

**Lessons Learned: A Symposium on School Design
LAUSD / USC School of Architecture / J . PAUL GETTY Trust**

Session: 1B - Exterior Space

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Attendees:

Marc Rios, RIOS Associates
David Martin, AC Martin and Partners
Hraztan Zertitran, Johnson Fain and Partners
Leigh Kristy, John Friedman Alice Kim Architects
Karen , Charles Debauch Assoc.
Sharen Cho, Architects
David Dobkins, Gonzales / Goodale
Daynard Tullis, Morphosis
Kathy Lipman, LAUSD
Maru Brown; Ian , Tetra Design
Robert Uyeda, Tetrus Design;
Pirooz Shhhahhrdar,
Mia Lehrer, Mia Lehrer Associates
Steven Kanner, Kanner Associates
John Mutlow, LAUSD Design Advisory Council
Christoph Kapella, Christoph Kapella Associates
Ron Fitch, Martinez/Kuch
Steven Olsen, Arquitechtonica
Mia Lehrer Associates
Kieth Palmer, Bryant Palmer Soto

Key Issues:

The subject for this session of the symposium was Exterior Spaces. The general assumption underlying much of the discussion was that LAUSD building sites are getting and will increasingly get smaller and smaller over time thereby requiring buildings to become more vertical and reducing the amount of exterior open space available for use. Many of the sites will also have sloping topography to them as well. It was noted that too often exterior spaces are merely the bits of left over space resulting from the architectural lay out. Conversation focused on how exterior spaces need to be more rigorously and creatively integrated into architecture schemes developing stronger relationships between inside and outside both spatially and programmatically. Likewise, future exterior space planning must be thought about in terms of relatively new spatial paradigms for the LAUSD, that of verticality and topographic separation. Increasingly, landscapes will exist on terra firma less and less, but will need to be conceived of at a variety of levels and on artificial surfaces. Current thinking needs to move from traditional notions of schoolyard exterior spaces of grass and playing fields to a concept for diverse environments with an appreciation for the climate and environment of Southern California. There was a sense that everyone wished to integrate the curriculum with the outdoors including more exterior teaching stations. Teaching stations outdoors at the moment are very narrowly understood and should be revisited and imagined creatively by the LAUSD and everyone involved in their making. Exterior classrooms need to be defined as such and not nebulously conceived of as just another an aspect of a playground.

Because the inherent nature of each site the LAUSD will be acquiring is different, each will need to be considered on its own terms within its community and context. Standards, while helpful in trying to 'raise the bar' in the way schools consider developing exterior spaces, were seen as less important than an attempt to achieve certain goals about how we use our landscape and how we relate to the environment. Despite the disparity of each site's conditions, there are larger human, societal, and community goals that apply to all projects. Seemingly, most existing standards were developed when building sites were bigger. New goals might be developed specifically for smaller sites.

Some felt that in lieu of standards, a philosophy of play be addressed - 'have we embraced it philosophically in the structure of building new schools?' 'Does the LAUSD have an expert in this area that can help set goals for play, recreation, and the integration of curricula with the outdoors?' Those desiring this philosophical reflection felt that often architects and landscape architects, drawing from personal experiences, were left as the harbingers of the values of exterior space and left to fight for these spaces relegated to secondary importance for one reason or another.

Tight budgets, in conjunction with all the other demands, pressures, and requirements school projects must face are in large part responsible for the difficulties in funding exterior space. A large portion of the session was spent talking about funding and experiences people had dealing with these issues. It was noted that opening schools to the community for night and weekend classes was seen as a new way of understanding the relationship of the school to the city and the state and therefore a new way to think about funding. If aspects of the project could be conceived of as a benefit to the community at large, alternative funds could be solicited from a variety of sources on behalf of the neighborhood related items. Creative programming and new ways of maximizing the use and appreciation of what the school has to offer is encouraged. In fact, contemporary examples have shown that when a community feels proud of their school, they become personally invested in, and begin to take responsibility for its maintenance and care - either in the form of planting and gardening or work parties to keep the school clean.

Some participants had faced problems with the relationship between the parties involved in the construction of the school. The desire everyone in attendance had was to create an atmosphere where open minded teams of architects, landscape architects, Design Review Boards, and Project Managers work together to improve the design of our schools. Collaborative, open-minded relationships have proved to be more flexible and foster a level of experimentation which has lead to surprising, new solutions. However, everyone agreed that the best projects are a result of the balancing of all the requirements while maintaining creative innovation in the design.

Key Issues:

Diverse Environments: Current thinking needs to move from traditional notions of schoolyard exterior spaces of grass and playing fields to a concept for diverse environments with an appreciation for the climate and environment of Southern California. Spaces of a variety of scales and material character should be designed to accommodate many different programs with differing physical activity levels for day, night, and weekend programming.

Goals not Guidelines - Instead of establishing guidelines for the designer to rigorously follow for situation, we should establish a series of goals and objectives to where we want to go thereby allowing an array of responses that can flexibly be deployed in a variety of situations.

Constraints, Problems and Design Opportunities:

Constraints: what are the forces that generate and determine design?

1. New Project Design Requirements: The necessary regulations imposed on any project have probably the strongest impact on the resultant exterior space design. Setback zones, fire lanes, parking requirements, increasingly smaller sites new schools are being built on, accessibility requirements, refuge areas, drop-off areas and bus parking were a few of the given elements which determine various qualities and the quantity of the ensuing exterior space design

2. Topography: even small changes of 2-3 feet across the breadth of the site have repercussions in the design of exterior spaces. Accessibility requirements, maintaining clear paths for emergency exiting from assembly areas to the street, and Fire lanes were all seen as items which would require the use of more space than would be needed on flat sites.

3. Security: Security has a large role in the consideration of exterior space. Security requirements at the entry points determine many of the materials that will need to be used and therefore a corresponding part of the budget. The desire to eliminate invisible corners in schools determines the number and spatial relationship of the spaces to the architecture and often requires that the spaces be surveyed from a single point.

4. Required Program Spaces: Spaces such as the meeting area and the dining area are given and have certain spatial geometries that necessitate their independence from one another and use large percentages of the overall exterior space. Special efforts need to be made to effectively include the smaller spaces as well as to add unsolicited spaces (outside of the original project brief) appropriate for the context. Architecture must frame and interact with these spaces. Too often it is the resultant space left after all the LAUSD building goals are satisfied which drives the ensuing program of exterior space.

5. Budget: A real constraint on the planning and provision of exterior spaces has been budgetary. Budgets in general for all LAUSD projects have been tight. It was found by some that after all the requirements of building a new school were met, little if any was left for landscape architecture sometimes resulting in the bare minimum solution with simply the use of asphalt paving to finish an entire courtyard.

Problems:

Landscape architecture in general, and the design and planning of exterior spaces enters the project design sequence too late in the process. With the myriad of requirements the architect is expected to incorporate, the consideration of exterior spaces often gets postponed until the landscape architect joins the process. Typically, the landscape architect is contracted after the project had passed through the Design Review Board. The landscape architect then works closely with the architect and the project manager, but because of their late entry into the project, landscape architects are adjunct to the goals established during the Design Review Board. It was believed that if the landscape architect was brought in earlier in the project, the goals decided upon in Design Review might be achieved. It was noted that the Design Review Board had in the past sent back projects where the exterior spaces were deemed exceedingly weak.

Opening schools to the community at night or on the weekends, while agreed to by all as a very important thing to do, puts incredible pressure on already over taxed landscapes, further reducing the possibility of foliage and other maintenance intensive aspects of the exterior space. An example of a space suffering from these pressures is the playing fields. The intensive, year round curriculum of the LAUSD system makes it difficult to re-sod the playing fields (which can take up to two months).

Many of the decisions for the exterior spaces of the school are made based on the cost at time of construction without consideration of the long term Maintenance & Overhead costs to the school. This is partly a problem of the structure of government funding policy. Sustainable materials for example, which may help reduce lifecycle costs and save the school money in the long run cannot be funded from Maintenance & Overhead budgets which is a common accounting procedure in the private sector.

Trees as with most live materials are generally difficult to include in school projects because they are so physically challenged. Saplings have difficulty surviving their early years of growth while more mature trees are generally too costly to include in the budgets. Existing trees on the site, if any are always difficult to work around and generally wanted to be removed for ease of construction. Maintenance and gardening costs also increase. Considerations such as fire lanes or parking tend to eliminate possible locations for placement. Trees are also viewed as problems in the main meeting spaces because they are seen to impinge on the flexibility and visibility that those spaces require. Lastly, some voiced concerns that architects eliminate trees from their schemes for fear of obscuring the appreciation of the elevations of the buildings.

Design opportunities:

Because of the increasingly intensive use of our schools, new materials should be explored which will stand up to the challenges of increased, year-round usage. The example of the pressures that playing fields are subjected to must be considered an opportunity to explore other options for surfaces which are capable of withstanding intensive use.

Because less and less exterior space is left on the ground which we have always traditionally associated with usable exterior space, we must now consider the use of the tops and sides of buildings or garages as viable spaces for play or use. Also, because schools are now becoming multi-level, exterior program areas can be developed at a variety of levels throughout the project.

Solution types:

Generally exterior spaces can be broken into six separate and distinct types of spaces given in any school design. The following types of spaces were all used as a framework for discussing the two examples from the current round of LAUSD building selected for presentation during the break-out session. The important thing in designing exterior space is to understand how they relate to and compliment each other. Under the concept of 'diverse environments', re-thinking how these spaces can interact with one another, be used at different times of the day, and their interaction with interior spaces should all be creatively addressed to maximize the value of each.

1. Entry into the site: This includes entry gates, car drop off, bus parking, or any other aspect of arriving at and getting into the school.

2. Exterior meeting spaces: This includes hang-out spaces, where kids meet before and after classes, general assembly, and short term play spaces.

3. Dining Areas: Includes sheltering and shading elements. Currently Dining spaces are specifically dining, future planning might include cross over programming allowing this space to be used at other times.

4. Active / Play Space: Typically separate from other types of spaces and often placed at the edges of 'campus' planning overall. These spaces generally vary in size and need according to age group.

5. Passive / Study Spaces: Outdoor classrooms; smaller, quieter exterior spaces where classes can occur, kids can hang out, study, or talk in small groups or by themselves.

6. Ecological / Teaching Spaces: These may include contemporary programming ideas like 'culinary kitchens', vegetable gardens, or 'water recycling features'. Generally, these spaces would be developed to promote understanding and enjoyment of the outdoors, ecology, and environment we all live in.

Examples:

The reason for the selection of the following project examples was because they each were believed to represent a strong, clear, scheme which satisfied all the requirements of the project asked for by the LAUSD, worked within the given budget, but considered flexible and somewhat experimental; pursuing a creative, innovative development of a diversity of exterior environments.

Some history was invoked during the symposium. Generally, architects lamented the lack of presence schools have in our neighborhoods. Older schools designed with strong facades were seen as positive statements in their community and appropriate in defining their institution roll in the neighborhood. On the other hand, schools designed during the 50's were viewed as optimistic and almost utopian with their relationship to the outdoors. Even in their simple forms, many buildings were designed to include prodigious amounts of natural light and fresh air thereby reducing the need for lights and HVAC systems. Contemporary practice should incorporate some of these lessons to reduce long-term costs to the schools such as energy bills

Central L.A. Area New High School #10, Mia Lehrer Associates, landscape architects. Johnson, Fain, Pereira Architects

The school is being planned for a 20 acre site near downtown Los Angeles between 3rd and 4th streets and (?) Ave and (?) St. Despite consensus about LAUSD's trend toward smaller sites, this particular project is not indicative of a tight site most LAUSD projects are faced with. The active play / sports areas are separated onto another parcel from the campus and connected by a bridge crossing over 3rd St. The main design concept for the landscaping lies in a series of formally distinguished, smaller, sub-spaces specifically programmed with a direct relationship to the activities going on in the adjacent buildings, all of which help frame the large central courtyard. The main courtyard itself has a direct connection to the amphitheater and can be used for both large groups and teaching sites. Some of the other exterior spaces

were a walled off music garden, a sunken court for the art studios, and reading gardens outside the amphitheatre. Mia Lehrer, who presented her project, said she entered the project after the architectural parti had been settled on but before Design Review Board. It was recollected that this was the only project she was aware of where the landscape architect had entered the project before the Design Review Board approval. The relationship with the project manager was characterized as successful because it was unusually open to discussion and the exchange of ideas.

It was noted that she had tried to introduce sustainable practice ideas, such as the capture and reuse of water for the playing fields, but these were eliminated due to cost. It was also noted that although there was little time to discuss graffiti during the session, considerations were made in the designs in reference to what was seen as a problem in this neighborhood.

Some of the special or unique features of this project included:

An herb garden located adjacent to a 'culinary arts center'.

A desert garden outside the second floor library doubles as an outdoor teaching center.

Benches and ground paving of colored concrete (considered rare for LAUSD projects because of cost). This was possible because the amphitheatre itself doubled as a stairway thereby eliminating the need for a second stair. The ensuing 'credits' were transferred to the colored concrete.

Many of the trees for the project (such as the grove of trees between the football and baseball fields) were not possible within the budgets, special efforts by the landscape architect were needed to secure their donation by local nurseries and benefactors.

Belmont Elementary School #6, Mia Lehrer Associates, landscape architects. Perkins & Will, architects

The school is being planned for a relatively small site between 1st and Council streets and Vermont Ave and New Hampshire Ave. Mia Lehrer, who again personally presented her project, recollected that she was brought in as the landscape architect after approval by the Design Review Board. More than the previous project, the open spaces were the result of the building placement and their footprint. In addition, the buildings themselves as well as the exterior spaces had to work around and with an existing historic structure (possibly by the architect Julia Morgan). It was noted that because the requirements for programmed exterior space along with fire lanes and drop off areas essentially went unchanged in their respective sizes, correspondingly more of the exterior space is paved leaving very few 'soft spaces' and would be increasingly a common phenomenon with the smaller LAUSD build sites. One of the questions raised through the scheme and by extension with the current policy of the LAUSD to bring the drop off areas around to the side of the site with less traffic, was that the school itself turned a relatively blank face to Vermont, the major street in the community. Lastly, the design included relatively novel programming ideas for the school leading to general questions about how these programs were selected. Typically, a principal or other administrative official responsible for curricular programming for the new school has not been assigned to the school at this point. Many thought it would be useful to conduct 'exit surveys' or post occupancy evaluations that interviewed teachers, students, and community leaders about possibilities for programming diverse environments.

Some of the special or unique features of this project include:

A garden just outside the library functions as a teaching site.

Placement of a small vegetable garden adjacent to the Kindergarten adding an outdoor and environmentally conscious element to the curriculum

The asphalt was painted in a variety of colored stripes to make the paving more lively and playful

Experiments with chain link fence were made to reduce the ordinary quality of it. The strategy was to accept a very cheap element to satisfy the design budget, but to then try to do something to it thereby making it special and unique.

Specified decomposed granite in certain locations

Alternative materials for sound abatement were explored and deployed.

Recommendations:

Concerning many of the points noted above, representatives of the LAUSD and the Design Review Board offered some encouraging comments. Acknowledgement of the continually shrinking sites and budgets for construction forces architects, landscape architects and project managers and the LAUSD to realize that many creative and innovative solutions will be necessary to maximize the use of the exterior space of each project. Devising elements that can be used in a variety of situations whether through normal everyday school curriculum, evening classes, or weekend programs. LAUSD will be opening up 243 acres of open space to communities all over Los Angeles in the coming years. These spaces are for the community. Because Los Angeles is in such dire need for new seats and space for a continually growing student body, the new buildings right now have a certain 'triage status' - mostly focusing on the provision of these seats. Despite the strict budgets expected to continue, all architects and designers should in no way be discouraged from creative elaboration or innovation in their plans. Even if portions of the plan are unlikely to be funded by the LAUSD budget directly, alternate sources of financing, fundraising, and phasing of the scheme are possible if the design concept is strong enough. For example, it was discussed that 'soft spaces', if billed as part of a night education program, could be a catalyst for them to go back to the state to make an argument about funding upgrades. As different each site is from one another, maintenance is as well. It has been shown that if the community feels proud of and connected with these spaces, parents, grand-parents, involved citizens and even some of the children will come on weekends and personally clean or plant these spaces out of care for the community at-large. What follows is a list of items that were generally agreed upon goals that we should all pursue in the construction of our schools in the future.

Work with the increasing density of tight spaces with an expanded concept of how we use buildings and what we consider programmable open space. Roof gardens, parking structure tops, and other areas traditionally not associated with exterior space can be used to create viable, creative, and essential exterior spaces.

The concept of diverse environments for the exterior spaces of new LAUSD projects must seek to provide a variety of spaces satisfying the requirements of differently scaled activities and events - Begin Introducing Sustainable Practices considering the well being of the environment, impacts on Maintenance & Overhead, and the lifecycle costing of the school.

Architects and designers should develop strong design concepts. Strong concepts may enable alternative and additional funding.

Engage landscape design issues early in the design process. Do not relegate it to the leftover space resulting from building planning.

Try where permissible to incorporate more 'soft' spaces in the project - especially on smaller build sites where paving becomes so prevalent

Explore and develop new ways of using existing materials as well as the encouragement of development of new materials in the private sector to help solve the issues of long term durability, ease of maintenance, 'soft spaces', acoustic transmission, color, etc.

Efforts need to be made in thinking about the edges of schools. Rethink walls and fences to reduce the omnipresent sense of barricading. Re approach traditionally cheap ways of making a fence and treat them in a new and unique way

Create a conspicuous presence of trees. Find a way to be inclusive and protective of them; set aside funding for their maintenance. Many of the practitioners present recalled that the most prevalent memories from their own school years were memories of the trees on the campus. Use their intrinsic qualities to your advantage: ways of providing shade, gathering nodes, their natural ability to aesthetically soften spaces, controlling passive solar gain, etc. The LAUSD currently has a guidebook of acceptable trees which provides a diverse array of opportunities.

LAUSD Comments and Clarifications: