



William A. Garnett, Foundation and Slabs, Lakewood, California, 1950. Gelatin silver print, 18.9 x 23.8 cm. The J. Paul Getty Museum, Los Angeles, © Estate of William A. Garnett



William A. Garnett, Finished Housing, Lakewood, California, 1950. The J. Paul Getty Museum, Los Angeles, © Estate of William A. Garnett

# Rx for the R1: Sustaining the Neighborhood

Sustainable urban development is often paradoxically equated with new towns, be they in China or Kansas.<sup>1</sup> In large part, this is because retrofitting existing cities is so much more complicated, and takes place incrementally and without an overall plan. Perhaps more than any other ideological orientation toward urbanism, sustainability requires comprehensive coordination. Viable suggestions for updated practices have been made in the realm of urban planning, such as Mark Jarzombek's rethinking the masterplan.<sup>2</sup> For architects, however, sustainability has not been particularly fertile ground for design. Instead, it is a victim of its own popularity—the bandwagon that developers and cities alike jump on to enhance their appeal. Chicago Mayor Daley's insistence that Chicago become America's greenest city has been successful as an urban identity brand, but thus far the impact on design or even livability is negligible.

If sustainable building and development has benefited little from architecture, perhaps we have focused debate on the wrong target. Just like New Urbanism found its footing in new suburban development, ignoring the fact that this strategy fundamentally contradicts its basic intentions, most sustainable development is a form of new suburban construction with some environmental pretense intended to mask the fact that it is residential expansion itself that prevents both urbanity and sustainability. Instead, the focus on sustainability should be put on reclamation in existing urban areas.

Similar observations were made in 2004 when *The New Yorker* claimed that Manhattan was the greenest place in America.<sup>3</sup> Following New Urbanism, the New Suburban Greenism is already facing the same fate: didactic and superficial imagery, oversimplification, developer-appeal and rejection by architectural intelligentsia. It is no coincidence that after its total destruction by a tornado, Greensburg, Kansas is rebuilding itself as a sustainable city cloaked in New Urbanist neo-historicism. The convergence of the two trajectories is occurring because neither effectively challenges the root of the problem. To do this, we must kill the elephant in the room: zoning, and most particularly, the R1.

Zoning as ideology and practice not only stands in the way of sustainable development, but prevents the next era of urbanization in which architectural approaches to this challenge are essential. Looking at this claim through the eyes of the architect, sustainability powers the movement that will unleash architecture's ability to operate effectively within contemporary urban conditions. To begin, we must demonstrate that zoning must die. As we shall see, New York may have been zoning's birthplace, but Los Angeles will be its graveyard.

Edward M. Bassett, called the father of modern zoning, was a lawyer and public servant at the turn of the century in New York City. Bassett describes zoning as a *movement* that would regulate the chaotic growth of cities occurring across the US.<sup>4</sup> Zoning responded to the explosion of speculative building by the newly emerging real estate industry, and capitalized upon the advancements of health advocates in the late 19th century city, whereby tenement regulation met with broad popular support because people were convinced that unhealthy living quarters spawned epidemics that knew no geographic bounds.<sup>5</sup> Thus, public interest intersected with the plight of a segment of the population to create political consensus to improve substandard building conditions. In New York, early zoning goals included stemming the exodus to the suburbs by wealthy households by preventing noxious conditions of adjacency that might endanger the population. As Bassett argued, "zoning must be done with relation to the public health, safety, morals and general welfare. If it is done arbitrarily or by whim or for aesthetics or for purely sentimental purposes or with unjust discrimination, the courts will not uphold it."<sup>6</sup>

Nevertheless, Bassett's main contribution to the history of urbanization was to be made in 1916 when he wrote New York's comprehensive regulatory framework, the first in the US. This ordinance, which marks the birth of modern zoning in the US, describes the three overlapping maps that would guide development toward the public interest: one for height districts, one for lot coverage or what is now known as F.A.R., and the last for land use. The concept of zoning implies a concern for social equality and rights, or as Secretary Hoover's national Advisory Committee on Zoning explains in 1926: "Zoning gives anyone who lives or does business in a community a chance for the reasonable enjoyment of his rights. At the same time it protects him from unreasonable injury by neighbors who would seek private gain at his expense."<sup>7</sup> The intentions shaping New York's zoning resolution were not only contextualized in a concern for public good. On the contrary a significant part of the ordinance was based on accommodating the private interests of a very small part of the New York population, and doing so by means of exclusion.

The way public interest is embedded in New York zoning can be unpacked by consulting the tools of architectural representation used to explain the law: the section and the plan. Each encodes a different and contradictory bias about the city. When looking at the sectional implications of the ordinance, the concern for public interest is apparent. Due to the famous setback codes embedded in the law, height and bulk restrictions "dictated that after a fixed vertical height, a building had to be stepped back as it rose in accordance with a designated angle drawn from the center of the street."<sup>8</sup> A measure of light and air was preserved in the city's canyons, which addressed not only public health concerns but provided a means of urban beautification implicitly advocated by the architects who helped to frame the legislation. Thus, an early form of sustainability was laid out



by law: future development in cities with zoning would conform to regulations that sustained access to light and air, property values, and indirectly, a particular population.

So much for section, but what about the urban plan? In accordance with the setback codes, the zoning law divided the city into districts regulated by use. These districts segregated Manhattan by functions that were outlined in a plan. Operating on the premises of land use control they were worked out in tandem by private developers and city government in order to protect property values largely by means of social exclusion. The objective of the plan was the opposite of the section since it can be argued that strict functional segregation ran against the public grain.

Utilizing functional segregation for exclusionary purposes, particularly social segregation, was a basic motive of zoning.<sup>9</sup> During the 19th century builders throughout the US had utilized restrictive covenants, or deed restrictions, as a form of land-use control to attract an affluent clientele to new developments as well as to resist incursions by immigrants and the poor. As covenants usually stay with the land, individual owners signed their deeds hoping to secure investments by “limit[ing] development around their homes.” Restrictive covenants were introduced to New York City just before the turn of the 19th century when wealthy citizens began to secure their neighborhoods as elite residential areas. The middle and upper class landowners of Fifth Avenue proactively applied covenants “for controlling the use of property... and to develop stable residential enclaves.”<sup>10</sup> Prior to the establishment of the 1916 zoning ordinance, covenants secured the exclusiveness of Fifth Avenue by controlling use and reducing social and behavioral diversity.

The 1916 zoning law reflected the will and practices of the Fifth Avenue Association (FAA). Founded in 1907 the group’s goal was to preserve Fifth Avenue as an elite commercial and residential area. “To do so, the association undertook an enormous range of activities including legislative advocacy, policing the streets, awarding architectural honors and placing traffic lights.” But with the influx of manufacturing, wealthy families of Fifth Avenue found restrictive covenants too weak “to achieve the spatial security they once enjoyed.”<sup>11</sup> In their quest for more potent land-use regulations, zoning held magnetic appeal as it entailed enforcement via police power. And so, the FAA’s goals were mapped into the restrictive urban land-use plans.

By dissecting the 1916 ordinance, urban regulations can be understood from a slightly different perspective. Regulations dictate urban development through the dual means of code and zone, where the code controls the setbacks and the zone regulates land use through functional segregation. However the two are lumped under the same term, namely zoning.

Zoning would slowly but effectively convert a heterogeneous urban fabric of land uses and people into the geography of enclaves that characterize the contemporary city and its surroundings. From Jane Jacobs forward, critics have argued that zoning is a blunt tool for shaping the city, but that tool has been sharpened over the past century. Special use districts, overlay zones, historic districts, form-based zoning, enterprise zones and

business improvement districts, are all indications that Bassett’s movement grew like an urban virus that was capable of mutating to respond to specific geographic conditions and interests. These myriad sub-zones are patches that attempt to cover over the holes zoning creates by treating the city as an abstract canvas.<sup>12</sup>

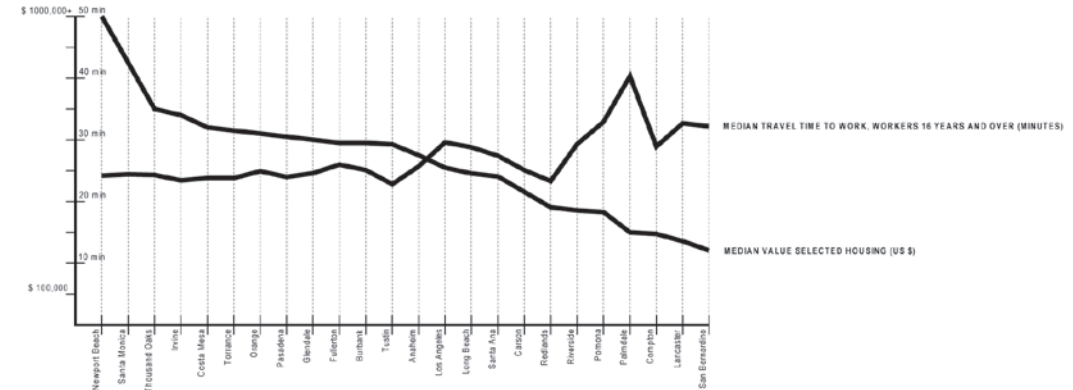
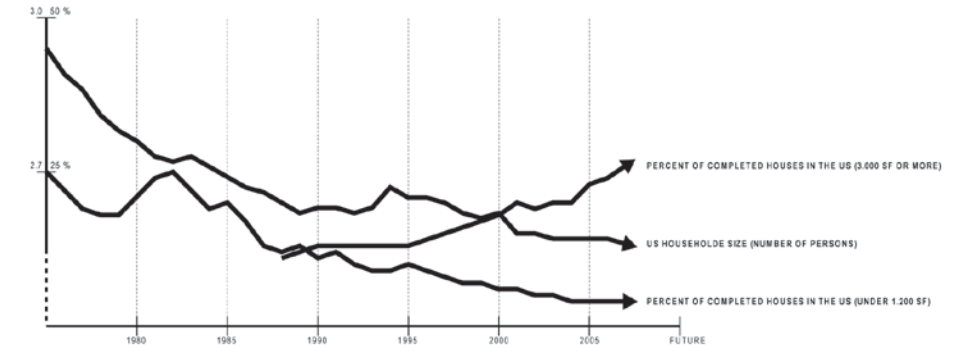
The concept of zoning as it originally developed in New York was reconfigured in postwar American suburbanization. In the American suburb, the relationship between code and zone was transformed in concurrence with the decreasing F.A.R. of single-family housing developments. The code, invented as a section in New York City to balance public and private interests by securing light and air circulation, became a plan in suburbia regulating land use favoring the private interests of the American Dream. Rotated from vertical to horizontal, the code was transformed from urban to suburban reinforcing control over functional segregation. Hence in suburbia the code became an amplifier of the zone. This homogenization of zoning explicitly served to preserve the low density character of sprawl, increasing the rigidity of the R1’s single-family neighborhoods.

### R1 Memories

New York and Boston may have pioneered comprehensive zoning, but in 1908, Los Angeles passed the Residence District Ordinance, becoming the first city to divide itself into residential and non-residential districts, and then to oust pre-existing uses that did not conform within the residential zone.<sup>13</sup> The “single family-only” zone or R1 as a legal entity, was born in Los Angeles. LA’s R1 has extended far beyond that original district, into the sprawl of subdivisions, extreme commutes, congested freeways, and a continuous landscape of single-family homes that stretches from the Mexican border north to Santa Barbara.

Zoning was conceived as a dynamic instrument, but its fundamental skeleton has resisted change, particularly when it comes to residential districts. The early first-ring single-use residential zones have been surrounded by further urban growth, extended by what urban historian Dolores Hayden has called “sit-com suburbs” of the 1950s and 1960s that offered a seeming haven from urban ills. These too have been exceeded by exurban tracts built since the 1980s that are more remote, affordable and lifestyle-oriented. Though municipalities generally have numerous residential designations differentiating density or number of dwelling units per acre, the dominant residential zone is the R1, typically known as the single-family zone. The R1 is land zoned for one residential structure per parcel, thus producing a landscape of detached pavilions surrounded by their own property. The R1 has come to stand for suburban development.

Three interrelated factors insist that we revisit what is euphemistically known in the States as the R1. The first is a growing complex of environmental issues that implicate the suburbs; the second is the shrinking pool of large tracts of available land in major metropolitan areas; and the third is the real estate debacle that began to unfold in 2007 with the subprime mortgage crisis, followed by secondary and tertiary effects with no end yet in sight. The interconnectedness of these factors is



Top; Household size vs Housing size, US Census, 2007; Bottom: Median Travel Time to Work vs Median Housing Value, US Census, 2005

evident in new critiques of exurban R1 tracts. As *New York Times* opinion writer and economist Paul Krugman put it in May of 2008: “And in the face of rising oil prices, which have left many Americans stranded in suburbia—utterly dependent on their cars, yet having a hard time affording gas—it’s starting to look as if Berlin [a city of four- or five-story apartment buildings with easy access to public transit and plenty of local shopping] had the better idea.”<sup>14</sup>

In his book *Sprawl*, Robert Bruegmann argues that suburban growth has been with us since the beginning of cities, as the natural geography of expansion.<sup>15</sup> A recent change in that pattern however is an indicator that there is trouble in the R1: residential development at the urban fringe has grown denser. At the same time, demand for housing in the traditional (and according to some, non-existent) urban core is rising. Moreover, all kinds of ad hoc housing patterns have arisen in the R1 as means to cope with the high cost of housing, from garage housing and illegal backyard units, to doubling up. The further out into the exurban landscape, the lower house prices are likely to be, yet the longer the commute. If for some reason you find yourself driving out of Los Angeles at 4 am on any weekday, you will be greeted by an eerie sight: a continuous river of headlights coming into town. From the north, for example, more than 20,000 residents of Antelope Valley stream 65 miles into Los Angeles every morning and return every evening. They leave early to minimize the commute time; at 4am the drive might take just over an hour and a half, but by 7am it can double. These drivers are among America’s 3.4 million “extreme

commuters”—workers who travel 90 minutes or more each way to get to work. The Los Angeles region has two of the top five extreme commute areas—Riverside and Los Angeles.<sup>16</sup> Even with Los Angeles’s postmodern geography of multiple city centers, with no center governing the hinterlands, research indicates that the R1 is finished. The most damning factors are environmental: we’re running out of water, land, and oil.<sup>17</sup>

Long before the data showed sprawl had “hit the wall,” Reyner Banham wrote that LA’s deep obsession with a dreamy single-family house was its Id. He interpreted the dingbat, a four- to eight-unit stripped-down apartment building on a single-family lot, as a symbol of disruption in the Plains of Id. “The dingbat, even more than the occasional tower blocks below Hollywood or along Wilshire, is the true symptom of Los Angeles’ urban Id trying to cope with the unprecedented appearance of residential densities too high to be subsumed within the illusions of homestead living.”<sup>18</sup>

Banham should have seen Pacoima. Or any of a number of first ring suburbs in Los Angeles that have become a cafeteria of shadow housing options, largely because there is no enforcement of zoning or other building regulations. Google Earth images reveal a wealth of backyard activity on lots large enough to make room for the extra units crowding behind a modest house at the street. None of these units is legal because this—like Beverly Hills and Malibu, yet unlike them in nearly every other way—is the R1.

All across the LA basin, the anger that once characterized conversations about traffic congestion has been



Chamberlain Street, Pacoima, 2008

displaced by discussions of density. As the *LA Times* put it, “The density wars in Los Angeles are heating up.”<sup>19</sup> Homeowner associations are fighting the construction of more housing in their neighborhoods, while city officials seek ways to accommodate a population that is expected to increase by 6 million, or two Chicagos, by the year 2020. A number of bills have moved successfully through the state legislature that would alter current residential zoning throughout California, but each has met local resistance. Most recently, the state’s Republican governor signed into law an anti-sprawl bill that is the first in the nation to link land-use planning with greenhouse gas reductions.<sup>20</sup> To sustain the state’s growth, the bill requires regions to set emissions targets and creates incentives for new development that is compact, dense and near transit.

None of the new laws insures the quality of the development, nor sets design-related objectives. While a number of architects are experimenting with regulations as a source of creative design solutions, tackling zoning policy has not proven a productive avenue.<sup>21</sup> If it is difficult to imagine how such goals might be established, the case of Pacoima offers one example. *cityLAB*, a thinktank at UCLA,<sup>22</sup> is tackling a number of problems confronting the post-suburban city in collaboration with architectural practitioners, city planners, developers, local politicians and community activists, and Pacoima is the principle site for rethinking the R1.

#### 10K – Pacoima

Part of the city of Los Angeles, Pacoima sits in northeast San Fernando Valley. Eighty-five percent of its 100,000 residents are Latino, a third of the population is under the age of 18, and nearly 20 percent have incomes below the poverty level. High real estate prices and population pressures have led to a shortage of affordable housing. The majority of Pacoima is zoned R1, but that says nothing about how people in the neighborhood live. Although 80 percent of the 22,000 units of housing in Pacoima are

single-family dwellings, at least one fifth of the residents live in shadow housing—garages, rooms rented in single-family houses, or illegal units.

Like all communities, there are infill sites scattered throughout Pacoima. However, unique to this community, there are over a thousand extra-long single-family lots of more than 10,000 square feet (nearly twice the size of an average Los Angeles residential lot, and hence the “10K” moniker). Of these, a full 95 percent currently have illegal units constructed in the backyard. It is on the remaining 5 percent that *cityLAB* is modeling sustainable, community-responsive, well-designed infill development.<sup>23</sup>

After much study, design and community interaction, a group of students and architects working under the guidance of *cityLAB* Director Dana Cuff have invented a feasible way to provide for-sale, workforce infill housing in the backyards of existing residential sites.<sup>24</sup> *cityLAB* is constructing design, development and finance strategies for the 10K sites that will result in policy recommendations to revise existing approval processes and zoning policies to support quality infill development; the design of three green housing models to serve as templates for development; and collaboratively-shaped development scenarios for typical sites. *cityLAB*’s ultimate goal is to launch a demonstration project that will be constructed in Pacoima, utilizing the design templates and built by a local non-profit developer.

In this scenario, sustainability and community acceptance are working objectives as well as effective development restrictions. The building design invention extends beyond the granny flat, to a prototype that can be implemented on a range of sites, in a range of combinations. The neighborhood scale intervention concerns the incremental implementation of units that can respond to the emergent conditions. The housing templates will receive pre-approval from permitting agencies in the city (currently 12 different agencies must review such housing plans), not only creating cost efficiencies but insuring that infill units are well-designed. Developers who use the pre-approved templates reduce their soft costs



10K corner site at Pala Avenue, 2008



Backyard, Pacoima, 2008

substantially, while avoiding political and entitlement complications. Moreover, they receive the equivalent of a density bonus for building affordable, for-sale units. Working with both lawyers and housing developers, along with community representatives, *cityLAB* is inventing a new system of project delivery that ensures community control over incremental growth. Our workshops in Pacoima indicate that residents want both environmental benefits and contemporary design.

The Pacoima project is expected to become a new policy as well as a built demonstration, which could happen as early as 2010 if federal foreclosure stabilization funds become available. Nevertheless, it already successfully challenges the status quo. With community participation, design innovation, city planning cooperation and physical opportunities for infill, the R1 can be modified in ways that will improve neighborhood quality of life. Indeed, a study of all California cities found residents of every race and every income level willing to live at higher densities provided they can have the housing and services they need. This same research found an abundance of infill sites across California's urban areas, and the data does not count most of the underutilized backyard space.<sup>25</sup> While it is unreasonable to generalize these findings to major urban areas like New York, Boston, or Chicago, there is every reason to imagine that denser neighborhoods could be created by utilizing infill strategies in postwar sprawl throughout the US and beyond. To do so will mean rethinking the R1.

*cityLAB*'s Pacoima-10K project develops innovative, environmentally sensitive and affordable housing models that show the benefits of rethinking community planning from an architectural perspective. It revises those zoning practices that reflect our region's sprawling past for the needs of and opportunities within each of our unique communities. Pacoima-10K is a demonstration that the types of infill sites we'll find in cities are small and unconventional. A blanket land use or F.A.R. strategy is not helpful, whereas more tightly conceived site typologies and solutions encourage fitting growth to existing conditions. This strategy sits squarely between the architecture and planning disciplines, requiring new ideological frameworks that incorporate temporal evolution, that operate at scales between buildings and cities, and that acknowledge a public component (like affordability or sustainability) within private development.

**Conclusion**

There are good green reasons for infilling the R1 in the contemporary city. First, there are plenty of infill sites available if we proceed creatively, and there are few large tracts of open land remaining in urban areas. Building into cities rather than beyond them saves farmland as well as natural preserves. Second, detached dwellings are being built on smaller sites than in earlier eras without losing the suburban benefits. More dwelling units per acre means lower carbon footprints, densities that promote more adequate services and lower housing costs (by lowering the amount of land attached to each house). Increased densities afford cities the opportunity to require sustainability practices. The intricacies of

addressing the existing R1's deficiencies demand that architecture be brought to bear if planning goals are to be achieved. Surgical interventions at disparate urban sites will be best accomplished by designers who can customize the more standard solutions of builders or planners.

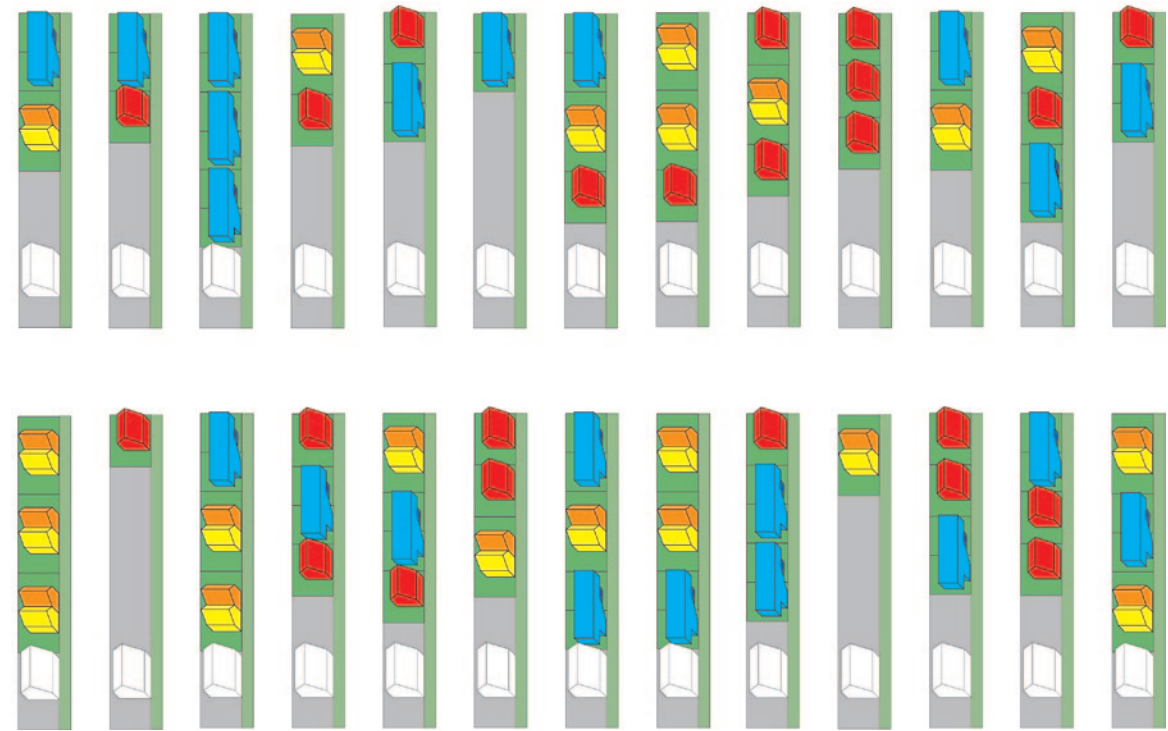
Undoing the R1 is the most complicated part of reclaiming the city from the pathology of zoning. It will not be done all at once, but it will begin in the first ring suburbs and those that have already undermined the prescriptions of R1, through variances, illegal building activity, non-conforming use and informal adjustments. Following that lead, site specific opportunism can move in where zoning failed. The motivation for this transformation will not be the creation of more affordable housing, though the current mortgage crisis could fuel the movement. Instead, perceived risks of change can be quelled by sustainability's goals, both systemic (like reducing global warming) and immediate (like reducing household energy costs). The catchword "density" can acquire implications for both individual and social goods, as is already demonstrated by recent shifts in housing preferences. For the first time history, more than half the world's population lives in urban areas, and the trend of depopulation in existing urban centers is reversing.

It is important that we not confuse the eradication of R1 with other discredited neo-liberal calls for deregulation. Any city contextualized in the structures of economic accumulation will always be regulated, or as Lawrence Lessig puts it "changes that make commerce possible are also changes that will make regulation easy."<sup>26</sup> Indeed regulations are inherent in urbanization and the failure of zoning cannot be mended simply by abandoning the balance between public and private interests, which to a certain degree is sustained by regulations. Nevertheless, zoning as it has developed during the 20th century has failed and its paralyzed condition requires a radical re-thinking of the codes inherent in its comatose corpus. Indeed the re-coding of contemporary urbanism requires a new mode of flexibility capable of supporting architectural experimentation as well as to reconstitute the outmoded premises of R1, such as the preservation of functional segregation, the maintenance of low density urbanism and the deliberate advocacy for social homogeneity.

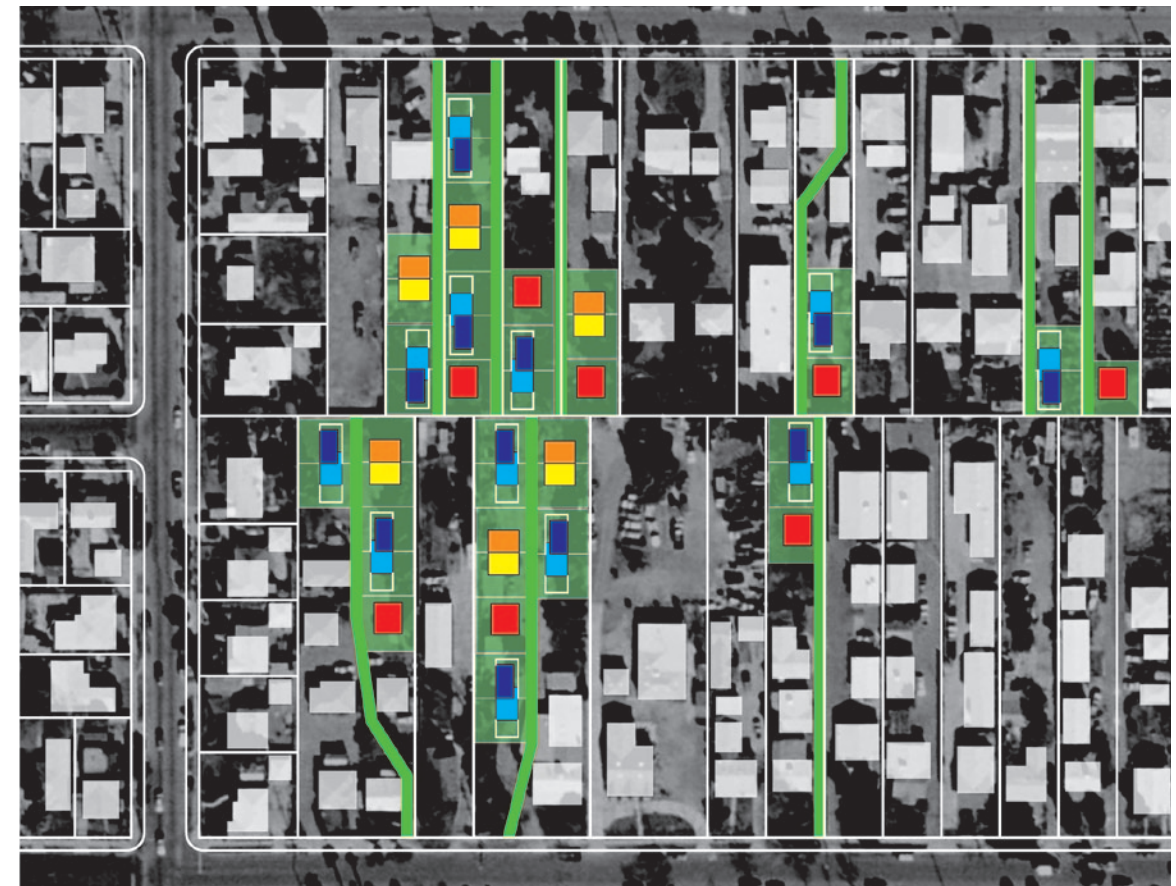
The 10K project in Pacoima is but one example of the many site-specific experiments that must be undertaken if we are to develop solutions after zoning. It is indicative of the fact that these experiments will need to be complicated formulae crossing professional boundaries. They will be characterized by opportunism that responds to local ecologies, economies and politics. The advance of R1-busting experiments depends on the momentum that sustainable development provides, and the creativity that architects bring to design.

**References**

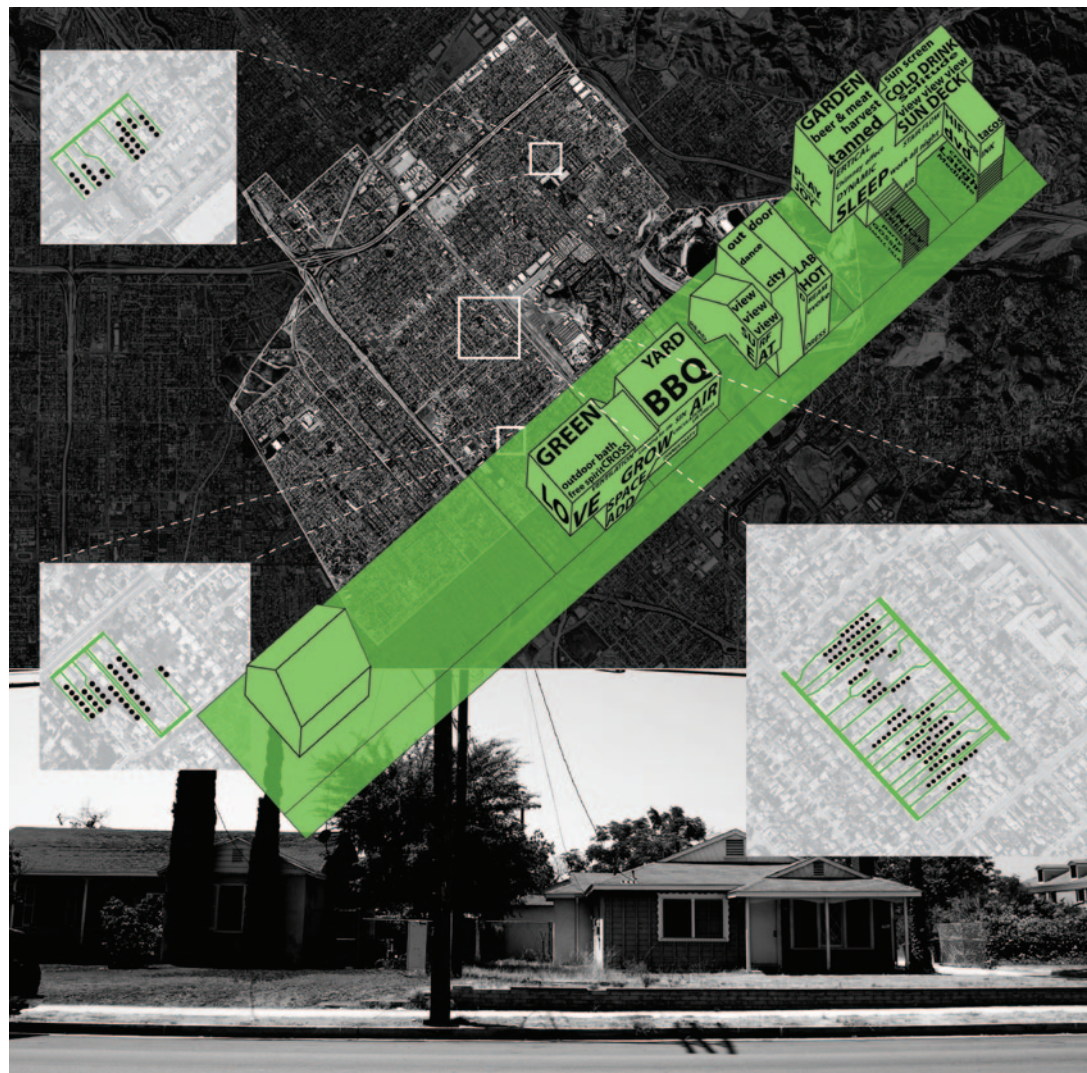
1. For two very different examples, see the plans for eco-cities Dongtan in China and Greensburg, Kansas
2. Jarzombek, Mark. A Green Masterplan is Still a Masterplan, in *Urban Transformaton*, edited by Ilka and Andreas Ruby, 22-29. Berlin: Ruby Press, 2008
3. Owen, David. "Green Manhattan: Why New York is the Greenest



Three housing types and 64 variations



Incremental densification of a Pacoima block



10K site and three housing types

City in America". The New Yorker. 10-18-04. Popular Science, however, ranked New York 20th among America's greenest cities. Svoboda, Elizabeth. "America's 50 Greenest Cities." Popular Science. 2-8-08. Popsci.com.

4. The first comprehensive zoning was in Boston, where a building height limit of 125 feet was enacted in 1892 and upheld by the US Supreme Court in 1909. Subsequent modifications to the blanket building height set limits for different areas in the city (Beacon Hill and Copley Square were limited to 100 feet) and uses (residential buildings were limited to 80 ft). See Murray Bassett, Edward. Zoning. New York: National Municipal League, p. 9, 1932.

5. Cuff, Dana. The Provisional City, MIT Press 2000

6. Murray Bassett, Edward. Zoning. New York: National Municipal League, 1932, p. 8

7. A Zoning Primer by the Advisory Committee on Zoning. Department of Commerce (Washington, 1926) p. 1

8. Willis, Carol. "Zoning and Zeitgeist: The Skyscraper City in the 1920s," The Journal of the Society of Architectural Historians, vol. 45, no. 1, p. 48, March 1986,

9. In his handbook, Bassett says "In the great cities especially this danger of invasion of hurtful uses drove well-to-do families out of the

city, where in suburban villages they could to a greater extent obtain protected surroundings. Citizens whose financial ability and public enterprise made them most helpful within the city limits were the very ones that would often be tempted to remove their families outside of the city." Hurtful uses included public stables and garages, factories, poorly-built houses and "high apartment houses." Bassett, Edward Murray. Zoning. New York: National Municipal League, p. 4, 1932 For an analysis of zoning practices through case studies, see Babcock, Richard F. and Siemon, Charles L. The Zoning Game Revisited. Boston: Oelgeschlager, Gunn and Hain, 1990

10. Page, Max. The Creative Destruction of Manhattan. Chicago: University of Chicago Press, p. 49, 1999

11. Ibid, p. 53; p. 52

12. For a critical examination of such processes of abstraction, see Scott, James. Seeing Like a State. New Haven, Yale University Press, 1999

13. The establishment of single-use districts in Los Angeles evolved over several decades, marked by the first ordinance in 1904 that created three residential districts, followed in 1908 by an expansion of residential districts along with the establishment of industrial districts in 1909 (see map). Not until 1921 did LA adopt real comprehensive

zoning. The residential zone in LA led to a lawsuit with a brickyard owner, called Hadacheck v. Sebastian (1915). The case went all the way to the US Supreme Court, and established the constitutionality of retroactive restrictive zoning. The other primary decision, Village of Euclid v. Ambler Realty (1926), gave modern practices the name Euclidean zoning. See Bassett. Zoning. p. 9. Kolnick, Kathy A. "Order before Zoning: Land Use Regulation in Los Angeles 1880-1915," Ph.D. diss., University of Southern California, 2008

14. Krugman, Paul. "Stranded in Suburbia," New York Times, p. 25, May 19, 2008

15. Bruegmann, Robert. Sprawl: A Compact History. Chicago, University of Chicago Press, 2005

16. Howlett, Debbie and P. Overberg, "Think your commute is tough?" USA Today, 11.29.04, [http://www.usatoday.com/news/nation/2004-11-29-commute\\_x.htm](http://www.usatoday.com/news/nation/2004-11-29-commute_x.htm)

17. See Southern California Studies Center and the Brookings Institution Center on Urban and Metropolitan Policy. Sprawl Hits the Wall. University of Southern California, 2001, p. 57

18. Banham, Reyner. Los Angeles: The Architecture of Four Ecologies. Berkeley: University of California Press, p. 159, 1971

19. Haefele, Marc B. "L.A.'s Anti-Density Warrior." LA Times, April 6, 2008 <http://www.latimes.com/news/opinion/sunday/commentary/la-op-haefele6apr06,0,1117979.story>

20. SB 1818, passed in 2005, grants density bonuses of 35 percent if some units are priced for low or moderate income residents. Second unit or granny flat laws AB 1866 (2003) and AB 2702 (2004) allow second units in residential zones including the R1 without additional requirements, but local governments have found means to block implementation. Most recently, SB 375, the "anti-sprawl bill" was signed into law in 2008, that revises land-use policy in California to create more compact residential development near transit in order to reduce greenhouse-gas emissions. See Yamamura, Kevin. "Governor Signs Anti-Sprawl Bill." The Sacramento Bee, p.1A, October 1, 2008. <http://www.sacbee.com/111/story/1278949.html>

21. A good example of architecture experimenting with regulations as a creative design solution can be found at 497 Greenwich Street in New York, an 11-story residential building by Archi-Tectonics, 2004. The significant glass façade facing Greenwich Street is described by designer Winka Dubbeldam as a reinterpretation of the New York regulatory system. Dubbeldam explains that the façade "integrates the strict building setback codes into a new, vertical landscape that folds and twists as it ascends affording differing vistas to each interior." See the website: Greenwich Street [Project], 2002, <http://www.greenwichstreetproject.com/index.html>.

22. cityLAB is an innovative new model for bridging several classic divides: between design and research, between town and gown, between academia and practice. Founded by Dana Cuff with the mandate to bring together design and research to forge experimental proposals for the emerging metropolis, it is supported by private donations and research grants. Cuff, co-director Roger Sherman, and a team of graduate students including Per-Johan Dahl, initiate projects that will contribute to urban theory, advance architectural practices, and form productive collaborations with all arms of the building industry. Housed in UCLA's Department of Architecture and Urban Design, cityLAB is an important channel for bringing real world issues into architectural education, starting with Los Angeles as its focus.

23. cityLAB restricts its infill project in Pacoima to properties where no current resident will be displaced. Aerial and field surveys indicate that of the 1021 10K-XL lots, 54 contain vacant land on 50 percent or more of the lot. With current entitlements, 162 new dwelling units could be built. According to our housing studies, the lots could accept 250 units while still upholding community and sustainability goals, but this would require regulatory changes to current zoning.

24. The multi-disciplinary project team includes two community organizations, Pacoima Beautiful and ICON, senior staff from the LA Department of City Planning, the CRA, for-profit and non-profit developers, a land use lawyer, and staff and graduate student researchers at UCLA's cityLAB. Co-author Per-Johan Dahl has been a leader of the 10K student team since its inception.

25. Landis, John, H. Hood, H. and C. Amado, C. "The Future of Infill Housing in California." Frameworks (University of California, Berkeley), p. 14-21, Spring 2006

26. Lessig, Lawrence. Code: And Other Laws of Cyberspace. New York: Basic Books, p.30, 1999

**Dana Cuff** is Professor of Architecture and Urban Design, and of Urban Planning, at the University of California, Los Angeles. She received her Ph.D. in Architecture from Berkeley, and since then has published and lectured widely about modern American urbanism, the architectural profession, contentious planning debates, affordable housing and spatially embedded computing. In 2006, Cuff founded cityLAB, a thinktank she directs to conduct design and research about architecture in the contemporary metropolis. Dana Cuff has written several books, including Architects' People (with W.R. Ellis; 1989), Architecture: The Story of Practice (1989), and The Provisional City (2000). A forthcoming text on new urban form and theory will be published in 2010 by Princeton Architectural Press.

**Per-Johan Dahl** has received degrees in Architecture from Lund Institute of Technology and University of Texas at Arlington, and in Engineering from Blekinge Institute of Technology. He worked for Abelardo Gonzalez from 1999 to 2007, and with his own practice since then. He was visiting lecturer and teacher at Lund Institute of Technology Architecture Department 1999-2007, and has been collaborating with RIEA.ch since 2000. He joined the AKAD directed research project "Los Angeles Islands" in 2003 and attended the Doctoral Program at UCLA Department of Architecture and Urban Design in 2007. He has been working with cityLAB since 2007. He has been exhibited in various museums and galleries in Sweden and Denmark.

**cityLAB** is a thinktank based in UCLA's Department of Architecture and Urban Design charged with exploring the challenges facing the 21st-century metropolis through research and design. Founded in 2006 by its director, Dana Cuff, cityLAB has three initiatives: the post-suburban city, rethinking green and urban sensing. Cuff, co-director Roger Sherman, UCLA faculty, students and Los Angeles area leaders collaborate on problems that hold lessons beyond the specific project at hand. cityLAB is funded primarily through private donations and research grants. For more information, visit [www.cityLAB.aud.ucla.edu](http://www.cityLAB.aud.ucla.edu)

**Pacoima 10K** was initiated by cityLAB in 2007, receiving funding from UCLA's Center for Community Partnerships for a two-year research project that will be completed in 2010. The team is headed by Dana Cuff, with Tim Higgins and Bianca Siegl as associate directors. Contributing UCLA Architecture students include Per-Johan Dahl and Brigid McManama as project leaders, and Rosalio Arellanes, Sergio Miguel Figueiredo, Maria Gomez, and Amelia Wong, with web design by Richard Caceres. An extensive array of local leaders have participated in the project, with special acknowledgment to Jane Blumenfeld of the LA City Planning Department, Nury Martinez of Pacoima Beautiful and Veronica Padilla of ICON. The concepts developed in Pacoima have recently been applied to other neighborhoods in Los Angeles, to determine the vitality of the model, and to take advantage of political will that various Council Members express.