

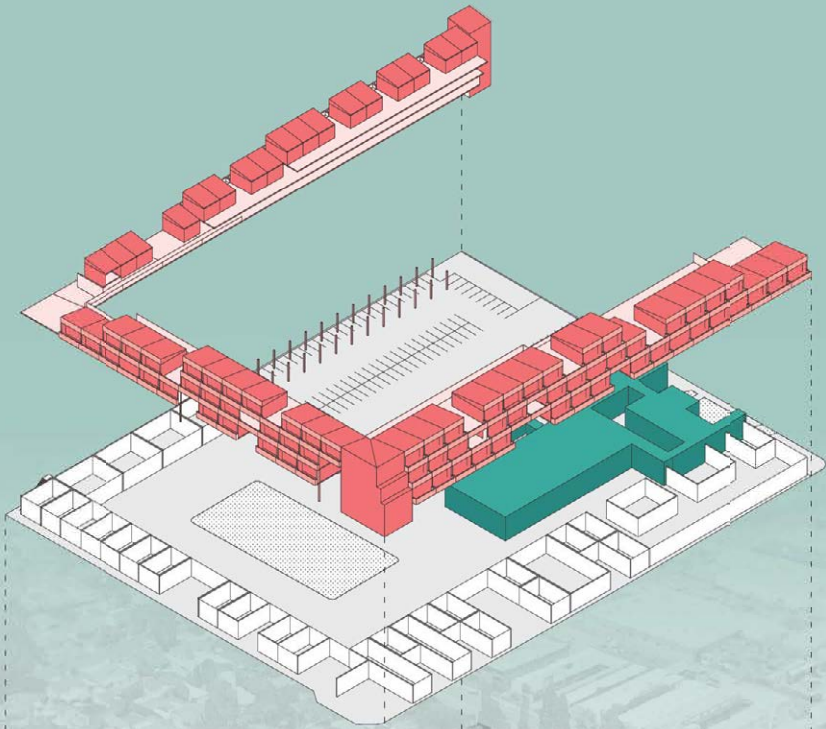


LIVING IN THE 21ST CENTURY SCHOOLYARD

EXPLORING THE SCHOOL-HOUSING NEXUS IN SOUTHERN CALIFORNIA

DANA CUFF AND GUS WENDEL

WITH RAYNE LABORDE, KATHERINE TAYLOR-HASTY, & KENNY WONG



FROM THE DIRECTOR

Since its inception in 2006, cityLAB, the research and design center of Architecture and Urban Design at UCLA, has been forging new paths for innovative affordable housing. For the past two years, we've been experimenting with sites that are hidden in every neighborhood: school campuses. The following pages document our ongoing research and preliminary conclusions about the feasibility of siting affordable housing on public schoolyards.

Why study this combination of uses, you might ask? We have very good reasons. First, cityLAB has a strong track record of revealing hidden housing sites. After a decade of design research about backyard housing across L.A., in 2016 we co-authored new State policy that incentivizes Accessory Dwelling Units (AB2299 and SB1069), effectively ending single-family zoning statewide, doubling the density of the suburbs, and creating a whole new, hidden crop of smaller units on “free” land. Schools with relatively large campuses are distributed across all neighborhoods, suggesting another cache of free land in the urban and suburban residential fabric. California hosts a range of public school campuses: 10,521 K-12 schools, 115 community colleges, 23 state colleges, and 10 university campuses.¹ Conservatively estimating that these 10,669 school sites average 10 acres each, the state has 166 square miles of land occupied by public schools, equivalent to more than 7 Manhattans! That's a lot of land, and although much of it is occupied by buildings and recreational uses, cityLAB's research argues that every school site has some opportunity for housing development. Higher education campuses already include dormitories, but only eleven California community colleges have dorms, even though a growing number of their students are sleeping in cars. On any campus, prime sites include surface parking lots, portable classrooms, or derelict buildings, all of which could be made new as part of the affordable, multi-family housing without losing any recreational greenspace. Our studies demonstrate that a housing-education nexus can meet the needs of prospective residents, schools, and neighborhoods -- a win-win-win concept.

We are regularly asked a few questions about this research. Why not build affordable housing on the large number of publicly-owned vacant sites in Southern California? We should. It doesn't take cityLAB's innovative approach to see the logic there. Parallel to using vacant land, we are working on these more complex sites --school campuses themselves, where thoughtful architectural design can show stakeholders something

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¹ California Department of Education. “Fingertip Facts on Education in California.” CalEdFacts, accessed June 2019.

that is harder to imagine, so that policy and decision making will be better informed. The second question: When public schools are already so troubled and stressed, why distract them from their educational mission? Nothing should distract schools from their primary mission to educate students. Except for the construction process itself, housing is not a distraction but a support. With the housing comes new families, new facilities, new ties to the neighborhood, and potentially new revenue. Finally: Do the economics of building housing on school sites make sense? The answer is unequivocally “yes,” but much more study is needed to determine the best kinds of development agreement, levels of subsidy, housing density, and housing affordability, all of which will in turn provide information about the potential costs and benefits of such housing. And to undergird all the economic potential, new policy is needed, which is cityLAB’s ultimate goal.

We have had important partners in the research reported here. The immense Los Angeles Unified School District (LAUSD) is studying ways to better utilize its real estate as a resource, with affordable housing high on the list of possible uses. With the Southern California Association of Non-Profit Housing (SCANPH), we explored housing for several community colleges in the L.A. area. With several administrative groups at UCLA (Student Services, Transportation Services, Housing), we continue to investigate ways to better serve the housing needs of its student population. Each partner has deep commitments to its students, and recognizes that affordable housing is a key ingredient for their well-being and academic performance. It is our honor to work alongside these dedicated public stakeholders.

We look forward to your response to this cityLAB report: Living in the 21st Century Schoolyard.

*Dana Cuff
Director, cityLAB*

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INTRODUCTION TO THE HOUSING-EDUCATION NEXUS IN SOUTHERN CALIFORNIA

As Southern California evolves from the era of postwar suburban sprawl into a network of 21st century cities, our public institutions must be proactively reimagined in light of changing public needs. Among the largest public landowners are our educational institutions, struggling with issues ranging from declining enrollments and deteriorating physical plants to budget constraints. At the same time, one of the greatest public needs is affordable housing, since nearly one million Southern California residents pay more than 70 percent of their income on housing, yet land for construction is increasingly scarce and expensive.

Can underutilized school property host affordable housing, in return for benefits to schools and their neighborhoods?

Guiding cityLAB's work for the past few years, this question spotlights public schools and the land upon which they sit. There is growing agreement that at least some campuses could host affordable housing, but research has yet to determine which sites are feasible, how the residential projects might be realized, or what the benefits may be. To jumpstart this conversation and begin visualizing such projects, cityLAB has created site design prototypes at the primary, secondary, and higher education levels. In doing so, cityLAB joins a growing movement of scholars, policymakers, educators, students, and activists who see the alignment of priorities between our education and housing institutions as a key, innovative step towards addressing shared concerns.



Figure 2: Utah Street School (center), Aliso Village, 1945

For the past century, public schools have been at the heart of American communities. When Clarence Perry invented the “neighborhood unit” in 1923, the first principle was “Center the school in the neighborhood.”² Close ties between family housing and schools persist in urban plans, even in notoriously “unplanned” Los Angeles: in 1942, Aliso Village public housing was built around the Utah Street School, and in the 1990s, the school was a central element of New Urbanist planning for Playa Vista.³ As the poster child for postwar suburbia, Los Angeles is now grappling with ways to adapt to the environmental, demographic, and economic imperatives of our time. To create a postsuburban city means discovering what a postsuburban school might be.

There is wide agreement that school districts can be part of the solution to the affordable housing crisis in Southern California. For example, in the 2013 Housing Element, the City of Los Angeles sought to “reconfigure older school sites in order to make land available for community uses, including affordable housing.”⁴ In 2016, Pasadena’s Director of Housing proposed developing affordable housing on school district-owned sites.⁵ In 2017, the United Teachers Los Angeles requested in their bargaining proposal that underutilized land be developed with affordable housing for homeless families.⁶ There is also concurrence that school districts must address budget concerns by considering creative new sources of revenue related to their real estate holdings, including housing development.⁷ To fully realize this shared sense of synergy, we need evidence-based research as well as inspiring visions of the nexus between housing and education.



Figure 1: UTLA negotiations

2 C. A. Perry. “The Neighborhood Unit: A Scheme of Arrangement for the Family-Life Community.” *The Regional Plan of New York and its Environs*. 1929.
3 D. Cuff. *The Provisional City: Los Angeles Stories of Architecture and Urbanism*. MIT Press, 2000. pp. 157; 320.
4 Los Angeles Department of City Planning. “Housing Element 2013-2021.” Los Angeles Department of City Planning, December 2013, p. 6-22.
5 W. Huang. “Conceptual affordable housing projects on Pasadena Unified School District sites.” Presented February 2016.
6 United Teachers of Los Angeles. “Community demands package: Bargaining proposal September 15, 2017.” United Teachers of Los Angeles, 2017.
7 LA Unified Advisory Task Force. “Hard Choices.” LAUSD, June 2018.

WHY BUILD HOUSING ON SCHOOL SITES?

The affordable housing crisis in California is so severe that every potential site must be considered. Public school properties have the advantage that the land is already in public hands. Therefore, the land is essentially free, the housing projects can be guided with the public interest in mind, and revenues (if any) return to the public agency. Although housing construction provides new units, it can also have the effect of displacing existing tenants when older housing is demolished or rents are increased. Affordable housing on schoolyards is more benign, and can be part of wider neighborhood stabilization practices. In the past, housing on school sites has been intended for teachers and other staff. But the advantages of a schools-housing connection can also be framed in terms of holistic, diverse communities, and improved education. To study the feasibility of building housing on school sites, cityLAB took Los Angeles as its case study. Los Angeles is home to 1,322 K-12 public schools which makes LAUSD one of the largest property owners in the city. Since LAUSD is also facing problems such as aging facilities, budget shortfalls, declining student enrollment, and fewer teachers (in part because of the affordable housing shortage), the addition of housing to school sites could provide a partial remedy.

There are numerous benefits to co-locating housing on existing schoolyards where there is excess capacity: the school may need new facilities or additional revenue, and students, teachers, and their families are unable to find affordable housing nearby. Data supports these justifications.

Students and staff are being priced out of school districts. Public K-12 school enrollment in California is forecasted to decline by 181,000 students over the next ten years; Los Angeles County will face the largest decrease of 119,000 students.⁸

Since districts are funded on a per-pupil basis, the loss of students makes it difficult to maintain basic operations and upgrade facilities.⁹

8 California Department of Finance. "California public K-12 graded enrollment and high school graduate projections by county - 2017 Series." Accessed December 2017.

9 Ibid.

Nearly 1 in 5 California community college students and more than 17,000 LAUSD students experienced homelessness in the past year.¹⁰

44% (2016) of University of California undergraduates and 60% (2018) of California community college students experienced food insecurity and a whopping 84% of LAUSD students qualify for the Free or Reduced-Price Meal program, a common measurement of students coming from low-income households.¹¹

The high cost of recruiting and training new teachers is exacerbated by high housing costs that drive the teachers to move away after short terms.¹²

High turnover rates directly impact classroom and student achievement.¹³

As a result of the above conditions, schools are beginning to acknowledge that affordable housing is a basic educational and health requirement.

- 10 Los Angeles Unified School District (2018b). "Homeless Education Program." Los Angeles Unified School District; S. Goldrick-Rab, C. Baker-Smith, V. Coca, & E. Looker. "California Community Colleges #RealCollege Survey." Hope Center, 2019.
- 11 Los Angeles Unified School District (2018a). "Food Services Division, About Us." Los Angeles Unified School District; "UC Global Food Initiative." University of California Office of the President; S. Goldrick-Rab et al., 2019.
- 12 G. Barnes, E. Crowe, & B. Schaefer. "The cost of teacher turnover in five school districts: A pilot study." 2007.
- 13 M. Ronfeldt, S. Loeb, & J. Wyckoff. "How teacher turnover harms student achievement." American Educational Research Journal. February 2013. 4-36.

CONTEMPORARY POLICY CONTEXT

Metro-As-Model: Affordable Housing + Transit

Metro, which builds and operates public transportation in L.A., demonstrates that a public agency can extend its core mission to produce housing. In recent years, Metro adopted a series of joint development goals for producing and incentivizing affordable housing.

- A housing-transportation nexus will create more affordable housing that sustains Metro ridership, since low-income households make up the core of transit users. Transit oriented communities constructed through Joint Development will be required to include 35% affordable housing.¹⁴
- Affordable housing will help Metro realize its ambitious greenhouse gas reduction goals - 57% by 2030; 81% by 2050 - by preserving and increasing ridership.
- In 2017, the Metro Affordable Transit Connected Housing (MATCH) program was established to finance the preservation and expansion of affordable housing near transit.¹⁵

Metro serves as a model that a public agency can expand its mission to include affordable housing. School districts can similarly deepen the nexus between their educational mission and housing. Both organizations are negatively affected by the high cost of housing and would benefit in multiple ways from expanding their mission.¹⁶



Figure 3: Metro Transit Oriented Development, Paseo at Californian

Note: The TOD Housing Program was used to provide gap funding for The Paseo at Californian, designed by PSL Architects. The Paseo is a 53-unit affordable housing project located at the corner of 6th and Bonnie Brae Streets in Los Angeles's Westlake neighborhood. The project was developed by American Communities and all units in the building will be income restricted.

14 Los Angeles County Metropolitan Transportation Authority. "Transit oriented communities policy." LA Metro, June 2018.
15 R. Dovey, "LA. transit agency is investing in affordable housing." Next City, September 27, 2017.
16 LA Metro, 2018.

CONTEMPORARY POLICY CONTEXT

LAUSD: Workforce Housing Experiments

LAUSD's Workforce Housing Initiative is an even more relevant demonstration that the co-location of housing and schools can be mutually beneficial. Apartments were built on school property that was either adjacent vacant land or parking lots.¹⁷ LAUSD has completed three projects aimed at housing staff and teachers (in addition to one general affordable housing development). At one site, an early childhood education center was included, showing that new housing can incorporate community benefits. The projects were successful in terms of leasing and occupancy--in one project over 7,200 people applied for 90 available units;¹⁸ in another, 44 LAUSD employees applied for each available unit. The developments take advantage of excess school property to provide housing for low-income households, including school janitors, librarians, and clerical workers: "The school district makes more efficient use of land that it owns; affordable housing developers can use land with a below-market-rate lease; LAUSD staff can find affordable housing near their jobs; and the community gains new amenities."

Today, school districts in urban areas across the nation, including Los Angeles, are evaluating the sale or lease of school-owned vacant land for housing development. cityLAB's design research expands these opportunities beyond vacant land, to include underutilized portions of existing school campuses.¹⁹



A RIO VISTA APARTMENTS **B** GLASSELL PARK EARLY EDUCATION CENTER **C** GLASSELL PARK ELEMENTARY SCHOOL

	Rio Vista Apartments	Sage Park Apartments	Selma Community Housing	Norwood Learning Village
Neighborhood	Glassell Park	Gardena	Hollywood	South Los Angeles
Year Completed	2011	2014	2016	2017
Previous Land Use	Parking lot	Agricultural education	Parking lot	Parking lot
LAUSD Joint Occupancy	Glassell Park EEC	LAUSD joint-use facility	LAUSD parking	LAUSD parking
Housing Type & LAUSD Preference	Family housing n/a	Family housing LAUSD - 100% units	Family housing LAUSD - 50% units	Family housing LAUSD - 100% units
Developer	Abode Communities	Bridge Housing	Abode Communities	Thomas Safran & Associates
Architects	Abode Communities Gonzalez Goodale (EEC)	Steinberg Architects	Abode Communities	WHA Inc. (William Hezmalhalch Architects)
Total Units	50	90	66	29
Parking	115	164	117	72
Neighborhood	Glassell Park	Gardena	Hollywood	South Los Angeles
Total Units	50	90	66	29
Parking (Residential / LAUSD)	115 (56 / 59)	164 (151 / 13)	117 (67 / 50)	72 (29 / 43)
Site Area	0.7 acres (+0.6 acres EEC)	3.87 acres (+1.07 joint-use & JIP)	0.62 acres	0.73 acres
Gross Building Area	57,057 sf (+16,475 sf EEC)	110,305 sf (+4,665 joint-use & JIP)	80,158 sf	31,571 sf
Density	71.4 du/ac	23.3 du/ac	106.5 du/ac	39.7 du/ac
FAR	1.09 (1.40 with EEC)	0.51 (0.53 with joint-use & JIP)	1.00	1.43 (excludes community rooms)
Unit Mix	2BR: 35 units 3BR: 15 units	1BR: 29 units 2BR: 35 units 3BR: 15 units	1BR: 8 units 2BR: 35 units 3BR: 23 units	1BR: 13 units 2BR: 7 units 3BR: 9 units
Buildings	1 4 stories over 2	4 2-3 stories	1 5 stories over 1.5	6 2-3 stories over 1

Figures 4-6: (Clockwise from top left) Aerial of Rio Vista Apartments; Site plan of Glasell Park TOD site; Table showing detailing development information for all LAUSD workforce housing projects

17 R. Bostic. "The affordable housing crisis in Los Angeles: An employer perspective." Los Angeles Business Council, March 2017; Los Angeles Business Council. "Los Angeles employer assisted housing handbook." LABC, October 2009.

18 A. M. Phillips. "LAUSD teachers earn too much to live in the affordable housing apartments built for them." *Los Angeles Times*, October 19, 2016.

19 United States Department of Housing and Urban Development. "The Los Angeles Unified School District Provides Employee Housing in Sage Park Apartments." USDHUD, 2017.

cityLAB EXPERIMENTS: 21ST CENTURY SCHOOLYARD HOUSING

Publicly-owned vacant land, including that owned by school districts, is an obvious site for the construction of affordable housing. Such projects can be readily undertaken by architects and developers without the need for targeted analysis. At cityLAB, we have studied a more difficult yet pervasive opportunity: the location of housing with existing school facilities, on the same site. Because the land is already in public hands, the cost of housing is reduced; because each school is unique, conventional solutions are inappropriate. These are complicated projects where rigorous research and ingenious design are necessary and can produce prototypical approaches (rather than specific design solutions). Our research explores alternative strategies for co-locating housing with schools of all educational levels, from K-12 to community colleges and universities. Over two years of study which remains ongoing, cityLAB can draw some conclusions about siting housing with existing schools:

- The addition of affordable housing is feasible at all school sites, with creative site planning approaches and public will.
- Schools adjacent to transit hubs offer significant opportunities for affordable housing.
- When siting housing on campuses, priorities include: removal of temporary classrooms and their replacement within the new housing development; on surface parking lots; at the perimeter of school property; NOT on greenspace used for recreation.
- A mixed-use building strategy can be appropriate, where affordable housing sits atop shared community uses and new educational facilities.
- The benefits of co-locating educational and residential uses impact all stakeholders: adjacent communities, schools, and housing residents.

In its research, cityLAB examines various housing typologies, potential shared uses between housing and schools, and intersections between the school and the neighborhood. Using design as our medium, we address the various constituencies and their respective needs to generate more symbiotic housing typologies. This integrated approach sets the stage for schoolyard housing that has the potential to:

- Boost school enrollment by housing families with students, upgrading facilities, and adding community benefits.
- Generate new revenue for schools.
- Reduce land costs for affordable housing developers.
- Create partnerships that address both housing and educational problems, while taking into account local neighborhood needs.

D



REST FAMILY COMMUNITY PLAY STUDY LEARN TEACH

EXPERIMENTS IN K-12 HOUSING

Conventional approaches to building housing on school sites tend to adopt the simplest solutions: subdivide land to separate housing from the adjacent school site through a land lease and joint occupancy agreement. That's a good solution, but not many school sites share these conditions. To expand the possible nexus of education and residential uses, we examine the potential of *integrating* housing with existing K-12 schools, using properties of the LA Unified School District for our case studies.

We propose an integrated site approach that reflects the interests of a more holistic constituency including:

- LAUSD and the school where the housing is sited;
- the neighborhood that surrounds the school; and
- the future occupants (and the developer) of the housing itself.

This calls for design that incorporates community needs and mixed uses. In the following pages, several schematic projects demonstrate how and where an integrated-use model might take shape. By seizing upon the opportunities offered at the case study schools (selected by cityLAB purely for demonstration purposes) we are able to test different conditions found in many districts. The design concepts apply to three types of school sites that range in size, neighborhood context, and education level: a small elementary school adjacent to multifamily housing; a large, suburban middle school; and a compact urban high school.

The following design prototypes take a creative approach to integrating housing with school programming for a more symbiotic relationship, compounding the positive effects of new development. Although the unique character and context of any school prevents a one-size-fits-all solution, these schematic combinations of housing and schools provide generalizable approaches for other sites with similar characteristics. The case studies suggest ideas for architectural interventions, compatible uses, and new ways of imagining existing school sites. A number of key outcomes guided each case study:

- Benefits to the school and school district
- Benefits to the housing residents
- Benefits to the neighborhood
- The highest feasible number of housing units
- Smart site strategies (including the replacement of portable classrooms, siting on and replacement of surface parking, and no loss of recreational space)

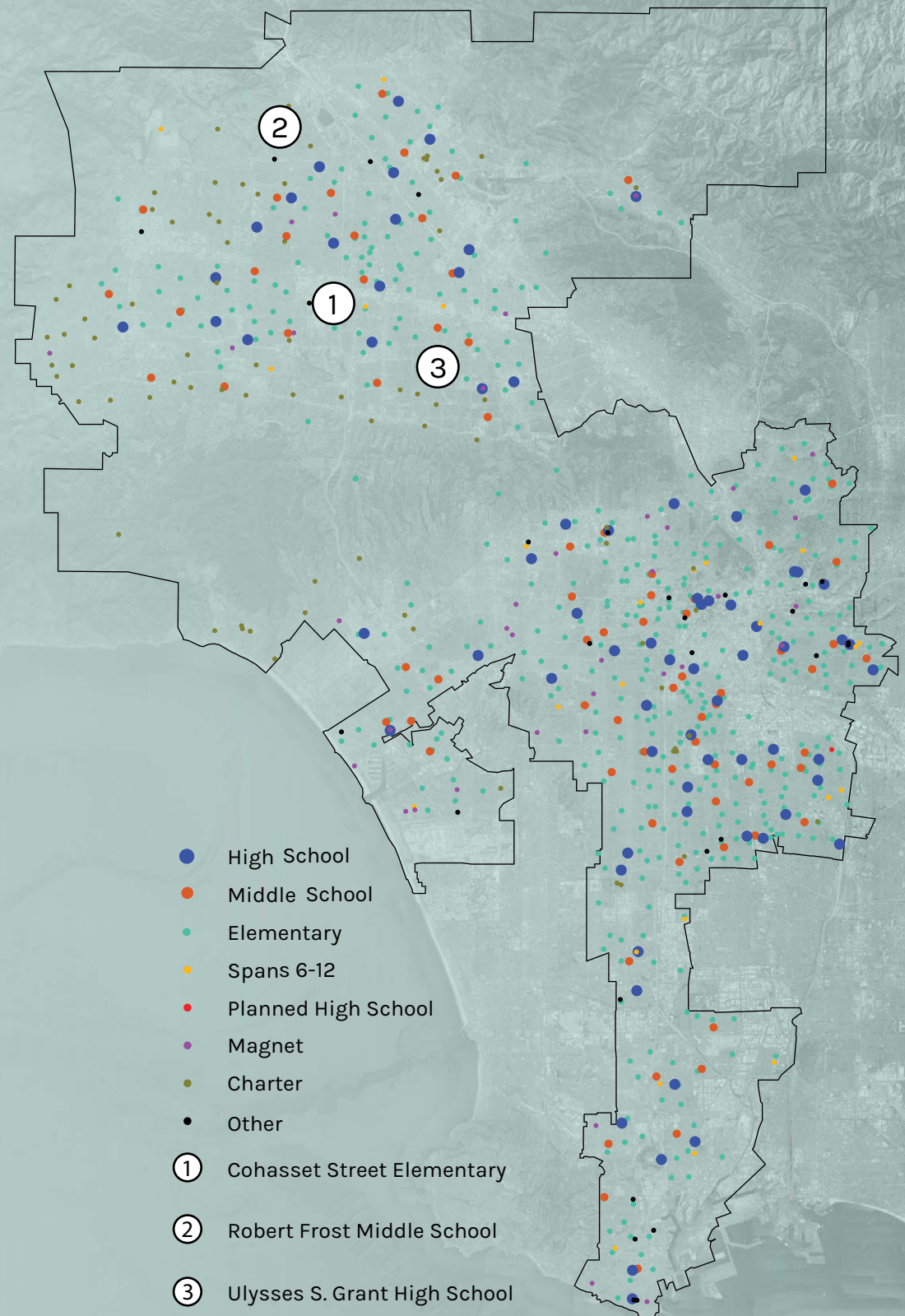


Figure 7: Map of LAUSD locations

K-12 CONTEXT, SITE, AND DESIGN TYPOLOGIES

In order to find prototypical design strategies for co-locating housing with K-12 schools, cityLAB focused on LAUSD, which has over 1,100 schools and is the second largest school district in the U.S. (by number of students, following New York City schools). We partnered with district officials, school board member offices, school facilities and real estate staff, charter school providers, and affordable housing nonprofits. We undertook surveys of LAUSD properties to determine types of housing-education nexus opportunities. Our preliminary findings are best summarized by the three design concepts on the following pages. It is important to point out that although these prototypes are located on specific school sites, they are not intended as specific solutions. cityLAB had no formal contact with stakeholders at the case study sites. Instead, we researched the schools, their modernization plans, and their current programs. We conducted site analyses. We tested a range of design strategies. From this work, we extracted a set of typological conditions that apply to the wider set of LAUSD sites, and we hypothesize, to other districts where postwar development patterns are similar. The determining conditions fall into two categories: school context and school site.

Context Typology

K-12 schools are tied to their communities, widening from elementary schools that are a core element of a neighborhood to middle schools and high schools that draw from larger geographies. In Los Angeles, as in small and large cities of Southern California, public schools can be distinguished by when they were built. Those built before 1960 are located in older parts of town, where surrounding uses are more likely to include

commercial activity or other institutions, and where multifamily housing may be located. On such sites, new multifamily housing built on campus would be compatible with the context. Schools built after 1960 tend to be situated in more suburban contexts, surrounded by single-family houses. At these schools, multifamily housing will be distinct from the context and will require tactical approaches to siting. We call the two different types **Mixed-Use Context** and **Single-Family Context**, respectively.

Site Typology

There are also a range of ways that buildings and activities are organized within the boundaries of any school property. Like context types, different site typologies are related to the school's date of construction, as well as its location and the sizes of its student population and site. Because school site standards are based on student counts, public schools tend to increase in acreage with education level: elementary schools have smaller populations and are on smaller sites than middle schools, which are on smaller sites than high schools. Most states follow national guidelines which produce this pattern.²⁰ Over time, schools add facilities so that older campuses are packed with later buildings squeezed into available spaces. In addition, about a third of all public schools in the U.S. have temporary (or portable) classrooms, and these are in worse condition than permanent campus facilities.²¹ Finally, at-grade parking is often placed in an ad hoc manner throughout campus or as a virtual "moat" around campus. These expedient facilities decisions add up to ungainly site plans. Our research suggests that many campuses can be improved by thoughtful design interventions like the construction of mixed-use education-housing structures.

For the purposes of reimagining schools to accommodate family housing, cityLAB characterizes three types of sites: top-heavy, centralized, and agglomerated. **Top-heavy** site plans pack buildings into one area, resigning open spaces to another (fields, paved play areas, parking). **Centralized** site plans organize buildings around an axis, plaza, or green, leaving open spaces at the periphery. **Agglomerated** site plans pack buildings onto campuses in incremental, pragmatic, ad hoc ways.

MIXED-USE, TOP-HEAVY



SINGLE-FAMILY, CENTRALIZED



MIXED-USED, AGGLOMERATED



Parking ■ Portables ■ Play Area ■

Figures 8-10: (from left to right) Aerial views of Cohasset Street Elementary, Robert Frost Middle, and Ulysses S. Grant High School



20 National Center for Education Statistics. "Number of educational institutions by level and control of institution: Selected years, 1980-81 through 2016-17." *Digest of Education Statistics*. 2016-17.
21 Institute of Education Sciences. *Condition of America's Public School Facilities: 2012-13*. 2014, p. 61.

K-12 CONTEXT, SITE, AND DESIGN TYPOLOGIES

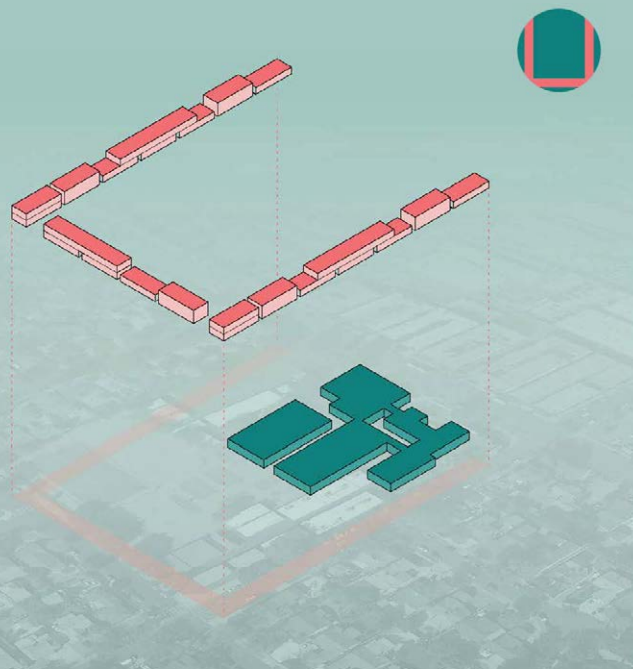
Design Typology

As will be shown in the following case studies, the identification of a campus's site and context types leads to design strategies or prototypes. These are hypothetical site concepts, intended to demonstrate how affordable housing might benefit schools, residents, and neighborhoods. Three different design typologies are explored on LAUSD campuses: perimeter, tactical, and network.



PERIMETER

A perimeter design strategy organizes the new family housing around the edge of campus, often with educational and community programs at the ground floor. A perimeter building forms a transition and link to the neighborhood, a secure edge for the campus, and is especially appropriate for top-heavy sites.



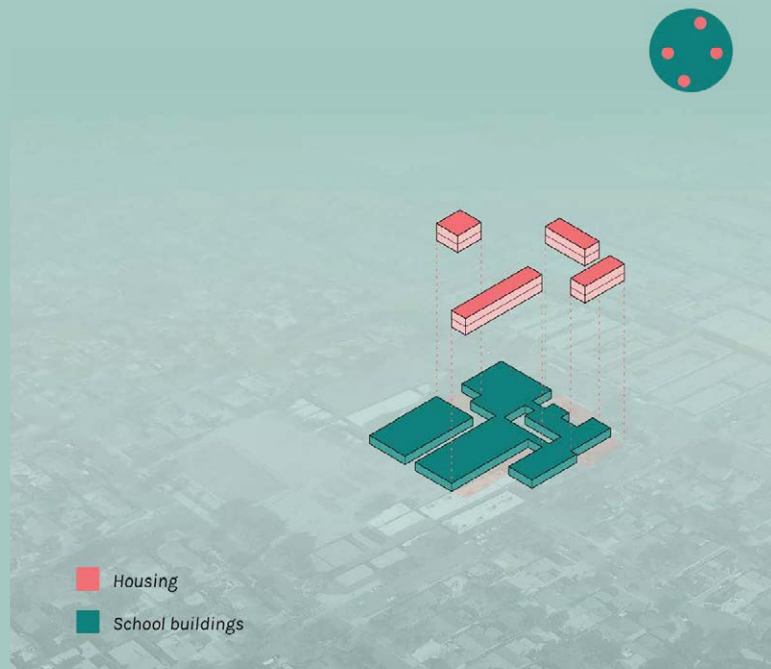
TACTICAL

Tactical design strategies seek infill locations for new family housing across an existing campus. Collections of apartments are inserted where appropriate, with academic and community uses determined by adjacencies. This strategy is useful at centralized sites, where the edges of campus may be more ragged and occupied by surface parking.



NETWORK

In a network design strategy, new housing blocks are inserted among existing buildings and linked together through circulation or planned open spaces (such as courtyards). An agglomerated campus can be unified by the addition of networked housing with compatible academic and community functions.



PERIMETER HOUSING COHASSET STREET ELEMENTARY

School: Built 1957; 6.3 acres

Enrollment: 571 students (2015-16); down from a planning capacity of 643 (2012)

Context type: Mixed-use

Site type: Top-heavy (with agglomerated portable classrooms)



Parking ■ Portables ■ Play Area ■

Figure 11: Aerial view of Cohasset Street Elementary

A smaller neighborhood school at an urban interface between low density houses and higher density residential and commercial districts. The site has a large surface parking area and numerous portable classrooms.

LIVING ON THE EDGE

PROPOSAL BY CHRIS DOERR, JEAN-MICHEL HIRSCH, AND DANIEL POLK

Design Typology: Perimeter Block

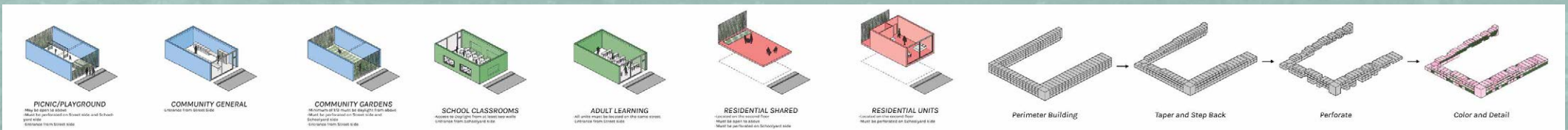
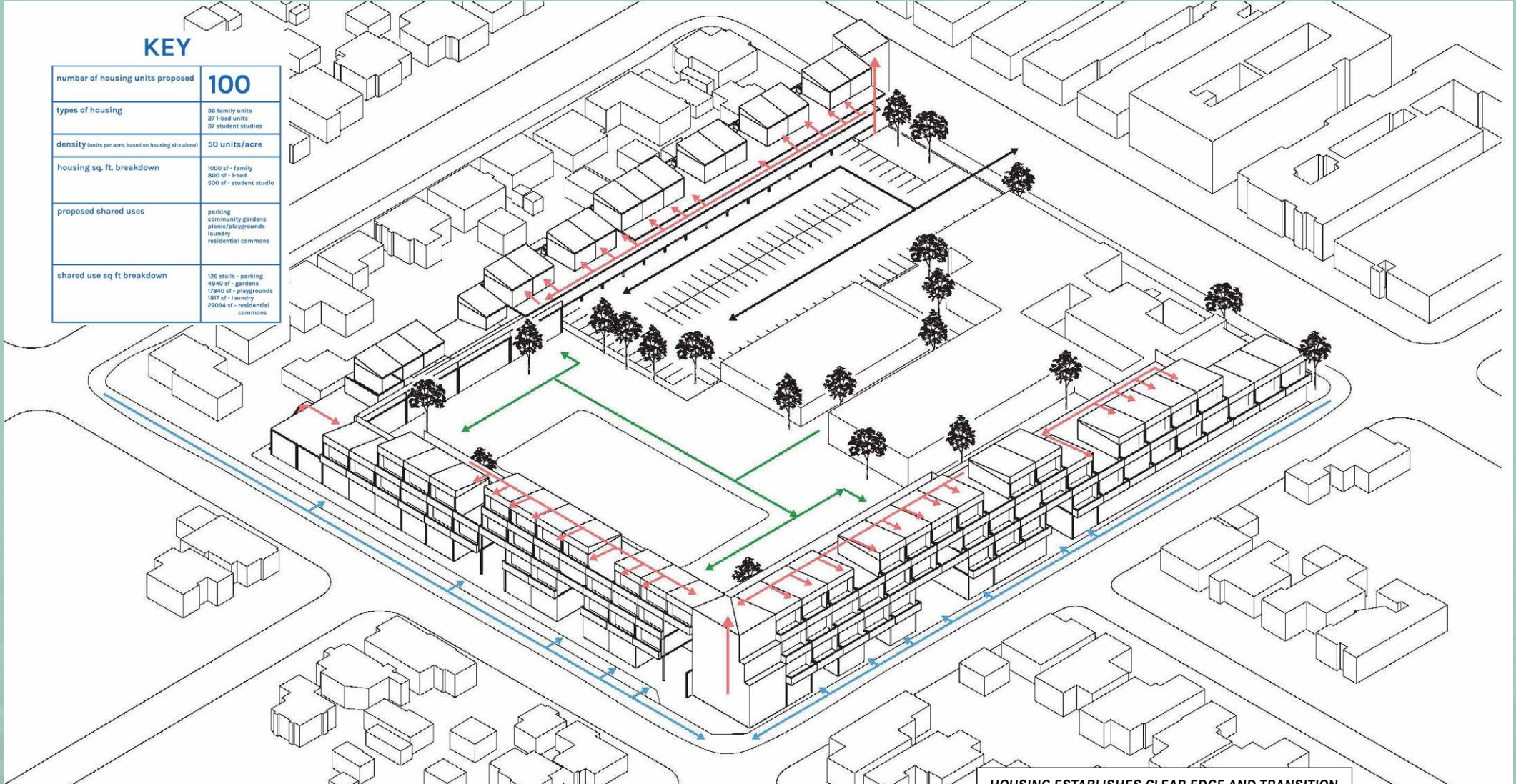
This proposal, inspired by the tradition of perimeter block housing, creates a new transition between schoolyard and surrounding neighborhood through a mix of activities and building heights. Interspersing housing units with community gardens, play areas, and residential commons maintains permeability while clearly defining an edge for the schoolyard.



PERIMETER HOUSING

COHASSET STREET ELEMENTARY

LIVING ON THE EDGE



The perimeter block model proposes housing as an active transition zone between school and neighborhood, able to serve both. The perimeter block also lends additional security to the school without compromising flow of light, air, or circulation.

TACTICAL HOUSING

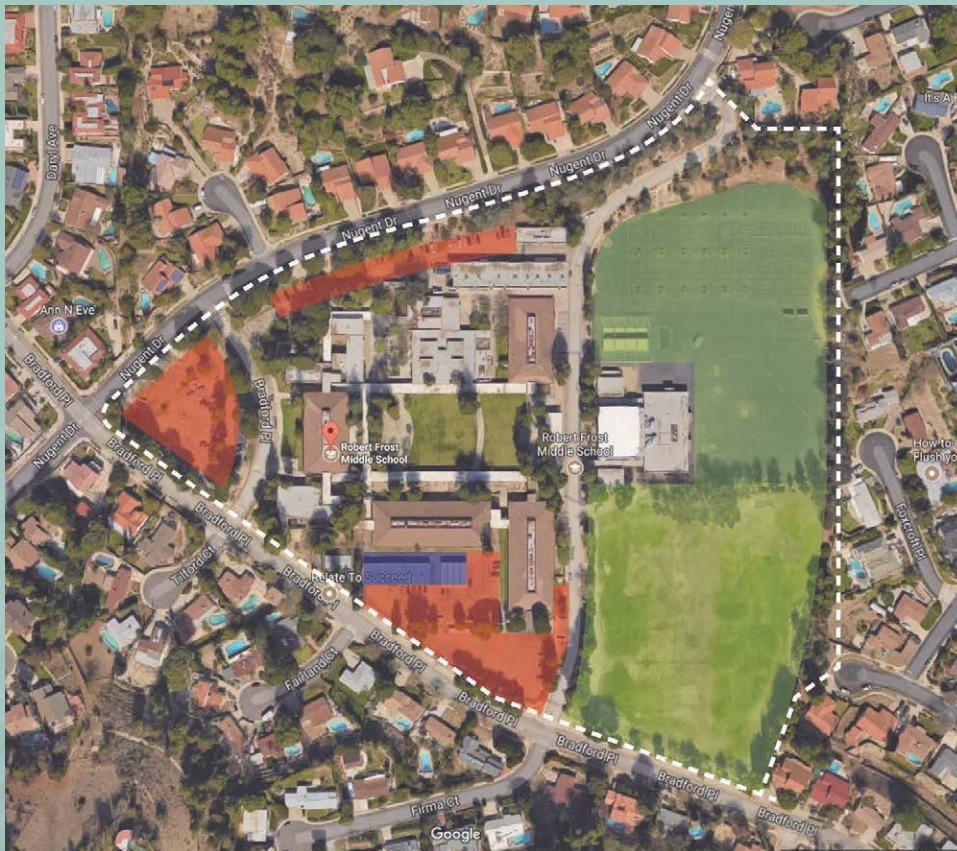
ROBERT FROST MIDDLE SCHOOL

School: Built 1969; 23.8 acres

Enrollment: 1,675 students (2015-2016); down from a planning capacity of 1,817 (2012)

Context Type: Suburban

Site Type: Centralized



Parking ■ Portables ■ Play Area ■

Figure 12: Aerial view of Robert Frost Middle

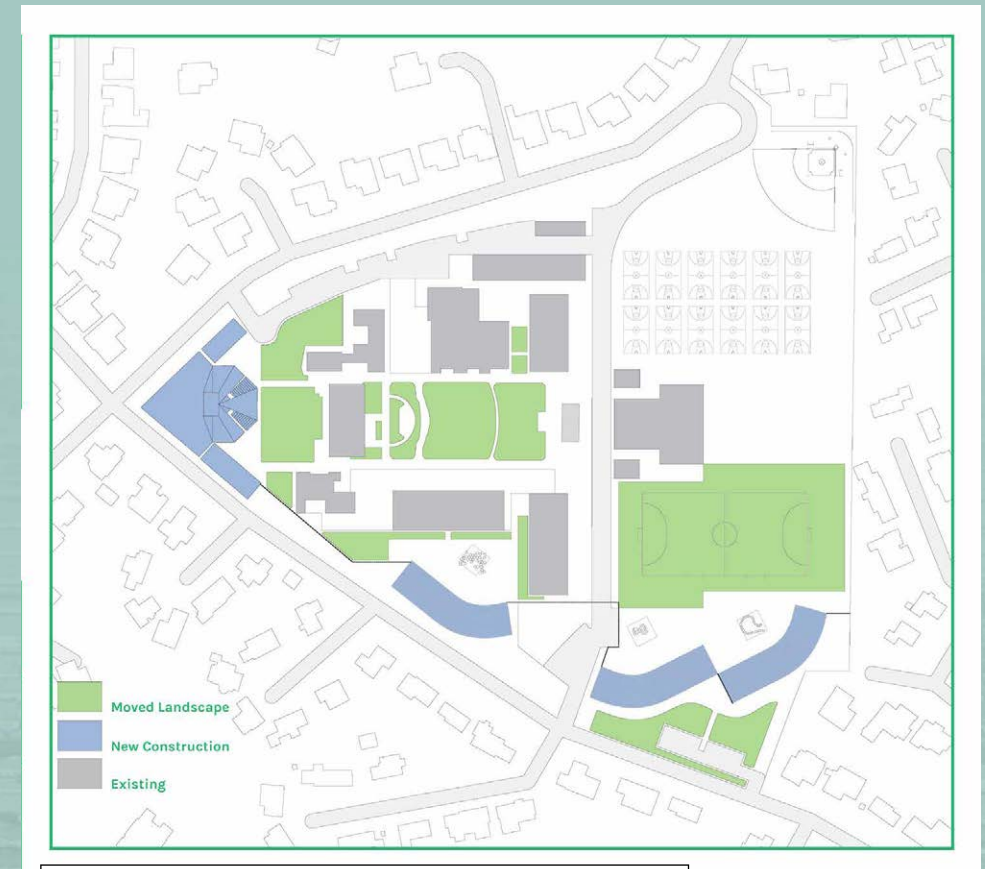
A sizable, sloping site among large tracts of single-family housing; school buildings organized around a central green; edges of the site host scattered surface parking and large fields.

SOUNDS OF THE SCHOOLYARD

PROPOSAL BY HAOYU CHEN, KEVIN MACDOUGAL, AND IAN RODGERS

Design Typology: Tactical

This proposal highlights housing’s ability to strengthen schoolyard sites by reinforcing educational zones and resources. Tactical building insertions provide housing along with a much-needed multi-purpose theater. The buildings are split into four bars, to help organize existing zones of activity on campus by creating landscapes of music, play, and assembly.

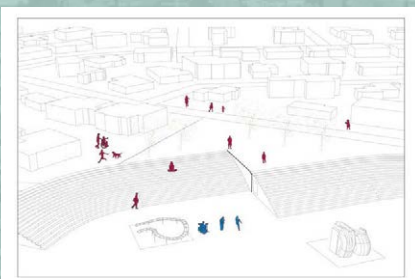
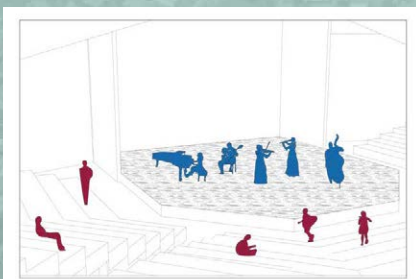
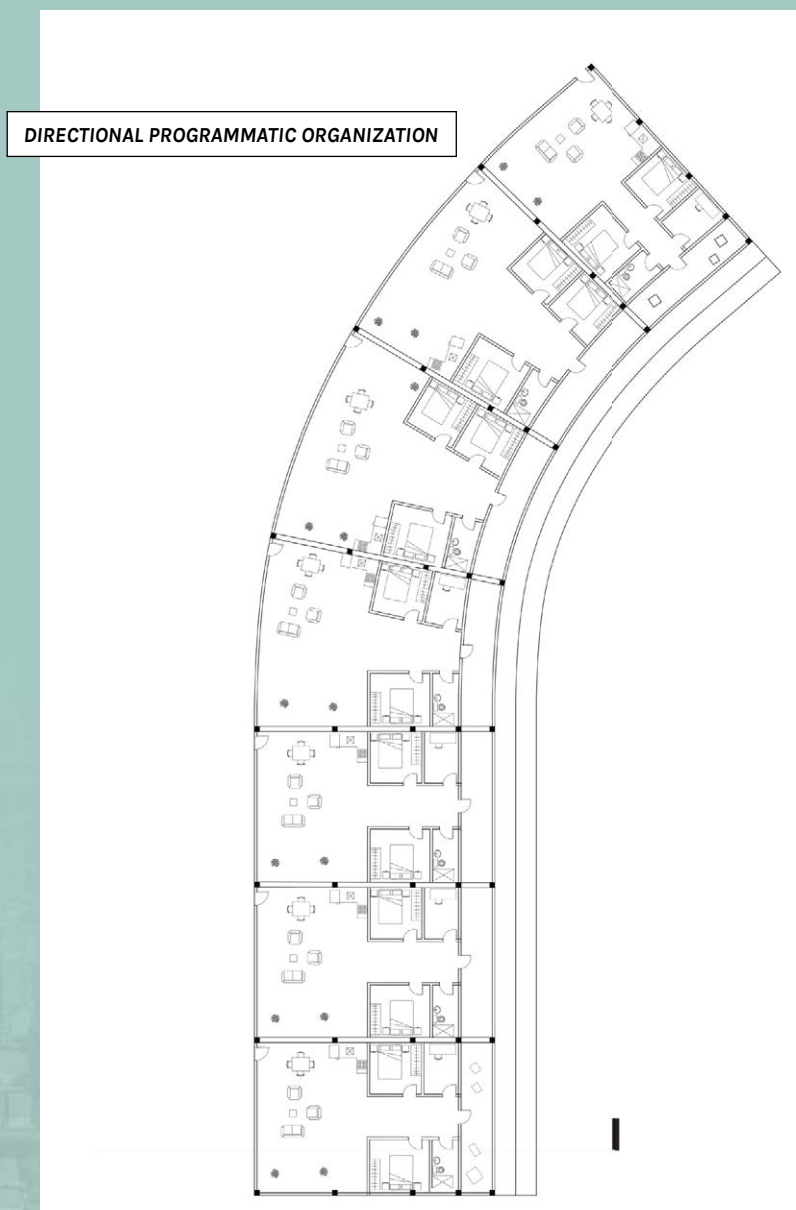
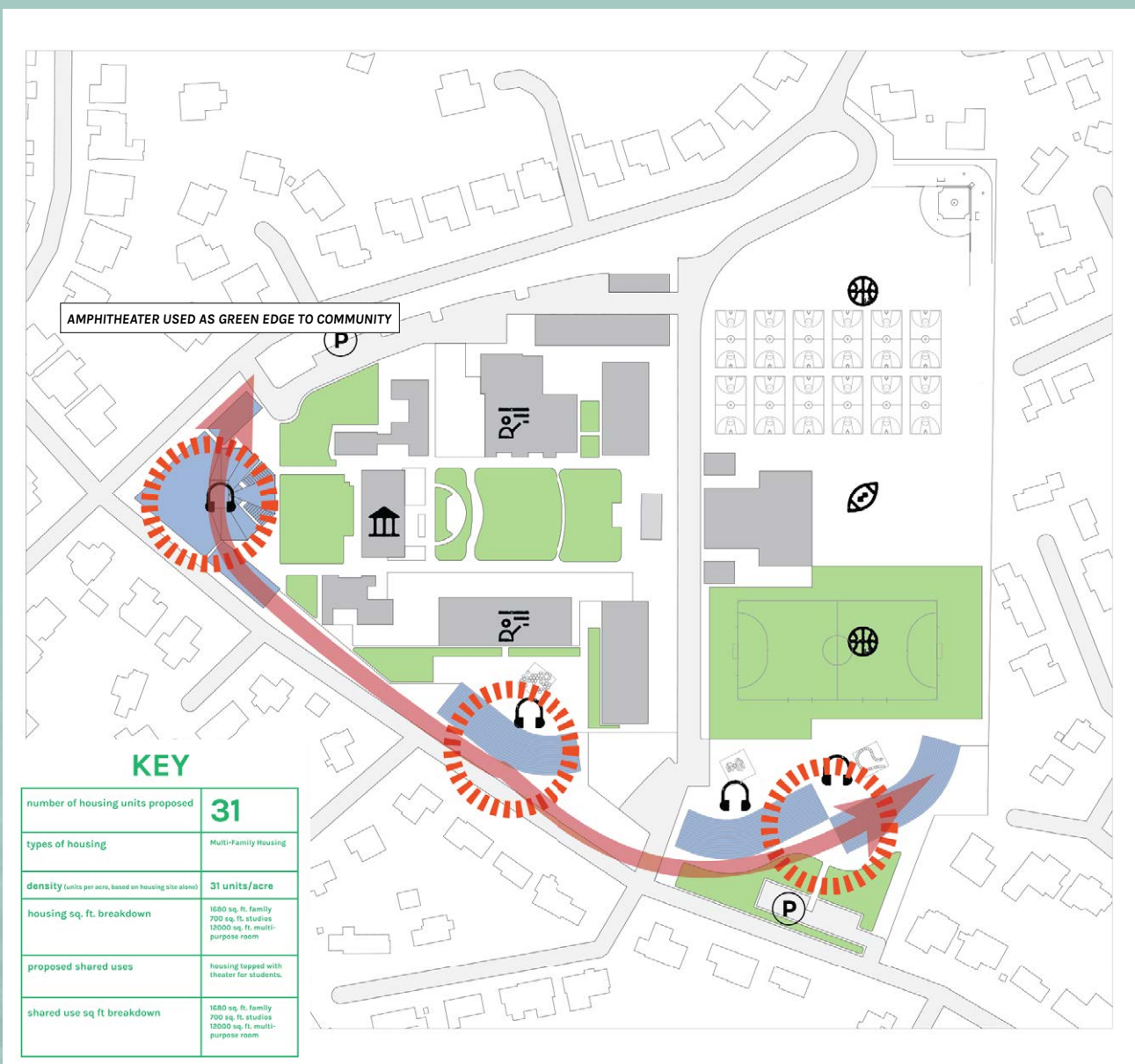


NEW PROGRAM INFILLS PREVIOUSLY POROUS EDGE TO COMMUNITY

TACTICAL HOUSING

ROBERT FROST MIDDLE SCHOOL

SOUNDS OF THE SCHOOLYARD



As a model, “Sounds of the Schoolyard” showcases how a tactical housing approach can clarify existing site intent and mold a new framework for schoolyard campuses. Particularly when paired with shared uses that augment existing facilities, like an auditorium or open space, housing can provide new opportunities while strengthening the school’s core mission.

NETWORKED HOUSING

ULYSSES S. GRANT HIGH SCHOOL

School: Built 1958; 31.2 acres

Enrollment: 1,960 students (2015-16); down from a planning capacity of 2,714 (2012)

Context Type: Mixed-Use

Site Type: Agglomerated; Centralized



Figure 13: Aerial view of Ulysses S. Grant High School

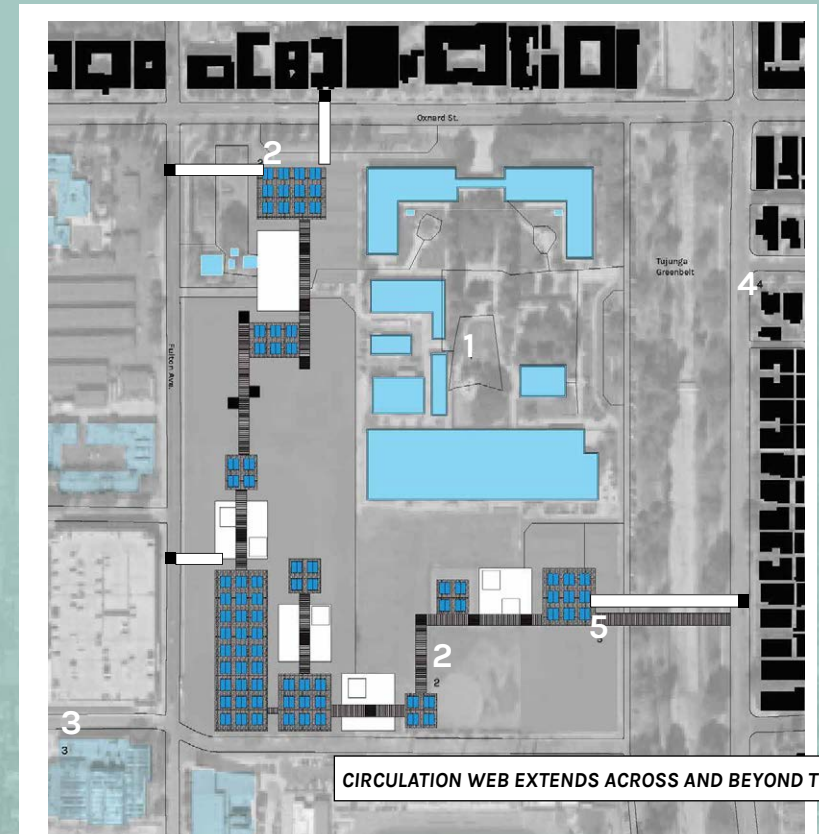
A large site with many portable classrooms; the campus is adjacent to a narrow greenbelt and surrounded by related educational programs at Los Angeles Valley College.

BRIDGING THE (HOUSING) DIVIDE

PROPOSAL BY NICK MILLER, CONNOR VERTERAMO, AND HONG BAE YANG

Design Typology: Network

Taking its lead from Grant High School's Agglomerated site type, this proposal optimizes available site area by using a network approach to concentrate and disperse housing. The resulting clusters infill underutilized areas of campus, both at grade and above existing educational spaces. In addition to providing 80 units of housing, clusters frame shared open space and provide an after-hours gymnasium for both the school and community. A web of circulation connects the clusters, forming a responsive network of living and shared spaces.



- 1 Ulysses S. Grant High School
- 2 Proposed Housing
- 3 Community College
- 4 Residential Community
- 5 Bridge to Community

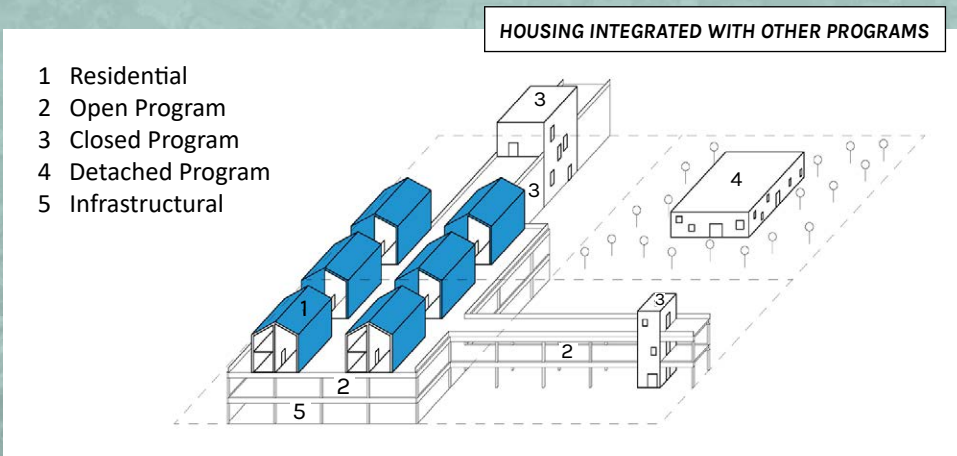
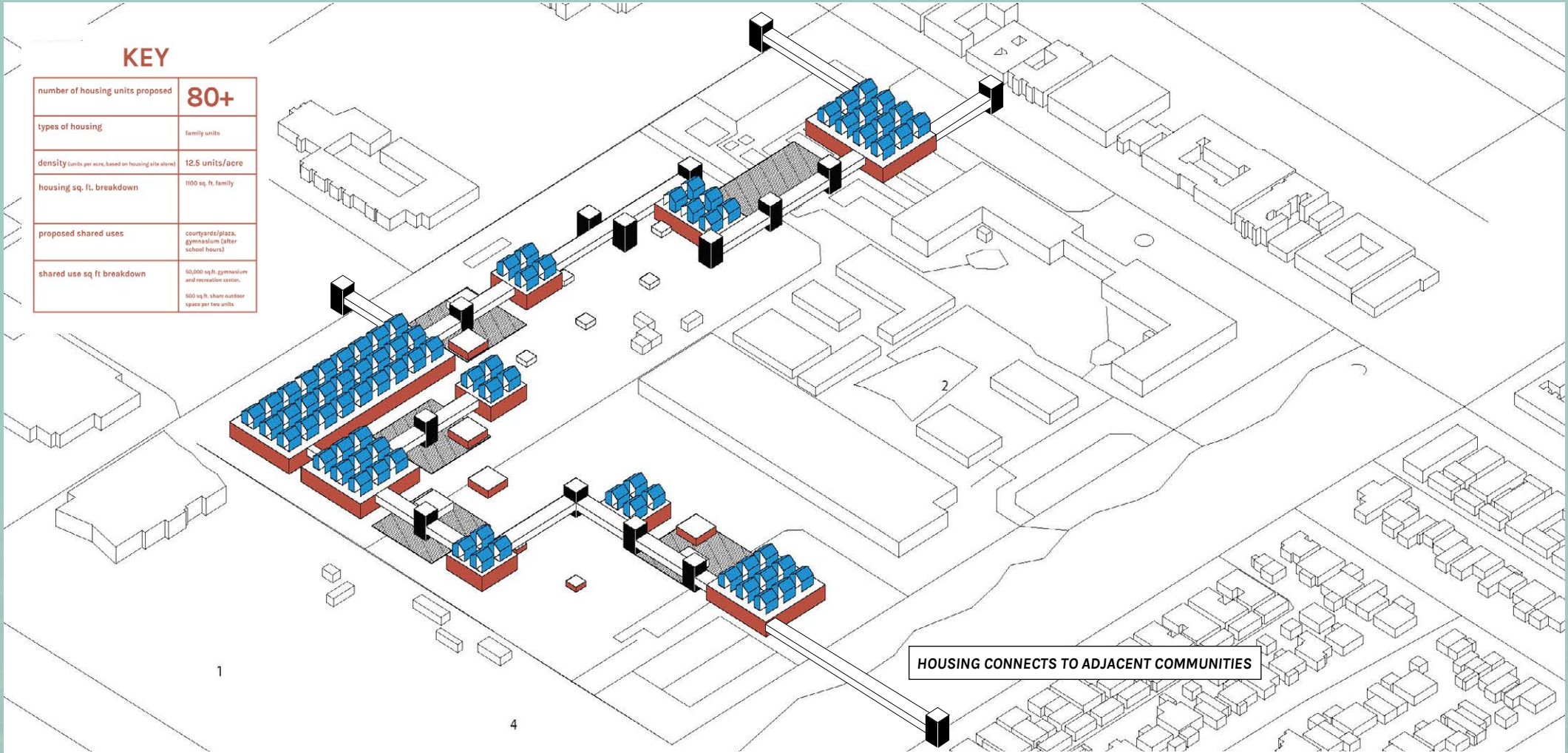




NETWORKED HOUSING

ULYSSES S. GRANT HIGH SCHOOL

BRIDGING THE (HOUSING) DIVIDE



As a model, Bridging the (Housing) Divide highlights the site adaptability of the network approach. On agglomerated campuses, network housing solutions are able to maximize tight infill spaces and larger areas alike. Therefore, network typologies can produce different scales and densities of housing within one site to respond to a variety of residential and educational needs. Shared circulation and services bind disparate clusters into a cohesive network, clearly framing housing and school areas.

KEY TAKE-AWAYS

K-12 schools can advance their primary educational mission while adding family housing that is well-sited.

On campuses, when affordable housing includes secondary academic and community uses, a three-way “win” is possible. The school (and school district), the housing residents, and the surrounding community all benefit.

K-12 schools can be characterized by their context type (suburban or mixed-use) and site types (top-heavy, centralized, or agglomerated), which indicate appropriate site design strategies for the addition of family housing.

Case study research within LAUSD indicates family housing can be sited on campuses in three ways: perimeter, tactical, and network design strategies.

Although the most straightforward sites for housing development at K-12 campuses are those that can be physically separated (as in the Workforce Housing, pp. 12-13) these opportunities are rare. The more unconventional proposals presented here promise to unlock a vast, latent potential within the entire inventory of school sites.

The affordable family-housing crisis that exists in Los Angeles and other metropolitan areas can be addressed in part by making publicly-owned school land available. Feasible development and financial agreements require further study

Workforce housing, housing for school employees, or affordable housing for families with school-age children are all possible, but each has issues and those vary depending on state and local legislation. The appropriate occupancy of schoolyard housing requires further study.

E

EXPERIMENTS IN COMMUNITY COLLEGE HOUSING

Building upon the K-12 research documented in prior pages, cityLAB moved on to study the housing-education nexus at the postsecondary level, specifically on community college campuses. According to the California Community Colleges system, there are 115 colleges on 24,500 acres with 2.1 million students. Demand is so high at California community colleges that 140,000 potential students were turned away in 2018 because courses were full.²² Data indicates that community college students have higher levels of housing insecurity and homelessness than any other higher education population, making affordable housing a critical issue -- yet only 11 community colleges currently host on-campus housing.²³ In a survey of California higher education professionals, 82% claimed that housing was the most significant student need which campuses were unable to meet.²⁴

In partnership with the Southern California Association of Nonprofit Housing (SCANPH), cityLAB selected three community colleges within the Los Angeles Community College District (LACCD) to study a range of site conditions and housing models: Pierce College, Los Angeles Valley College, and Los Angeles Harbor College. Using the K-12 context and site typologies, we can characterize the community college campuses as mixed-use or single-family, and top-heavy, centralized, or agglomerated. We used the following approach for all three colleges:

- Each case study provides 200 affordable apartments and supportive services, along with other relevant uses that vary by site (classrooms, retail, childcare, etc)
- Case studies are sited on surface parking lots at each campus, and include new parking required for the housing, as well as replacement of any displaced parking stalls
- The campuses give rise to three different design strategies: courtyard housing, town center, and live-learn hub. These prototypes can be imagined at other community colleges that present similar opportunities
- There are three de facto “clients”: the college where the housing is located, the residents of the new housing, and the local community that surrounds the campus
- Each analysis includes an overview of site characteristics, the siting and program logics, a schematic design prototype, and diagrams explaining the relationship between the new prototype and the existing site

22 Chen, G. “Dire in California: More than 100,000 Students Turned Away from Community Colleges and Counting.” *Community College Review*, accessed 2019.
23 California Community Colleges Chancellor’s Office. “College Dormitories & Housing.” *California Community Colleges*, accessed August 2019.
24 SCANPH. “Opportunity Starts At Home: Addressing Housing Insecurity For Underserved L.A. Community College Students.” *Southern California Association of Nonprofit Housing*, 2019. p. 1.

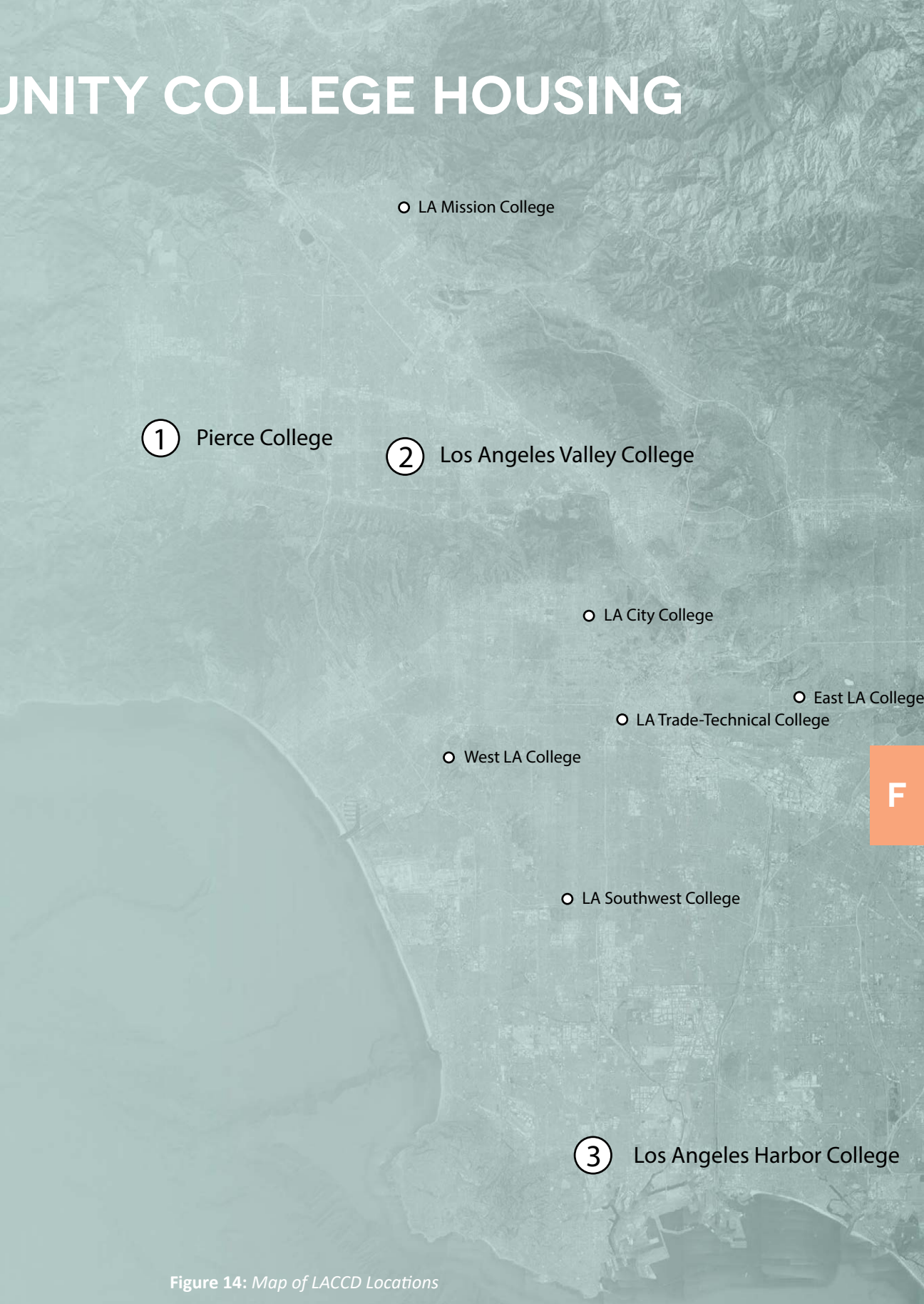


Figure 14: Map of LACCD Locations

COURTYARD HOUSING PIERCE COLLEGE

School: Founded 1947; 426 acres

Enrollment: 18,952 students (Spring 2019)

Context Type: Single-Family

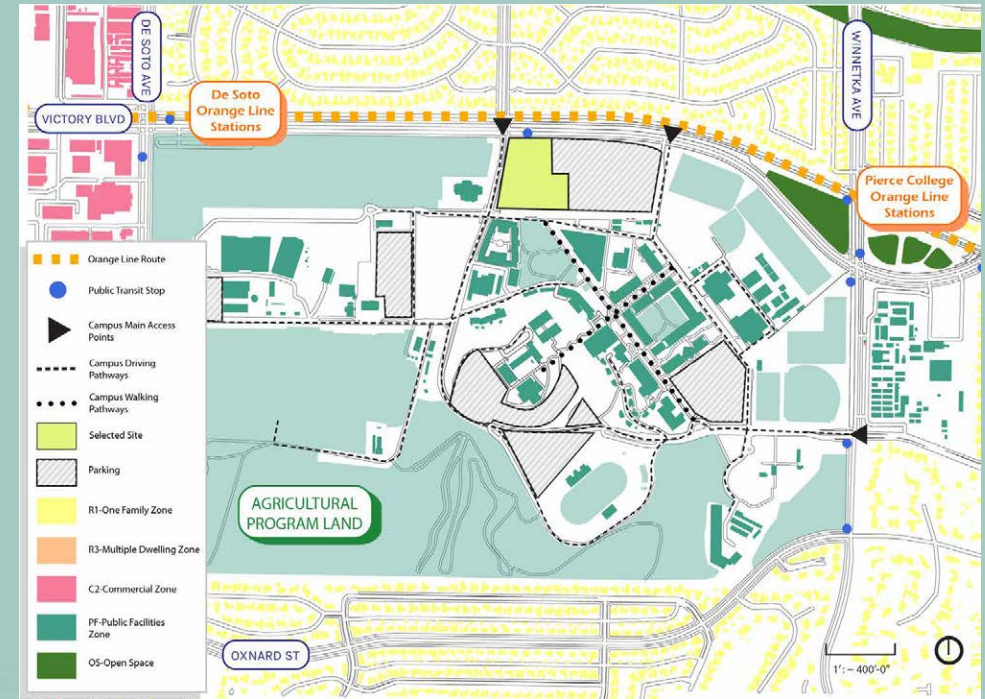
Site Type: Centralized; Top Heavy



Figure 15: Bird's eye aerial view of Pierce College

At 426 acres, Los Angeles Pierce College is the largest of the LACCD study sites. Over half the campus is devoted to hands-on training in agriculture and veterinary sciences. The campus center of gravity (facilities, administration, and classroom buildings) is situated to the east. A major asset is Pierce's adjacency to the Metro Orange line, which runs along the campus' northern boundary making transit-based commuting a strong alternative to individual automobiles.

Community desire to preserve both agricultural land and the existing character of Pierce's single-family context call for a reinterpretation of Southern California's courtyard housing typology. This 'Courtyard Cluster' case study provides 200 mixed-height units of affordable family housing organized around a series of inward-facing courtyards - shared open spaces for lounging, children's play, and interacting with neighbors. The large, at-grade parking lot chosen as the test site is within walking distance to two Metro stations, and forms a terminus for the main campus axis, providing easy access to amenities like the library and food court. Courtyard clusters are elevated above replacement parking, mimicking the hilly topography of south campus while separating the housing from street traffic.



COURTYARD HOUSING PIERCE COLLEGE



Diagram 1: Footprint of 200 multifamily units at 1 story vs at 4 stories



Diagram 2: Footprint of 200 and 800 single family homes

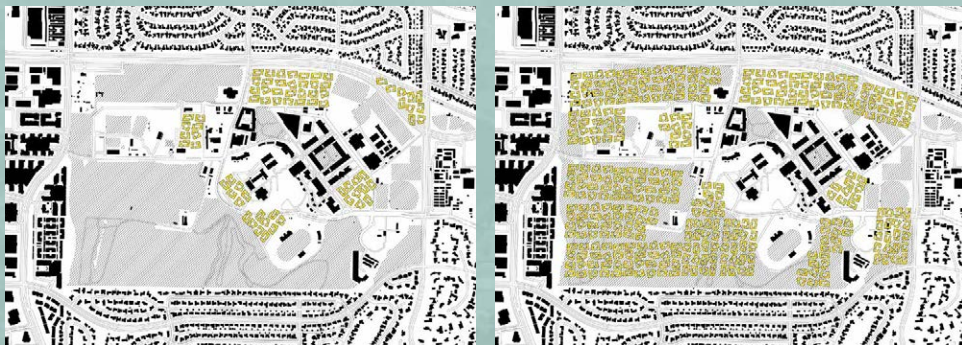
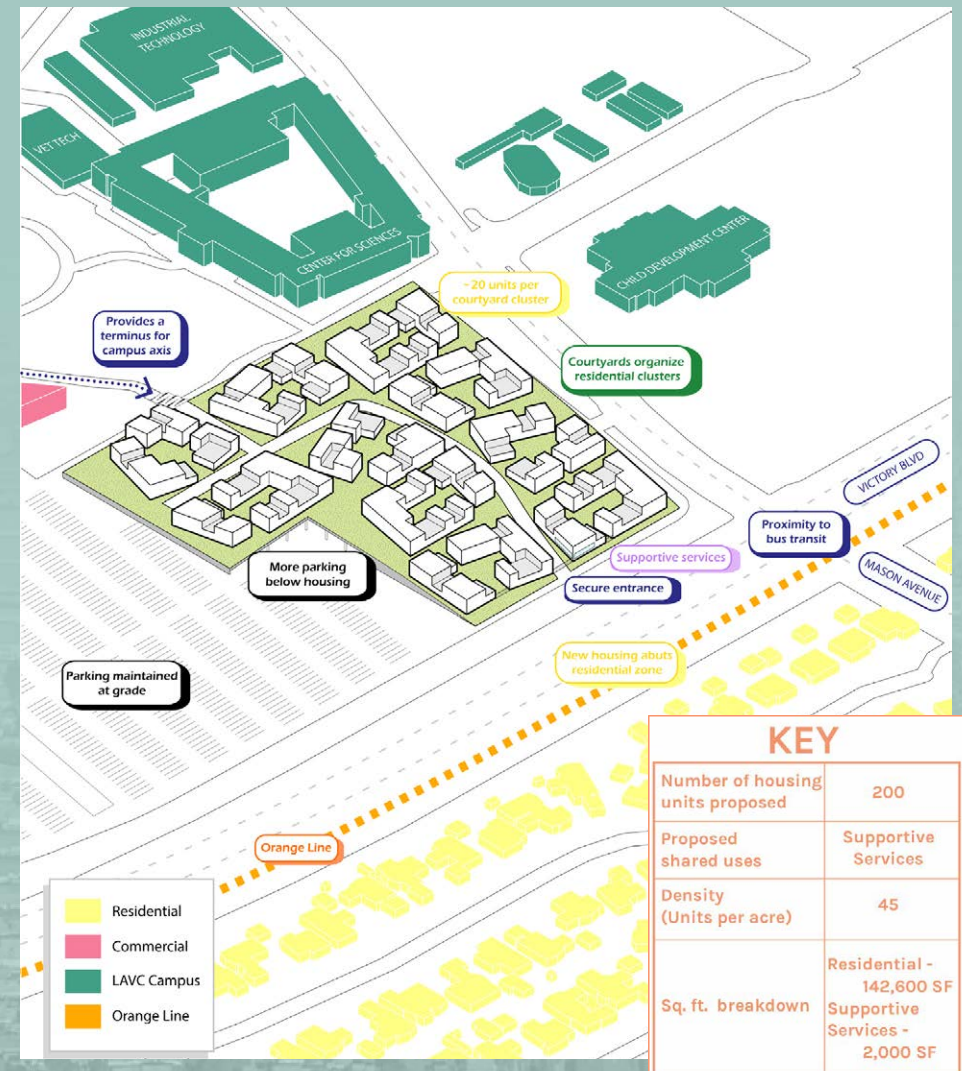


Diagram 3: Footprint of 1,420 and 7,000 multifamily units

Pierce's site allows an experiment with housing density, where courtyard clusters create a bridge between low-density suburban surroundings and the institutional setting of the college. The courtyard clusters demonstrate the power of even moderate density: whereas 200 units at the scale of surrounding single-family development would encompass Pierce's entire northern edge, here 200 units fit comfortably onto a surface level parking lot. If all surface level lots were similarly built out, a whopping 1,420 units would result - none of which exceed 2 stories.

The Courtyard Cluster type is designed to emphasize privacy, safety, community, and access. Elevating the clusters affords additional privacy while preserving parking to provide an active transition zone between community and campus. A courtyard model, with its added sense of community and security, is particularly appropriate for certain permanent supportive housing populations, such as single parents or victims of domestic violence. Courtyard Clusters also promote sustainable densification without sacrificing low-rise character or open space: mixing single- and multi-story units achieves a compact footprint to preserve surrounding land and complement the existing character of expansive single-family contexts.



TOWN CENTER LA VALLEY COLLEGE

School: Founded 1949; 105 acres

Enrollment: 16,591 Students (Spring 2019)

Context Type: Single-Family with Mixed-Use Streets

Site Type: Centralized; Agglomerated

LAVC's access to urban amenities, paired with the density of its campus, frame an opportunity to provide a new 'Town Center' that doubles as a gateway. The Town Center case study strategically places a new building between campus and the city on an existing parking lot near the Metro stop and surrounding commercial intersection. The building creates a landmark and an entry point, with 200 affordable apartments elevated above public uses on the ground floor, such as neighborhood and campus services and retail (daycare, laundry, coffee shop, convenience store, etc). Organized around a spacious courtyard that provides open space for all, the Town Center frames a new path into LAVC.

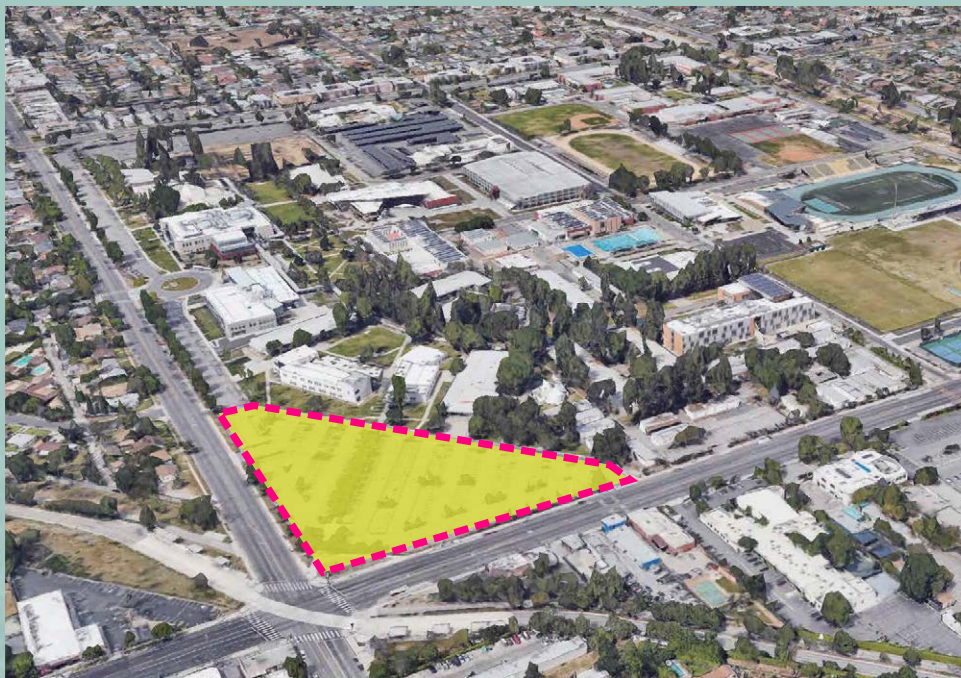
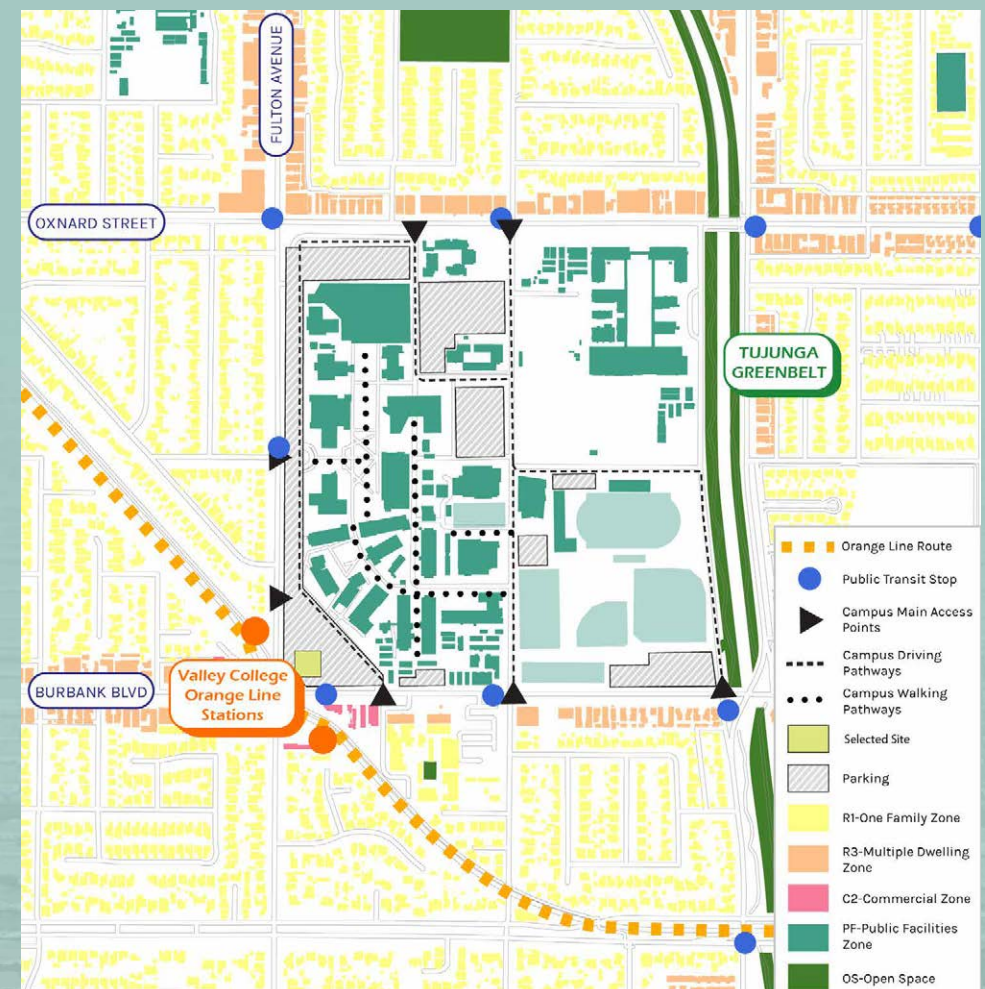


Figure 16: Bird's eye aerial view of Los Angeles Valley College

The site prototype for housing at LA Valley College (LAVC) stems from its diverse surrounds: single-family housing is interrupted by corridors of commercial and multi-family residential zones, a neighboring green belt, adjacent high school campus, and proximity to transit. The Metro Orange Line stop at the southwest corner of campus provides a convenient connection to an even broader range of urban services, yet transit riders coming to LAVC are currently greeted by a sea of parking rather than a real entry to campus.



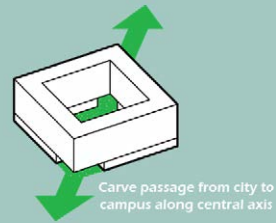
F

TOWN CENTER LA VALLEY COLLEGE

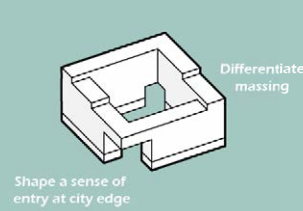
Public-Private Relationship



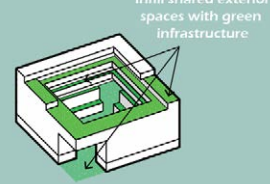
Site Access



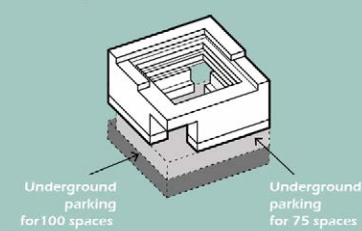
Building Mass



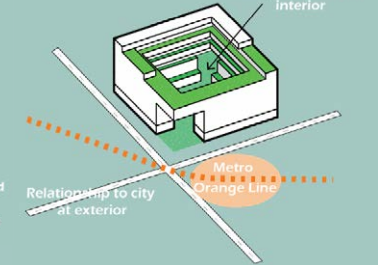
Green Approach



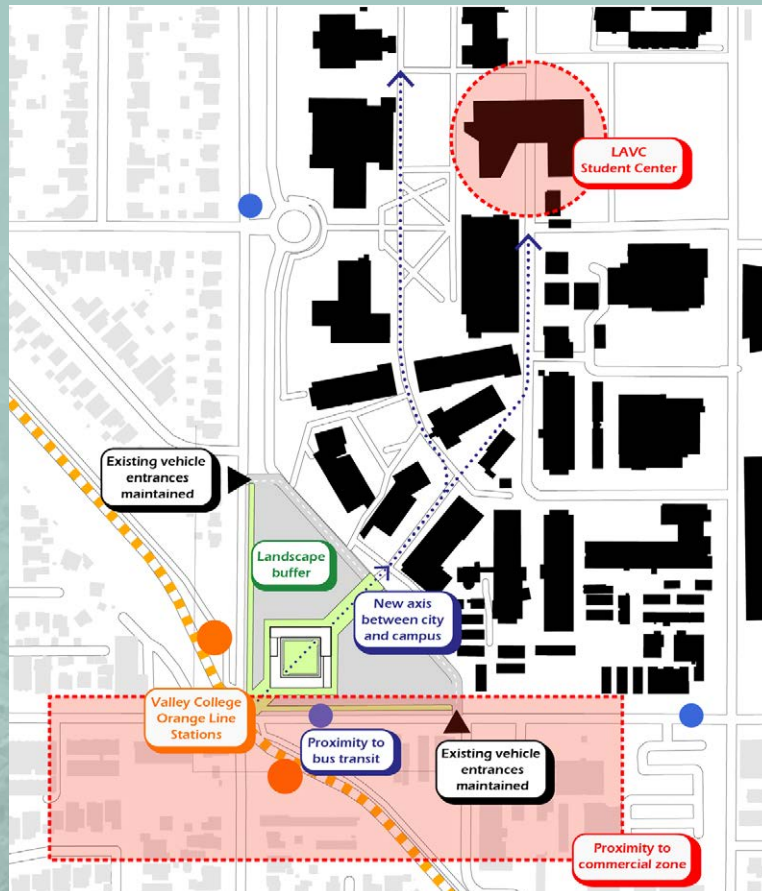
Parking



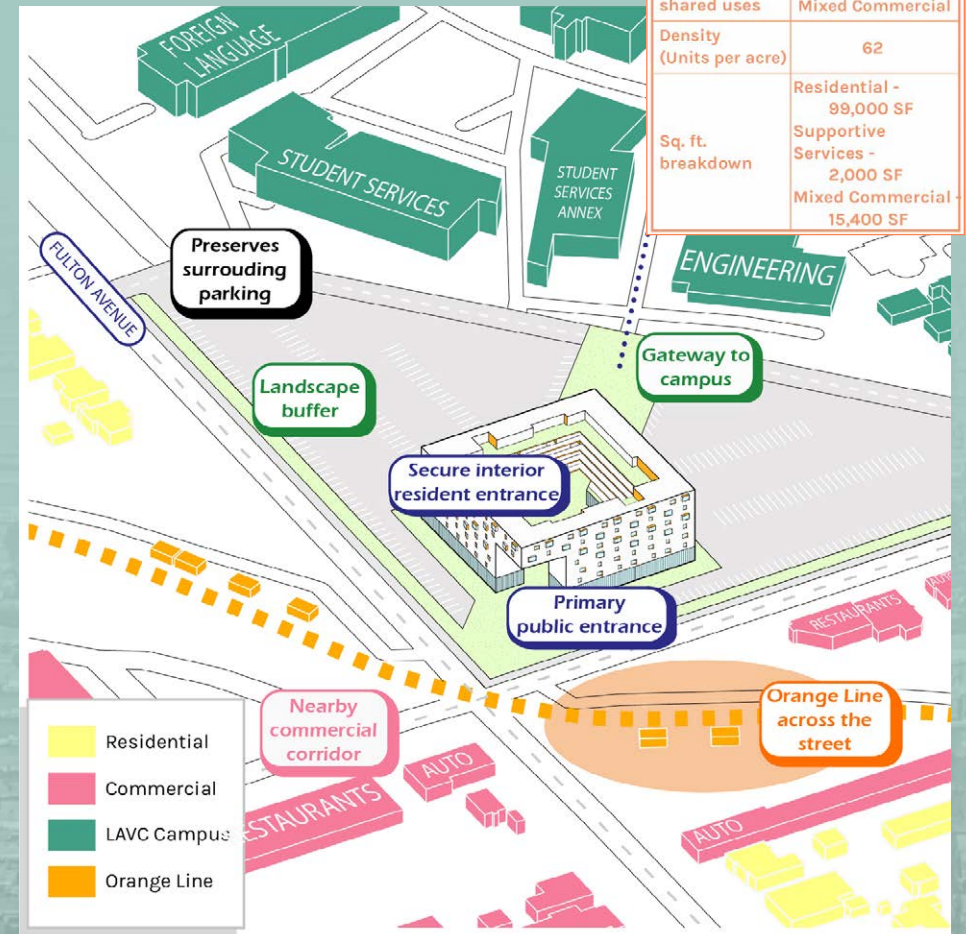
Site Context



A 'Town Center' concept unites education with housing, mass transit, walkability, and a sense of collective welcome. By establishing an entry point that blends the needs and benefits of campus and community, the Town Center provides benefits for varied stakeholders: shared uses for the college, the residents, and the neighborhood are balanced; the new building gives identity to the campus; the path between neighborhood and campus is defined; and new, protected open space is provided.



KEY	
Number of units proposed	200
Proposed shared uses	Supportive Services, Mixed Commercial
Density (Units per acre)	62
Sq. ft. breakdown	Residential - 99,000 SF Supportive Services - 2,000 SF Mixed Commercial - 15,400 SF



LIVE / LEARN HUB HARBOR COLLEGE

School: Founded 1949; 65 acres

Enrollment: 7,643 Students (Spring 2019)

Context Type: Single-Family and Mixed-Use (open space, industrial)

Site Type: Agglomerated

The Los Angeles Harbor College (LAHC or Harbor) campus offers extensive nearby green space to the north and west, but is bordered on the east and south with environmentally detrimental constraints, including the 110 freeway and an oil refinery. While there are some mixed-use corridors nearby, Harbor lacks major public transit connectivity, and the campus buildings themselves are packed together without clear gathering spaces for students.

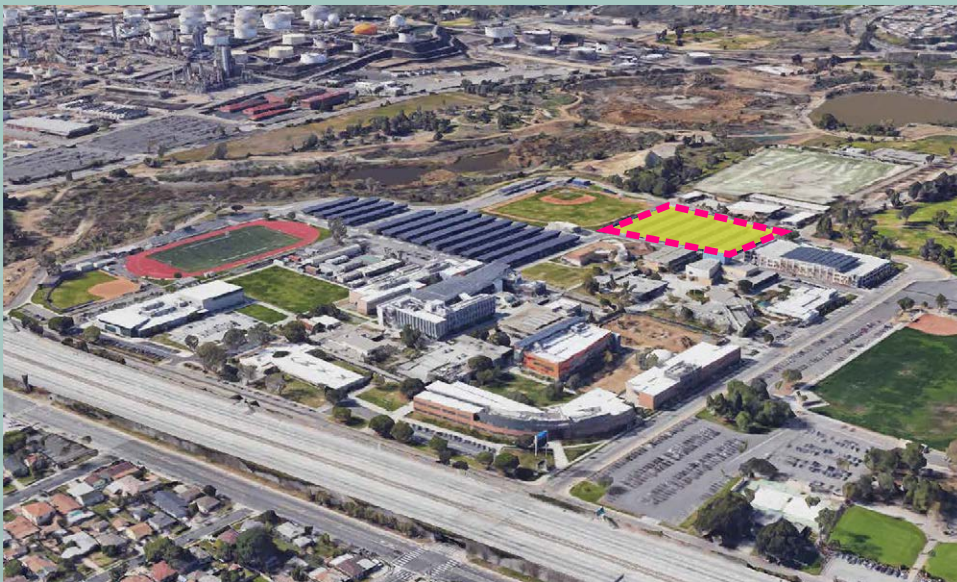
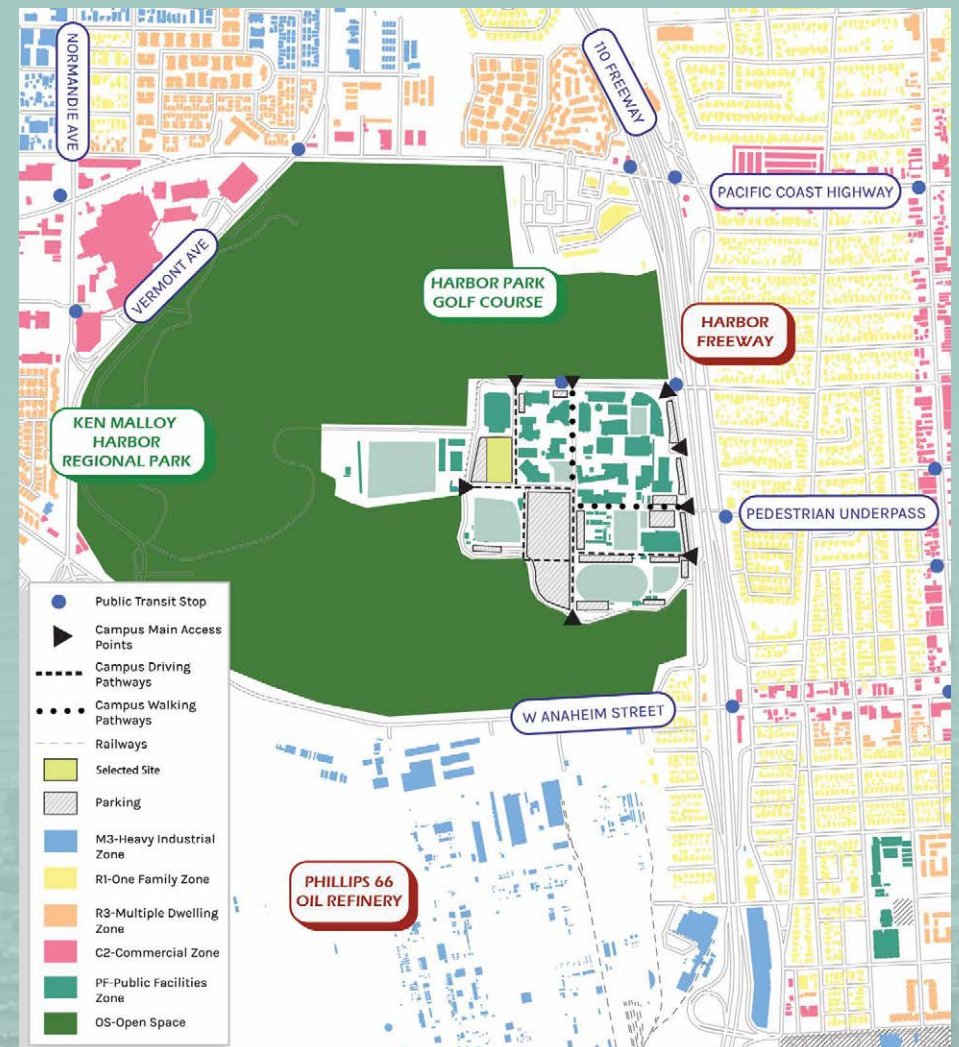
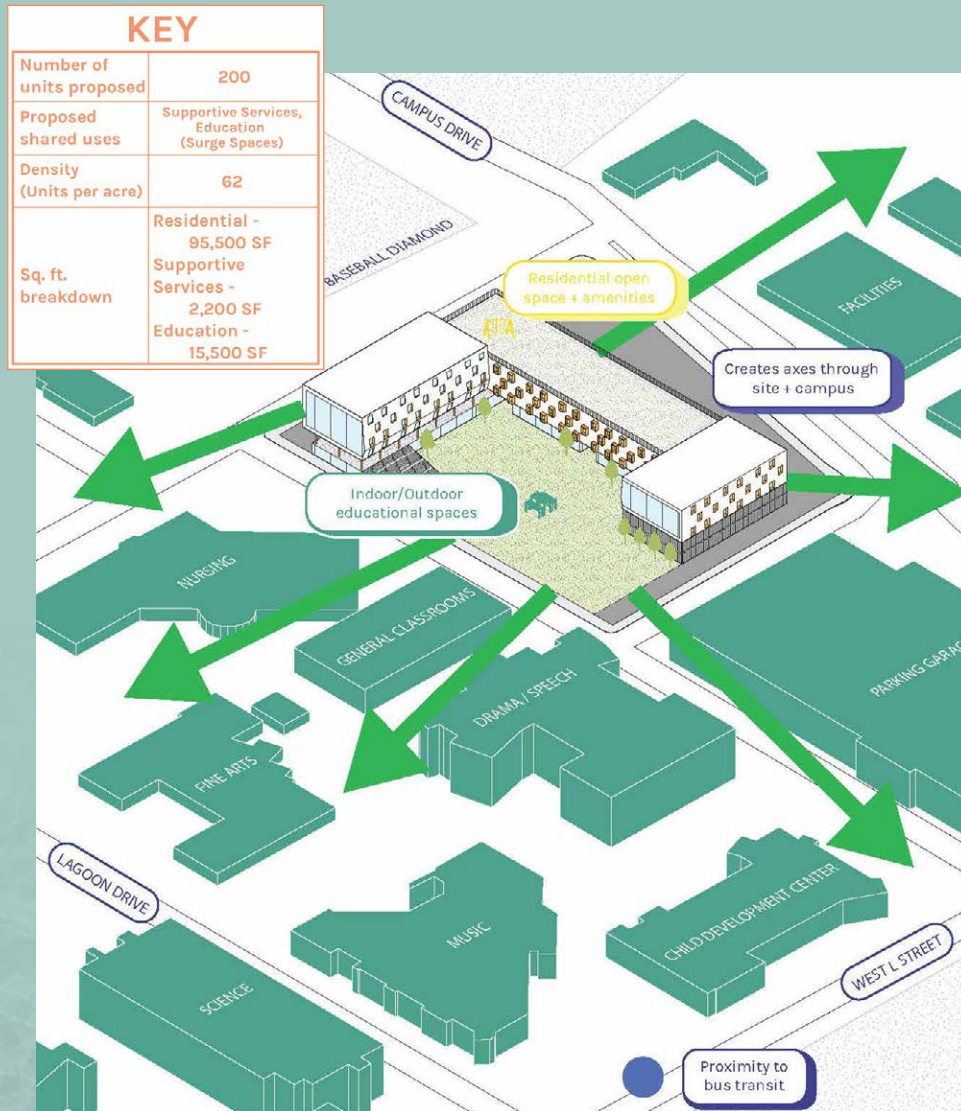


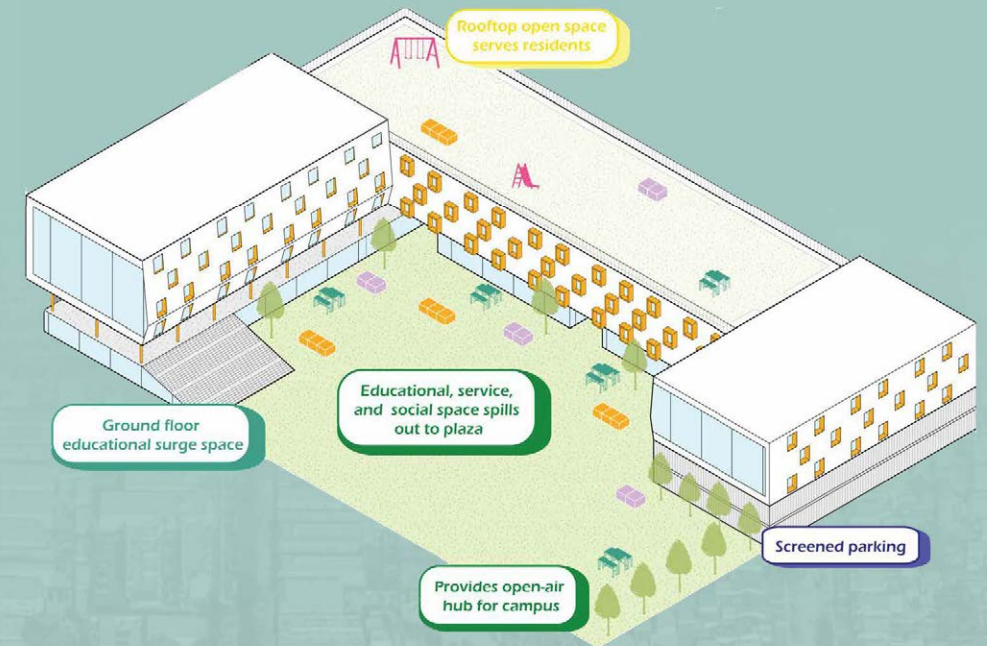
Figure 17: Bird's eye aerial view of Los Angeles Harbor College



LIVE / LEARN HUB HARBOR COLLEGE



The Live/Learn Hub mixes residential, educational, and supportive uses, to create a sense of community at the heart of campus. This 'placemaking effect' is the goal of the live-learn hub strategy; the campus-facing orientation of the building invites the wider Harbor community to make use of the active spaces. Whether enjoying the open-air green space, taking part in programmed activities in the new educational surge spaces, or soaking in the sun on the roof tops, the live-learn hub will appeal to all community members and create a real "place" for the campus.



This campus context, as well as the need for internal connectivity and amenities, calls for a holistic, centralized solution. The proposed Live/Learn Hub provides 200 units of affordable housing above educational surge space and supportive services, all organized around a public plaza. The plaza creates an intersection of well-connected paths that stretch across campus, providing a centralized space for students to live, study, and socialize.

KEY TAKE-AWAYS

Providing affordable housing on community college campuses not only supports financially vulnerable students, but also provides new opportunities to bridge between the campus and its surrounding community

Siting housing and associated programs on surface parking lots (with any displaced parking replaced as needed), particularly on transit-rich campuses, preserves existing educational uses while strengthening both inner-campus and community relationships

Co-developing affordable housing with educational, retail, or gathering space creates new placemaking options, and may also provide mutually beneficial funding sources

Strategically designed housing can be deployed to leverage the site-specific strengths of each community college campus, maximizing benefits to the campus, its students, and the community it serves

The permeability and public nature of community colleges provides opportunities to simultaneously serve the needs of housing tenants, the school, and the community through development of affordable housing and amenity spaces

Providing a mixture of unit types (studio, 1-, and 2-bedrooms) promotes diversity within the student body by accommodating students in need of specific living arrangements -- such as students with families -- at an affordable rate

F

EXPERIMENTS IN UNIVERSITY HOUSING

To expand the scope of our research, cityLAB incorporated a third site for reimagining affordable housing-education nexus: the university. In general, community college students are more disadvantaged than their four-year college peers, but rising rates in the latter group of homelessness and housing insecurity demonstrate an alarming need for new residential solutions. The problem extends beyond affordability: a HUD report titled “Barriers to Success” highlights the imbalance between growing attendance rates and slowing dorm production; the growing number of non-traditional students who may not qualify for or be adequately served by existing dorms; and limitations on access to resources like public housing or financial aid, disbursement of which does not always align with a school-year payment schedule.²⁵ Solutions must address not only affordability, but also incorporate financial flexibility and the spatial variety that support today’s diverse student body.

In her recent examination of residence halls, Carla Yanni shows that students have changed a great deal while American dorms have remained relatively static over their three-hundred year history.²⁶ Looking into our own backyard, cityLAB began to unpack the various issues surrounding basic needs and insecurities faced by current UCLA graduate and undergraduate students.

Schools are typically programmed in terms of classrooms, while dorms are classified by number of beds, with a clear divide between the two. New forms of learning that prioritize pedagogical creativity question the need for this living-learning dichotomy. Furthermore, growing numbers of non-traditional students (i.e., older students, students with families, students in need of supportive services, undocumented students, or supercommuter students who live more than 60 minutes from the university) are underserved by the one-size-fits-all model of many existing dorms. By considering the particular needs of fellow students, cityLAB challenged architectural student teams to propose innovative design programs and merge residential and educational uses, blending private space with communal space.

25 Office of Policy Development and Research. "Barriers to Success: Housing Insecurity for U.S. College Students." U.S. Department of Housing and Urban Development. 2015. pp. 5-6.

26 Yanni, C. *Living on Campus: An Architectural History of the American Dormitory*. Minneapolis: University of Minnesota Press, 2019.

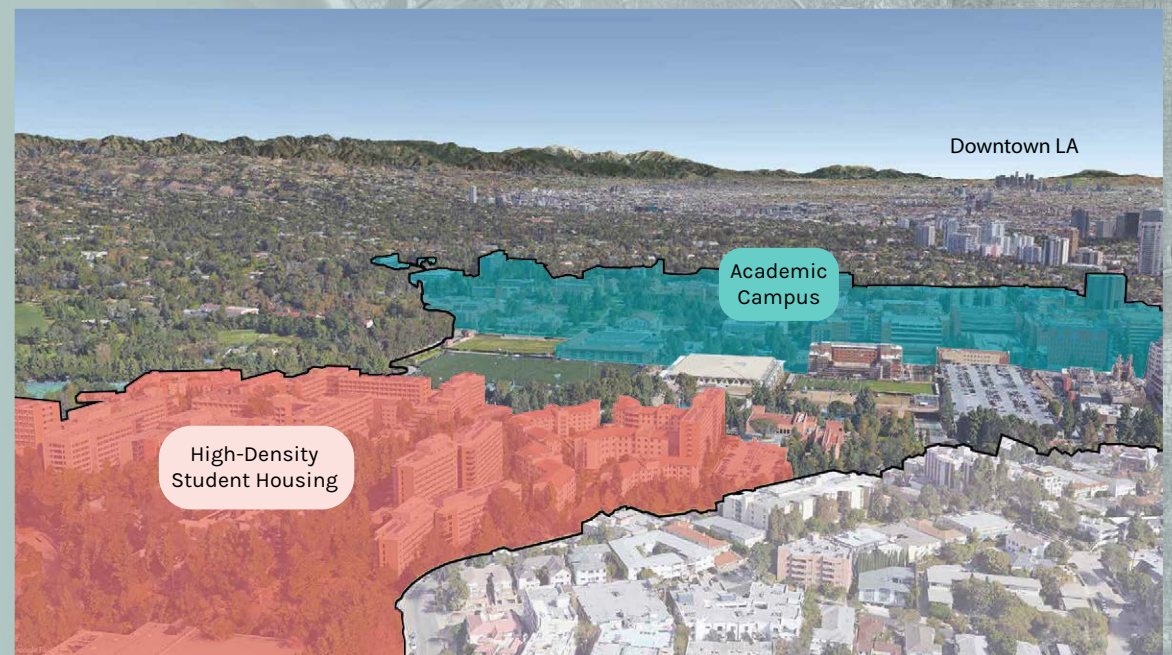
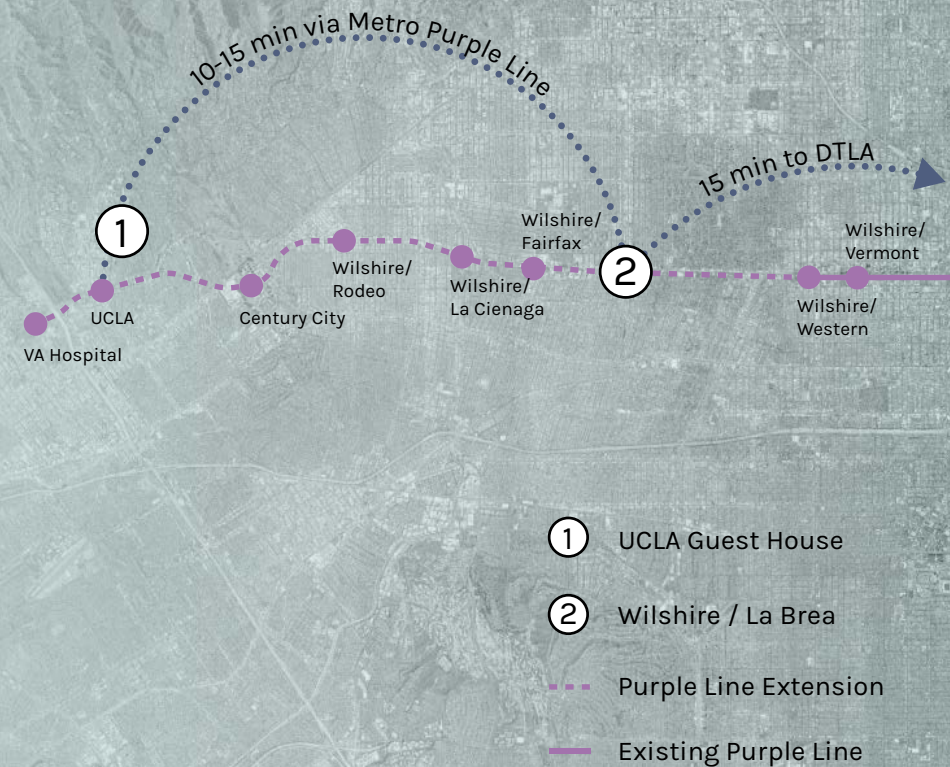


Figure 18: Existing school-housing relationship at UCLA

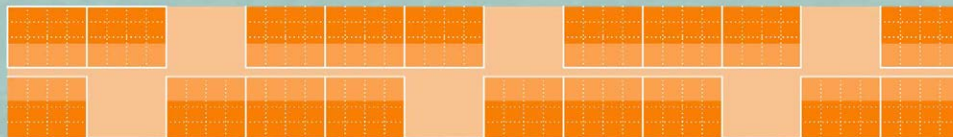
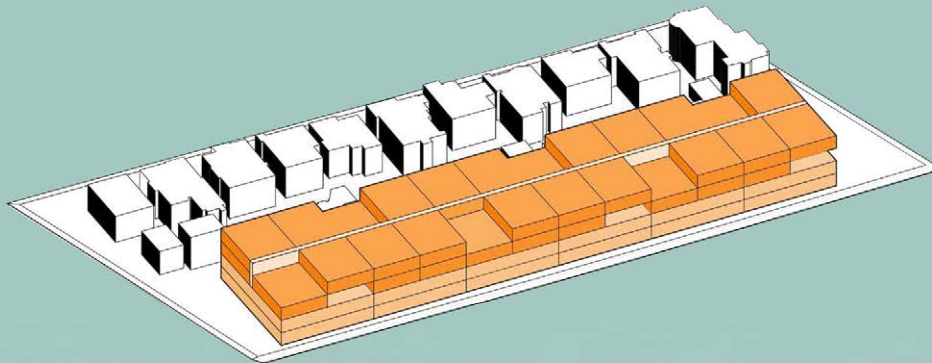
Figure 19: Map of UCLA case study sites in relation to the Metro Purple Line extension

THE EVOLVING DORM

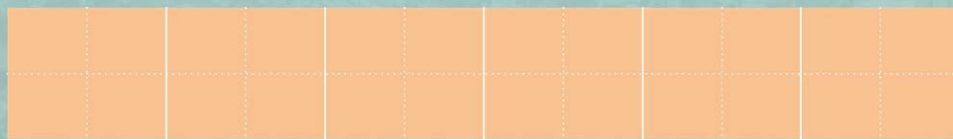
PROPOSAL BY CATE CARLSON, KATE GANCEDO, GEORGIA POGAS, AND YUSHAN MEN

Taking seriously the mantle of the public university, the Evolving Dorm is sited off-campus in the heart of Los Angeles. This satellite campus will be just 15 minutes away from the main Westwood campus once Metro's Purple Line Extension is complete. The urban campus provides residents and university with additional opportunity for community connection. Living spaces are designed to comprehensively serve full-time and short term residents such as students who super-commute and may only need near-campus housing 2-3 nights a week. Co-located communal spaces provide room for gathering, education, and community engagement.

While there is no standard definition of non-traditional students, a common characteristic is the multiple demands on their time (for jobs, commuting, caregiving, etc. as well as study). As a result, such students have highly varied schedules which in turn call for flexible living arrangements. The Evolving Dorm incorporates movable walls and modular furniture to facilitate changing programmatic use in short- and long-term housing options, as well as multi-purpose communal space. By rearranging walls and furniture blocks each quarter (or week), the dorm can adjust to shifting needs for accommodation. Similarly, communal space can expand or contract in response to events or to changing classroom requirements.

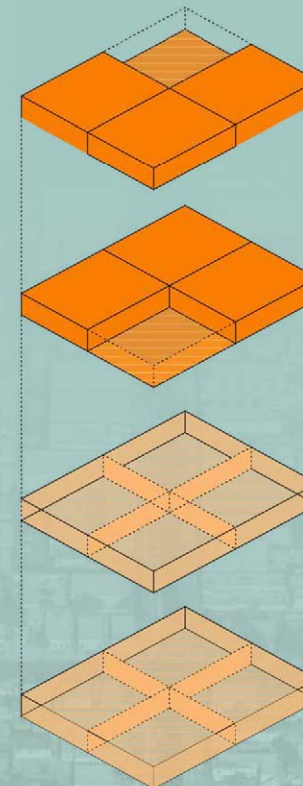


Typical upper floor, more fixed in nature

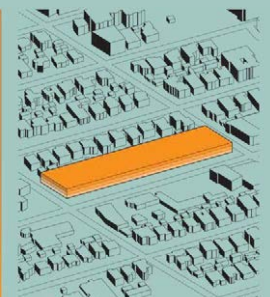


Typical lower floor, less fixed in nature

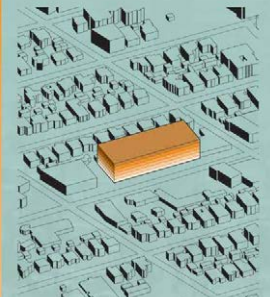
- Private bedrooms
- Shared kitchens and bathrooms
- Larger shared spaces
- Fixed partitions
- Moveable partitions



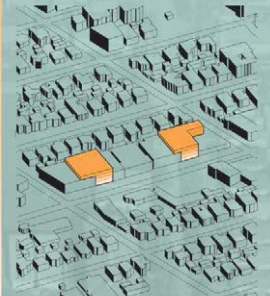
Most days per week/
permanent spaces



A: Complete site coverage



B: 50% site coverage



C: Infill

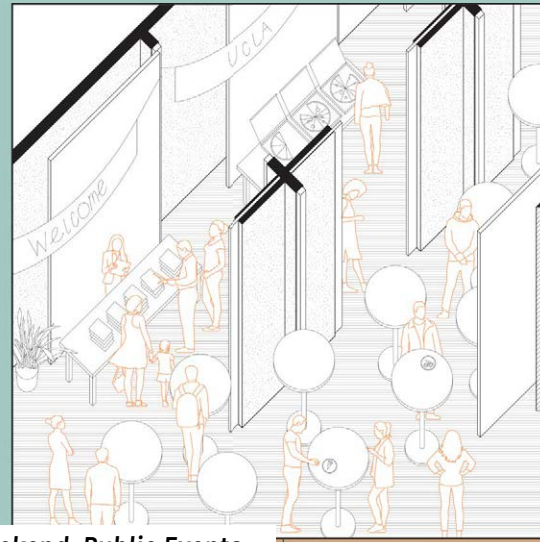
Fewer days per week/
flexible spaces

THE EVOLVING DORM

PROPOSAL BY CATE CARLSON, KATE GANCEDO, GEORGIA POGAS, AND YUSHAN MEN

As a typology, the Evolving Dorm questions the meaningfulness of a measure like room counts in an era of innovative pedagogy, changing needs, and individualized student desires. By embracing the potential of multi-use in both communal and private spaces, the Evolving Dorm can adaptably mediate between needs of full-time residents, students who super-commute, university, and community.

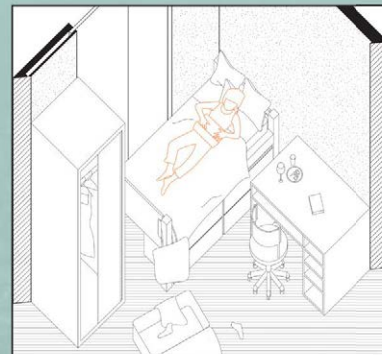
KEY	
Number of housing units (beds)	832 (Max. capacity)
Proposed shared uses	Education, Community space
Program breakdown (Max. capacity per floor)	Bedrooms - 17,600 SF Kitchens / living - 8,728 SF Bathrooms - 8,872 SF Shared space - 11,733 SF



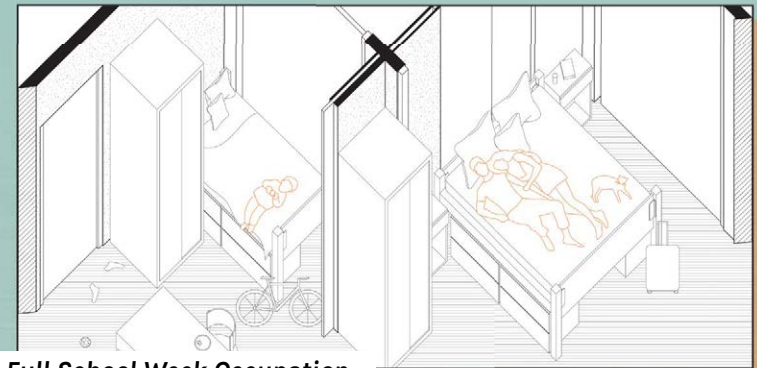
Weekend: Public Events



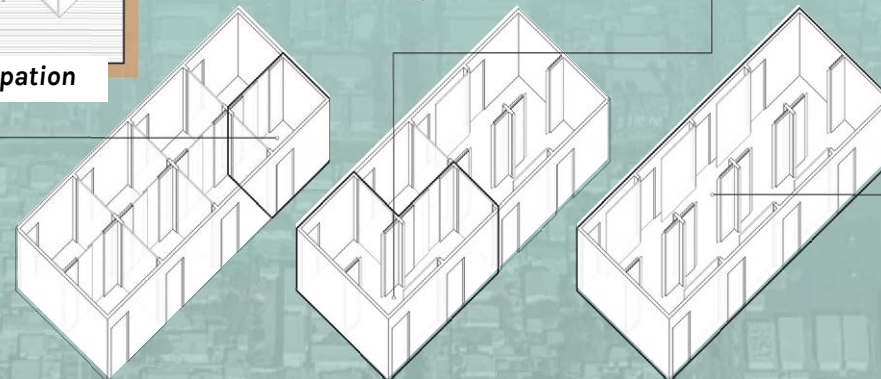
Weekend: Public Classes



Partial School Week Occupation



Full School Week Occupation



Maximum unit configuration

3 unit configuration

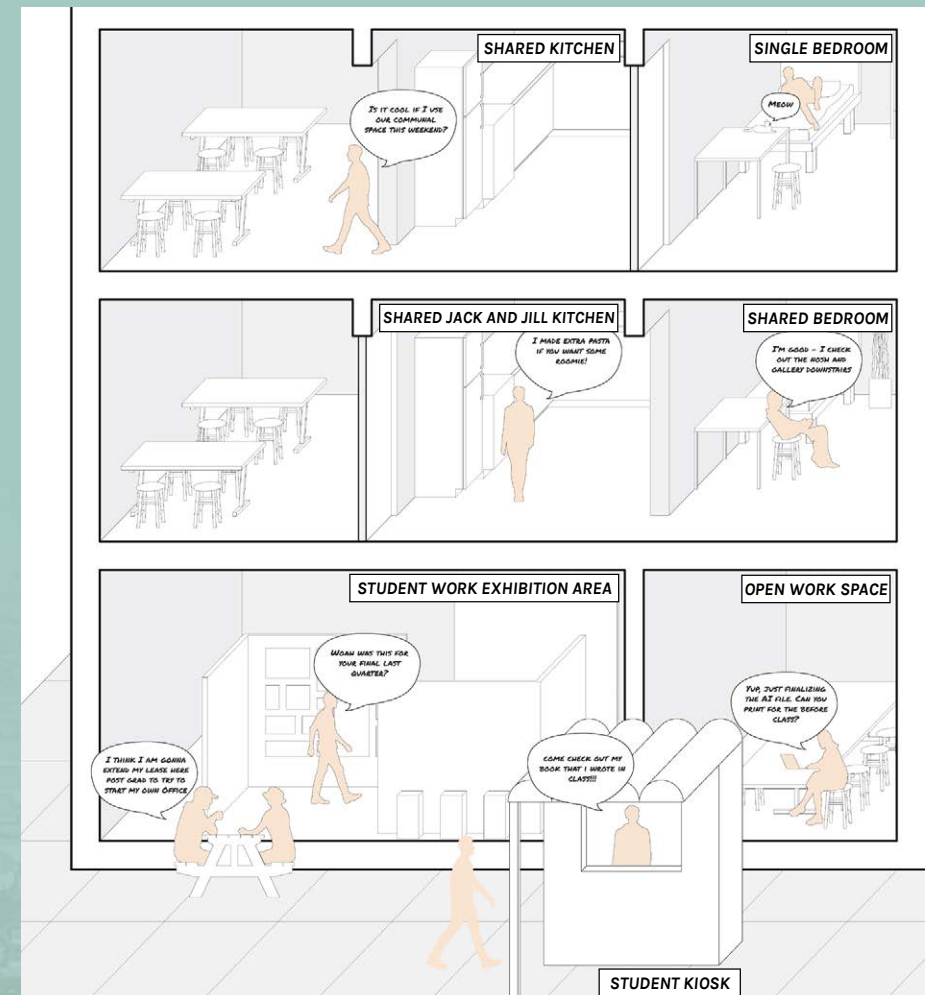
Free plan configuration



URBAN CAMPUS ENCOUNTER

PROPOSAL BY SAMMY HASAN, ANNIE KAO, KYOUNG EUN PARK, AND NOAM TAYLOR

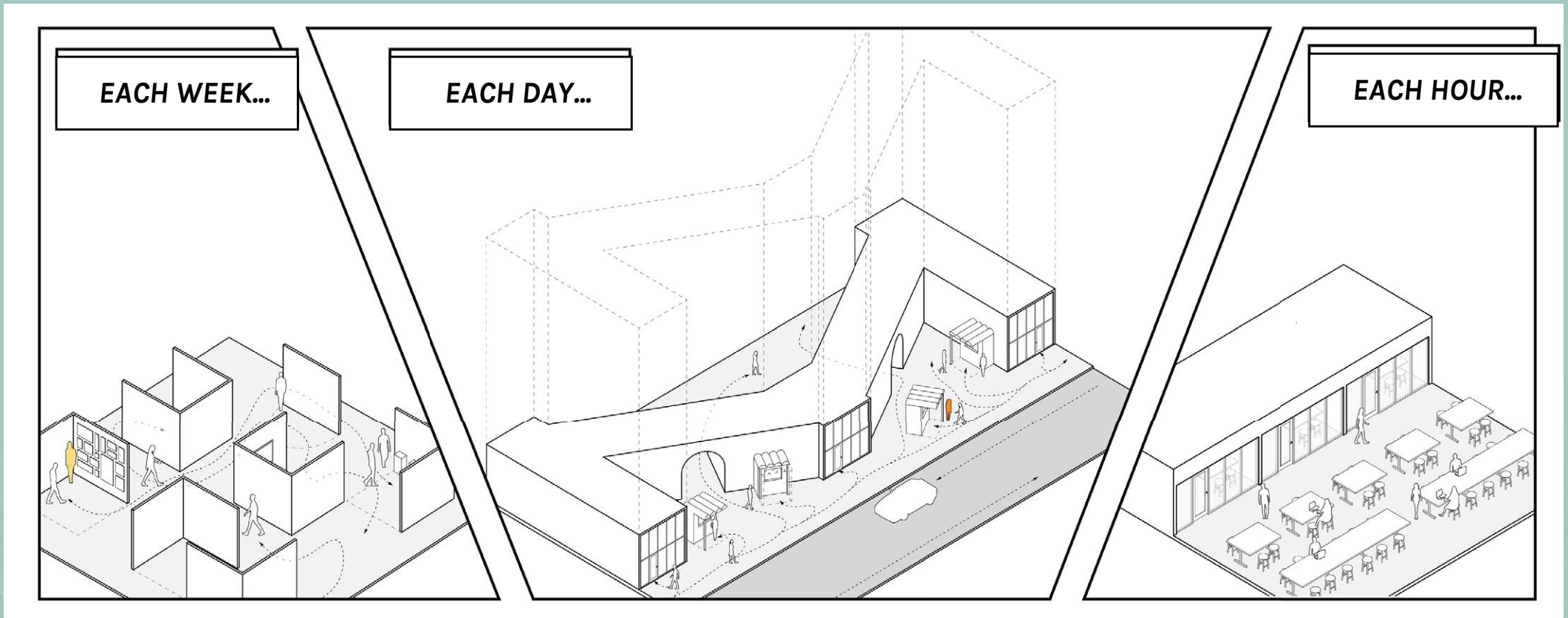
Also located along the future Metro Purple Line Extension, “Urban Campus Encounter” seeks to create an integrated community that bolsters networking and skill-building opportunities for entrepreneurs, both on campus and across Los Angeles.



Rules related to residence hall schedules and student enrollment create housing instabilities that particularly complicate the lives of non-traditional students. It is common, for instance, that dorm residents must be enrolled in school during the entirety of their tenure, and face additional fees to stay housed over winter and summer breaks. This model is based on the stereotypical undergraduate, who returns home whenever school is out of session. By contrast, the Urban Campus Encounter posits that all students need some stability to be successful both in and out of the academy. Its housing is available to students for a full year before starting and after completing university.

More than a place to sleep, this satellite campus offers students an entrepreneurial, hands-on education, with multiple opportunities to connect with other students. The building’s zig-zag shape makes room for public courtyards, vendor stalls, small storefronts, and private backyards that allow students to engage with the community through selling goods and artwork, testing software programs, planning original events, or pitching new products.

URBAN CAMPUS ENCOUNTER



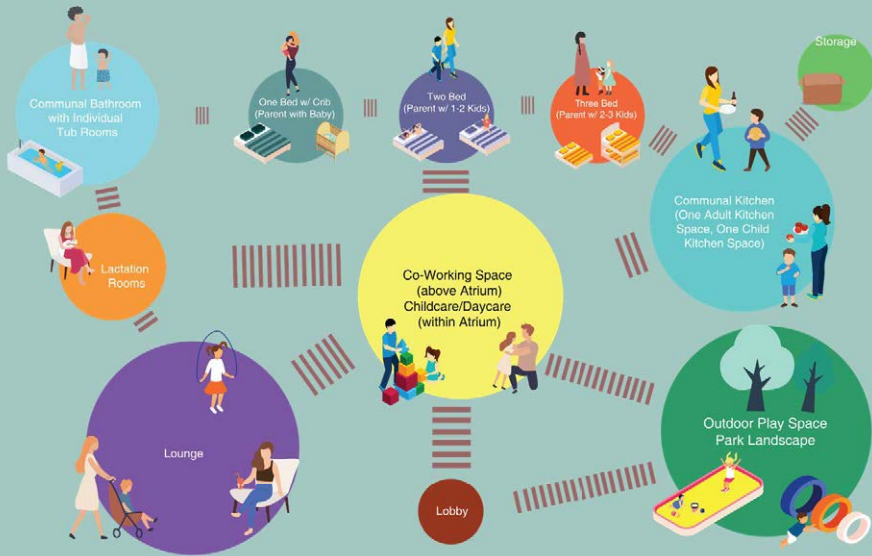
KEY

Number of housing units (beds)	168
Proposed shared uses	Co-working, Exhibition
Program breakdown	168 beds 42 units 231 tenants 21 shared kitchens 5 cafeterias 6 student kiosks

The Urban Campus Encounter exposes current financial hardships - the difficulties of working while in school and the restrictive schedule of dorm tenures - and leverages these problems to provide new models of education to both students and the community at large. Focusing on a shared objective (in this case, entrepreneurship) brings together students from across disciplines and attracts diverse community members, as a way to test new models of education. Students are able to simultaneously live, work, and study through a hands-on, immersive approach, the impact of which stretches out into the city in the street-side plazas.

EXTENDED STUDENT COMMUNITIES

PROPOSAL BY KRISTIANA BURGI, CHIEH-TING CHUANG, DAVID ERLICH, AND FLORIAN LEPINARD



This proposal renovates and repurposes a campus hotel built in 1985 to provide affordable housing for one specific group of underserved students: those with young families. Nationwide, over one quarter of all undergraduates have dependent children, and their numbers continue to grow. Interviews with the UCLA Students with Dependents program revealed that many students felt left out of the “Bruin community experience” because the dorms were neither affordable nor planned for their needs. These students voiced a strong desire to live in a community housing environment close to campus, with family-friendly amenities such as lactation rooms, bathtubs (a necessity for young children), playgrounds, and childcare.

The Extended Student Communities project encourages the development of the whole family in both private and communal spaces. Bedrooms are designed to be re-organized as children grow from crib to bunk bed, so that student-families are able to remain in place throughout their tenure. Communal spaces include co-working offices that overlook play spaces, allowing parents to study while monitoring their kids, and collective kitchens and lounges invite multiple families to join together for meals and relaxation. These rooms are repurposed to house workshops, seminars, or childcare.



EXTENDED STUDENT COMMUNITIES



KEY	
Number of housing units (beds)	127
Proposed shared uses	Co-working, Childcare
Program breakdown	38 bedroom units - 11,400 SF
	4 shared kitchens - 1,600 SF
	6 shared bathrooms - 2,400 SF
	Childcare - 5,600 SF
	Co-study area - 4,000 SF
	Workshop / lounge - 2,000 SF

This model emphasizes the key adaptations necessary to make dormitory life accessible to students with families, a population with a clear interest in being part of the on-campus community. Providing adaptable educational, social, and cultural spaces for all ages strengthens the resident community, while simultaneously providing a demonstration for universities seeking to house the growing population of student-parents and their children.



KEY TAKE-AWAYS

Stable, affordable housing on or near campus is a foundation for academic achievement and for forming engaged community life at college

Dormitories are not one size fits all: growing numbers of non-traditional students demonstrate the need for more varied living arrangements. This can be accomplished through building for key communities, or by renovating existing residence halls to become more flexible and inclusive

Like other residential structures, dormitories are inhabited long after their planned lifespan. Designing for a variety of options and planning for both short and long-term adaptability will benefit current and future students

Current residence halls serve an important but shrinking population of single, ¹⁸⁻²¹ year old full-time students with financial means (or willing to incur student debt). Demographics and economics have changed. Rethinking this three-centuries-old model is long overdue

The financial structures of dormitory life --with relatively high costs, payment schedules that do not match federal financial aid disbursement, additional fees to stay over break, and strict move in/out dates-- further complicate living on campus. Apart from design, creative approaches to re-thinking payment structures will benefit many vulnerable students. To bring costs down, student co-operatives, youth hostels, rooming houses, and other models should be evaluated

Overly customized solutions can be both empowering and isolating. Based on their particular student populations, schools must weigh when it is appropriate to design for specific underserved communities (such as the Extended Student Communities model tailored to young families), and when to design inclusively (e.g. building lactation rooms, play spaces, and bathtubs into all dormitories)

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CONCLUSIONS

Boarding schools and four-year colleges have long track records that demonstrate the viability of co-locating residential and educational uses. Historically, residence halls have primarily served privileged students, but as schools plan for greater inclusivity, their housing considerations must change. Moreover, those schools that are situated in regions with a high cost of housing must do even more creative work to provide a range of affordable residential solutions.

Why is this the responsibility of schools, you might ask? It isn't; but schools should take responsibility for initiating a constructive collaboration. Schools have the land and they need diverse student bodies. Affordable housing agencies have the development expertise but they need land. Students and their families have good reason to locate on school property but they need access to affordable housing alternatives. Neighborhoods have real interest in their local schools' thriving, so they need to help invent housing-school site solutions. Partnering together, much will be possible.

We venture that some form of housing is possible on every single public school campus. The research and projects outlined above have shown that Los Angeles can lead a veritable sea change when we consider the 21st Century Schoolyard. The design prototypes in the prior pages, along with the research, demonstrate that faculty and student housing on school campuses is not only possible, but beneficial. The provision of housing by Los Angeles' public schools --from kindergarten through graduate school-- will ensure that more of their faculty, staff, families, and students are well-housed. But cookie-cutter solutions will undermine the cause. Instead, as this research argues, living in California's future schoolyards requires design interventions as diverse and varied as their neighborhoods, schools, and students. The key is to get started building these creative, hybrid housing-education solutions, somewhere and now.

FURTHER CITYLAB STUDIES

UCLA Extreme Commutes

At UCLA as well as other universities in major cities, the number of students with long commutes is growing. “Extreme-commuting” (defined as 90 minutes or more) is related to housing markets that price out residents who can no longer afford to live near where they work and attend school. In many ways, the condition of Super-commuters presents a new type of housing problem brought on by the fact that while work has become increasingly digital, most universities still want students to be physically present. At the time of this writing, cityLAB is conducting research on college students with extreme commutes. From a broad survey in partnership with UCLA Transportation Services along with in depth focus groups, cityLAB is learning about who these super-commuters are, why they have such long commutes, and how the campus might better serve their needs. The lab is investigating new types of “dormitories” for students who live far from campus, many of whom occasionally sleep overnight in their cars or in campus buildings, who need on-campus spaces for cooking, storage, and napping, and who might use a low-cost hotel near campus several times a month. Design experiments will be shared for feedback with student super-commuters before submitting to campus administrators supporting the research. Expected completion: Oct 2019.

This project is made possible through partnerships with UCLA’s Housing, Student Services, and Transportation Services divisions. The design research is a collaboration with UCLA Architecture students and faculty member Marta Nowak, of AN.Onymous.

Creatively Dense Dormitories

One important way universities, including UCLA, are addressing both affordability is by increasing the number of students per dorm room. And more students living on campus reduces greenhouse gas emissions. cityLAB asks the question: How can new interior furnishings and space planning create more livable, high-density, affordable dorm rooms? Several research directions are underway, including extending the very concept of the dorm to even more affordable arrangements, and merging independent pieces of furniture into an interior landscape. Through studies of innovative and conventional residence halls worldwide, student interviews, and UCLA dorm life, cityLAB will suggest retrofitting old dorms in new ways. Stage 1 Research completion: Jan 2020.

This project is made possible through partnerships with Herman Miller and UCLA’s Housing and Student Services divisions. The design research is a collaboration with UCLA Architecture students and faculty member Marta Nowak, of AN.Onymous.

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PHOTO CREDITS

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