L.A. was never planned in the traditional sense of a central, top-down guide for the urban environment. Nor is it unplanned, as is often claimed by those disturbed by its unconventional cosmopolitanism. Instead, it comprises a set of planned increments that are always tactical and often radical in nature, from large scale upheavals to minute local tinkering.

- Dana Cuff, *Los Angeles: Urban Development in the Postsuburban Megacity*

On a drive around in the post-suburban landscape of Los Angeles, the rows of 50-foot-wide properties seem endlessly immense. In this regional metropolis, where suburban sprawl has been forced to reinvent itself due to the exhaustion of natural resources and lack of developable land, the instant repetition of subdivided lots still recalls the glory days of suburban expansion. Zoned R1, they are all populated by one-story single-family houses, in compliance with the regulatory framework that constitutes the prime construction guidelines of the American dream. Indeed, when driving around we pass building after building whose stucco-coated front façades seem to incarnate Banham’s 1971 comment about a city caught up in a state of infinite repetition.

The proliferation of shadow housing in the post-suburban landscape of Los Angeles tells a story about the inadequacy of R1 zoning to respond to escalating calls for new and more resilient housing types. Neither romanticizing nor condemning illegal housing, this article takes the shadow houses of L.A. as context for a critical re-evaluation of the R1. By consulting the tools of architectural representation – the plan and the section – the article analyses the transition of zoning from urban in New York to suburban in Los Angeles, and thus unpacks its resistance to issues implicit in contemporary lifestyles. For twenty-first-century Los Angeles, the article examines cityLAB’s 10K Pacoima project to investigate ways to utilize architecture to challenge single-household zoning. Profiting from the idle land stock unveiled by the recognition of shadow housing, the 10K Pacoima project develops tactics of adding density in the post-suburban landscape of Los Angeles by undermining the R1. Looking simultaneously for new housing solutions and updated strategies for city building, the 10K Pacoima project also raises relevant questions about disciplinary overlaps and intersections.

- Per-Johan Dahl

The Shadows of L.A.

L.A. was never planned in the traditional sense of a central, top-down guide for the urban environment. Nor is it unplanned, as is often claimed by those disturbed by its unconventional cosmopolitanism. Instead, it comprises a set of planned increments that are always tactical and often radical in nature, from large scale upheavals to minute local tinkering.

- Dana Cuff, *Los Angeles: Urban Development in the Postsuburban Megacity*

I only wanted something else to do but hang around.

- Pet Shop Boys, *Suburbia*
Like a reflection in Dan Graham’s mirrors, the notion of sameness emanating from the sequence of single-family residences reinforces the assessment that conventional domesticity is the prevailing lifestyle in Los Angeles’s post-suburbia. When one leaves the streetscape for the birds-eye view, inhabiting the spatial perception facilitated by Google Earth technology, a parallel world opens up. Like a twilight zone that challenges all parameters implicit in the R1, the backyards of post-suburbia reveal a multi-faceted and ever-changing composition of spaces that subvert the uniformity reflected in Graham’s mirrors. Hidden behind the manicured façades of tract houses and McMansions, large areas of land originally intended to host barbecues and birthday parties for middle-class children have instead been filled with illegal units and unidentified structures, constituting a hodgepodge of shadow residency and other uses. Indeed, the once ultra-coherent and controlled spaces, carved out by single household zoning, have been turned into a multi-faceted composition of functions and expressions, abandoning the rigidity implied by the R1.

The idealization of mono-functional, socially uniform, and low-density urbanism that has been channeled by the R1 for long periods in the twentieth century is not viable anymore. Its obsolescence is proven by the shady activities of L.A.’s post-suburbia, which operates under the radar of planning expertise. Here, where current urbanization proceeds incrementally rather than planned, the deviation between what is regulated and what is built is explicit. We shouldn’t necessary romanticize the post-suburban tendencies of Los Angeles. On the other hand, however, we mustn’t ignore the fact that these illegal activities tell a story about existing discrepancies between current planning praxis and the needs of prevailing lifestyles. Indeed, being populated with structures that explore alternatives to commonly accepted buildings types and use classifications, the post-suburban landscape of Los Angeles calls for new property typologies. With updated regulations and alternative tactics for lot subdivision, these properties can host resilient housing models that support contemporary requirements of flexibility, affordability, and multiple uses.

The resurrection of resilient housing

The accommodation of resilient housing is certainly not a new phenomenon. The spatial organization of Roman townhouses, for example, changed constantly according to the succession of social status obtained by the inhabitants. More recently, Constantin Brancusi has shown us that certain spaces are open to instant re-programming, and thus support the seamless interconnection of leisure, work, and contemplation. With the reform movements of the early twentieth-century, however, versatility and interconnection were replaced by taxonomy and separation, which aimed to improve the quality of life in overpopulated cities. Following the reformists’ ideas, land use zoning was introduced as a primary tool to regulate city building, which segregated functions by law and thus made integration of uses illegal.

Zoning was invented in the 1870s by the Prussian planner Reinhard Baumeister, introduced to Los Angeles in 1904 for the establishment of single-use districts, turned into law with Edward M. Bassett’s 1916 ordinance in New York, and given police power in Euclid, Ohio, in 1926. The separation of uses that defined the basic premise of zoning became a modernist mantra celebrated by Le Corbusier’s “hierarchy of four functions”. These functions - dwelling, work, leisure, and circulation - constituted the framework of his Functional City and thus the 1933 CIAM Athens Charter (Mumford 2000, 79). Even if zoning was invented and applied prior to the Functional City, the idea of reforming city building by separating
uses aligned perfectly with the premises of CIAM’s discourse on urbanism (Mumford 2000). Indeed, the Charter’s declaration to “determine relationships between places devoted respectively to dwelling, work, and leisure” confirmed Bassett’s land use regulations already proven successful in New York City (Mumford 2000, 87). With the legacy of CIAM, hence, Bassett’s advocacy for use separation was contextualized in the discipline or urbanism.

The CIAM discourse on urbanism influenced American practitioners in the years before and after World War II, evident in a wide range of canonical projects such as Robert Moses’s freeways, Ludwig Hilbertseimer’s superblocks, and José Luis Sert’s formation of a new discipline formally known as urban design (Fishman 2007; Pope 1996; Mumford 2009). Hence, even if zoning was a well-tested method deployed by various cities in the U.S. before CIAM, the legacy of the Congrès certainly helped strengthen the idea of use separation. With the post-World War II explosion of residential construction in the U.S., zoning spread across the North American continent in a Jeffersonian manner, covering the hills and plains from New York to Los Angeles. When leaving the city for suburbia, the power of zoning was amplified by the rotation of Bassett’s setback codes, which had been developed in New York to prevent the “cornices [of skyscrapers] projecting into the street and shutting out light and air” (Bassett 1932, 3). Originally formulated to balance public and private interest, New York’s vertical code became a horizontal zoning amplifier in suburbia.7 Used solely to protect the interest of individuals, the setbacks of suburbia emphasized the concept of distance and thus reinforced the power of the zone. Indeed, when it hit the West Coast and turned into R1, the setback was no longer a code concerned about the qualities of public space but rather had become a device to reinforce the social and economic polarizations created by the zone.

Today, as suggested in L.A.’s post-suburbia, R1 urbanism is outmoded. Its extensive implementation in the past, however, provides viable opportunities for exploration through innovative research teams and design practices. With the recognition of the shady activities in L.A.’s post-suburbia, the presence of underutilized land along the urbanized fringes of the city has been unveiled. This overlooked asset opens up new possibilities for land consolidation projects to develop alternative settlement types for meeting the requirements of contemporary lifestyles. By turning the backyards of post-suburbia into construction sites for a new generation of housing, structures could be designed and manufactured in concurrence with technically sophisticated production methods; updated policies could facilitate the financing and implementing of dwelling units; and homeownership building could be coordinated by new real estate economies. Indeed, if the rigidity of R1 were dismantled, the densification of volumes and uses proliferating in the shadows of those endless front façades could be channeled by expertise and utilized as an incentive for architectural and urban experimentation. Not only legalized but also activated, the underutilized lands of post-suburbia could become test sites for the resurrection of resilient housing and a model for the transformation of low-density residential urbanism.

10K Pacoima

10K Pacoima is an experimental and research oriented project initiated in 2007 by the UCLA think tank cityLAB.8 Emanating from the discovery of a considerable number of extra large lots in Pacoima, exceeding 10,000 square feet, therefore the 10K name, the project taps into Dana Cuff’s discourse on convulsive urbanism and investigates new ways to utilize architecture as the prime tool to instigate the transformation of post-suburbia (Cuff 2000; 2010). While it builds on a shared interest in homeownership, however, 10K Pacoima examines
a trajectory parallel to Bell’s voucher housing that unleashes new potential for incremental growth by rethinking property typology. When Bell investigates ways to deploy design for updating the concept of public housing, the 10K Pacoima project looks instead for strategies to reconfigure underutilized land in the backyards of existing residential sites. By claiming clusters of properties for the purpose of architectural experimentation, the 10K Pacoima project turns the for-sale, workforce infill house into a catalyst for neighborhood improvement. Consisting of a package of design, development, and financial programs, the project becomes a hybrid venture that aims to interconnect architecture and urbanism with real estate incentives, policy, and neighborhood activism.

The test site for 10K Pacoima has been the San Fernando Valley community of Pacoima. With a population close to 100,000, about 85 percent of the residents are Latino and almost 40 percent are under the age of 18. Overpriced real estate and continuous population influx have led to a shortage of affordable housing. It is estimated that at least 20% of the existing lots challenge the rigidity of the R1 code by converting garages or illegally erected shacks into residential spaces. By engaging in site-specific investigations and interacting with the community, cityLAB researchers under the guidance of Director Dana Cuff have identified over a thousand extra-long single-family lots in Pacoima larger than 10,000 square feet, or about twice the size of the average Los Angeles lot size. Planned for single-family use only, the backyards of these properties represent a huge amount of underutilized land, all stored away behind the 15-foot-set-back façades. For this study, the research team combined GIS analysis, Google Earth surveys, site visits, and property data recordings to map unidentified backyard activities in Pacoima. The intention of mapping was strictly to separate underutilized land from those with multiple structures, ensuring that interventions are restricted to sites where no current resident or activity will be interrupted or displaced. After analysis demonstrated that 95 percent of the backyards already contained illegal units and unidentified structures, the remaining 5 percent (or fifty-four lots) were identified by the research team as viable for the implementation of architectural innovations that can challenge single-household zoning.

With the objective of gaining community acceptance, cityLAB reached out to local agencies and nonprofit organizations to arrange workshops and seminars with the residents. Abiding by the State of California Second Unit legislation (Assembly Bill 1866), which allows for one accessory unit on a single-household lot, the cityLAB team suggested development strategies and communicated them to neighborhood representatives, explaining not only the spatial intentions of densification and property reconfiguration but also policy recommendations as part of the project. For example, the drafting of pre-approved housing templates and guidelines for community-controlled growth was an important part of the project. Sustainability, flexibility, and affordability were the main working objectives, bridging the urban and the architectural scale. Design concepts for three different housing types were developed out of the collaboration with community members, which showed that Pacoima residents desire both environmental benefits and contemporary design.

The idea of utilizing architecture to rethink the R1 has been explored for a long time with the implementation of Accessory Dwelling Units (ADU). Described by Richard Yukubousky as “a separate additional living unit, including separate kitchen, sleeping, and bathroom facilities, attached or detached from the...
primary residential unit, on a single-family lot,” the ADU has been promoted by the State of California since 1982 as a complementary unit to traditional single-family dwellings and as a method to re-regulate residential zoning to meet the changing conditions of an increasing number of small households, sharply rising housing costs, and changing socioeconomic conditions (Yukubousky 1995). California legislation (Assembly Bill 1866), amended in 2003, encourages the creation of second units (Creswell 2003). So far, among California cities, Santa Cruz seems to have adopted the ADU most successfully as an urban planning tool for upgrading the R1.14 Challenging not R but 1, ADU proliferations encourage more compact land use, which has been targeted as a prime strategy by the California State Senate Bill 375 for reducing greenhouse gas emissions.15 From a planning perspective, 10K Pacoima shows similarities with ADU policies. From an architectural perspective, however, the differences are apparent. Due to the demand for owned rather than rented units, the project promotes a finer grain of individually managed housing units and thus a greater variety of architectural expressions. Building upon this emphasis on diversity, the project suggests a strategy for lot subdivision that opens up for a maximum of three extra units, rather than just one, for each backyard site. Ranging from small (330 sq. ft.) to extra large (1110 sq. ft.), the combination of dissimilar units provides for 64 different variations of property configuration. As the individual units are designed with an extra layer of flexibility, allowing a set of programmatic variations for each house, the architectural combinations are innumerable. The project also investigates new strategies to balance public and private interests. Through re-conceptualization of easements, the reconfiguration of individually owned properties will generate neighborhood assets in terms of new pass-ways and pocket parks.16 Indeed, by utilizing architectural experimentation to merge the enhancement of homeownership with the implementation of community amenities, the architecture, or the deployment of architecture for investigating issues of contemporary urbanism, 10K Pacoima deploys architecture as a driving force for urban improvement, adding value to the community by upgrading the qualities of public space.

Conclusion

Pacoima is an example of the R1 situation in the post-suburban landscape of Los Angeles. However, the San

ADU proposal by cityLAB for Pacoima backyards. The proposal describes an architectural solution with a high degree of flexibility.
Fernando Valley community is not unique. Expanded research shows similar potential in other communities in the Los Angeles area, such as Mar Vista, Palms, and the City of Cudahy. Extending the site typology to include alley and corner lots, cityLAB is currently investigating the wide range of possibilities implicit in the 10K Pacoima approach. Teamming up with Daly Genik Architects in Santa Monica, the development of strategies for policy change intermingles with the drafting of construction documents for a full-scale prototype to be manufactured and inserted on an R1 property in Los Angeles.18

The post-suburban landscape of L.A. needs to be transformed in order to meet the new demands for sustainability, flexibility, and affordability. The single-family zoning that preserves low-density land use simply does not meet the needs of contemporary lifestyles. If the rigidity of R1 can be dissolved, new kinds of properties can be unleashed, feasible to support innovation in housing types and spatial typologies. Hence in the context of updated regulations, underutilized R1 properties can become viable assets for experimentally driven architectural practices. When lots are small, and mortgages repaid, land costs are reduced to a minimum. Due to the small lot size implicit in the incremental densification of post-suburbia, these parcels can become sites for the implementation of advanced design and manufacturing principles. Turned into test sites for complex building geometries, digital fabrication, mass customization, integrated systems for logistics and assembly, and deployment of performative materials, the neighborhoods of post-suburbia could rapidly mutate into a new hybrid of form and program, unfolding space construction principles that transcend most current models.

The ADU is a viable architectural solution to engage in a first attack of the low-density urbanism exercised by the R1. Indeed, when introducing a second unit to any lot zoned for single-household use only, the limitation to one structure implicit in the R1 zone has been defied. The commonly applied ADU, however, will eventually not be enough when R has become as obsolete as 1. Indeed, the rigid definition of use explicitly performed by residential zoning must be challenged in a similar fashion as the one unit limitation was defied by the ADU. Resilient city building will only be possible when the residues of early-twentieth-century reforms have been eradicated from twenty-first-century land-use planning.

The 10K Pacoima models how to use the ADU to start this transformative process. With the first-stage objective of adhering to current zoning law and not seeking variances, the project has so far never challenged the R. However, by deploying a high degree of architectural flexibility as one of the driving forces for property transformation, 10K Pacoima suggests a layer of spatial adoptability generally not encouraged by ADU initiatives. The programmatic variations implicit in these architectural strategies attempt to open up alternative ways of responding to the R.

The R1 still holds a strong position as land-use determinant in L.A. and elsewhere. The efforts to undermine its authority do require shared initiatives from different disciplines and professions. The integration of previously polarized conceptions of management and governance can respond to a larger constellation of ecologies, economies, and lifestyles. By challenging the hardened categories of administration, expertise, and resources, projects like cityLAB’s 10K Pacoima opens up new paths to turn the post-suburban landscape of Los Angeles into a frontier of twenty-first century urbanization.

Incremental densification of a Pacoima block with new housing structures, pocket-parks, and passways.

The 10K Pacoima concept with three different housing models.
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**Images**

All images by author and cityLAB unless otherwise noted.

**Notes**

1 The term post-suburban is used in this article with reference to Dana Cuff’s scholarship. In her research on the growth patterns of L.A., Cuff observes a radical shift occurring in the twenty-first century, from expansion to implosion. Based on her observations, Cuff argues that Los Angeles is “slowly reinventing itself as a post-suburban metropolis” (Cuff, in press).

2 On the end of L.A. sprawl see, for example, the report by Metraux (September 1999).

3 In the City of Los Angeles zones designated to single-family residential use only, more than 70 %, or 321,637, are zoned R1. For this article, R1 refers generally to residential zoning for single-family dwellings.

4 Dan Graham’s 1978 piece Alternation for a Suburban House is described by Colomina (2009; December 2001).

5 On the flexibility of Roman houses, see for example Metraux (September 1999).

6 On Reinhard Baumeister’s invention of zoning, see for example (Rossi 1982) and Williams (December 1915) for his influences on American zoning. Willis (March 1986) discusses the 1916 New York ordinance, Haar (1989) the Euclid case. For a discussion on the zoning on Los Angeles, see Cuff and Dahl (2010).

7 The rotation of the setback code is described by Cuff and Dahl (2010).

8 The 10K Pacoima project received funding in 2008 from UCAL’s Center for Community Partnerships for a two-year research project. 10K Pacoima is headed by director Dana Cuff, with Tim Higgins and Bianca Siegel, associate directors. Per-Johan Dahl and Brigid McManama were assigned project leaders in 2007. Other leaders have participated in the project, with special acknowledgment to Jane Blumenfeld of the L.A. City Planning Department, Nury Martinez of Pacoima Beautiful, and Veronica Padilla of ICON.

9 The Census 2000 Demographic Profile of Pacoima (ZCTA 91331) shows a total population of 97,300. Of the total population, 82.6 percent was Hispanic or Latino and 34.6 percent was under 18 years of age. See Census 2000, accessed from http://factfinder.census.gov/servlet/SAFFactS?_event=Search&geo_id=&geoCon-
References


Southern California Studies Center. 2001. Sprawl Hits the Wall: Confronting the Realities of Metropolitan Los Angeles. edited by M. Dear. Los Angeles: The Southern California Studies Center University of Southern California and The Brookings Institution Center on Urban and Metropolitan Policy.


