

Initiative Ordinance JJJ: Affordable and Transit-Oriented Housing Policies for the City of Los Angeles

Health Impact Assessment

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Executive Summary

About Initiative Ordinance JJJ

Initiative Ordinance JJJ (Measure JJJ) is a ballot initiative with two provisions intended to increase the production of affordable housing in the City of Los Angeles (City of LA):

- The **“Transit-Oriented Communities Affordable Housing Overlay (TOC Overlay)”** provisions would allow housing developers to build more densely near major transit stops in return for including minimum percentages of affordable units in those developments. The TOC Overlay enhances the existing State density bonus law to incentivize housing construction near transit.
- The **“Value Capture”** provision would apply similar affordability standards to all new residential developments with 10 or more units that are granted certain City zoning entitlements allowing them to build more densely. This provision requires developers to replace existing affordable and rent-stabilized units lost as a result of new residential construction (called *“no-net-loss”*). Developers would have the option to build affordable units off-site or pay a fee in lieu of building the affordable units.

Projects covered by both of these provisions would be required to comply with certain construction labor standards. The projected impacts described below assume that these standards would have a modest effect on housing production due to potential increases in overall construction labor costs.

Potential Health Impacts of Measure JJJ in the City of Los Angeles

If Measure JJJ passes, an estimated 43,000 low-income renters could experience the health benefits of stable, affordable housing through the *TOC Overlay*, and tens of thousands more could experience similar health benefits through the *Value Capture* provision.

- Families in affordable housing have more money remaining to meet health-related needs, including food, education, and health care.
- Access to affordable housing has a positive impact on mental health and wellbeing, especially for children.

Other potential health impacts include:

Improved Air Quality and Increased Physical Activity

Measure JJJ’s *TOC Overlay* could result in up to 58,000 new housing units near transit over the next 10 years, with up to 14,000 of them affordable to low-income residents.

- People living near public transit, especially those in low-income households, are more likely to use it and less likely to drive. This helps to reduce vehicle emissions linked to respiratory diseases.

- Public transit users walk 8 to 33 minutes more per day than non-transit riders. Increasing public transit use would increase physical activity and reduce chronic disease.
- There is evidence for potential air-quality related health benefits from creating and preserving homes affordable to very-low income households near rail stations in Los Angeles.

Neighborhood Integration

Measure JJJ would promote increased neighborhood integration by including affordable units in a greater portion of new housing developments in the City of LA. It would also discourage the displacement of current residents through its *no-net-loss* policy (described above).

- Children and families who move from low- to mixed-income communities experience positive health benefits through increased feelings of safety and security and better educational and employment opportunities.
- Displacement can have negative health impacts by contributing to the concentration of lower-income residents in neighborhoods lacking health-promoting resources like healthy foods, parks, good schools, strong social networks, and accessible health care.

Recommendations

- Policymakers and advocates should highlight the ways that affordable housing can benefit the physical and mental health of its occupants when they communicate with constituents about initiatives intended to increase access to affordable housing, particularly near transit.
- Local and state governments should explore the variety of ways that land-use and zoning laws can promote health through equitable development.
- As part of an overall plan for using land-use and zoning laws to promote equitable development, local governments should explore ways to integrate data collection and data management activities across local planning and building departments.
- Local and state policymakers should consider strategies to mitigate the potential negative health consequences that arise from displacement of existing residents when developing policies to encourage housing production for people of all income levels.

If Measure JJJ passes...

- Incorporate pathways for civic participation into all aspects of the measure's implementation process through work with relevant stakeholders, e.g., impacted community residents, non-profit and for-profit developers, community organizations, public health experts and others.
- Consider current variation in residential density and ridership across major transit station areas in the design of the *TOC Overlay* density bonus program.
- Explore best practices for efficient and effective monitoring and enforcement of no-net-loss provisions, designation of affordable units, and criteria for tenant selection.

I. Introduction

Background and Purpose

Housing is currently at the forefront of policy debates in Los Angeles. Housing prices are at an all-time high and the gap between the median household income and the income required to purchase or rent a median priced home is widening. Meanwhile homelessness is also on the rise. As we enter a recovery period after the Great Recession, the housing market is beginning to respond with an emerging surge in the construction of new dwelling units. Some see this acceleration of housing production as the only way to bring down prices for consumers. Others are concerned about the displacement of individuals and communities, as older buildings are torn down to make way for newer ones that are unaffordable to those displaced. Still others are concerned that increasingly dense construction will exacerbate traffic congestion, despite attempts to expand public transit and increase ridership. Meanwhile, in response to the perceived housing crisis and to concerns of citizens about the future path of development in Los Angeles, the City and County have reviewed, developed and/or proposed a number of potential public policy solutions aimed at charting a course that balances the needs of all Angelenos.

This report brings what is perhaps a less familiar perspective to the debate about housing in Los Angeles—*The Public Health perspective*. While relatively few in the housing arena today would consider health to be a primary factor in the consideration of policy options, the Public Health field, and the Los Angeles County Department of Public Health (DPH) in particular, are addressing housing as a critical *social determinant of health*. Social determinants are the characteristics of our physical and social environments (e.g., housing, employment, education, neighborhood resources, social networks, etc.) that research has shown to be the primary contributors to the health of City and County populations. Importantly, these social determinants are often inequitably distributed across populations so improving public health can only be achieved by directly addressing and reducing these *health inequities*.*

For readers less familiar with Public Health, this Health Impact Assessment (HIA)** provides an in depth analysis of how health may be impacted by various aspects of housing and transit-oriented development*** policies, through improvements in food security, access to health

* Health inequities are inequalities across groups in health status or the determinants of health that are rooted in an unfair distribution of health promoting resources and are thus avoidable through public action.

** The National Academy of Sciences defines Health Impact Assessment as “A systematic process that uses an array of data sources and analytic methods and considers input from stakeholders to determine the potential effects of a proposed policy, plan, program, or project on the health of a population and the distribution of those effects within the population. HIA provides recommendations on monitoring and managing those effects.”

*** Transit-Oriented Development refers to public and/or private investments in commercial and residential development near major transit stops to promote the use of public transit.

care, physical activity, air quality, neighborhood integration, and other factors. This HIA builds on a growing body of evidence from other HIA's that have examined the impacts of housing policies, programs and projects on a variety of health outcomes, both in Los Angeles and nationally.⁴⁻⁶ Thus, it is our hope that the report will be of interest not only to the City of Los Angeles, but also to other jurisdictions interested in considering the health implications of a broad range of affordable and transit-oriented housing policies.

Likewise, readers with a primary interest in health will be introduced to some of the complexities of the housing field, including potentially unfamiliar terminology. To make this report as accessible as possible to all readers we have attempted to define key housing and health terms throughout, both in footnotes and in a glossary at the end of the report. We hope these tools will contribute to the important convergence of these two distinct but mutually supporting fields.

Selection of Initiative Ordinance JJJ as the focus of this HIA

DPH's selection of Initiative Ordinance JJJ (Measure JJJ) as the focus of this HIA grew out of a community engagement process linked to one of the goals in our Community Health Improvement Plan: *Increase the availability of safe, quality, affordable housing*. One of the strategies under this Goal is to use data-driven analyses - including HIA - to assess the potential impact of housing policies on public health. DPH convened a group of community stakeholders to help identify potential topics for an affordable housing HIA and to serve as an HIA Community Advisory Group. Many of the members of that group were part of a coalition that was crafting an affordable and transit-oriented housing policy for consideration by the Los Angeles City Council. The group agreed that assessing the health impacts of this policy would be valuable and informative. The policy proposal later shifted from being considered by the City Council to being placed on the November 2016 ballot for consideration by City of Los Angeles (City of LA) voters as Prop JJJ. DPH's primary purpose in conducting this HIA is to assess the health and health equity impacts of the affordable and transit oriented policies in Measure JJJ.* Our assessment is designed to inform and educate the public and policy makers about the health implications of affordable and transit oriented housing policies and not to promote a particular position on Measure JJJ.

* The ballot measure added a labor standards component to the original policy. While we address this component indirectly through its potential effect on affordable housing production, the focus of this HIA is on the health impacts of affordable housing policy and not of construction wage policy. Other HIAs have found positive health impacts of living wage policies (see endnotes 1 and 2).

Brief Summary of Measure JJJ

Measure JJJ has 2 provisions intended to advance the production of affordable housing in the City of LA:

- The **“Transit-Oriented Communities Affordable Housing Overlay (TOC Overlay)”** provision would allow housing developers to build more densely near major transit stops^a in return for including minimum percentages of affordable units in those developments. The *TOC Overlay* enhances the existing State density bonus law^b to incentivize housing construction near transit.
- The **“Value Capture”** provision would apply similar affordable unit percentages to all new residential developments with 10 or more units that seek certain discretionary zoning entitlements^c in order to increase allowable density. These projects would be required to include 5% of units affordable to extremely low-income households and 6% to 20% of units affordable to very low or low-income households.^d This provision also requires replacement of existing affordable and rent-stabilized units lost as a result of new residential construction (called “no-net-loss”). Developers would have the option to build affordable units on-site, off-site, or pay a fee in lieu of building the affordable units.

Projects covered by both of these provisions would also be required to comply with certain construction labor standards, including payment of the area prevailing wage, and a good-faith effort to hire 30% local workers, including 10% transitional workers with life circumstances that act as barriers to employment.^e

^a A major transit stop is defined in the California Public Resources Code as any rail station or major bus station with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

^b The State density bonus law allows developers up to a 35% increase in density in return for the inclusion of minimum percentages of affordable units. The percentage of required units depends on the amount of additional density desired.

^c Zoning codes dictate the type, size and use of structures that can be built on a particular piece of land. Developers can request that the City change the current zoning code for a particular building site in order to build more densely.

^d Extremely low-income households have incomes below 30% of the median for LA County. Very low-income households have incomes between 30-50% of the median, and low-income households have incomes between 50-80% of the median.

^e Some of these barriers include: receiving public assistance, being a veteran, being emancipated from the foster care system, having a criminal record, lacking a GED or high school diploma and/or being a custodial single parent.

Overview of the Report

The remainder of this report is divided into seven sections. Section Two describes the methods used for the HIA, including our conceptual framework, guiding research questions, data sources, and stakeholder engagement. Section Three contains our findings regarding the potential effects of Measure JJJ on access to affordable housing. Sections Four through Seven contain our findings on the potential health impacts of the Initiative. In each of these sections, we begin with an assessment of current conditions in the City of LA. We then review evidence linking these conditions to health outcomes. Finally, we consider how the Initiative could impact health in The City of LA by relating aspects of the Initiative to relevant findings from our research. Each of these sections ends with a set of conclusions about how the Initiative could impact health.

In the final Section, we present our recommendations, which fall into two main categories: 1) for policymakers in general, and 2) for public officials who would be tasked with implementing Measure JJJ if it passes.

II. Methods

Conceptual Model of Health Impacts

Figure 1: Affordable and Transit Oriented Housing Policy HIA Pathways to Health

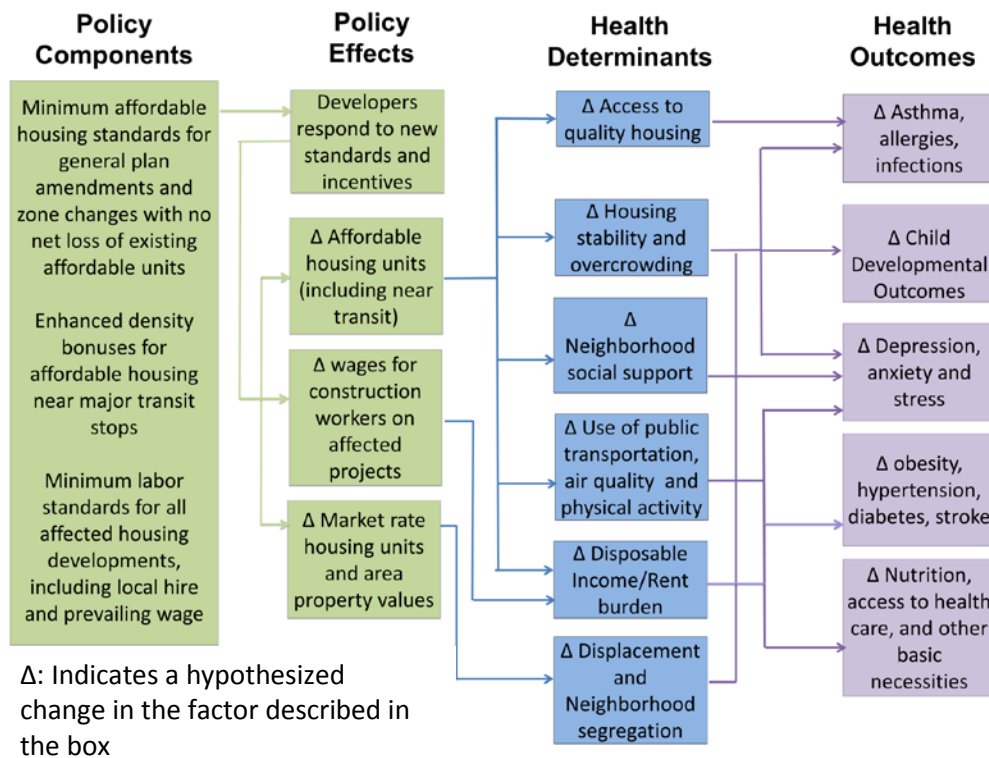


Figure 1 presents the conceptual model for this HIA. The green boxes on the left depict the *policy components* of Measure JJJ and their potential *policy effects* on housing production and construction worker wages. The blue boxes in the middle represent housing-related factors that could be effected by the Initiative and that research has shown to be linked to human health outcomes. These are a sub-set of what are referred to in the Public Health field as *health determinants*, i.e., aspects of our physical and social environments that collectively contribute to our overall health. The lavender boxes on the right depict the longer term *health outcomes* that could be impacted by Measure JJJ.

Primary Research Questions

In collaboration with our Community Advisory Group, we identified five primary research questions to guide our assessment of health impacts. These research questions correspond to

various pathways embedded in the conceptual model above. The research questions are as follows:

- **Research Question #1:** How would Initiative Ordinance JJJ affect access to affordable housing in Los Angeles?
- **Research Question #2:** How would changes in access to affordable housing affect rent burden, housing stability and overcrowding among lower-income residents, and how would these changes affect health in Los Angeles?
- **Research Question #3:** How would changes in affordable and/or market rate housing stock near major transit stations affect public transit ridership, air quality and physical activity, and how would these changes affect health in Los Angeles?
- **Research Question #4:** How would changes in affordable and/or market rate housing stock impact displacement and neighborhood segregation, and how would these changes affect health in Los Angeles?
- **Research Question #5:** How would changes in affordable housing stock impact housing quality and how would these changes affect health in Los Angeles?

Data Sources

To address these questions, the HIA team used a variety of qualitative and quantitative data sources (**Table 1**), including literature reviews, secondary data analysis, focus groups, and key informant interviews.

Literature Reviews

For each of the research questions we conducted a review of the research literature on the relationships between health determinants and health outcomes in the corresponding health pathway. For example, for research question #2 we reviewed the literature on the effects of income/rent burden on health outcomes and for research question #3 we reviewed the literature on how housing proximity to transit affects travel behavior, air quality, and physical activity. We also conducted a literature review related to our initial research question. Specifically, we reviewed research on the effects of housing policies similar to Measure JJJ on affordable housing production. To supplement and enhance our literature reviews, we also interviewed academics and other experts in the housing field.

Secondary Data Analysis

To address our research questions, we also identified relevant quantitative data from a variety of local, state and national datasets, cited and described throughout the report. We conducted secondary analyses of many of these datasets and used relevant analyses conducted by others. We used these data sources to assess the potential effects of the Initiative on access to affordable housing and to characterize current conditions and health effects relevant to

research questions 2-5. We conducted extensive analyses of LA Department of City Planning data and LA City Department of Building and Safety data. These analyses are described in more detail in Section Three below.

Focus Groups

In July of 2016, we conducted five focus groups with a total of 39 City of LA residents. Participant recruitment was conducted by several housing and tenant rights organizations in Los Angeles. These organizations recruited participants from a variety of areas across the city, including South LA, Boyle Heights, Hollywood, and Pacoima. Each 90-minute focus group was led by a facilitator and assisted by a note taker. Participants received a \$20 incentive, dinner, and child care as needed.

For the first four groups, we selected residents living in households with incomes below the very low-income threshold (<50% of the Area Median Income) who were regular users of public transit. Two of these groups were conducted in English and two in Spanish. These focus groups discussed the housing and health-related experiences of residents likely to be impacted by the Initiative. Questions focused on their experiences looking for housing and challenges with their living conditions, affordability and transit access – and how these affected their physical and mental health.

For the fifth focus group, conducted in both English and Spanish simultaneously, we recruited residents who were living in designated affordable housing units *within* predominantly market rate developments – specifically from two mixed-income apartment developments, one in Hollywood and one in South LA. The purpose of this group was to gather first-hand accounts of the housing and health related experiences of low-income residents of the kinds of mixed-income developments that the Initiative would promote.

Key Informant Interviews

We conducted a total of fourteen 45-60 minute in-person and phone interviews with representatives of the following stakeholder groups: 1) public sector staff working in the areas of land use, planning and/or housing, 2) non-profit housing developers, and 3) private sector (for-profit) housing developers. The primary purpose of these interviews was to gain the perspectives of these groups on the HIA's initial research question regarding the potential effects of the Initiative on housing production, as well as on aspects of the Initiative that might hinder or promote housing production, including the production of affordable housing. These interviews focused mostly on Measure JJJ itself, and respondents provided their opinions about the goals of the Initiative, the specific strategies embedded in the Initiative, and the effects they thought the Initiative would have on the housing market in Los Angeles.

| Table 1: HIA Research Questions and Data Sources | | | | |
|---|--------------|--------------------------|-------------------------|-------------------|
| Research Question | Data Sources | | | |
| | Focus Groups | Key Informant Interviews | Secondary Data Analysis | Literature Review |
| <u>Initial</u> : Policy Effects on Housing Production | | X | X | X |
| <u>Pathway #1</u> : Disposable Income/Rent Burden | X | | X | X |
| <u>Pathway #2</u> : Housing Proximity to Transit | X | | X | X |
| <u>Pathway #3</u> : Neighborhood Segregation/Displacement | X | | X | X |
| <u>Pathway #4</u> : Housing Quality | X | | | X |

Stakeholder Engagement

We engaged a variety of stakeholders through our key informant interviews and focus groups, including for-profit and non-profit housing developers, public sector staff, community residents, researchers, and other subject matter experts. This HIA also benefitted from the guidance and advice of a Community Advisory Group (CAG) consisting of experts in the health, affordable housing and tenant rights fields from the non-profit and public sectors. Once the HIA topic was selected, the CAG met twice in person: once in April 2016 to advise us on the scope of the project and once in September to review the findings and help us develop recommendations. Additional project updates were communicated via e-mail on a monthly basis during the interim months. Internally, this HIA was guided by a working group of DPH staff representing multiple programs across the Department, including: the Office of Planning, the Service Planning Area 5/6 Area Health Office, the Special Projects Unit, and the Office of Health Assessment and Epidemiology.

III. Findings—Research Question #1: Effects of Measure JJJ on Access to Affordable Housing

In order to assess the potential impact of Measure JJJ on affordable housing production, we relied on three sources of data. First, we interviewed housing developers – both non-profit and for-profit – to ask about their perspectives on the new standards included in the Initiative. Next we reviewed the research literature for evidence of the effects of similar policies (particularly inclusionary housing policies) in other jurisdictions. Finally, we conducted an analysis of LA Department of City Planning (DCP) and Department of Building and Safety (DBS) data to project the potential future effects of the Initiative on access to affordable housing.

Key Informant Interviews

All for-profit developers interviewed reported that if Measure JJJ passed, it would significantly impede housing construction in Los Angeles. The reasons offered for this prediction focused primarily on additional costs associated with the affordable housing requirements and labor provisions of the Initiative. For-profit developers predicted that increased construction costs would lead developers to choose other ways to invest their money, which would reduce the production of market-rate housing in the City of LA and thus not increase access to affordable units in market rate developments:

“The challenge is that land use plans are out of date which is why so many projects have to ask for discretionary actions. To build more housing and make housing more affordable, developers have to go through a lengthy entitlement process which is costly, riddled with lawsuits, and CEQA is a huge problem. So to layer on another requirement like [Measure JJJ] could cause developers to not want to build in LA.”

In contrast, all non-profit developers reported that, while Measure JJJ might impose additional costs on individual development projects, current demand for housing in The City of LA is so strong that it would be unlikely to slow down housing production:

“I totally believe that it [Measure JJJ] would not slow down housing development because I think it would provide developers with an option and not really a restriction. They are in the business of making money developing housing so if this site doesn’t work then you go for another site and if that site works with this incentive then you have that option or you could move to a different site.”

Given these diverging viewpoints, we turned to the literature on the effects of inclusionary housing policies similar to those in Measure JJJ to further explore its potential effects on affordable housing production.

Literature Review

Measure JJJ is not a mandatory inclusionary zoning policy.* In fact, a 2009 California Court of Appeals decision created legal uncertainty around local mandatory inclusionary zoning for rental units.⁷ However, Measure JJJ would create voluntary mechanisms to incentivize inclusionary housing under certain discretionary conditions (e.g., if a zone change, general plan amendment or density bonus is desired by the developer). So, even though Measure JJJ's inclusionary provisions are voluntary, the broader literature on the effects of inclusionary housing policies can help shed light on the potential effects Measure JJJ would have on housing production in the City of LA.

The concerns expressed by for-profit developers interviewed for this HIA are not new and they have led researchers to try to address empirically the question about the how inclusionary policies affect housing production and prices. Isolating the effects of inclusionary policies is challenging but the most rigorous studies compare housing market outcomes in places with inclusionary policies to outcomes in similar places without such policies, using multivariate analyses to control for other factors that might influence these outcomes (e.g., local economic conditions). While relatively few studies of inclusionary housing policies have achieved this level of rigor, all but one of them has found that inclusionary policies had no negative impact on housing supply or prices.

An early comparison study of 28 cities in California found no negative effects of inclusionary policies on housing production, and found that housing supply was most strongly dependent on local unemployment rates.⁸ A study of 17 inclusionary housing programs in Los Angeles and Orange Counties had similar results and concluded that the inclusionary requirements studied were not likely to have any significant adverse effect of housing supply.⁹ Another study of 65 inclusionary housing programs across the state found that these policies had no effect on single family housing starts but that they were associated with a significant *increase* in the number of multi-family housing starts compared to places without inclusionary policies.¹⁰ The most recent study used the aforementioned Palmer decision as a natural experiment. Since that decision significantly weakened inclusionary zoning policies across California, one might have expected housing production to increase and prices to fall in the 125 municipalities that had inclusionary policies on the books, relative to other similar places. Contrary to this hypothesis, Hollingshead found that, on average, a weakening of inclusionary housing policies was associated with an average *increase* of about 2 percent in median rental prices.¹¹ The only study that found a negative effect compared policies in the San Francisco Bay Area and the suburban Boston

* Inclusionary zoning refers to the requirement that all residential developments include a portion of units at below-market prices affordable to lower-income households.

area.¹² While the Bay Area policies had no effect on housing market outcomes, the policies in Boston were associated with a slight decrease in supply and a slight increase in prices of single family homes. This was the only study to include data from outside of California.

Thus, the available literature suggests that while developers must make economic decisions on a project-by-project basis, inclusionary housing policies do not have a dampening effect on municipal or regional housing markets. Applying this finding in the context of Measure JJJ is complicated by two factors. First, the labor standards in Measure JJJ may add additional construction costs not found in most inclusionary housing policies studied. Second, while most of the inclusionary housing policies studied were mandatory policies, Measure JJJ's inclusionary provisions are voluntary (i.e., they only apply to projects seeking certain discretionary zoning entitlements). While the voluntary nature of the Initiative could mitigate the effect of cost increases on overall production, we still accounted for this effect in our projects (described below). Our projections thus assume that JJJ will have a modest dampening effect on housing production.

Importantly, inclusionary housing policies vary across locales and while the above reviewed impact studies were not able to assess the relative impacts of different program characteristics on housing markets, a number of case studies have examined the characteristics of successful inclusionary housing policies.^{13,14} According to these case studies, inclusionary housing policies work best in strong (i.e., high-demand) housing markets. They are also more successful when they include incentives that offset costs to developers, and when they have flexible compliance options and predictable and clear guidelines. Monitoring and stewardship activities (e.g., oversight of inclusionary units and tenant selection), are also critically important and most jurisdictions report having insufficient resources for these activities. Finally, mandatory programs tend to produce more affordable units than voluntary ones.

While the City of LA certainly has a strong housing market, and Measure JJJ includes provisions addressing most of the other factors described above (e.g., in-lieu fees, incentive menus, and specified set-asides), it is a *voluntary* program, in the sense that developers would only be required to provide affordable units if they want discretionary zoning entitlements or if they want to build more densely near transit. Additionally, the LA City Council has the ability to adjust overall percentage affordability with substantial evidence that such adjustments are necessary to maximize affordable housing while still ensuring reasonable rates of return for developers. The remainder of this section attempts to quantify the types of projects that would be covered by Measure JJJ's *Value Capture* and *TOC Overlay* provisions (**see box on page 3**), the portion of those projects that would be voluntarily pursued if Measure JJJ were in place, and the amount of affordable housing that could be produced.

Analysis of City Data

In this section we project the potential effect of Measure JJJ on access to affordable housing over the 10 year time horizon of the Initiative. Our analysis is divided into two sections, according to the two primary components of Measure JJJ. The first section focuses on the *TOC Overlay* provision and the second section focuses on the *Value Capture* provision of the Initiative.

Transit-Oriented Communities Affordable Housing Overlay (TOC Overlay)

To estimate the potential effect of the *TOC Overlay* we first examined data from 2011-2015 on the existing State Density Bonus (DB) Law as it is being implemented in the City of LA. We used data reported by the LA City Housing and Community Investment Department (HCID) on DB projects permitted from 2011-2015* to determine the total number of DB projects and units built, and the number and percentage of affordable units included. These housing production numbers from the past 5 years were used to project the potential future uptake of an enhanced TOC density bonus through the *TOC Overlay* program over the next 10 years. In order to make these projections we needed to account for several key factors. First, we needed to estimate the frequency with which developers would seek an additional DB above and beyond the current 35% maximum in the State DB program. Second, we needed to estimate the proportion of recent DB projects that were built within ½ mile of major station areas. Finally, we need to account for any trends in the number and size of DB projects over the past five years, including those projects in the planning pipeline and not accounted for in recent permit data (i.e., not yet built).

Table 2 shows data from the HCID on recent trends in the State Density Bonus Law. Data in this table are limited to market-rate DB projects (i.e., those that did not receive State or Federal subsidies) since those are the DB projects that would be most impacted by Measure JJJ. A total of 8,721 units were built in market rate developments through the DB program from 2011-2015. The last column shows a recent increase in the percent of projects that got a 30% or higher density bonus. In the last two years, half of all market-rate DB projects came close to maximizing the current allowable density bonus.** We take this as evidence that developers would take advantage of enhanced DBs on at least half of their projects in the future if these enhancements were made available through a *TOC Overlay*. Columns 1, 2, 3 and 6 show increasing trends in the number of projects, total units, units per project and affordable units.

* All analyses in this section and the next use a 5-year rather than a 10-year historical period to avoid the anomalous early years of the recession. To make projections about the 10 year horizon of the Initiative we start with a doubling of estimates from the past 5 years.

** Density bonus rates we calculated based on the percentage and affordability levels of units in relation to the State schedule of density bonuses.

All of these trends suggest that simply doubling the total number of units built (8,721) in the past 5 years to project the total number of DB projects over the next ten years could represent a sizable underestimate of future production.

Table 2: State Density Bonus Program in the City of Los Angeles, 2011-2015

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------|-------------------|--------------|---------------------------|----------------------------|--------------------------------------|--------------------|--------------------|
| Year | Total DB Projects | # Units | Average Units per Project | Average % Affordable units | % projects with VLI affordable units | # Affordable Units | >30% Density Bonus |
| 2011 | 12 | 237 | 20 | 13.5% | 92% | 12 | 33% |
| 2012 | 22 | 926 | 42 | 8.3% | 91% | 81 | 32% |
| 2013 | 40 | 1239 | 31 | 9.8% | 83% | 129 | 38% |
| 2014 | 69 | 2791 | 40 | 9.9% | 77% | 234 | 52% |
| 2015 | 78 | 3528 | 45 | 8.6% | 91% | 278 | 50% |
| Total | 221 | 8,721 | 40 | 9.4% | 85% | 734 | 30% |

Source: City of LA Housing and Community Investment Department; Market rate projects only.

To explore these trends further we examined data on DB approvals by the Department of City Planning (DCP) (**Figure 2**). Before DB projects can be built, many of them require an approval from DCP.* Using these data we estimated that it takes an average of 9 months for DB projects to be approved.** Thus the doubling of the number of approved projects in 2015 and 2016 is not yet reflected in the building permit data produced by HCID and suggests an even steeper upward trend in production than is already apparent in column 1 of **Table 2**. Column 2 shows an increasing trend in the average number of units per project as well. Evidence that this trend may also be steeper comes from DCP data on the average number of units per *proposed* DB project in 2014 and 2015 (45 and 68, respectively--not shown).¹⁵

We were not able to obtain precise geographic data on the ½-mile radii around major transit stops as defined in California Public Resources Code.*** However, according to the LA Health

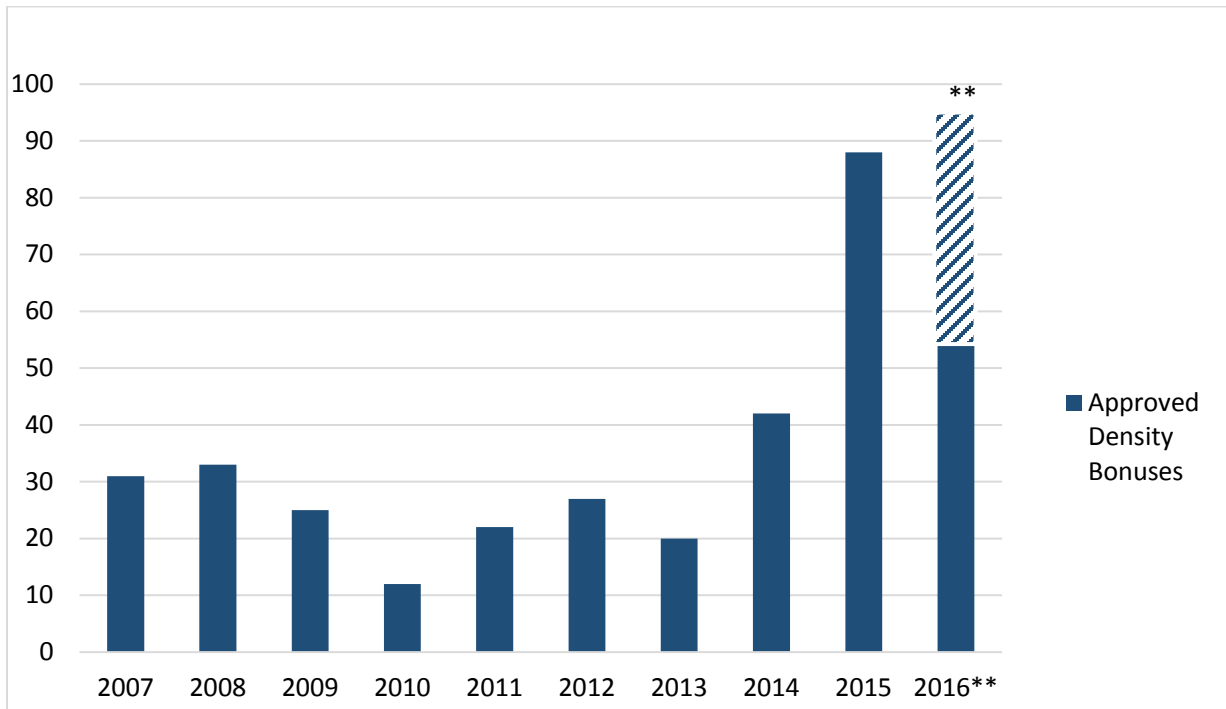
* A portion of simpler DB projects, classified as “by-right”, do not require DCP approval.

** The approval rates for proposed DB projects averaged 80%.

*** Measure JJJ adopts the definition from the California Public Resources Code (subdivision (b) of Section 21155)--which includes both rail and bus transit stops. See page 25 below for the full definition.

Atlas¹⁶, 75% of City residents live within these station areas. **Map 1** shows the DB projects in **Table 2** in relation to fixed rail transit and close inspection of this map by the authors led us to the conclusion that few of these DB projects are likely to be more than a ½-mile from a major rail or bus station.

Figure 2: Density Bonuses Approved by LA Department of City Planning, 2007-2016*



* These data do not include “by right” DB cases that do not require a planning approval and they include some subsidized affordable housing projects not relevant to Measure JJ

**2016 data is through August 12th. The hash-marked area applies Jan-July monthly approval rates to the remainder of the year

MAP 1: Zone Change, General Plan Amendment and Density Bonus Projects in the City of Los Angeles (2007-2016)

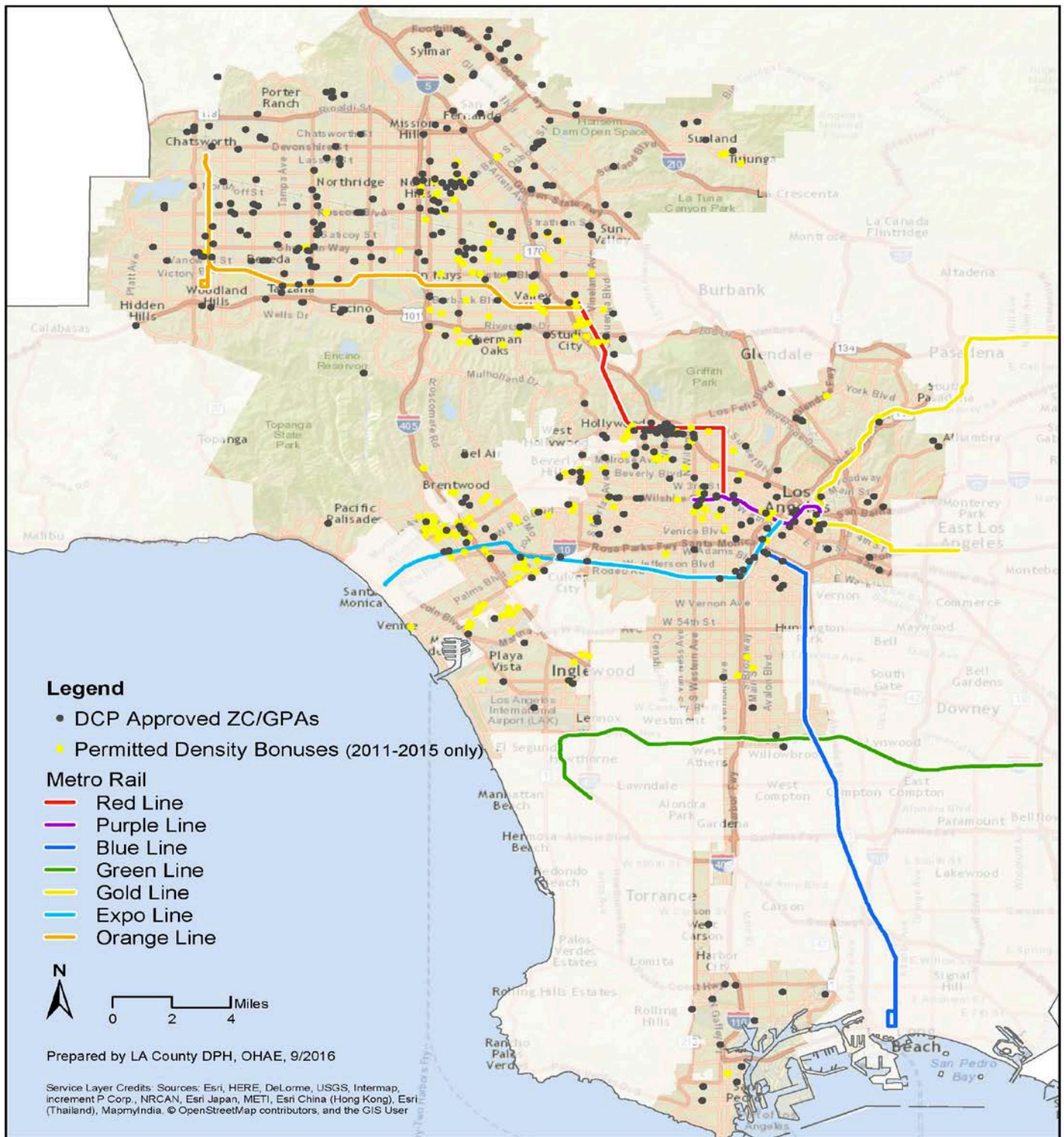


Table 2 (columns 4 and 5) also provide insight into a pattern relevant to this provision of the Initiative. The reason why the average % of affordable units is relatively low (less than 10% for all but one year) is due to the fact that developers displayed a clear and consistent preference for setting aside a small percent of units for very low-income (VLI) households (50-80% of Area Median Income-AMI) rather than a larger percent for low- (30-50% AMI) or moderate- (80-120% AMI) income households, which is evidenced by the fact that in all but one year, over 80% of projects had VLI affordable units. Unfortunately, the timing of our data collection and analysis did not allow us to explore the reasons behind this preference, but the finding suggests that developers would be likely to take advantage of a new option, included in the Measure JJJ *TOC Overlay*, to set aside units for extremely low-income households (<30% AMI).

Projections: *TOC Overlay*

We used two scenarios to predict the number of affordable units that could be produced under a *TOC Overlay* if Measure JJJ passes: 1) an additional 15% TOC incentive, and 2) an additional 30% TOC incentive. We project that the City of LA could gain 13,735 to 14,390 units affordable to low-income households, or 7,692 to 8,058 units affordable to very low-income households under these two scenarios.* Given a current average household size of three people per/household in the City of Los Angeles, this would translate into 39,222 to 43,170 low income individuals or 21,945 to 24,174 very low income individuals who would gain access to affordable housing under the *TOC overlay* provision of the Initiative if it passes. **Tables 3 and 4**, show the calculations used to derive these projections. The assumption upon which the projections are based are enumerated below the tables.

| Table 3: Scenario 1-- Measure JJJ passes and City of LA offers an additional 15% (50% total) TOC incentive | | | |
|---|---|--|---|
| 8,721 x 2 = 17,442 → x 2 = 34,884 → x .5 = 17,442 → x 1.575 = 27,471 | | | |
| Current 5-year production over 10 years | Production rate doubles | 50% uptake of 15% enhanced TOC incentive | # units per project increases by 57.5% (50% trend + 15% scenario 1 incentive x .5 uptake) |
| LI Affordable Units | | VLI Affordable Units | |
| 27,471 x .30 = 8,241 + | 27,471 x .20 = 5,494 | 27,471 x .17 = 4,670 | 27,471 x .11 = 3,022 |
| # TOC incentive units at LI affordability | # non-TOC incentive units at LI affordability | # TOC incentive units at VLI affordability | # non-TOC incentive units at VLI affordability |
| Total LI affordable units= 13,735 | | Total VLI affordable units= 7,692 | |

* The Initiative would likely produce some combination of units affordable to ELI, VLI and LI households.

| Table 4: Scenario 2--Measure JJJ passes and City of LA offers an additional 30% (65% total) TOC incentive | | | |
|---|---|--|---|
| 8,721 x 2 = 17,442 → x 2 = 34,884 → x .5 = 17,442 → x 1.65 = 28,779 | | | |
| Current 5-year production over 10 years | Production rate doubles | 50% uptake of 30% enhanced TOC incentive | # units per project increases by 65% (50% trend + 30% scenario 1 incentive x .5 uptake) |
| LI Affordable Units | | VLI Affordable Units | |
| 28,779 x .30 = 8,634 + | 28,779 x .20 = 5,756 | 28,779 x .17 = 4,892 | 28,779 x .11 = 3,166 |
| # TOC incentive units at LI affordability | # non-TOC incentive units at LI affordability | # TOC incentive units at VLI affordability | # non-TOC incentive units at VLI affordability |
| Total LI affordable units= 14,390 | | Total VLI affordable units= 8,058 | |

Our projections are based on the following conservative assumptions, derived from our analyses of the LADCP and HCID data described above:

1. 8,721 is an accurate count of units produced in market-rate developments under the State DB program from 2011-2015.
2. Half of DB projects over the next 10 years would take maximum advantage of Measure JJJ's *TOC Overlay* if it passes (the other half would stick to the current State DB maximum). In other words, the currently increasing trend in bonus maximization will level out rapidly rather than continuing to rise in the future.
3. The recent doubling in approved DB projects in the pipeline will be reflected in a doubling of actual built projects over the next ten years. In other words, the recent upward trend will level out rapidly rather than continuing to rise.
4. The current trend in average units per projects (estimated at 50% based on built and pipeline projects) will be reflected in a similar average size increase among projects built over the next 10 years. Again, the currently increasing trend will level out rapidly rather than continuing to rise in the future.
5. Projects that would not get built due to increased labor costs associated with Measure JJJ are accounted for in assumptions #2-4 (leveling of current trends in number, size and density of projects).
6. All future projects desiring an enhanced DB will be within ½ mile of a major rail or bus station.
7. Under a *TOC Overlay*, increases in required affordable set-asides would follow the same incremental formula used in current State Density Bonus Law (1.5% DB per 1% LI units; 2.5% DB per 1% VLI units).

Value Capture

To estimate the potential effect of the *Value Capture* provision of Measure JJJ, we first attempted to determine the total number of relevant projects (i.e., residential projects with 10 or more units that received zone changes (ZC) or general plan amendments (GPA) and would thus be subject to the *Value Capture* provision) built between 2011-2015. This would provide us with a baseline figure on which to base our future projections. However, while HCID keeps records of all DB projects built to monitor compliance with the program, there is no equivalent public accounting of housing units built through ZC/GPAs, and to our knowledge, no one has ever attempted to produce such an account.

Since the City of LA Department of Building and Safety (DBS) does not keep an electronic record of the discretionary zoning actions associated with permitted projects, the only option for us to estimate the number of residential projects and units built through ZC/GPAs was to merge data from DCP on projects approved for ZC/GPAs with data from DBS on permitted projects, using the assessor's parcel number (APN, which is present in both databases) as a unique identifier. This would allow us to identify "matched" cases as the DBS permit files that were associated with a ZC/GPA. This analysis would have provided us with an estimate of relevant projects and units built between 2011-2015. Then, as with the HCID data on the number of DB projects and units built in that same period, we could have calculated affordable housing projections based on a similar set of data-driven assumptions.

Unfortunately, we were not able to carry out this analysis as planned. After we merged the data and identified the matched permit files associated with ZC/GPAs, the resulting annual numbers of permitted projects and units were considerably lower than the total number of ZC/GPA cases approved by DCP. While one would expect that not all projects that seek and get approvals for ZC/GPAs actually get built (e.g., projects approved during the recession and then abandoned due to insufficient funds) our preliminary findings showed such low "build rates" that we decided to examine the data more carefully. Two factors complicated this task. First, even if an approved ZC/GPA projects gets built, there can be a considerable time lag between the DCP approval date and the date the building is permitted by DBS. Second, the DCP electronic data file did not allow us to distinguish between residential and non-residential projects, so our "pseudo build rate" (**Table 3**) represented the number of permitted *residential* projects as a percent of ALL approved development projects regardless of the type.*

Using data on the matched cases, we calculated the average lag time between DCP approval and the first building permit to be almost three years. **Table 3** shows the five year "pseudo-

* Our matching algorithm selected DBS permit files only if they indicated the addition of at least one residential unit.

build rate” from 2008-2013. Note that even if we could verify that only half of the approved projects were residential, the true residential build rate for ZC/GPA projects would only begin to approach 50% in the most recent years—a figure that still appeared low to us, suggesting that our merged dataset was not capturing the full picture of built projects. What can be surmised from **Table 5** is that as the economy began to emerge from the recession, an increasing percent of approved projects moved to the building phase—a finding with clear face validity.

Table 5: 5-Year Pseudo Built Rate for ZC/GPA Cases, 2008-2013*

| Approval Year | Permit Time Frame | ZC/GPA Cases Approved | ZC/GPA Cases Permitted with ≥ 1 Dwelling Unit | Pseudo Rate |
|---------------|-------------------|-----------------------|--|--------------|
| 2013** | 2013-2016 | 26 | 6 | 23.1% |
| 2012 | 2012-2016 | 25 | 6 | 24.0% |
| 2011 | 2011-2015 | 18 | 3 | 16.7% |
| 2010 | 2010-2014 | 43 | 3 | 7.0% |
| 2009 | 2009-2013 | 47 | 4 | 8.5% |
| 2008 | 2008-2012 | 60 | 3 | 5.0% |

Source: LA Department of City Planning and Department of Building and Safety

*Permitted residential projects permitted within 5-years of approval as a percent of ALL approved projects

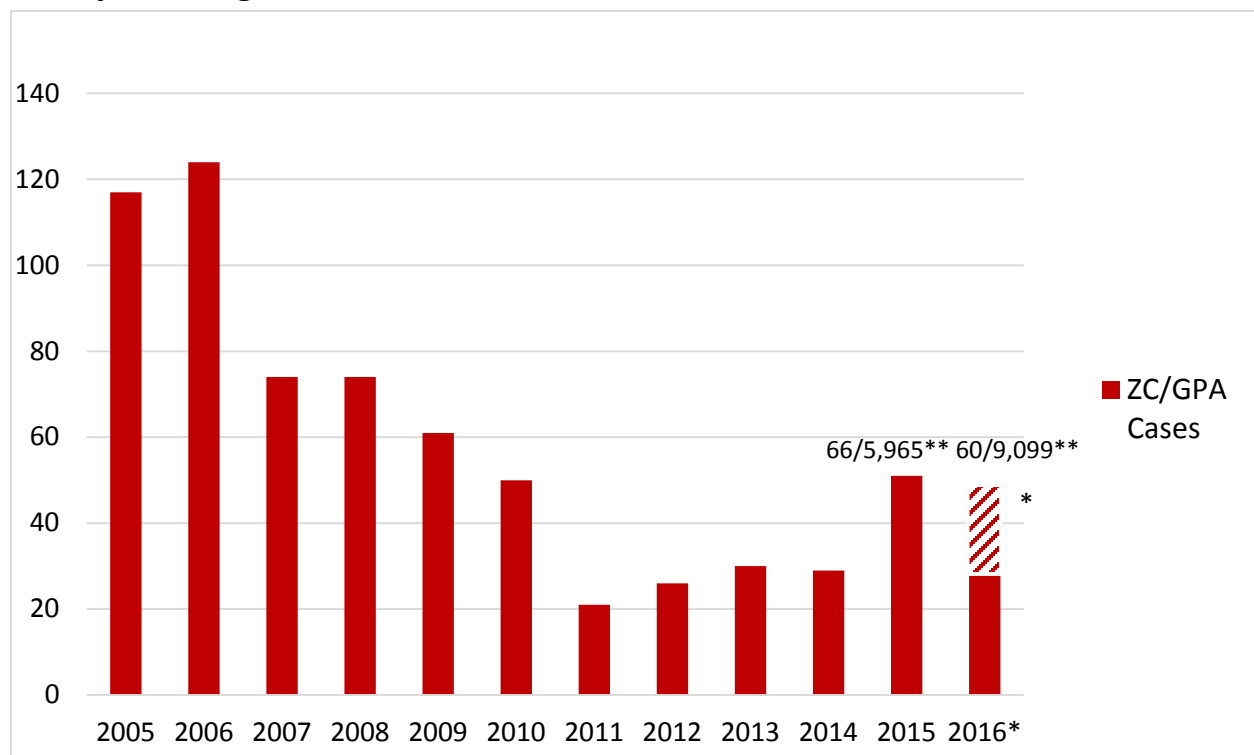
**Note: 2013 data represents a 4-year rate.

In consultation with our Community Advisory Group (CAG), which confirmed that our estimates of the number of ZC/GPA projects and units built from 2011-2015 seemed to be low based on their knowledge and experience, we decided to do some “groundtruthing” of the data. Members of the CAG agreed to review our list of approved ZC/GPA cases and identify any that they knew had been built but were not reflected in our matched DBS cases. An initial cursory review revealed three projects – totaling almost 1200 units – that were missing from our estimates. Since there was not enough time for the CAG or the DPH team to do a more comprehensive validation of the data by reviewing physical DBS case files, we decided not to make precise numerical projections of the effect of Measure JJJ’s *Value Capture* provision on affordable housing production.

Nevertheless, we are able to make qualitative projections based on the data we received from DCP, in conjunction with the analyses described above. **Figure 3** shows annual trends in the number of ZC/GPA projects approved by DCP. Given the long lag time between planning approval and the start of the building process, the surge (i.e., doubling) in approved cases beginning in 2015 suggests a potential future surge in building. However, data on overall numbers of projects is not useful for projecting effects on housing access because they do not differentiate residential from non-residential projects or address the size of the projects. The numbers at the top of the bars for 2015 and 2016 come from the DCP memo referenced above

and represent the total number of projects and units proposed in the prior year. From the data we estimate that it takes an average of about one year for proposed ZC/GPA cases to be approved. The approval rate from 2007-2013 averaged 65% and was fairly even over those years. So, in rough terms, most of the 51 projects approved in 2015 came from the pool of 61 projects proposed in 2014 and the projected 48 cases approved in 2016 came from the 60 projects approved in 2015. Thus, it appears that the project approval rate may be increasing. More importantly, despite similar numbers of proposed projects in 2014 and 2015, the number of units in the latter year was 50% higher. Thus the projected number of approved projects in 2016, while slightly lower than 2015, represents a large increase in the number of units that could be built in the near future.

Figure 3: Zone Change/General Plan Amendments Approved by LA Department of City Planning, 2007-2016



*2016 data are through August 12th. The hash marked area applies Jan-July monthly approval rates to the remainder of the year
 ** Numbers above bars represent projects/units *proposed* during the *previous* year

Given the concerns raised in our interviews with for-profit developers about additional Measure JJJ-induced labor costs slowing down housing production, we decided to adjust our projections to account for potential decisions not to build certain projects if Measure JJJ passes. Rather than assuming current trends in approved ZC/GPA would continue to rise at their current rate over each of the next 5 years, we assumed these trends would level off at the 2015

level. Based on data on the relative size of recently approved ZC/GPA projects, coupled with reports from interviewees about their hiring practices for very large projects, we feel this adjustment is conservative. Several developers interviewed stated that they were already using union labor on many of their larger projects. While we determined that the ZC/GPA projects identified through our data matching exercise (described above) would likely underestimate the total number of projects actually built, we found that 79% of units in those projects were in buildings with more than 200 units. Thus, our limited data suggest that while some of the smaller ZC/GPA project might not get built under Measure JJJ, the lion's share of units would be in projects that would not necessarily be subject to increased labor costs under Measure JJJ. Thus we concluded that any dampening effect of Measure JJJ's labor provisions on future housing production would be modest.

Finally, to project potential effects of value capture on access to affordable housing it is also important to determine if any of the ZC/GPA projects built over the past 5 years voluntarily included any affordable units. If many of these projects already included such units, then the marginal impact of Measure JJJ value capture on affordable housing would be reduced. Fortunately, this question could be answered without a precise count of relevant projects. HCID monitors all covenanted affordable units and while the vast majority of those units are created through the DB program, HCID also tracks units created through other discretionary mechanisms. By cross referencing the HCID data with DCP data on approved ZC/GPA projects, we found only one project that included affordable units for low or very low-income households (at half the rate stipulated in Measure JJJ).

Projections: *Value Capture*

- The number of projects in the planning pipeline that would be subject to the value capture provision of Measure JJJ will likely lead to at least a doubling of the number of such projects built in the next five years compared to what has been built in the past five years. Thus, if the Initiative were to pass now, its impact on affordable housing would be at least twice as large as it would have been five years ago.
- Data on the total number of units included in pipeline projects suggests that the size of future built projects may increase by up to 50% over the next 5-10 years. This compounds the potential positive effect of *Value Capture* on future access to affordable housing.
- An apparent upward trend in the percentage of recently approved ZC/GPA projects that actually get built suggests additional momentum for build rates in the future.
- Given the numbers of ZC/GPAs projects approved in the pre-recession years (**Figure 3**), our trend projections seem to be conservative. We are assuming that additional labor costs associated with Measure JJJ would cause a leveling off of the current upward

trend. Evidence from the inclusionary housing literature and from our analysis of the relative size of ZC/GPA projects recently built and in the pipeline suggests that Measure JJJ may not have such a strong leveling effect on current trends.

- In contrast to the *TOC overlay*, which would simply enhance an existing inclusionary housing incentive at the margins by increasing allowable density near transit, Measure JJJ's *Value Capture* provision has the potential for a greater absolute impact on access to affordable housing because it would add affordable units to projects that would have had none to begin with.

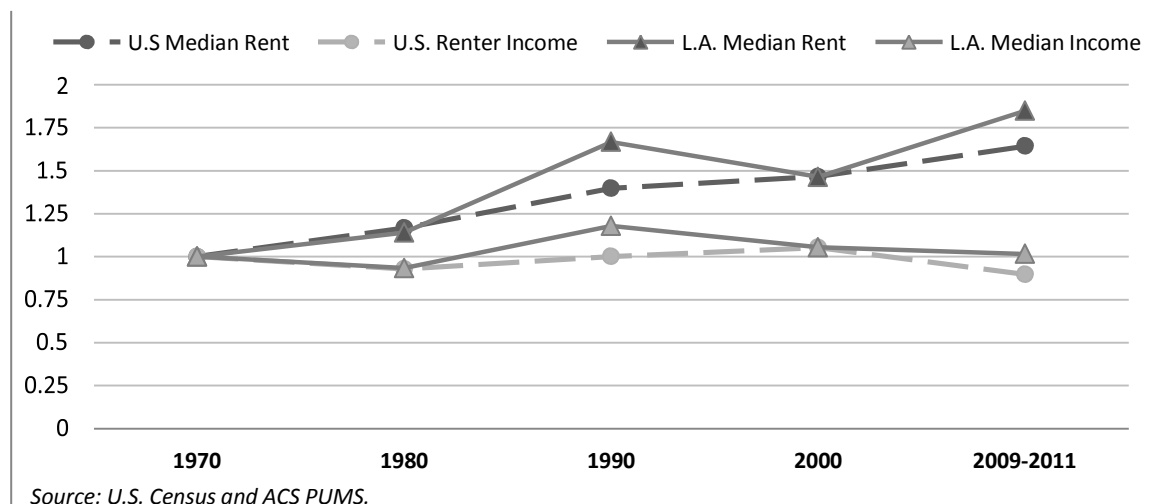
IV. Findings—Research Question #2: Rent Burden, Housing Instability and Overcrowding

In this section we begin by describing current conditions in Los Angeles with respect to rent burden, overcrowding and housing instability. We then review the research literature on the effects of these factors on health-related outcomes. Finally, we assess potential health impacts of Measure JJJ by reviewing relevant details of the Initiative itself along with relevant findings from our research. The section ends with conclusions about how the Initiative could impact health, through its effects on rent burden, overcrowding and housing instability.

Current Conditions: Rent Burden, Housing Instability and Overcrowding in the City of LA

Among large metropolitan areas in the US, Los Angeles has one of the highest shares of renters versus owners. In 2014, while the share of renters in the US and California were 35% and 45%, respectively, almost two thirds (63%) of housing units in the City of LA were occupied by renters.¹⁷ Meanwhile, over the past 40 years, median rent in the LA metro area has increased substantially and at a faster pace than in the US as a whole, while incomes have remained largely unchanged. **Figure 4** shows relative changes in rent and income for the US and LA County compared to their levels in 1970.¹⁸ These factors combined have made the City of LA one of the most unaffordable rental markets in the nation.

Figure 4. Change in Median Income and Rent, US and LA¹⁸



Affordability is commonly measured as housing cost (rent or mortgage) as a percentage of household income. Households that spend 30% or more of their income on rent or mortgage are considered to be cost-burdened and those that spend 50% or more are considered severely cost-burdened. In 2014, 62% of City of LA renters were cost burdened and over one third were

severely cost burdened. Thus, out of approximately 836,000 renter households in Los Angeles, 288,000 spent more than half of their total income on rent. Moreover, rent burden has increased steadily since 2000 when 49% of renters were burdened and 24% were severely burdened (**Table 6**).¹⁹ Home owners have fared somewhat better, with about half experiencing cost burdens and one quarter experiencing severe costs burdens in 2014.

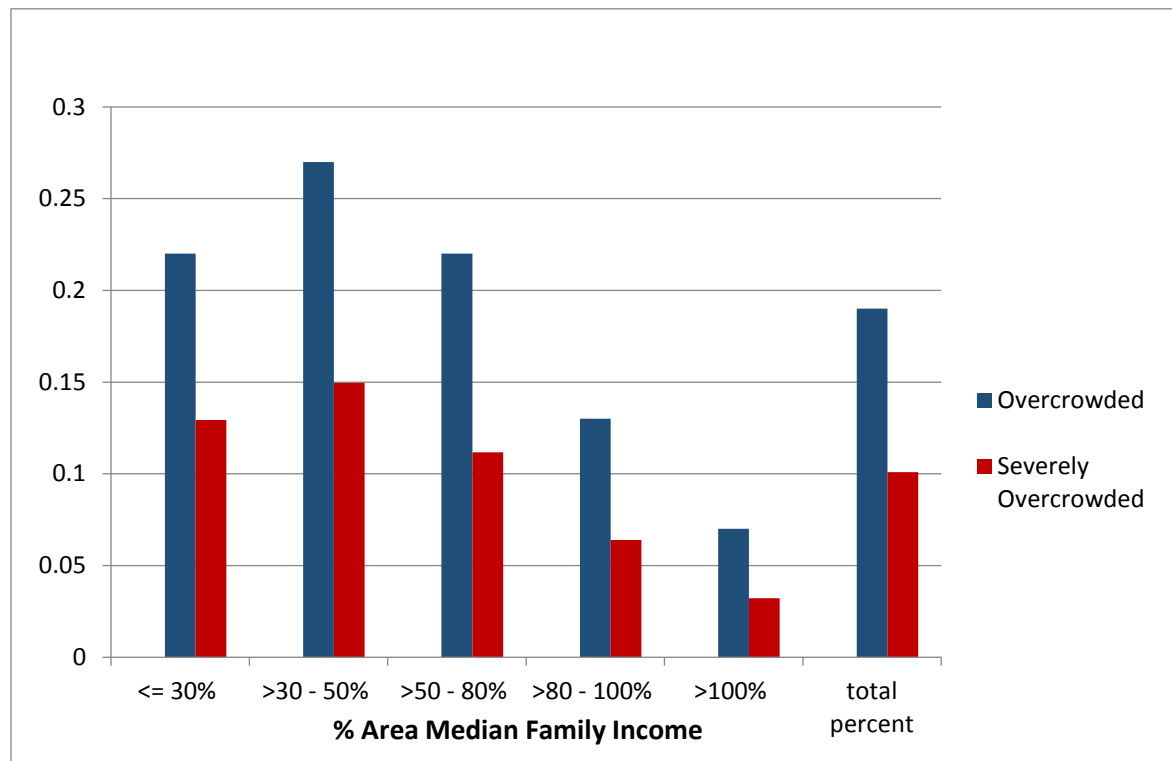
| Table 6: Percent of Households with Cost Burden by Tenure, 2000 and 2014* | | |
|--|--------------------|-------------------|
| | City of LA Renters | City of LA Owners |
| Cost Burden | | |
| 2000 | 48.5% | 37.2% |
| 2014 | 61.9% | 49.0% |
| Severe Cost Burden | | |
| 2000 | 24.0% | 19.9% |
| 2014 | 34.5% | 24.4% |

*Adapted from: Neighborhood Housing Services of Los Angeles County: Building and Sustaining an Affordable Los Angeles County

Importantly, these aggregate rates of rent burden mask stark inequities by household income. In 2014, almost all (94%) of renter households earning less than \$20,000 annually were rent burdened compared to only 10% of those earning more than \$75,000 annually. Furthermore, growth in median renter income since 1970 in Los Angeles was lower for the bottom 20% of income earners than for all other income groups, while growth in rent for that same group was higher than it was for middle-income earners.¹⁸

Rent burdened households are often forced to save money by living in overcrowded conditions. Thus, one of the consequences of Los Angeles having one of the most unaffordable rental markets in the US is that it also has among the highest rate of overcrowded housing. Overcrowded dwellings are defined by the US Census Bureau as those with more than one occupant per room (including kitchens, bathrooms and all other rooms).²⁰ Dwellings with more than 1.5 occupants per room are considered severely overcrowded. In 2014, 18.4% of renter households in The City of LA were overcrowded and 9.6% were severely overcrowded.¹⁷ In comparison, only 3.3% of US renter households were overcrowded and 1% were severely overcrowded. Again, the overall rates mask socio-economic inequalities in overcrowding. **Figure 5** shows the income gradient in overcrowding for the City of Los Angeles.

Figure 5: % City of LA Renter Households that are Overcrowded, by % Area Median Family Income*



*An overcrowded household is defined as a household with more than one person per room (not bedroom). Severely overcrowded is more than 1.5 people per room.

Overcrowding is only one manifestation of housing instability associated with unaffordability. Other manifestations include frequent moves, evictions, and episodes of homelessness. According to a special City of LA tabulation of the 2015 LA County Health survey, 4.7% of City residents had been homeless or did not have their own place to live or sleep in the past 5 years.²¹ This equates to approximately 141,000 residents. As a point of reference, the 2015 homeless count (point-in time snapshot) for the City of LA was 25,686.²²

Why Does this Matter for the Health of Angelenos?

Housing costs have a direct influence on the portion of household income available for various health promoting necessities, once the rent or mortgage is paid. Thus, rent burden could have serious health consequences through its impact on access to food, healthcare and prescription medications. A study using a nationally representative sample of families found that a \$1,000 annual increase in rent among poor families was associated with a 20% increase in food insecurity.²³ Another study found that families in subsidized housing were less likely to be food insecure than those on the waiting list, and rent-burdened families were more likely to be food insecure.²⁴ A study from Philadelphia found that people living in cost-burdened households

were three times more likely to forgo health care and prescriptions for medications due to cost and 75% more likely to report themselves to be in poor health. These findings were more extreme among cost-burdened renters than cost-burdened owners.²⁵

The adverse health effects of housing instability, including overcrowding and multiple moves, has been particularly well documented among children. Children experiencing housing instability and overcrowding are more likely to be food insecure, at risk for developmental problems, and in fair or poor health than their securely housed peers.²⁶ Children with greater residential instability also have lower emotional and behavioral functioning and cognitive skills.²⁷ The connections between housing stability and food security are particularly important for The City of LA where food insecurity has been rising in recent years.²⁸ According to a special tabulation of 2015 LA County Health Survey data, 31% of City of LA respondents below 300% of the Federal Poverty Level reported being food insecure.

Our focus groups with low-income residents provided us with first-hand accounts of rent burden and its effects on health. The majority of focus group participants reported that they were severely rent burdened and many of them spoke of the hard choices they had to make at the end of each month:

“I live in a studio apartment with my husband and four children aged 17, 14, 9 and 2. We cannot afford to get anything bigger. It’s frustrating. My children fight because they don’t have privacy.”

“Sometimes I have peanut butter and honey, beans. I run out of meat. I have to get my protein. I believe in eating real food, not protein powder. I learned how to eat like a poor person, because I am poor, I learned how to cook Mexican food from my neighbors. I’m learning a little bit of everything.”

“A little bit left you squeeze it. Hustle bottles, dollar store (thank god). You juggle everything. Pay for a little bit of this, that. You do what you do to get by.... You stretch it out. You pay the rent because you need a place to live. But everything else you just pay a bit.”

How Could Measure JJJ Impact Health through its Effects on Rent Burden, Housing Instability and Overcrowding?

Measure JJJ explicitly aims to ease rent burden among low-income households in Los Angeles. According to our estimates in Section Three, if Measure JJJ passes, up to 43,170 low-income renters could experience the health benefits of stable, affordable housing through the addition of a Transit-Oriented Communities Affordable Housing Overlay. Also, increasing trends in the approval of residential projects that would be subject to *Value Capture* suggest that this

component of the Initiative could have an even greater future impact on the production of affordable housing, particularly since it would add affordable units to buildings that would otherwise have none.

Conclusions

There are several aspects of the Initiative that strengthen the likelihood of this health impact through the easing rent burden:

- Through its inclusion of minimum set-asides for extremely low-income (ELI) households (<30% AMI), in addition to very low- (VLI) and low-income (LI) households, Measure JJJ would deepen the affordability of units produced beyond that of the current State density bonus program. Data from the current program suggests that developers prefer fewer units with deeper affordability, and the health benefits to these relatively lower-income households would likely be proportionally greater.
- By using a bi-annual *affordability gap study* to determine the appropriate dollar amount for the in-lieu fee option, Measure JJJ helps ensure that in-lieu fee revenue generated would be sufficient to build affordable units of equivalent value to what would have been built on site had the in-lieu fee option not been taken.
- While the affordability provisions of the *Value Capture* provision of the Initiative apply only to projects seeking zone changes and general plan amendments (**see box on page 3**), the broad geographic scope of these provisions (i.e., citywide) would likely produce more affordable units than a more geographically limited scope.
- Measure JJJ's *TOC Overlay* responds to current demand, given the increasing proportion of current DB projects that approach the maximum allowable density. Thus, this provision of the Initiative is likely to increase access to affordable housing near transit.

V. Findings—Research Question #3: Public Transit Ridership, Air Quality and Physical Activity

In this section we begin by describing current conditions in the City of LA with respect to public transit ridership, air quality and physical activity. We then review the research literature on the effects of these factors on health related outcomes. Finally, we assess potential health impacts of Measure JJJ by reviewing relevant details of the Initiative itself along with relevant findings from our research. The section ends with a set of conclusions about how the Initiative could impact health, through its effects on public transit ridership, air quality and physical activity.

Current Conditions: Public Transit Ridership, Air Quality, and Physical Activity in the City of LA

The LA metro area has been comparatively slow in developing a rail-based public transit system. However, over the past two decades with the help of a few successful bond measures and another proposed measure on the ballot this November, Los Angeles has put in motion a metro rail system with the potential to transform the landscape and lived experience of Angelenos for years to come. Despite debates and controversy over reports of a recent decline in ridership,^{29,30} LA Metro currently has a system wide average daily ridership second only to the New York MTA.

In 2014, approximately 11% of workers in the City of LA over the age of 16 commuted to work by public transit (**Table 7**). However this overall rate is highly influenced by the lowest-income workers who, at 18%, were almost ten times more likely to use public transport than the highest-income earners and almost three times more likely than the second lowest earners. Seventy-one percent of City of LA public transit commuters earn less than \$25,000 annually, while only 4% earn more than \$75,000 (**Table 8**).

| Means of Transportation to Work | % of all Workers 16+ | %<25K | %25K-<50K | %50K-<75K | %75K+ |
|---------------------------------|----------------------|-------|-----------|-----------|-------|
| Drove Alone | 67% | 56% | 73% | 79% | 80% |
| Carpooled | 10% | 12% | 9% | 7% | 6% |
| Public Transportation | 11% | 18% | 7% | 4% | 2% |
| Walked | 4% | 5% | 3% | 2% | 2% |
| Bicycle | 1% | * | * | * | * |
| Other means | 2% | 3% | 2% | 2% | 2% |
| Worked at Home | 6% | 7% | 5% | 5% | 7% |

American Community Survey, 2014 1-year and 5-year estimates (columns may not all equal 100% due to rounding)

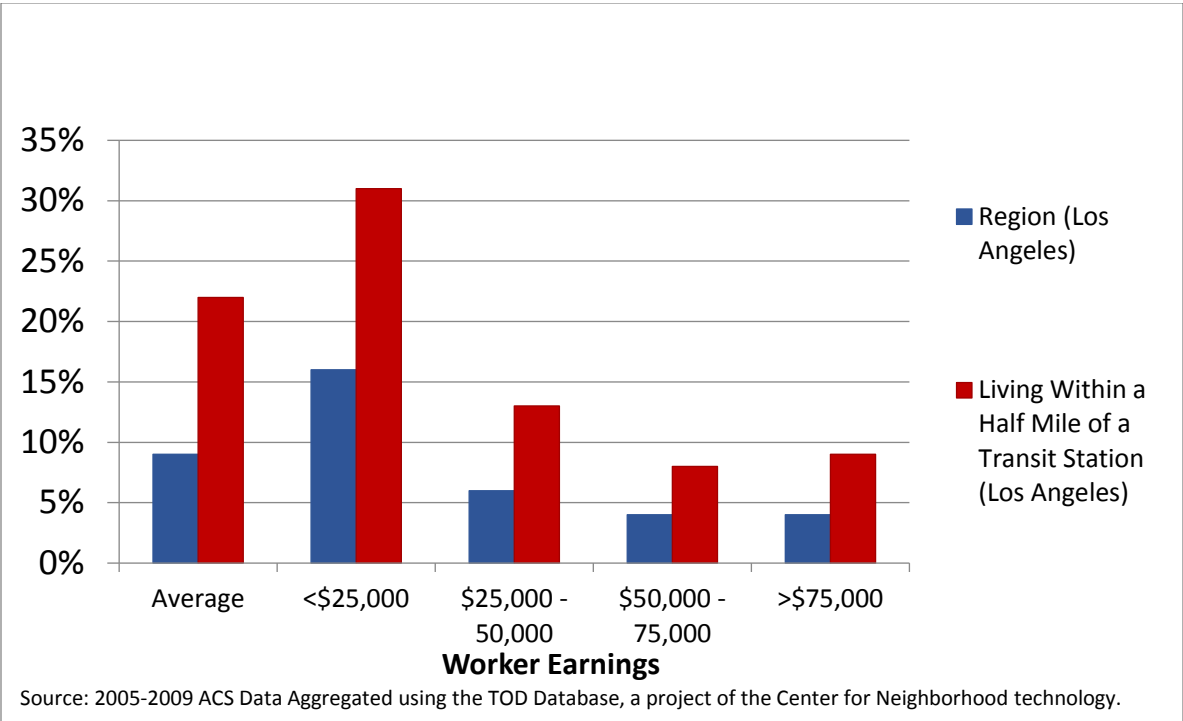
*Estimate not stable due to small sample size

| Earnings | % of Commuters |
|-----------|----------------|
| %<25K | 71% |
| %25K-<50K | 20% |
| %50K-<75K | 6% |
| %75K+ | 4% |

American Community Survey, 2014 1-year estimates (columns may not all equal 100% due to rounding)

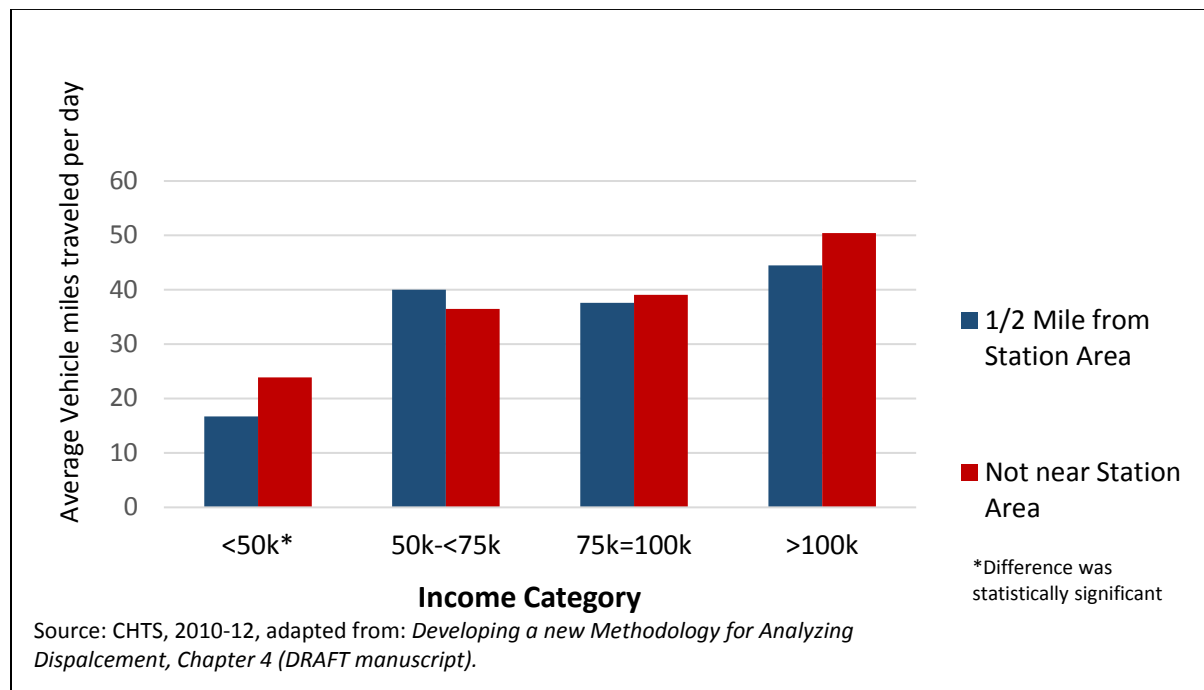
Measure JJJ uses the definition of a “major transit stop” from the California Public Resources Code, subdivision (b) of Section 21155: any rail station or major bus station with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. In 2012, approximately 75% of the City of LA population (about 2.9 million people) lived within one half mile of a major transit stop defined in this way.¹⁶ Residents of low-income neighborhoods were even more likely (90-100%) to live near a major transit stop. As shown in **Figure 6**, not only are LA region workers of all income levels more likely to commute to work if they live close to major transit stops, but low-income workers near transit are over three times more likely to use transit than higher-income workers near transit.

Figure 6: Percent of Workers (LA Region) Who Commute by Transit, Walking, or Biking



These trends in proximity to transit and transit use have a direct impact on vehicle miles travelled (VMTs) and vehicle-related toxic emissions linked to poor health outcomes and climate change. According to the latest California Household Travel Survey, higher-income households within ½ mile of a major transit stop have VMT rates almost twice as high as very low and extremely low-income households near transit (**Figure 7**).

Figure 7: Average Daily VMT (LA Region) by Income and Rail Access



This combination of factors—that lower-income Angelenos are more likely to live near public transit, use public transit, and are less likely to drive—has raised concerns about the potential air quality and related health impacts of Transit Oriented Development (TOD),³¹ which could displace lower income transit commuters with higher income car commuters in station area neighborhoods. We discuss this further below.

According to a special tabulation of the 2015 LA County Health Survey, 66% percent of City of LA adults met nationally recommended standards for aerobic physical activity. While we did not obtain City level estimates for previous administrations of the survey, the trend in adult aerobic physical activity countywide has been increasing over the past eight years, from 51% in 2007 to 65% in 2015.²¹ In contrast, over the same time period the percentage of working adults in both the City of LA and LA County who commuted to work on public transit remained flat, at 7% for the County and 11% for the City.¹⁷ Thus, modest increases in access to rail transit over that time period do not appear to have contributed to the observed increase in physical activity, and one in three adults is still not active enough for optimal health.

Why Does this Matter for the Health of Angelenos?

Air Quality

Exposure to vehicle emissions increases the risk of respiratory disease and mortality.³²⁻³⁶

Transit expansion in Los Angeles has the potential to improve health through reductions in vehicle emissions. However, given the trends reviewed above, if wealthier residents displace lower-income residents near transit stops, there is a risk that this could actually increase VMTs and worsen air quality. There is already evidence that Transit-Oriented Development (TOD), i.e., housing and commercial development near existing or new transit stops, leads to gentrification and reductions in ridership in those areas.* The most comprehensive study of this phenomenon found that across 12 metropolitan areas in the U.S., population size, housing units, income, rents, home prices and car ownership all increased in new station areas, while a significant percentage of station areas saw transit use drop faster than the region as a whole.³⁷ A recent study of Los Angeles County transit neighborhoods found that station areas gentrified, lost transit riders, and gained drivers faster than the county as a whole. Stations that gentrified were more likely to lose transit ridership and gain drivers than those that did not.³⁸

To explore how this phenomenon might impact VMT/air quality, researchers at UC Berkeley applied multivariate analysis to data from the California Household Travel Survey (CHTS) and the National Household Travel Survey (NHTS) to explore whether the potential for an absolute reduction in VMTs from living near transit is greater for low-income households than for high-income households.³⁹ In contrast to the Bay Area, NHTS data for the Los Angeles Metro Region revealed a significant interaction between income and proximity to rail. Upon closer examination, the researchers found that the effects were greatest for the lowest- and highest-income groups. In other words, VMT reductions from living near rail were higher for both very low- and very high-income groups as compared to middle-income groups. This suggests that an LA region gentrification scenario with middle-income residents replacing low-income residents near transit could increase regional VMT. A scenario with high-income residents replacing low-income residents may leave VMT levels unchanged at best. It also suggests that, all other things equal, creating opportunities for low/very low-income households to move into neighborhoods closer to transit could reduce VMT.

To examine this further, the authors applied the findings from their model to several transit neighborhoods across California that had experienced significant gentrification from 1990-2013 to estimate how this process may have effected VMT. While the model predicted sizable VMT reductions (25%-70%) for neighborhoods in Northern California, in Los Angeles it predicted only a slight reduction of 7%.³⁹ In summary, this new research on displacement and transit-oriented

* It should be noted almost all of this research has focused on rail transit and we know very little about the effects of bus transit on gentrification or about household proximity to bus transit and vehicle miles travelled.

development in California suggests there may be greater health benefits related to air quality from creating and preserving affordable homes near rail stations in Los Angeles than in other parts of the state. **Figure 7** also supports this conclusion. In contrast to similar data for California as a whole (not shown), in Los Angeles, VMT difference by rail access was greatest for the lowest income category.

Physical Activity

National health guidelines recommend that adults get at least 30 minutes of moderate physical activity per day. These guidelines are based on research showing that this level of activity significantly reduces adult risk of heart disease, stroke, and other chronic diseases.⁴⁰ A recent comprehensive review of research on physical activity associated with public transit use found that public transit users walk an *additional* 8-33 minutes per day on top of their normal routine.⁴¹ This suggests that increasing the proportion of people who commute to work via public transit could have a sizable impact on population health. In fact, health impact assessment practitioners have developed predictive modelling tools that quantify population level changes in disease outcomes based on assumptions about overall changes in physical activity due to transportation mode shifts.⁴¹⁻⁴³

LA County Department of Public Health is currently calibrating one such model for Los Angeles to predict the potential health impacts of the mode shift targets in the transportation element of the City of LA General Plan (Mobility Plan 2035).⁴⁴ While we are not able to make quantitative predictions about how much public transportation use would increase if Measure JJJ passed, the evidence reviewed above on travel mode trends in Los Angeles and on the VMT effects of rail proximity among different income groups suggests that increased density near rail stations, particularly if it allows some very low-income families to move to or remain near these stations, would increase health promoting physical activity.

When asked about public transportation, focus group participants acknowledged the advantages of living near and using public transit, but offered more descriptions of the cost-burdens associated with public transit than of its health benefits:

“I find the Dash is more economical. The fare is \$0.50 and with four children it can be more expensive to use other transportation. On the regular bus its cost \$1.75 per person plus children becomes too pricy. I look for things that are closer to me, work, shopping etc. I have to walk 4 blocks to catch a Dash bus and also when I get off the Dash to get my children from school. If I had the opportunity I would live closer to public transit.”

“I use the bus a lot to go to school or the doctor and to take my children to school. It is costly to use it. I always look for work that is near my home and that I can walk to. I am a single parent and need to save money. Sometimes I have to walk because I sometimes don’t have money left over from rent and bills for transportation. \$1.75 for each ride.”

How Could Measure JJJ Impact Health through its Effects on Public Transit Ridership, Air Quality and Physical Activity?

Measure JJJ aims to increase the proportion of new residential developments near major transit stops and the proportion of affordable housing units with access to transit. According to our estimates, the proposed Transit-Oriented Communities Overlay could result in up to 58,000 new housing units near transit over the next 10 years, with up to 14,000 set aside as affordable units.

Conclusions

Our research and analyses lead us to draw several conclusions about the potential health impacts of this effect and to highlight certain aspects of the Initiative that could strengthen these impacts:

- By increasing the proportion of all City of LA residents living near transit, the *TOC Overlay* has the potential to increase physical activity and reduce exposure to harmful emissions among Angelenos of all income levels who move to or stay near transit areas. Thus, the *TOC Overlay* would have a potentially greater population-wide impact on health outcomes linked to increased physical activity and improved air quality, as compared to *Value Capture*.
- While we can't predict the independent effect of Measure JJJ on City of LA residents' decisions to shift from cars to public transportation, by incentivizing the development of both market rate and affordable housing near transit, the Initiative would constitute an important component of a region-wide strategy for promoting great use of public transit, which would have positive long term effects on a variety of chronic diseases.
- By ensuring that the benefits of transit-oriented development are extended to low and very low-income households, Measure JJJ may help mitigate a potential gentrification-induced increase in vehicle miles travelled (VMTs), which would be harmful to human health and exacerbate climate change.
- To the extent that Measure JJJ's *TOC Overlay* increases density near rail stations, it would contribute to a reduction in regional VMTs, which would improve air quality and reduce respiratory illness.
- Given evidence that the 2014 addition of a "no net loss" clause to the State Density Bonus Law may have incentivized developers to seek alternative mechanisms for increasing density, Measure JJJ's "no net loss" requirement for discretionary ZCs and GPAs may act to shift incentives back toward the density bonus program, which would bolster the potential health benefits of the latter.

VI. Findings—Research Question #4: Displacement and Neighborhood Segregation

Neighborhoods change in a variety of ways, through the in-migration and out-migration of residents and through the building, renovation and demolition of physical structures. Gentrification is the term commonly used to describe a change process through which a once poor or neglected neighborhood becomes more affluent as a result of public and/or private investment and/or the in-migration of wealthier residents. The negative consequence of gentrification is displacement, the involuntary movement of residents out of neighborhoods where they once lived. Scholars have identified a number of ways that displacement can occur, both directly and indirectly.⁴⁵

In this section we begin by describing current conditions in the City of LA with respect to gentrification, displacement and neighborhood segregation. We then review the research literature on the effects of these factors on health related outcomes. Finally, we assess potential health impacts of Measure JJJ by reviewing relevant details of the Initiative itself along with relevant findings from our research. The section ends with a set of conclusions about how the Initiative could impact health, through its effects on displacement and neighborhood segregation.

Current Conditions: Displacement and Neighborhood Segregation in the City of LA

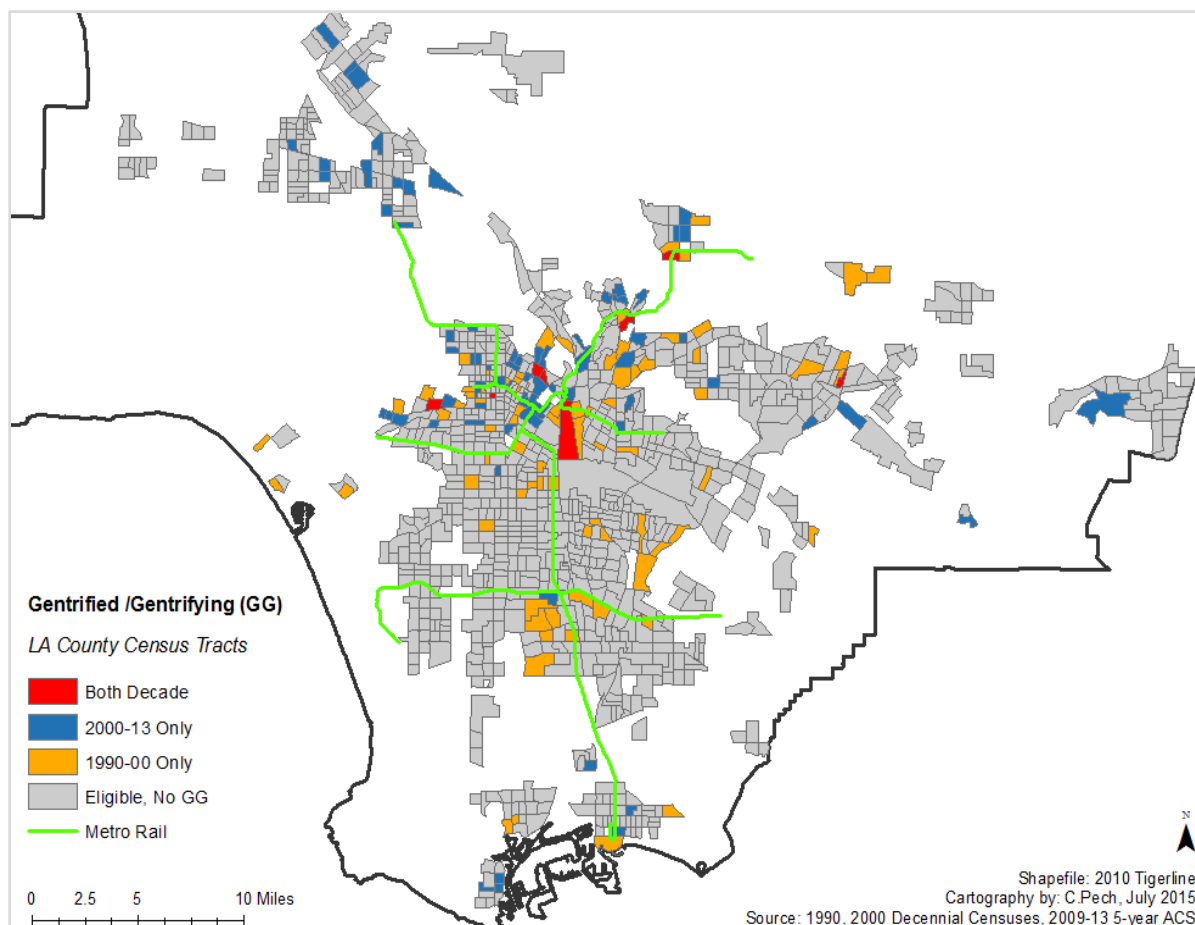
Gentrification and Displacement

A recent collaborative study from UC Berkeley and UCLA—the Urban Displacement Project^{45,46}—provides the most comprehensive and up-to-date assessment of gentrification in Los Angeles County. The study tracked patterns of gentrification between 1990 and 2013. Census tracts were deemed eligible for gentrification if they met certain vulnerability criteria with regard to income, education, race/ethnicity, and housing tenure (i.e., % renters). Tracts that gentrified were those whose rates of change on indicators for each of these criteria were above the county average. Eighty-nine census tracts gentrified between 1990 and 2000 and an additional 73 gentrified between 2000 and 2013 (**Map 2**). Tracts that had gentrified in the 1990's were two times more likely to gentrify in the 2000s. Tracts within ½ mile of a rail transit station (Transit-oriented Development areas--TODs) were more likely to gentrify than non-TOD areas, although gentrification in TODs did not depend on major public or private investment (i.e., some gentrification was solely the result of in-migration of wealthier residents).

Patterns of displacement – the negative consequence of gentrification – are difficult to isolate and study. Research to date has used different definitions of displacement, compared different populations, and has not covered long enough periods of time to track change.⁴⁵ Displacement

can occur through: 1) physical removal (i.e., eviction), 2) economic pressures that price people out of their homes, 3) long term “chains” of displacement—when gentrification happens long after a neighborhood is abandoned through disinvestment, and 4) exclusionary forces that prevent certain classes of individuals from moving into a neighborhood.⁴⁷ Based on what we know about the process of gentrification, researchers have developed a robust set of indicators (e.g., demographic, economic, housing, land use, financial, public policy etc.) that can be used to assess geographic risk of displacement. The UC Berkeley/UCLA Urban Displacement Project adapted a set of these indicators to assess displacement risk in the Bay Area,⁴⁸ and similar indicators have been used in studies of Santa Fe, NM,⁴⁹ Portland, OR,⁵⁰ and parts of South LA.⁵ Indicators selected typically take into account variation in local context and data availability. While a displacement risk index has not been developed for the City or County of Los Angeles, the UCLA Urban Displacement Project research team was able to estimate displacement trends in Los Angeles by modeling relationships among some of these indicators over time.⁵¹

Map 2: Gentrifying Census Tracts in LA County, 1990-2013



Using loss of affordable housing as a proxy for displacement, the team compared changes over time (2000-2013) in access to various types of affordable housing in TOD versus non-TOD areas, controlling for other socio-demographic factors. TOD areas, particularly those in the downtown area, experienced significantly higher losses of affordable rental units and increases in condo conversions as compared to other parts of the county. Also, while the county as a whole saw a rise in the number of Section 8 housing vouchers, there was no increase in vouchers in the downtown TOD area and a *decrease* in vouchers in other TOD areas. Finally, TOD areas (particularly downtown) saw an increase in Low Income Housing Tax Credits but not enough to offset the total loss in affordable rental units. To explore evidence of exclusionary displacement over time, the team modeled patterns of in-migration to TOD areas versus non-TOD areas by income of in-movers, controlling for other socio-demographic factors. They found that low-income, less educated residents made up a lower share of in-movers to TODs and higher-income residents made up a higher share of in-movers.

This latter finding, suggesting the occurrence of exclusionary displacement in LA County TOD areas, is consistent with findings from our focus groups. Without any specific probes, we asked participants about their experiences and challenges in the Los Angeles housing market. While we expected to hear mostly about problems with affordability, many respondents complained of widespread discrimination in the housing market:

“The stress frustrates a person a lot. When looking for apartments we went to so many places and it was very blatant that they were discriminating. There were 2 places that told me they definitely did not want “wet-backs”. Another place...where the buildings are in good order and expensive, but also discriminatory, they also told me that they didn’t want Mexicans.”

“When I came here... I had a small 1 year old child. I went to 10 different buildings and because I had a child, landlords didn’t accept my applications. Back then I didn’t know that was illegal. “No babies, not with babies” is what they would tell me. I went to 10 buildings. The last building on my list was a dilapidated building mostly empty but there was drugs there... It was my last option and the only place that would accept me and my child. It was very discriminatory and sad that they discriminate against children like that.”

“Yes, I have had a problem. I have been actively looking to move from where I am at. Every time we go the landlords are very discriminating. They charge you \$25-\$50 per person for an application. They reject you, they don’t return the money. This has been traumatic for me. I don’t want to look for an apartment...I have cried from all the anger and stress. Because it is stressful to lose \$50 to fill out and pay for an application that they know you won’t qualify for. I think it’s a total discrimination for persons, well I don’t know if they do it to white people or only brown skinned people. I don’t know. It is really stressing.”

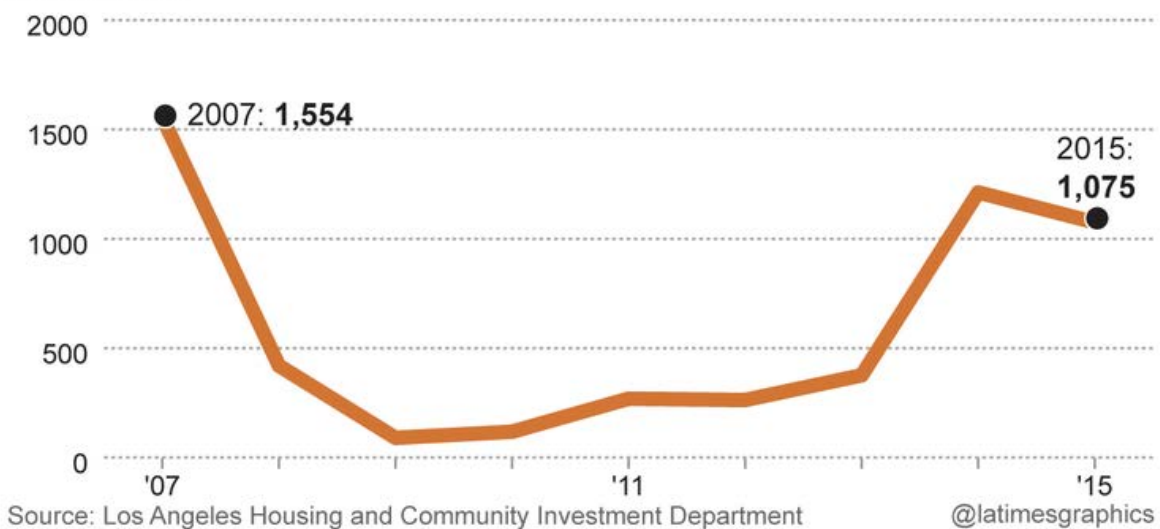
“Looking for housing is hard because it is expensive and sometimes they discriminate on age. If they see that you are young they won’t accept your application. We have applied for many affordable housing units but we get nowhere. Because we are young (landlords) probably think we don’t have the capacity to pay for it. I also have a child and I feel that adds to it.”

Another source of evidence of displacement in Los Angeles comes from data recently reported by the LA Times on trends in removals of rent-controlled apartments from the rental market (**Figure 8**).⁵² These removals are facilitated by the Ellis Act, passed by the California Legislature in 1985. The Ellis Act allows landlords to evict tenants from rental properties if they plan to take the properties off of the rental market. Ellis Act evictions often occur when landlords want to demolish or renovate existing apartments to convert them to condominiums or large single family homes. In Los Angeles, evicted and displaced tenants are provided with a relocation fee but then must navigate one of the most expensive rental market in the country. While the rate of rent-control removals declined in the immediate aftermath of the recession, they have recently begun to rise again, particularly after 2013. In that same year, over half of the properties were purchased within the previous year.

Figure 8: Removal of Rent-Control Units in the City of Los Angeles, 2007-2015

Rent-control removals climb

The number of rent-controlled apartments taken off the market in L.A. has risen since the recession.



Neighborhood Segregation

In addition to displacing lower-income residents, gentrification and land use policies can also contribute to broader trends in the socio-economic segregation of neighborhoods. According to the Pew Research Center, income segregation has risen in each of the last four decades across U.S. metropolitan areas, including Los Angeles. In 2010, Los Angeles ranked 8th among the 30 largest metro areas on the Residential Income Segregation (RIS) Index, which incorporates both

the concentration of low-income households in low-income census tracts and the concentration of high-income households in high-income census tracts.⁵³

Why Does this Matter for the Health of Angelenos?

Patterns of residential development have consequences for community health. Gentrification and displacement contribute to the concentration of lower-income residents in neighborhoods that lack the opportunity structures of higher-income areas and this can have a negative impact on health.⁵⁴ These neighborhood-level health effects result from differences in physical and social environments across neighborhoods. Aspects of the physical environment that effect health include access to markets with healthy foods, employment opportunities, quality schools, health care facilities and parks and open space. Aspects of neighborhood social environments include social capital, social inclusion and collective efficacy. These social factors effect both mental and physical health.

In addition to these neighborhood-level effects of gentrification and displacement, the experience of displacement by individuals leads to disruptions in social support networks and the disintegration of place attachments. The cumulative effect of these factors, referred to as “root shock” can exacerbate stress-induced diseases ranging from depression to heart attacks.⁵⁵ The health-related literature specifically examining the effects of displacement on displaced individuals is still relatively new, and issues of definition, described above, make large scale studies challenging. However, a number of published qualitative studies are beginning to document the mental and physical toll that gentrification-induced displacement takes on impacted residents.⁵⁶⁻⁶⁰

Also important in the context of an HIA of inclusionary housing policies is the literature on the positive effects of social integration. A recent review of research on benefits experienced by low-income families living in mixed-income communities found some evidence that these residents have experienced benefits through improved access to employment, better educational opportunities and increased safety and security.⁶¹ A review focused on health outcomes found that the Housing Choice Voucher program had significant positive health effects.⁶² A new study from the National Bureau of Economic Research reports that children who moved from higher poverty to lower poverty neighborhoods when they were young were more likely to attend college and have substantially higher incomes as adults.⁶³ Several studies also found improvements in behavioral and mental health outcomes among children moving to lower poverty neighborhoods.⁶¹ One of the overarching conclusions of the review of this literature was that health and other benefits stemmed from characteristics of the neighborhood environment and not from social interactions with higher-income neighbors.

Our focus group with low-income residents from two different mixed-income developments in The City of LA allowed us to hear first-hand accounts of the potential benefits that others might experience if the inclusionary policies in Measure JJJ were to be enacted. Participants universally acknowledged the benefits of living in mixed-income communities:

“Before we had nothing and now we have everything. The area is better. The schools are better. Before we just had a small single. Now we have a room for us and for the kids. It is better for our health.”

“The benefits of living there is it raises your self-esteem. You don't feel depressed when you get home...It's different from living just in a small apartment with insects.

“What is unique...is they try to form community. Otherwise you just pass by people for five years and don't say hi. In the summer the last Sunday they have a pool party with a DJ and drinks and everybody in the building is invited and that's nice especially with kids...I've never been in an apartment that does that.”

How Could Measure JJJ Impact Health through its Effects on Displacement and Neighborhood Segregation?

In an effort to minimize the displacement effects of residential developments with 10 or more units seeking zone changes (ZC) or general plan amendments (GPA), Measure JJJ would require these projects to replace all existing affordable and rent-stabilized units lost in the demolition and/or construction process, one-for-one. The definition of affordability of existing units is quite broad. In cases where the unit itself is not under some type of legal covenant, it covers units occupied over the previous five years by residents below specified income thresholds. Measure JJJ would also create voluntary inclusionary housing incentives for a new category of developments seeking increased allowable density thereby promoting increased neighborhood integration.

Conclusions

- While it is not known exactly how many affordable units have been destroyed in recent years by housing developments that would have been covered by Measure JJJ's no net loss policy, we can assume that very few of them were replaced. Thus Los Angeles has already experienced a loss of affordable units in the absence of Measure JJJ. This has likely had negative health consequences for those displaced.
- By adding a no net loss policy to the large and growing number of projects seeking ZC/GPAs, Measure JJJ would help to ensure that developers seeking additional allowable density outside of the State DB program would no longer be able to do so without replacing affordable units lost. This would expand the potential health benefits of this anti-displacement policy to a new category of developments seeking increased allowable density.

- By incentivizing the creation of mixed-income communities in a larger proportion of new developments, Measure JJJ would use land use policy to increase access to affordable housing while also promoting health-enhancing neighborhood integration.
- By allowing developers the option of off-site (but nearby) construction of affordable units, Measure JJJ would offer flexibility in the production of affordable units while preserving the neighborhood level health benefits that those units would confer on their occupants.

VII. Findings—Research Question #5: Quality Housing

New housing constructed in compliance with local building codes can provide higher quality living environments than older units that suffer from a lack of maintenance and repair. Key elements of quality housing include the safety of structural features, the absence of pests, vermin, and molds and the use of non-toxic building materials. Housing quality has been shown to impact a variety of health outcomes, including asthma and other respiratory illnesses, rashes, skin infections and developmental outcomes in young children.

In this section we begin by describing current conditions in the City of LA with respect to housing quality. We then review the research literature on the effects of these factors on health related outcomes. Finally, we assess potential health impacts of Measure JJJ by reviewing relevant details of the Initiative itself along with relevant findings from our research. The section ends with a set of conclusions about how the Initiative could impact health, through its effects on housing quality.

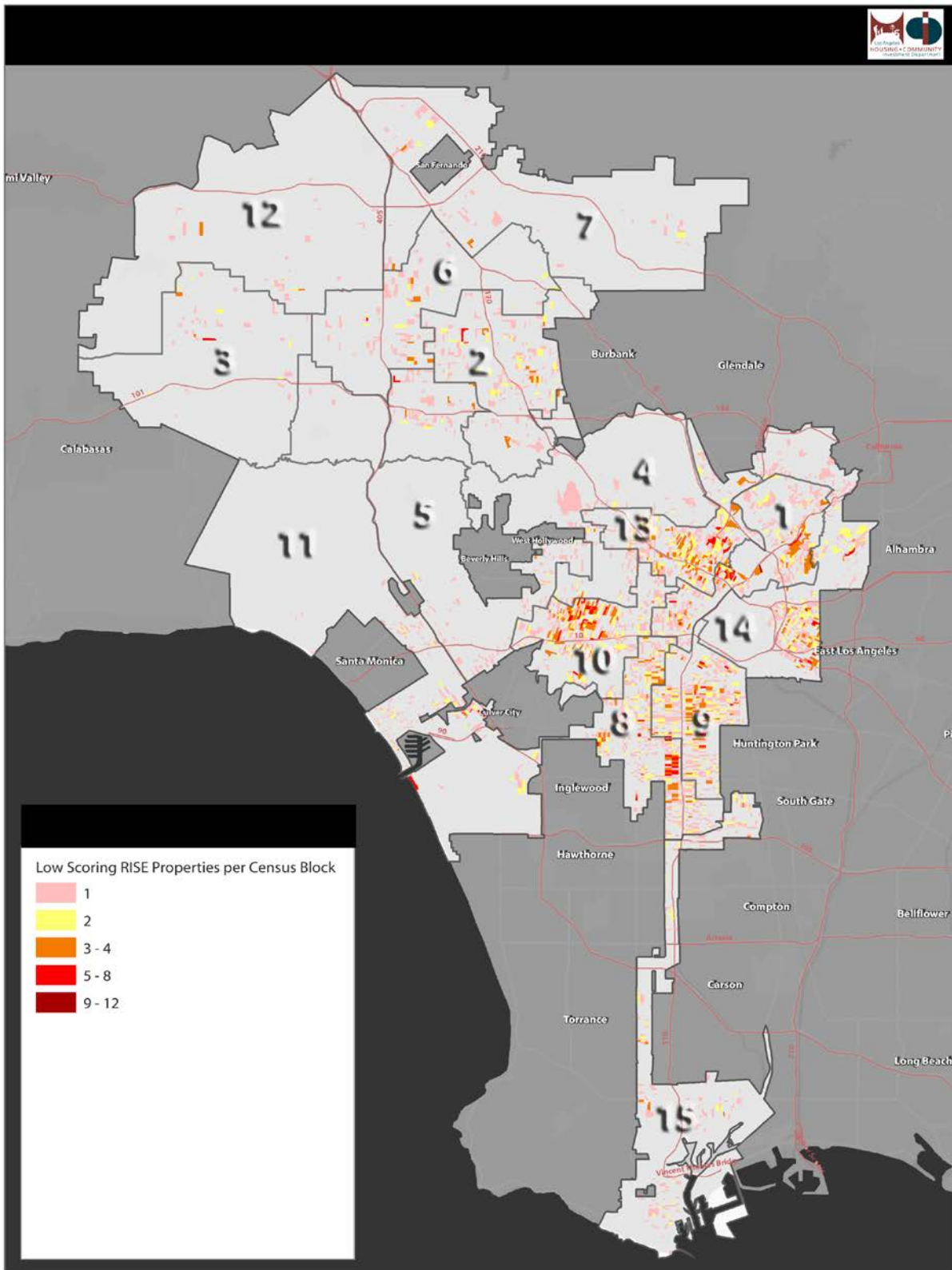
Current Conditions: Quality Housing in the City of LA

Local data on housing conditions come from the City of LA Department of Building and Safety (DBS), which monitors building code compliance. From 2006-2012, DBS reported over 800,000 building code violations. Classified as either owner or tenant violations, 99.8% of them were classified as owner violations. The City has developed an index called the Reliable Information System Evaluation (RISE) which ranks buildings' code violations based on the number of violations, duration of non-compliance and how far cases advance up the chain of command before resolution. Lower scores indicate worse compliance with building codes.⁶⁴ **Map 3**, produced by DBS, shows geographic concentrations of low-scoring buildings in the City of LA. While the map does not indicate area income levels, it is apparent that code violations are worse in the City's low-income neighborhoods.

More Data Coming Soon

One of the most comprehensive national sources of data on housing conditions, the American Housing Survey, included Los Angeles in its longitudinal sample of Metro areas for the first time starting in 2015 but the data won't be available until October 2016--right after this report is released.

Map 3: Number of Buildings with Low Scores on Building Code Compliance Index (RISE), by Census Block, 2013



What is lacking in quantitative data on current housing conditions in the City of LA is amply made up for by reports of the lived experiences of local residents. Our focus group participants echoed the findings of a seminal report on slum housing and its health consequences for City of LA residents--*Shame of the City*.⁶⁵ A majority of our focus group participants reported problems with the conditions of their dwellings.

The most common problems reported were deteriorating infrastructure (carpets, paint, plumbing), and pests:

"When I first moved in the carpet was completely wet. I had to go to the 99 cent store to buy plastic tarps and sleep over it. A week later my daughter then started to get wake up with bites on her body. Since that day I've been like a zombie. Every night I started hunting them down and started collecting them in jars to show them to the landlord. It's such a traumatic experience. I had to take my son to the doctor because his arms and legs were becoming swollen."

"In my apt we had bed bugs and I didn't sleep at all at night. They would bite my son and it would swell...it was big and looked infected. Once I was on the fourth floor and I saw welts similar to my son's on another child."

"My daughter...about a week ago started getting rashes. I took her to the doctor and they told me it was allergy and gave her medicine. She stopped scratching but was still getting welts. Later that night, I found a bed bud crawling on me and I started looking around and saw that the bed bugs where coming from the wall behind the bed. The doctor thought it could be allergy to the sun or a flea bite, but it wasn't that. I took everything off the bed and put them in bags."

Why Does this Matter for the Health of Angelenos?

The negative health effects of poor quality housing have been well researched and documented elsewhere.⁶⁵⁻⁶⁸ Families living in substandard housing built before 1980 are at higher risk of lead poisoning from soil contamination and chipping paint. Exposure to lead-based paint increases childhood risk of developmental and cognitive delays and continues to be monitored nationally.⁶⁹ Families in substandard housing are also at higher risk of injuries and burns due to structural deficiencies. Asthma, one of the most prevalent health conditions among children, is exacerbated by housing conditions. Children with asthma in substandard housing are more likely to be exposed to triggers (molds, dust mites, roaches, rodents) that lead to exacerbations and hospitalizations, and asthma friendly home construction reduces trigger exposure and improves clinical outcomes.⁷⁰ Children with asthma exacerbations are more likely to miss school days and school absenteeism affects performance and success in school.⁷¹

This is serious issue for the City of LA where low-income residents, despite having a similar prevalence of asthma compared to high-income residents, are more likely to have visited an

emergency room for their asthma in the past year (**Table 9**). Children with asthma who move to asthma-friendly homes are less likely to be exposed to asthma triggers and less likely to use urgent clinical care for asthma exacerbations.

| Table 9: Childhood Asthma in City of Los Angeles (2015) | | | | | |
|---|---------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | Citywide | <100% FPL | 100%-199% FPL | 200%-299% FPL | 300% or above FPL |
| % of children with current asthma | 5.7% <i>95% CI</i> (4.2-7.2) | 6.2% <i>95% CI</i> (3.4-9.0) | 4.3% <i>95% CI</i> (1.9-6.7) | 3.7%* <i>95% CI</i> (0.3-7.2) | 7.3% <i>95% CI</i> (4.4-10.3) |
| % with asthma who visited ER in last year | 33.4% <i>95% CI</i> (20.3-46.4) | 43.5% <i>95% CI</i> (19.5-67.4) | 43.4% <i>95% CI</i> (3.4-9.0) | data unstable | 17%* <i>95% CI</i> (3.1-30.9) |

Source: Los Angeles County Health Survey (2015) special tabulation for City of LA

* Estimate may be unstable due to small sample size but is suggestive of a lower use of ER use for higher-income asthmatics.

How Could Measure JJJ Impact Health through its Effects on Housing Quality?

There are no provisions in the Initiative specific to housing quality. However, it can be assumed that all market rate and affordable units affected by the Initiative would be of acceptable quality since they would be new. Thus, the tenants of these units would benefit from a higher quality living environment, and those moving from lower quality housing would experience fewer health risks and negative health outcomes. Our conclusions with respect to housing quality are as follows:

Conclusions

- While Measure JJJ is not designed to improve the condition of existing housing, it could provide thousands of low-income residents with the opportunity to move from substandard to new health-protective home environments.
- To the extent that Measure JJJ's no net loss policy replaces older units that are affordable (primarily because of deteriorating conditions) with newly constructed affordable units, it would also increase the proportion of affordable units that are of high quality and promote and protect health.

VIII. Recommendations

Based on the findings of this HIA we offer the following seven recommendations. The first four recommendations speak to the public health implications of affordable housing policies in general. The final three recommendations suggest ways that the potential health benefits of Initiative Ordinance JJJ—if it passes—could be maximized through the implementation process.

Recommendation 1:

When policy-makers and advocates communicate with voters about initiatives intended to increase access to affordable housing, particularly near transit, they should highlight the many ways that affordable housing can benefit the physical and mental health of its occupants. These benefits include: 1) better access to health-promoting goods and services through decreased rent/burden, 2) increased transit-related physical activity, 3) healthier child development through housing stability and neighborhood integration, and 4) reductions in respiratory illnesses and injuries through access to quality housing.

Recommendation 2:

Local and state governments should explore the variety of ways through which land use and zoning laws can promote health through equitable development, including: 1) inclusionary housing policies that increase the socio-economic integration of neighborhoods by incentivizing mixed-income developments, 2) non-profit community land trusts that acquire properties to preserve their affordability to low-income households, 3) affordable housing trust funds with dedicated revenue sources and flexibility to pay for housing construction, preservation, and protection activities, and 4) long-term affordability covenants to ensure maximum health benefits over time.

Recommendation 3:

As part of an overall plan for using land use and zoning laws to promote equitable development, local governments should explore ways to integrate data collection and data management activities across local planning and building departments. Specifically, local building departments should consider including data in their permit files on planning actions relevant to permitted building projects. Also, planning departments should keep electronic records of the numbers of proposed units in residential developments requesting discretionary planning entitlements. These integration strategies would allow for better analysis of the effects of planning decisions on building activities.

Recommendation 4:

When developing policies to encourage housing production for people of all income levels, local and state policy-makers should consider a variety strategies for mitigating the potential negative health consequences that arise from the displacement of existing residents, including: 1) no net loss policies to avoid the loss of affordable units from the current stock, and 2) tenant protection policies to mitigate the negative health consequences of displacement.

If the Initiative Passes:

Recommendation 5:

Inclusive pathways for civic participation should be identified and incorporated into all aspects of the measure's implementation process by working with relevant stakeholders, including impacted community residents, non-profit and for-profit developers, community organizations, public health experts and others.

Recommendation 6:

Given that current density varies by station area, and that more is known about the air quality benefits of housing near rail transit than bus transit, the *TOC Overlay* incentive structure should account for current station area variation in ridership and residential density. This would help to maximize the potential health benefits of the *TOC Overlay*.

Recommendation 7:

Given that Measure JJJ would significantly increase the stock of affordable units, policy makers/implementers should explore ways to maximize the efficiency and effectiveness of monitoring and stewardship activities. Studying systems and approaches in other jurisdictions with similar policies could help identify best practices for monitoring the results of no-net-loss provisions, affordability set-asides, and criteria for tenant selection. Good monitoring and stewardship would maximize the health benefits of stable housing and minimize the harms of displacement.

Glossary

Affordability Deed/Covenant: In order to guarantee the long term affordability of housing units, local governments create legal deeds or covenants that specify the length of time that the unit must remain affordable. When the deed/covenant expires the unit reverts to market rate. Measure JJJ specifies a 55 year covenant for affected units. Other jurisdictions have affordability deeds/covenants as short as 15 years and as long as 55 years.

Affordability Gap Study: An Affordability Gap Study is a method used to determine the fees that developers can pay in lieu of actually building affordable units required by inclusionary housing policies. The Study, updated periodically to reflect changes in housing costs over time, calculates the difference between the cost of building market rate units and the amount of permanent financing available to build affordable units.

Area Median Income: Area Median Income (AMI) is the median income of households in a particular area. Eligibility for a variety of federal, state and local housing-related programs are based on AMI. The way the area is defined varies. When AMI is measured at a large geographic level (e.g., City or County), it does not account for income disparities across smaller neighborhoods within the area.

Displacement: Displacement refers to the involuntary movement of residents out of neighborhoods where they once lived. Researchers have identified a number of ways that displacement can occur, both directly and indirectly. Displacement is a potential negative consequence of gentrification.

General Plan Amendment: A General Plan Amendment (GPA) is an amendment to a City or County's General Plan, which sets the guidelines for all forms of land use (e.g., residential, commercial, industrial). Developers can seek an amendment to the General Plan when they wish to build something that does not conform to the guidelines in the Plan. A GPA typically requires an approval by a City Council and or City Planning Department.

Gentrification: Gentrification is the term commonly used to describe a change process through which a once poor or neglected neighborhood becomes more affluent as a result of public and/or private investment and/or the in-migration of wealthier residents.

Health Inequity: inequalities in health status or the determinants of health across groups that are rooted in an unfair distribution of health promoting resources and are thus avoidable through public action.

Inclusionary Housing Policy: Inclusionary Housing Policies include a broad range of policies that promote the inclusion of affordable housing units (rented and/or owned) in new market-rate housing developments. The policies can be voluntary or mandatory and they vary across jurisdictions in terms of the levels of affordability required and the way that the stipulations can

be met. Inclusionary Zoning, is a term often used to describe a policy of mandatory inclusionary housing (i.e., required for all new market-rate housing developments).

In-Lieu Fee: An In-Lieu fee is a fee that developers can pay in-lieu of actually building affordable units required as part of a voluntary or mandatory inclusionary housing policy. The in-lieu fee is intended to cover the cost of alternative mechanisms for producing the equivalent number of affordable units.

Major Transit Stop: A Major Transit Stop is defined in the California Public Resources Code, subdivision (b) of Section 21155 as “any rail station or major bus station with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.” Measure JJJ adopts this definition of a Major Transit Stop.

No-Net-Loss: No-net-loss refers to a clause included in land use policies to mitigate the effects of development on existing affordable and/or rent-stabilized housing units. No-net-loss requires that all such existing units that are destroyed during the development process be replaced on a one-for-one basis as part of the new development.

Social Determinant of Health: Social Determinants of Health are conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health and quality-of-life outcomes. Some examples include: 1) access to resources like housing, education, health care, employment, parks and healthy food 2) exposure to violence, discrimination, blight and stressful home and neighborhood conditions, and 3) social support, collective efficacy, and social capital.

Transitional Worker: A Transitional Worker is a worker who lives in an economically disadvantaged area and who faces barriers to employment, such as receiving public assistance, being a veteran, being emancipated from the foster care system, having a criminal record, lacking a GED or high school diploma and/or being a custodial single parent.

Transit-Oriented Development (TOD): Public and/or private investment in commercial and/or residential development near major transit stops to encourage transit ridership and reduce vehicle emissions.

Zone Change: A Zone Change is a change to the municipal/city zoning code for a particular parcel or parcels of land. Every parcel or piece of land in a municipality is governed by a set of zoning codes that dictate the type, size and use of structures built on that land. In order to build something that does not conform to the current zoning code for a particular piece of land, a developer can request that the local governing authority grant a zone change to allow for the requested change in land use.

References

1. Bhatia R, Katz M. Estimation of health benefits from a local living wage ordinance. *Am J Public Health*. 2001;91(9):1398-1402.
2. Cole BL, Shimkhada R, Morgenstern H, Kominski G, Fielding JE, Wu S. Projected health impact of the Los Angeles City living wage ordinance. *J Epidemiol Community Health*. 2005;59(8):645-650.
3. Los Angeles County Department of Public Health. Social Determinants of Health: Housing and Health in Los Angeles County. 2015.
4. National Housing Conference. *A Systematic Review of Health Impact Assessments on Housing Decisions and Guidance for Future Practice*. Washington DC: National Center for Healthy Housing and National Housing Conference;2016.
5. Human Impacts Partners. Assessing Health and Equity Impact of the Proposed Reef Development Project in South Central Los Angeles. 2015.
6. Human Impact Partners. Long Beach Housing Element Health Impact Assessment. 2013.
7. Shigley P. *Court Rules L.A. Inclusionary Housing Mandate Violates State Law*. August 20th, 2009.
8. Rosen D. *City of Los Angeles Inclusionary Housing Study: Final Report*. Los Angeles Housing Department;2002.
9. Mukhija V, Regus L, Slovin S, Das A. Can Inclusionary Zoning be an Effective and Efficient Housing Policy? Evidence from Los Angeles and Orange Counties. *Journal of Urban Affairs*. 2010;32(2):229-252.
10. Geritt-Jan KB, A; Lowe, s. *Housing Market Impacts of Inclusionary Zoning*. Washington, DC: National Center for Smart Growth Research and Education;2008.
11. Hollingshead A. *Do Inclusionary Housing Policies Promote Housing Affordability? Evidence from the Palmer Decision in California*. Lincoln Institute of Land Policy;2015.
12. Schuetz JM, R. Been, V. *31 Flavors of Inclusionary Zoning: Comparing policies from San Francisco, Washington, DC and Suburban Boston*. Furman Center for Real Estate and Urban Policy: New York University;2008.
13. Hickey RS, L; Thaden, E. *Achieving Lasting Affordability through Inclusionary Housing*. Lincoln Institute of Land Policy;2014.
14. Levy DF, K; Bertumen, K; Abravanel, M; Knaap, GJ; Sartori, JK; Garcia-Colberg, M. *Expanding Housing Opportunities Through Inclusionary Zoning: Lessons from Two Counties*. Washington, DC: US Department of Housing and Urban Development: Office of Policy Development and Research;2012.
15. Bertoni V. Committee Transmittal: Feasibility of Implementing a "Value Capture" Policy: Council File No. 14-1325. Los Angeles, 2016.
16. LA City Department of Planning. *Health Atlas for the City of Los Angeles*. 2013.
17. Census US. American Community Survey. 2014;
<https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>.
18. Ray RO, P; Jimenez, S. *Impacts of the Widening Divide: Los Angeles at the Forefront of the Rent Burden Crisis*. UCLA Luskin School of Public Affairs: UCLA;2014.
19. Visotzky A. *Building and Sustaining an Affordable Los Angeles County: NHS Report on Neighborhood Cost Burdens in the Los Angeles Region*. Neighborhood Housing Services of Los Angeles County;2015.
20. Blake K, Kellerson R, Simic A. Measuring Overcrowding in Housing. U.S. Department of Housing and Urban Development Office of Policy Development and Research. 2007.
21. LA County Department of Public Health. Los Angeles County Health Survey. 2016.
22. Los Angeles Housing Authority. The Greater Los Angeles Homeless Count. 2015;
<https://www.lahsa.org/homeless-count/>.

23. Fletcher J, Andreyeva T, Busch S. Assessing the effect of changes in housing costs on food insecurity. Vol 15. *Journal of Children and Poverty* 2009:79-93.
24. Kirkpatrick SI, Tarasuk V. Housing circumstances are associated with household food access among low-income urban families. *J Urban Health*. 2011;88(2):284-296.
25. Pollack CE, Griffin BA, Lynch J. Housing affordability and health among homeowners and renters. *Am J Prev Med*. 2010;39(6):515-521.
26. Cutts DB, Meyers AF, Black MM, et al. US Housing insecurity and the health of very young children. *Am J Public Health*. 2011;101(8):1508-1514.
27. Coley RL, Leventhal T, Lynch AD, Kull M. Relations between housing characteristics and the well-being of low-income children and adolescents. *Dev Psychol*. 2013;49(9):1775-1789.
28. Morier D. *Social Determinants of Health: Rising Food Insecurity in Los Angeles County*. Los Angeles County Department of Public Health. 2015.
29. Nelson LJW, D. Billions spent, but fewer people are using public transportation in Southern California. *Los Angeles Times*. January 27, 2016, 2016.
30. Tinoco M. What the L.A. Times Missed in their Story about Declining Metro Ridership. *LAist*. Los Angeles. 2016.
31. Kirkeby MP, J. *Why Creating and Preserving Affordable Homes Near Transit is a Highly Effective Climate Protection Strategy*. California Housing Partnership Corporation. 2013.
32. Brunekreef B, Holgate ST. Air pollution and health. *Lancet*. 2002;360(9341):1233-1242.
33. Buckeridge DL, Glazier R, Harvey BJ, Escobar M, Amrhein C, Frank J. Effect of motor vehicle emissions on respiratory health in an urban area. *Environ Health Perspect*. 2002;110(3):293-300.
34. Chen Z, Salam MT, Eckel SP, Breton CV, Gilliland FD. Chronic effects of air pollution on respiratory health in Southern California children: findings from the Southern California Children's Health Study. *J Thorac Dis*. 2015;7(1):46-58.
35. Clifford A, Lang L, Chen R, Anstey KJ, Seaton A. Exposure to air pollution and cognitive functioning across the life course--A systematic literature review. *Environ Res*. 2016;147:383-398.
36. Wilkinson P, Smith KR, Davies M, et al. Public health benefits of strategies to reduce greenhouse-gas emissions: household energy. *Lancet*. 2009;374(9705):1917-1929.
37. Pollack SB, B; Billingham, C. *Maintaining Diversity in America's Transit-Rich Neighborhoods: Tools for Equitable Neighborhood Change*. Northeastern University: Northeastern University;2010.
38. Dominie W. *Is Just Growth Smarter Growth?: The Effects of Gentrification of Transit Ridership and Driving in Los Angeles' Transit Station Area Neighborhoods*. UCLA;2012.
39. Chatman DGX, R; Park, J; Spevack, A. Chapter 4: The Effects on Auto use of Household Displacement from Rail Station Areas, in *Developing a New Methodology for Analyzing Displacement (DRAFT)*. UC Berkeley/UCLA; 2016.
40. US Department of Health Promotion and Disease Prevention. *Physical Activity Guidelines for Americans*. Washington, DC2008.
41. Rissel CC, N; Greenway, M; Bauman, A. Physical Activity Associated with Public Transport Use--A Review and Modelling Potential Benefits. *Int. J. Environ. Res. Public Health* 2012;9:2454-2478.
42. Maizlish N, Woodcock J, Co S, Ostro B, Fanai A, Fairley D. Health Cobenefits and Transportation-Related Reductions in Greenhouse Gas Emissions in the San Francisco Bay Area. *American Journal of Public Health*. 2013;103(4):703-709.
43. Mueller N, Rojas-Rueda D, Cole-Hunter T, et al. Health impact assessment of active transportation: A systematic review. *Prev Med*. 2015;76:103-114.
44. LA City Department of Planning. *Mobility Plan 2035*. Los Angeles. 2016.
45. Zuk MB, AH; Chapple, K; Gorska, K; Loukaitou-Sideris; Ong, P; Thomas, T. *Gentrification, Displacement and the Role of Public Investment: A Literature Review*. San Francisco: Federal Reserve Bank of San Francisco;2015.

46. Chapple KW, P; Chatman, D; Loukaitou-Sideris; Ong, P. *Developing a New Methodology for Analyzing Displacement (DRAFT Manuscript)*. UC Berkeley; UCLA;2016.
47. Marcuse P. Abandonment, Gentrification and Displacement: The Linkages in New York City. In: Smith NW, P, ed. *Gentrification of the City*: Routledge; 1986:153-177.
48. Urban Displacement Project. Mapping Displacement and Gentrification in the San Francisco Bay Area. 2015; <http://www.urbandisplacement.org/map/sf>.
49. Gilhuly KL, H. *Equitable Development and Risk of Displacement: Profiles of Four Santa Fe Neighborhoods*. Human Impact Partners;2015.
50. Bates L. *Gentrification and Displacement Study: implementing an equitable inclusive development strategy in the context of gentrification*. Portland, OR: City of Portland Bureau of Planning and Sustainability;2013.
51. Ong PZ, M; Pech, C; Chapple, K; Crispell, M; Jimenez, S. Chapter 2: Analysis of Historic Patterns of Neighborhood Change (DRAFT manuscript). *Developing a New Methodology for Analyzing Displacement*. UC Berkeley, UCLA. 2016.
52. Poston BK, A. More rent-controlled buildings are being demolished to make way for pricier housing. *Los Angeles Times*. April 2nd, 2016.
53. Fry RT, Taylor P. *The Rise of Residential Segregation by Income*. Pew Research Center. 2012.
54. Braveman PC, K; Egerter, S. *Neighborhoods and Health* The Robert Wood Johnson Foundation;2011.
55. Fullilove MT. *Root Shock: How Tearing up City Neighborhoods Hurts America, and What we Can Do About it*. New York: Random House; 2004.
56. Abel TD, White J. Skewed riskscapes and gentrified inequities: environmental exposure disparities in Seattle, Washington. *Am J Public Health*. 2011;101 Suppl 1:S246-254.
57. Shmool JL, Yonas MA, Newman OD, et al. Identifying Perceived Neighborhood Stressors Across Diverse Communities in New York City. *Am J Community Psychol*. 2015;56(1-2):145-155.
58. Whittle HJ, Palar K, Hufstedler LL, Seligman HK, Frongillo EA, Weiser SD. Food insecurity, chronic illness, and gentrification in the San Francisco Bay Area: An example of structural violence in United States public policy. *Soc Sci Med*. 2015;143:154-161.
59. Formoso D, R NW, M SA. Gentrification and urban children's well-being: tipping the scales from problems to promise. *Am J Community Psychol*. 2010;46(3-4):395-412.
60. Avey HH, L; Alexander, G; Santiago, F. *Assessing Health and Equity Impacts of the Proposed Reef Development Project in South Central Los Angeles*. Human Impact Partners;2015.
61. Levy DM, Z; Dumlaio, K. *Effects from Living in Mixed-Income Communities for Low-Income Families: A Review of the Literature*. Washington, D.C.: The Urban Institute;2010.
62. Lindberg RA, Shenassa ED, Acevedo-Garcia D, Popkin SJ, Villaveces A, Morley RL. Housing interventions at the neighborhood level and health: a review of the evidence. *J Public Health Manag Pract*. 2010;16(5 Suppl):S44-52.
63. Chetty RH, N; Katz, L. *The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment*. Cambridge, MA: National Bureau of Economic Research;2015.
64. LA City Department of Planning. Los Angeles City General Plan Housing Element. City of Los Angeles; 2013.
65. St. John's Well Child and Family Center Esperanza Community Housing Corporation, Los Angeles Community Action Network. Strategic Actions for a Just Economy. *Shame of the City: Slum Housing and the Critical Threat to the Health of LA Children and Families*. Los Angeles: 2007.
66. Krieger J, Higgins DL. Housing and health: time again for public health action. *Am J Public Health*. 2002;92(5):758-768.

67. Sandel MS, J; Shaw, R. *There's No Place Like Home: How America's Housing Crisis Threatens our Children*. San Francisco: Housing America;1999.
68. Jacobs DE, Wilson J, Dixon SL, Smith J, Evens A. The relationship of housing and population health: a 30-year retrospective analysis. *Environ Health Perspect*. 2009;117(4):597-604.
69. Raymond J, Wheeler W, Brown MJ, Centers for Disease C, Prevention. Lead screening and prevalence of blood lead levels in children aged 1-2 years--Child Blood Lead Surveillance System, United States, 2002-2010 and National Health and Nutrition Examination Survey, United States, 1999-2010. *MMWR Suppl*. 2014;63(2):36-42.
70. Takaro TK, Krieger J, Song L, Sharify D, Beaudet N. The Breathe-Easy Home: the impact of asthma-friendly home construction on clinical outcomes and trigger exposure. *Am J Public Health*. 2011;101(1):55-62.
71. Akinbami LJ, Moorman JE, Liu X. Asthma prevalence, health care use, and mortality: United States, 2005-2009. *Natl Health Stat Report*. 2011(32):1-14.

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