjoy green surroundings and copious amounts of outdoor schoolyard area. But NMCUSD's schoolyards are largely seas of asphalt, punctuated periodically by play structures and basketball courts. Providing students access to nature and varied learning and recreation spaces increases wellness and learning performance. Studies have found that outdoor learning is particularly beneficial for disadvantaged and challenged learners who struggle in traditional classroom environments.

By providing outdoor spaces with the necessary tools for learning, socialization, dining, and recreation, the district can also take the pressure off its overutilized indoor spaces – not as a 1 to 1 swap, but as an additional resource that instructors and staff can leverage. While NMCUSD teachers felt excited by new opportunities for using outdoor spaces, they also stated the need for professional training to properly take advantage of and shepherd outdoor spaces. See the Education Spaces for prototypical outdoor learning, wellness, and gathering spaces, including classrooms, garden classrooms, STEAM labs, amphitheaters, nature play zones, and dining spaces

5.5 Retire Portables by Leveraging Space in Existing Facilities



In the past, the district has used temporary, portable classrooms as a low-cost way to create extra capacity over the summer months. While they were never intended to permanently house educational programs, many of them continue to do so. Portable classrooms generally have less light, poorer quality finishes, lower air quality and acoustics than permanent buildings. Moreover, their low aesthetic quality diminishes the image and identity of any school site.

Retiring portables and, where possible replacing them with permanent structures is a strategy NMCUSD can deploy to help realize other campus space goals while providing superior learning environments for teachers and students.

The district should focus on replacing portables that are:

- Past 10 years old
- In the worst condition
- At sites with the highest number of portables

Portables can be retired by:

- Rightsizing the student distribution across the district and diminishing the need for them
- Renovation/adaptation of existing buildings
- Replacing them with permanent construction, including high-quality pre-fabricated classrooms that meet the district's specifications for energy efficiency, natural light, acoustics and indoor air quality

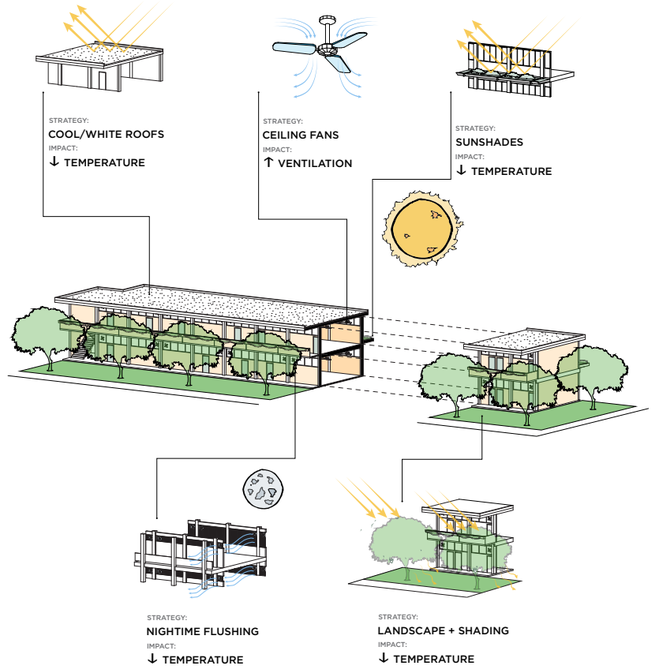
Prundedale Elementary School

Echo Valley Elementary School

Campbell School of Innovation, San Jose, CA

Cupertino High School, Cupertino, CA

5.6 Improve Energy Efficiency and Indoor Air Quality through Passive, Commonsense Measures



1. COOL / WHITE ROOFS
WHITE REFLECTIVE COATINGS APPLIED TO THE ROOF WILL REFLECT SUNLIGHT RESULTING IN LESS HEAT BEING ABSORBED BY THE BUILDING.

2. CEILING FANS
CEILING FANS CIRCULATE AIR INCREASING AIR SPEED. AN INCREASED AIR SPEED CREATES A COOLING SENSATION THAT INCREASES COMFORT.

3. SUNSHADES
SUNSHADES BLOCK DIRECT SUNLIGHT FROM ENTERING THE CLASSROOM AND WARMING THE INTERIOR ENVIRONMENT.

4. NIGHTIME FLUSHING
COOLER NIGHTTIME AIR IS CIRCULATED INTO THE CLASSROOM TO LOWER THE INTERIOR BUILDING AND AIR TEMPERATURE.

5. LANDSCAPING AND SHADING
DECREASE AMOUNT OF PAVED SURFACES THAT ABSORB HEAT AND USE STRATEGICALLY PLACED LANDSCAPING TO SHADE PAVED AREAS.

California is getting hotter and communities are facing increased risks from poor air quality. School districts across the State and around the world are developing new strategies to address these challenges. To address the issue of hotter classrooms, schools must apply sustainable solutions that produce results without exorbitant costs. Strategies include:

- Passive Cooling (see graphic above)
- Photovoltaic Air Conditioning
- Air Filtration

To plan for periodic acute air quality events like wildfires, the District may:

- Designate clean air sanctuaries like nurses' offices or libraries
- Reduce CO2 in classrooms with filtered fresh air intake and HEPA filters.

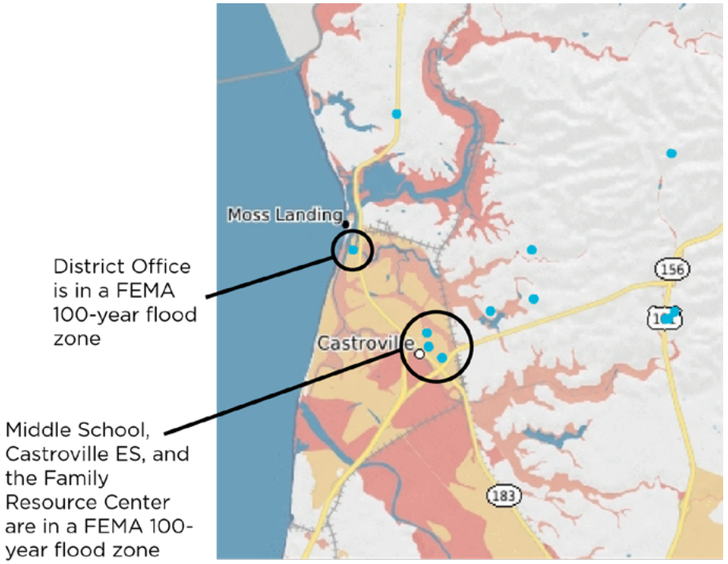
To maximize energy efficiency, the district can:

- Plant additional trees to cool surfaces around school buildings and reduce cooling demand

Photovoltaic Air Conditioning System with energy storage

- Replace asphalt with cool surfacing and / or permeable paving to decrease the 'heat island effect'
- Create energy storage systems
- Install photovoltaic arrays that serve dual purposes as shading devices for student gathering spaces
- Lighting, window, and building system replacements

5.7 Preemptively Mitigate Risks due to Climate Change



FEMA 100 Year Flood Zone

The district's facilities host its educational programs and operations but can also represent a liability to it. As it executes any future capital program, the district needs to consider the potential risks and liabilities related to each property it owns in light of known and unknown environmental threats. Known threats in this region include:

- Pandemics
- Floods
- Storms
- Fires
- Earthquakes
- Tsunamis

Keeping these threats in mind, the district should endeavor to preemptively prepare risk mitigation strategies, that include:

- Divesting itself of properties in at-risk locations
- Building reinforcement and retrofit projects
- Preparation, practice, and updates of Emergency Operations Plan and Continuity of Operations Plans

5.8 Identify Uses and Partners for Optimizing Use of Vacant Sites

The district owns two sites that are currently not housing educational programs or district operations. These sites nonetheless represent an opportunity to generate revenue and complimentary community programming. In each case, land use or development limit reuse options but some uses below may require a variance, regulatory approval, or other legal actions to be possible.

Moss Landing Middle School aerial view

Moss Landing Middle School

- Shared sports facility
- Lease site to solar provider
- Relocate District Office
- Build new elementary school
- Lease to other user
- Joint development with partner (e.g. teacher/workforce housing development)

Oak Hills aerial view

Oak Hills

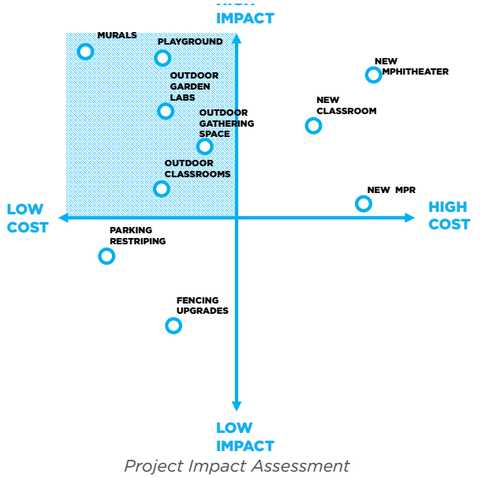
- Nature trail
- Exercise circuit
- Lease site to solar provider
- Lease out land

5.9 Strengthen The Image + Identity Of Each School Site (Low Cost/High Value)

The condition of district's facilities are critical to a school's image and identity, impacting school pride, a student's sense of belonging, and, ultimately, district enrollment. This is readily evident at the front door of any school, where students, parents, and community members get their first (and sometimes last) impression of the type of NMCUSD's learning communities.

Increasing the curb appeal of each school site through low cost, high-impact aesthetic interventions does not need to wait for large-scale capital infusions. In fact, the price of investing in outdoor improvements like outdoor classrooms is 40% the cost of building the equivalent enclosed space. Curb appeal mostly needs a vision, a champion, and a coordinated program for addressing improvements that will make the most visual, cultural, and functional impact at each school site.

Curb Appeal projects can include:
- Drop off / school access flow improvements
- Painting
- Murals
- Outdoor Displays and Digital Marquees
- Green Schoolyard Transformations
- Outdoor classrooms and gardens
- Outdoor furniture and shading
- Play equipment
- Signage

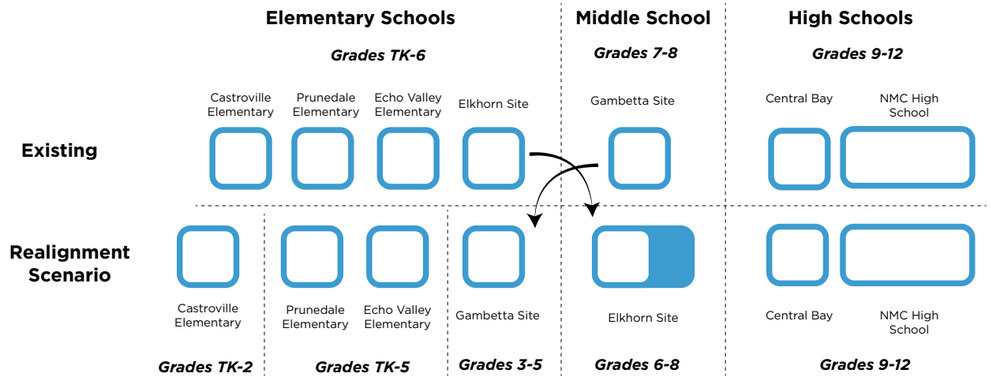


Project Impact Assessment

Mural

School Wayfinding to Reinforce School Identity
Photo: https://segd.org/wayfinding-placemaking-discovery-elementary-school

5.10 Realign Campuses with Appropriate School Enrollment



District Realignment Scenario

Seen as a whole, the district has sufficient building capacity to accommodate its current and future student enrollment. However, because of the current distribution of age cohorts at each site, some campuses feel crunched while others are under. Nowhere is this more felt than at the current NMC Middle School, which was originally built as an elementary school and therefore lacks key spaces for middle schoolers.

By revisiting the distribution of age cohorts at each school site, NMCUSD could even out the pressure on individual campuses and develop learning communities that are appropriate to their respective age groups.

One rightsizing strategy among many could be to relocate the district's middle school program to the current Elkhorn Elementary site. This would precipitate a series of other moves, for instance:

New construction at Elkhorn would provide:
- Science labs and gymnasium that cannot be provided at the current Middle School site (Gambetta)
- capacity for the district's 6th graders to join 7th and 8th graders at a single site.

The Gambetta campus, currently in use as NMC Middle School, would revert to its original use as an Elementary School.

POSSIBLE CONCEPT ALTERNATIVE WITH DIFFERENT RESULTS:

- **7th + 8th Grade only at Elkhorn**
- **4th-6th Grade only at Gambetta**
- **PK-3 Grade only at Castroville**

This strategy achieves several significant outcomes:
- Middle Schoolers are housed in a facility suitable for their needs.
- Moving 6th graders away from Elementary Schools reduces crowding across the district and enables removal of at least some portable classrooms at all Elementary Schools
- Circulation issues at Elkhorn would be reduced due to a greater proportion of Middle School-age students using bus transportation.

Based on a preliminary analysis of the district, the Elkhorn site appears to be the most suitable for this conversion due to its location and available space for construction of a two-story classroom building. Various permutations of this strategy are also possible that would enable the district to achieve some outcomes at a lower cost.