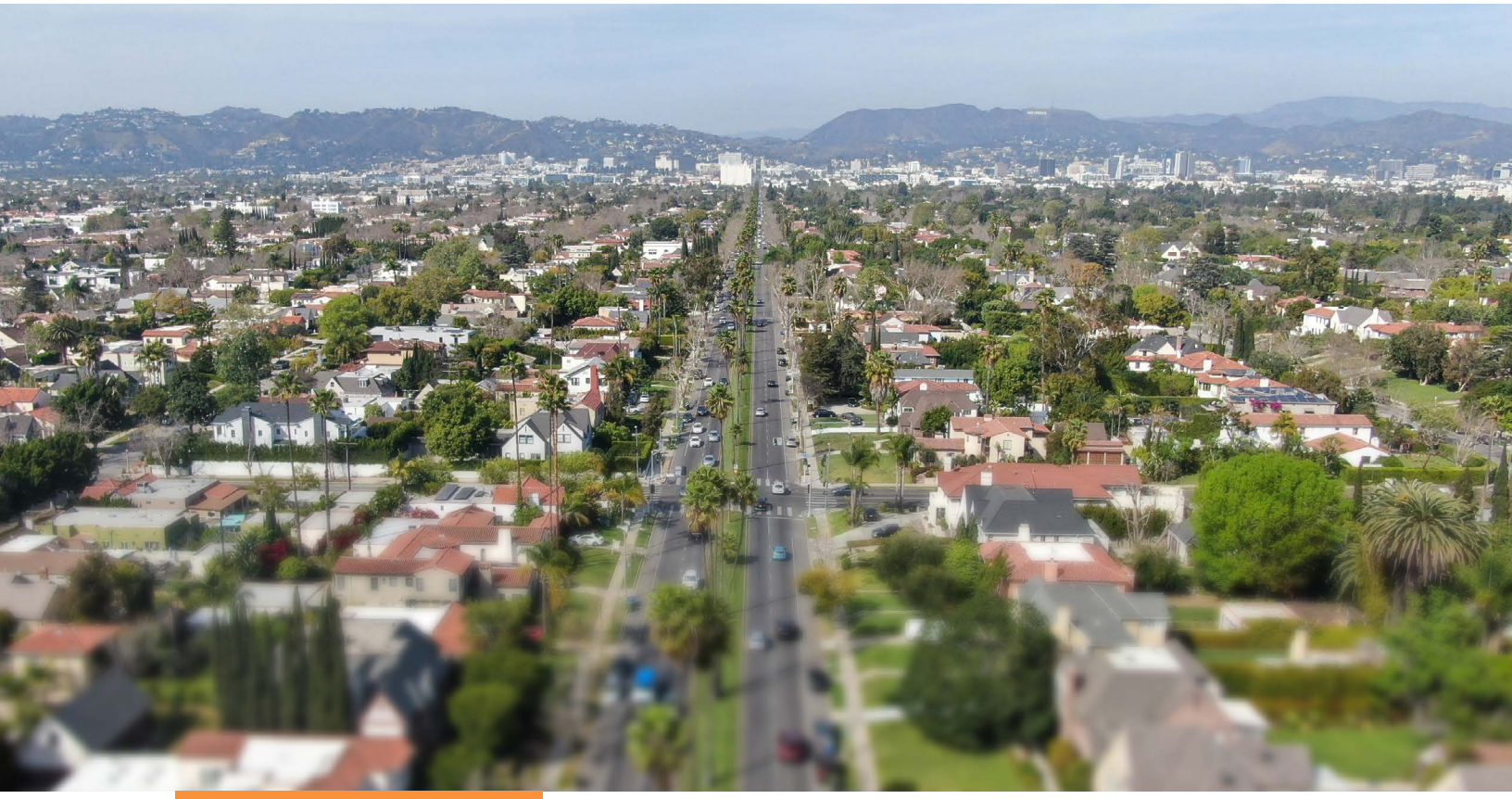
Tackling the Housing Crisis:

Streamlining to Increase Housing Production in Los Angeles

Edward Kung Stuart Gabriel



MAY 11, 2023

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ABSTRACT

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Abstract

Streamlining the entitlement and approval process would dramatically accelerate multi-family housing production as Los Angeles confronts an affordability crisis, rising homelessness, and ambitious state-mandated housing goals, according to a landmark study that details bottlenecks and identifies potential policy reforms.

The study from UCLA and California State University, Northridge, examines why Los Angeles has long failed to keep pace with housing demands of a growing population. California's Regional Housing Needs Assessment (RHNA) estimates the city must add 456,643 units from 2021 to 2029 – a five-fold increase over the 83,865 units produced from 2010 to 2019. That means completing 57,000 units per year on average, compared to less than 9,000 units annually last decade.

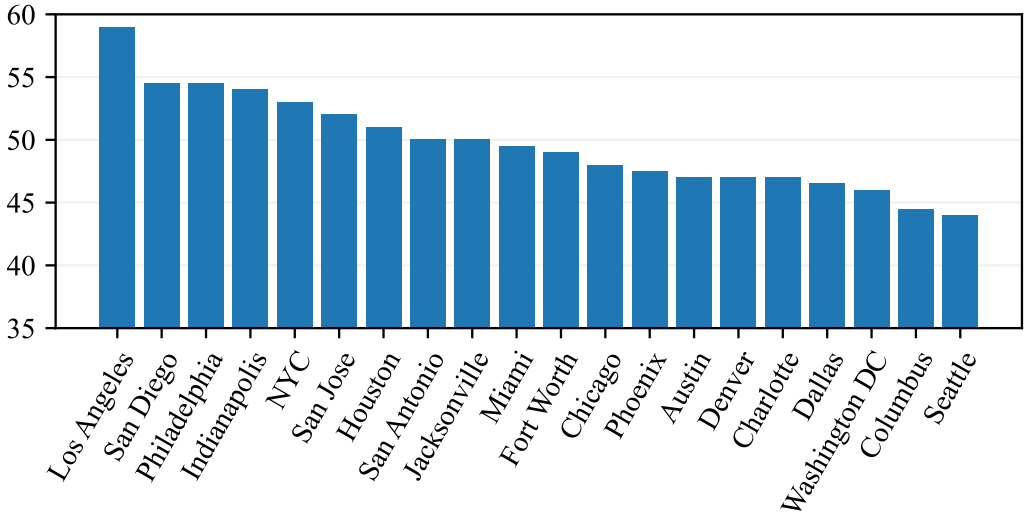
The data showed that less than 60% of multifamily projects issued permits since 2010 have been completed – requiring an average of 1,413 days – and only 71,532 of 120,213 units were finished – taking an average of 1,784 days per unit. On average, approvals took 549 days, though mixed-income housing projects took longer. Variability in approval times due to discretionary reviews had the greatest impact on total development time. LADWP service connections were the second most impactful factor in the housing development process, with underground installation adding 245 days on average and overhead work 140 days in a project's overall development. We found that reducing approval time by 25% would have led to 18,049 additional completed units, a 25.2% gain over the baseline, by accelerating projects already under way and incentivizing new development.

The findings provide empirical evidence that recent and proposed measures, including Mayor Karen Bass's Executive Directive No. 1, which fast-tracks approval of affordable housing projects, and state laws that exempt qualifying mixed-income projects from discretionary reviews, would have added a significant number of housing units during the period we reviewed. We recommend extending these and similar measures to market-rate housing, creating more by-right pathways for housing development, and increasing coordination among city agencies. Such reforms would streamline approvals, thus adding certainty to the approval process, which in turn would lower costs, accelerate housing production, and stimulate investment in the sector.

INTRODUCTION

The City of Los Angeles is experiencing a severe ongoing housing shortage. According to the city's most recent Housing Element, the city's population grew by over 190,000 residents between 2010 and 2019, yet only 83,865 housing units were added to the housing stock.[1] The lack of affordable housing has led Los Angeles to become one of the nation's most expensive cities in the United States. According to the 2019 Housing Element, 59% of renter households in L.A. are cost-burdened, spending in excess of 30% of their income on housing costs alone, and 32% are severely cost-burdened, spending over half their income on housing.

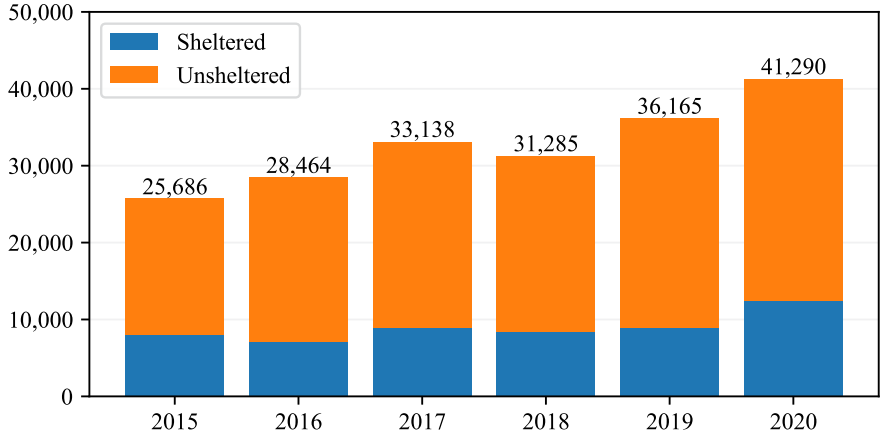
Figure 1: Percent of Rent Burdened Households, Major U.S. Cities



Source: American Community Survey; 2019 ACS 5-Year Estimates

The lack of low-cost and affordable housing has figured prominently in a humanitarian crisis of homelessness. Between 2015 and 2020, the total homeless population in L.A. increased from 25,686 to 41,290, a 61% increase over just 5 years. Of the 41,290 homeless individuals in 2020, 28,852 (70%) of them were unsheltered.

Figure 2: Homeless Population in Los Angeles

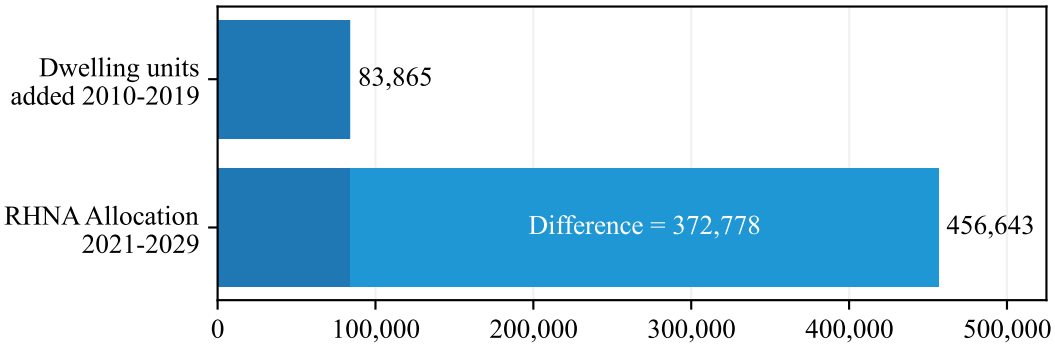


Source: U.S. Census Bureau; American Community Survey; 2019 ACS 5-Year Estimates

[1]Los Angeles City Planning. 2021-2029 Housing Element. https://planning.lacity.org/pl ans-policies/housing-element. Accessed February 23, 2023. The Housing Element is the section of the city's General Plan that identifies its housing needs. State law requires the City to update its Housing Element every eight years and to demonstrate sufficient zoned capacity for housing.

While the housing shortage in Los Angeles is currently severe, the city's housing needs are only expected to grow. The Southern California Association of Governments projects that the population of City of Los Angeles will grow to 4.3 million residents by 2029. In the wake of that expected increment of 400,000 residents, the City is expected to entitle and facilitate the production of 456,643 units as specified in the latest 2021-2029 Regional Housing Needs Assessment (RHNA).[2] The RHNA estimates the number of new housing units required in order to keep up with housing demand. To reach the goal of 456,643 added units by 2029, housing production between 2021 and 2029 would have to increase five-fold relative to the amount produced from 2010 to 2019. Needless to say, this is an ambitious goal, and unless housing production is accelerated significantly, the RHNA goals will certainly not be met.

Figure 3: Los Angeles RHNA Allocation 2021-2029



Source: Los Angeles 2021-2029 Housing Element.

Recognizing these challenges, Los Angeles Mayor Karen Bass has designated the housing shortage a top priority of her administration. One of her first acts in office was to issue an executive directive to accelerate the production of affordable housing. Executive Directive 1 would allow affordable housing developments to bypass some discretionary planning reviews and limit the number of days projects spend in review.[3] Mayor Bass's executive order reflects a consensus within the Development community that the entitlement and approvals process is a major bottleneck in housing production. Other policies aimed at streamlining entitlements and approvals have also recently been passed, including California SB-35 and Los Angeles's Transit Oriented Communities program.

In this research, we assess the degree to which a lengthy and uncertain approvals and entitlements process contributes to delayed housing development. We also identify the key drivers of delays in approvals and entitlements. We do so using both quantitative and qualitative approaches.

In the quantitative approach, we created and analyzed a new, comprehensive dataset of 2,677 multi-family housing development projects that were issued a new building permit by the Los Angeles Department of Building and Safety (DBS) between January 2010 and November 2022. The dataset was compiled by the authors from public sources and includes both finished and unfinished projects. A unique feature of the data is that it tracks the dates of key project milestones, including any entitlement applications and approvals, permit applications and approvals, and the final Certificate of Occupancy (CO). The data allows us

[3]Mayor Karen Bass. Executive Directive 1: Expedition of Permits and Clearances for Temporary Shelters and Affordable Housing Types. December 16, 2022. https://mayor.lacity.gov/news/ mayor-bass-signs-executive-directive-dramatically-accelerate-and-lower-cost-affordable-housing. Accessed February 23, 2023.

to investigate the impact of various factors, such as the types of required entitlements, on project development time. It also allows us to simulate, under conservative assumptions, the impact of shorter approval times on total housing production. With the quantitative approach, we are able to provide credible, conservative, and quantitative estimates of the impact of various City approval and entitlement policies on multifamilly housing production. In the qualitative approach, we report the findings of a survey of housing developers that we conducted between September and October of 2022. The survey asked developers to provide examples of recent multi-family housing projects that they had undertaken or completed and to highlight some of the challenges they faced during development. In addition to the survey, we conducted a number of interviews with housing developers and city officials. We asked them to provide their perspectives on the housing development process in L.A. and to identify what they saw as the major bottlenecks, especially those most amenable to reform. With the qualitative approach, we engaged and leveraged the expertise of industry professionals to identify the most promising areas of reform.

Table 1: Summary of the Data - Project and Unit Counts

		All Projects	Market-Rate	Mixed-Income	100%-Affordable
# Projects	Total	2,677	1,681	701	295
	Completed	1,712	1,192	351	169
	Not Completed	965	489	350	126
# Dwelling Units	Total	120,213	70,272	36,269	13,672
	Completed	71,532	47,904	15,929	7,699
	Not Completed	48,681	22,368	20,340	5,973
# Market-Rate Units	Total	102,897	70,272	32,422	203
	Completed	62,493	47,904	14,449	140
	Not Completed	40,404	22,368	17,973	63
# Affordable Units	Total	17,316	0	3,847	13,469
	Completed	9,039	0	1,480	7,559
	Not Completed	8,277	0	2,367	5,910

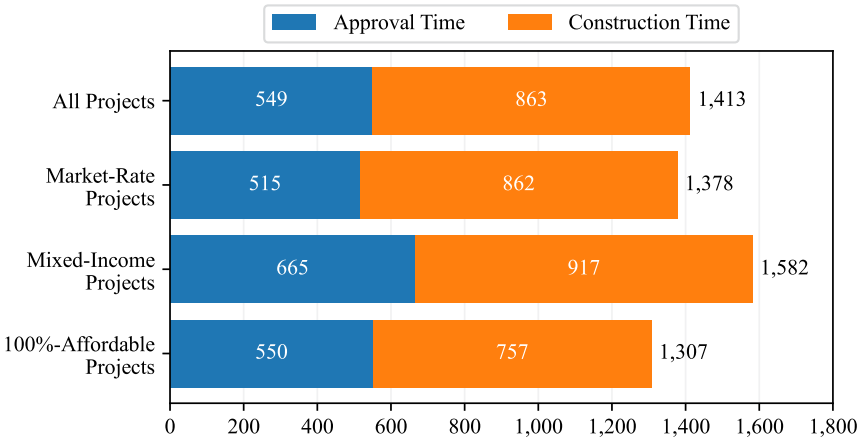
Notes: Multi-family housing development projects issued a new building permit by DBS between January 2010 and November 2022. "Mixed-Income" refers to projects that include both market-rate and income-restricted units. "Complete" indicates that the project was issued a Certificate of Occupancy by November 28th, 2022.

KEY FINDINGS

Entitlements and approvals add a significant amount of time and uncertainty to housing development projects.

We separately measured two stages of each project's development timeline. First, we measured the "approval time", which we defined as the number of days from the first associated entitlement or permit application to the issuance of a new building permit by DBS. Second, we measured the "construction time", which we defined as the number of days from the DBS permit issuance to the issuance of a Certificate of Occupancy.[4]

Figure 4: Development Time for Completed Projects (Days)

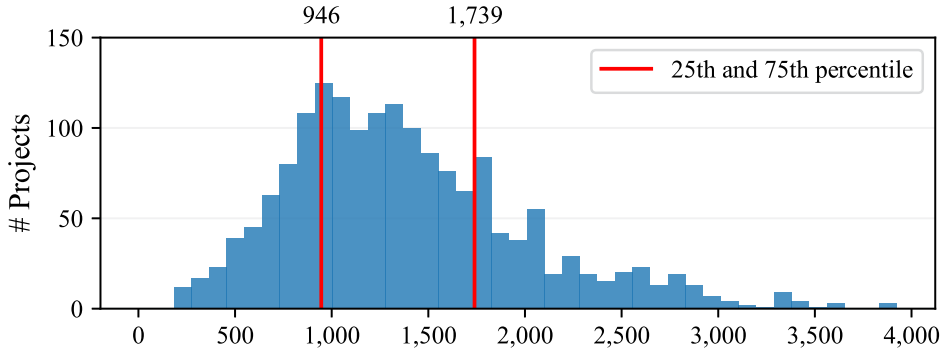


Source: Authors' calculations.

The average completed project spent 549 days in approval time and 863 days in construction time, for a total development time of 1,413 days (3.9 years) from first entitlement or permit application to Certificate of Occupancy. Since larger projects take longer to complete, the completion time of an average dwelling unit is even longer than for an average project. The average dwelling unit took 1,784 days (4.9 years) to complete.

In addition to long timelines for project development, there is also a significant amount of uncertainty. Although the average development time for a finished project was 1,413 days (3.9 years), one in four actually took longer than 1,739 days (4.8 years) to complete. Most of the variability in total development time (64.1% of it) is explained by variability in approval times. Moreover, the variability in development time is not simply due to to predictable factors. We estimated a model of development time that takes into account the observed characteristics of the project. We found that these characteristics could explain only 24.7% of the variation in development times.[5]

Figure 5: Histogram of Development Time for Completed Projects (Days)



Source: Authors' calculations.

[4]Note that not all the time in "construction time" is time spent in actual construction. There may be various approvals and compliance checks that projects must undergo even after the issuance of a permit by DBS. For a more detailed discussion of the data and methodology, please refer to the appendix.

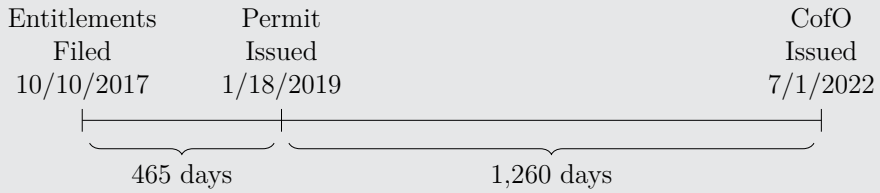
[5]For a more detailed description of the model, please refer to the appendix.

Reducing the length of the entitlements and approvals process can significantly increase housing production, even without assuming anything about new project starts.

Long and unpredictable development schedules are a well-known barrier to housing development. Casey et al. (2022), for example, used a financial model to estimate that if approval times were shortened by 25%, then an additional 9.8% dwelling units would be started due to improved financial feasibility. The link between time and cost is also confirmed by the developers in our survey. One developer wrote:

Case Study: Florence Towne Apartments

The Florence Towne Apartments is a 51-unit affordable housing development located at 410 E. Florence Ave. in South L.A. It was entitled under planning department cases DIR-2017-4059-TOC and ENV-2017-4060-CE. Both cases were filed on October 10th, 2017 and approved on February 6th, 2018. The new building permit application was submitted to DBS on March 1st, 2018 and issued on January 18th, 2019. The Certificate of Occupancy was issued on July 1st, 2022.



Based on this project timeline, the project spent 465 days in the approval period and 1,260 days in the construction period. Out of the 465 days in the approval period, 119 days were spent in entitlement and 323 days were spent in permitting, with a few weeks in between. The developer cited issues with DBS and COVID as the primary causes of delay.

The total development time including entitlements and approvals was 1,725 days, which is higher than the average of 1,307 days for 100%-affordable projects in our data. But among comparably sized projects requiring the same entitlements, the project finished faster than average. Based on project characteristics, our model predicted that the project would take 1,940 days to complete.

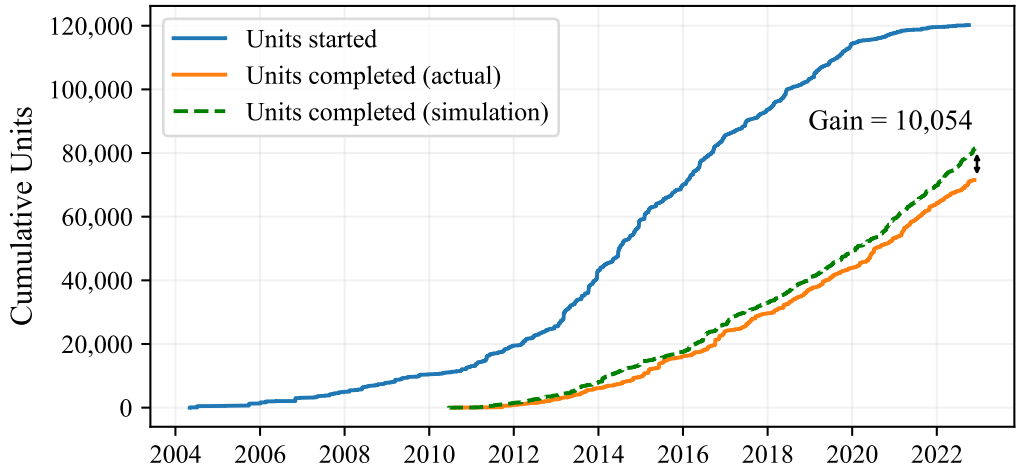
This project would have benefited significantly from measures to shorten approval time. If approval time was shortened by 25%, it would have saved the project 116 days in total development time. If permit issuance was limited to 60 days, it would have saved the project 263 days in development time.

"The challenges contractors face with the City of Los Angeles is the delayed approvals and the changing of plans after they have been approved. This causes delays with development and this also increases cost."

Another affordable housing developer estimated that schedule changes and community opposition added over 1.5 years of development time and "tens of millions of dollars" of costs to one of their large projects.

Besides reducing costs, one of our key findings is that reducing approval time can, by itself, increase the rate of housing production, without having to assume anything about cost savings or new project starts. Figure 6 illustrates this idea. Our dataset consists of 2,677 projects comprising 120,213 dwelling units. However, as of November 28th, 2022, only 1,712 projects comprising 71,532 units have been completed. That leaves a gap of 965 projects and 48,681 dwelling units that are yet to be finished.

Figure 6: Dwelling Units Added by Start Date and Completion Date



Source: Author's calculations.

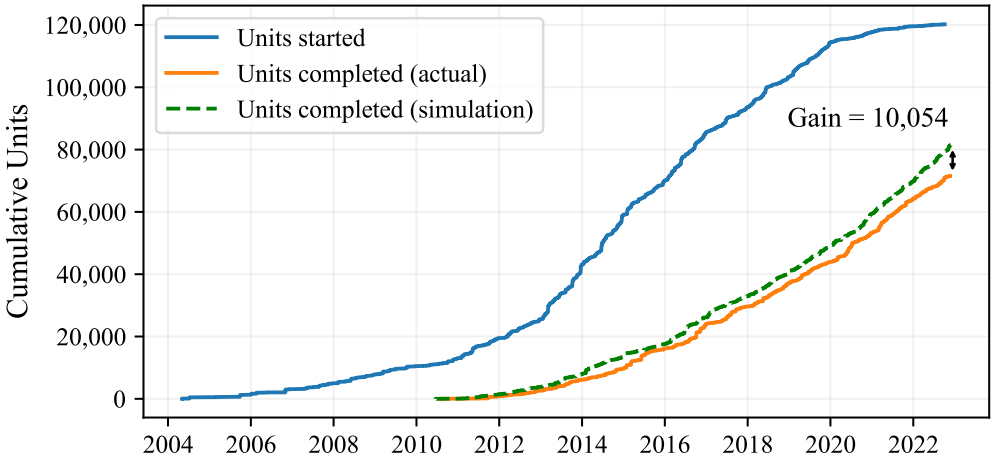
Notes: Start date is the first associated entitlement or permit application date.

To what extent can speeding up development reduce the size of this gap? To answer this question, we estimated a model of development time that takes into account the project type (market-rate, mixed-income, affordable) and the physical attributes of the project (number of units, height, and square footage). Using this model, we simulated what project completion times would have been if approval time was reduced by 25%. The simulation results are reported in Figure 7. Reducing approval times by 25% would have resulted in an additional 10,054 units completed by November 28, 2022, a 14.1% gain over the baseline of 71,532 completed units. This gain comes entirely from accelerating projects that had already started but have not yet finished as of November 28, 2022. It does not include any increase to housing production from new developments that are likely to occur if approval times are reduced. We therefore call this effect a "pull-forward" effect.

The simulation in Figure 7 is likely too conservative because it does not take into account the fact that reducing approval times would also incentivize new development.

Casey et al. (2022) estimated that reducing approval times by 25% would incentivize 9.8% additional unit starts. In our opinion, this estimate is also too conservative because it does not take into account the pull-forward effect that we highlighted in Figure 7.

Figure 7: Simulation Results - Reducing Approval Time by 25%



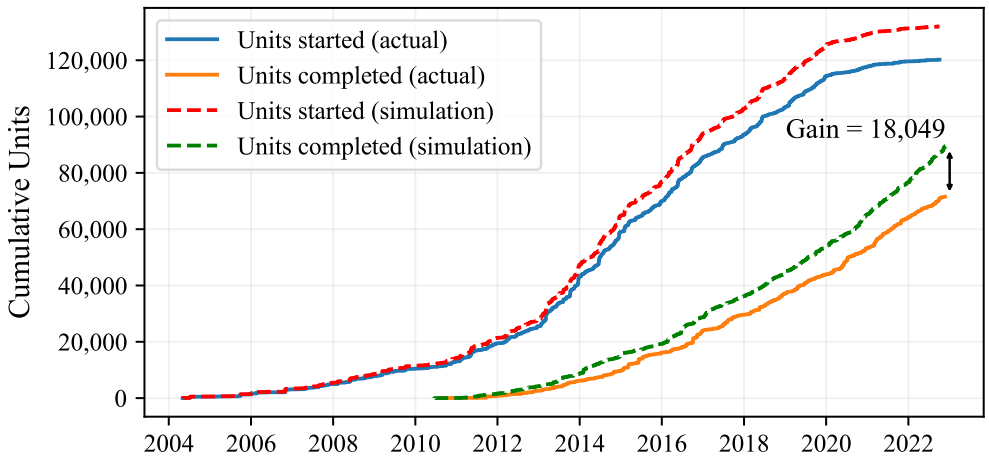
Source: Author's calculations.

Notes: Start date is the first associated entitlement or permit application date.

To combine the pull-forward effect and the incentive effect, we re-do the above simulation while also assuming that shortening approval times by 25% would incentivize 9.8% additional unit starts. In this new analysis, two effects increase housing production. The first effect is the acceleration of development timelines, which we've already shown has a significant impact. The second effect is the incentivizing of new and larger housing development projects due to shortened approval times. Figure 8 reports the simulation results. Assuming that shortening approval times by 25% would increase unit starts by 9.8%, the combined effect is to increase the number of completed units by 18,049, a 25.2% increase over the baseline of 71,532.

The results in this section indicate that shortening entitlement and approval times would result in a significant pull-forward effect in housing production, over and above the effect it would have on incentivizing new development by reducing costs and uncertainty to developers. We estimate that the magnitude of this pull-forward effect is to increase the rate of housing production by 14.1% if approval times were shortened by 25%. If the pull-forward effect is also combined with effect of incentivizing new development as estimated by Casey et al. (2022), then we estimate housing production would increase by 25.2%.

Figure 8: Simulation Results - Reducing Approval Time by 25% Plus Incentivizing New Development



Source: Author's calculations.

Notes: Start date is the first associated entitlement or permit application date.

Many different factors contribute to lengthy development times, but the two most salient factors are the discretionary review process and electrical infrastructure.

To understand how different factors contribute to total development time, we estimated regression models of approval time and construction time.[6] The factors we included in the model as determinants of approval and construction time are shown in Table 2. Regression modeling allows us to investigate how each factor influences the approval and construction time of a project while holding the value of the other factors constant. The marginal effect of each factor on approval time and construction time is reported in Table 3.[7]

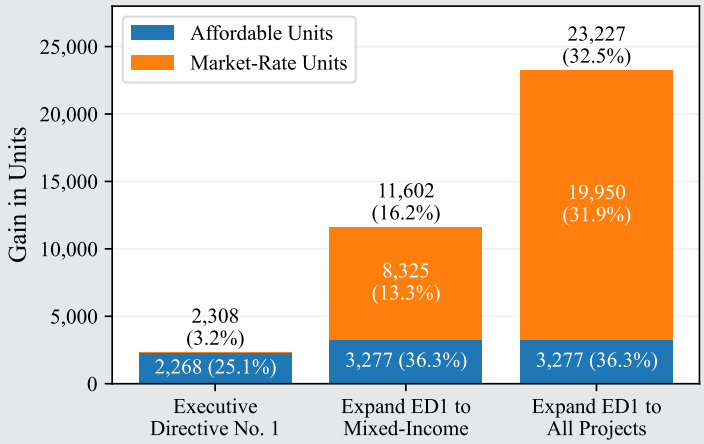
Table 3 shows that many different factors contribute to approval time and construction time. The most important physical attribute is building height. Every 10 feet of added height (about one additional story) adds 4.0 days to the average approval time and 12.1 days to the average construction time.

Policy Simulation 1: Executive Directive 1

On December 16, 2022, Los Angeles Mayor Karen Bass issued Executive Directive 1 (ED1), which was intended to accelerate housing production in the city. ED1 exempts 100%-affordable housing from discretionary review and Site Plan Review, and it requires the permitting process to completed within 60 days of the planning application being deemed complete.

Using our model of development time, we simulated the effect of this policy on housing production.* For the simulation, we interpreted the policy to mean that the time between permit submittal and the permit issuance will take a maximum of 60 days for 100%-affordable projects. We also subtracted the combined effects of SPR and CPC for the 100%-affordable projects that required them.

In addition to the baseline policy of expediting approvals for affordable housing, we also simulated the outcome if the policy had also been applied to mixed-income and market-rate projects. The results of these policy simulations, reported in dwelling units gained and percentage gain over baseline production, are reported below.



Please refer to the appendix for a discussion on the limitations of the simulation methodology.

[6]Please refer to the methodological appendix for a detailed discussion of the data and models.

[7]Council District effects are included in the model but the coefficients are omitted from the reporting to save space. The estimates for these effects are available from the authors upon request.

Table 2: Factor Names and Definitions

Factor Name	Definition
UNITS100	Number of units in project divided by 100
HEIGHT10	Project height in feet divided by 10
SQFT10K	Square footage of project divied by 10,000
MIXEDINCOME	Project is a mixed-income project
AFFORDABLE	Project is a 100%-affordable project
BY_RIGHT	Project did not require any entitlements
CPC	Project required review by City Planning Commission
CE	Project had a Categorical Exemption to CEQA requirements
MND	Project adopted a Negative Declaration or Mitigated Negative Declaration for CEQA
EIR	Project required Environmental Impact Report for CEQA
SPR	Project required Site Plan Review
SPP	Project required Specific Plan Permit Compliance
ZAA	Project required Area/Height/Yard/Bldg line adjustments
ZV	Project required a Zone Variance
CPIOC	Project required Community Plan Implementation Overlay Clearance
OVR	Project required Overlay Review
DB	Project requested Density Bonus
POWER_OH	Project required new overhead circuit installation
POWER_UG	Project required new underground circuit installation
CDX	Whether the project is in Council District X

Among the project types, we estimated that 100%-affordable projects have both shorter approval times and shorter construction times than market-rate projects. Everything else equal, the approval time of a 100%-affordable project is 106 days shorter than a comparable market-rate project, and the construction time is 197 days shorter. The shorter approval and construction times of 100%-affordable projects may reflect existing incentive and expedited programs for affordable housing, such as California SB35.[8] It may also reflect greater resources devoted by the City to fast-tracking affordable housing.

In contrast to affordable housing, we estimated that mixed-income projects have both longer approval times and longer construction times than fully market-rate projects. All else equal, the approval time of a mixed-income project is 102 days longer than a comparable market-rate project, and the construction time is 43 days longer.

[8]SB-35 Planning and Zoning: Affordable Housing: Streamlined Approval Process. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB35. Accessed April 21st, 2023.

Table 3: Regression Results

	Approval Time	Construction Time
UNITS100	−29.333	−84.513*
	(24.496)	(49.798)
HEIGHT10	3.978*	12.137***
	(2.248)	(4.391)
SQFT10K	1.301	7.981*
	(1.950)	(4.240)
AFFORDABLE	−106.183***	−197.394***
	(24.370)	(43.349)
MIXEDINCOME	101.500***	42.589
	(19.790)	(35.920)
BY_RIGHT	−197.187***	12.072
	(27.850)	(48.479)
CPC	192.589***	124.885**
	(36.169)	(61.694)
CE	−17.300	116.733***
	(25.421)	(44.197)
MND	11.461	−72.193
	(29.350)	(48.040)
EIR	504.227***	−75.983
	(85.306)	(141.370)
SPR	105.619***	35.944
	(30.562)	(53.060)
SPP	125.525***	−9.338
	(26.856)	(46.681)
ZAA	222.313***	81.616
	(43.121)	(69.488)
ZV	84.277*	157.718**
	(46.821)	(75.233)
CPIOC	−77.401	530.381***
	(48.929)	(138.028)
OVR	−5.876	393.497***
	(54.528)	(102.124)
DB	63.089**	−34.955
	(26.313)	(44.245)
POWER_OH	22.749	116.687***
	(16.509)	(29.617)
POWER_UG	69.005***	175.623***
	(16.317)	(28.692)
Constant	676.691***	966.533***
	(41.982)	(73.038)
Council District FE	Y	Y
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 3 also shows how different kinds of entitlements affect approval and construction time. Projects that do not require any entitlements (i.e. "by-right" projects) spend 197 fewer days in the approvals period than projects requiring entitlements. The type of entitlement matters as well. All else equal, projects requiring a review by the City Planning Commission spend 193 more days in the approval period, projects requiring Site Plan Review spend 106 more days in the approval period, projects requiring an Environmental Impact Review spend 504 more days in the approval period, etc.

Entitlements do not just affect the approval time but can affect the construction time as well. (Recall that construction time can also include various compliance checks, inspections, and sign-offs.) We estimated that projects requiring review by the City Planning Commission spend 125 more days in the construction period, projects requiring Community Plan Implementation

Overlay Compliance spend 530 more days in the construction period, and projects requiring Overlay Review spend 393 more days in the construction period, etc. These results are consistent with our conversations with city officials who noted that even projects with expedited approvals still often get bogged down in various overlay reviews.

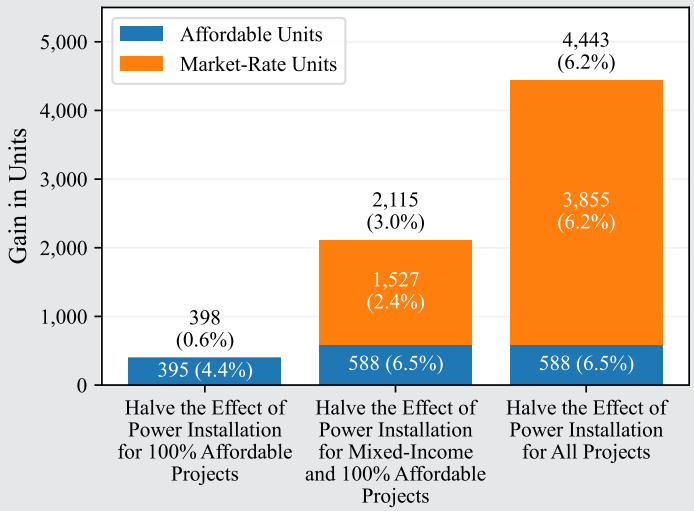
Besides entitlements, we found that installation of new electrical infrastructure also added significant time delays to project completion. Projects requiring overhead circuit installation took 117 additional days to complete construction than projects that did not require it. Projects requiring underground circuit installation took 176 additional days to complete construction compared to projects that did not require it. We estimate that underground circuit installation even added 69 days to the approval time, which could reflect the added complexity of projects requiring underground conduit work.

Assessment of Data from DWP

In addition to data on entitlements, we sought data on new power service installations from the Los Angeles Department of Water and Power (DWP). They provided us with data on new service work requests, matched by address to the multifamily projects in our data. We focus on work requests for the design and installation of new overhead and underground circuits and service voltage.

In both our analytical and survey work, we found that the time associated with electrification is an important piece of the puzzle for understanding L.A.'s housing development timelines. Our models show that underground installation adds, on average, 245 days to a project's timeline while overhead work adds 140 days.

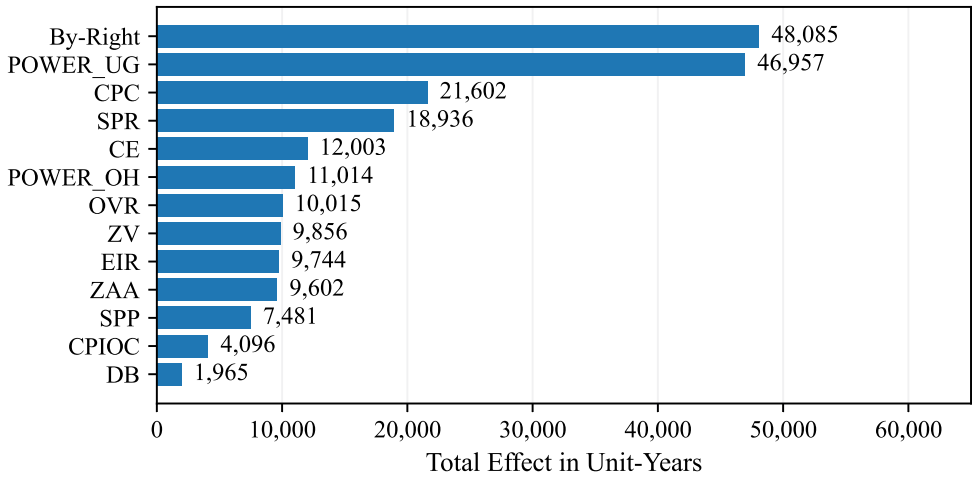
To quantify the effect in terms of housing production, we simulate how much additional housing units would have been produced from 2010 to 2022 if these time effects were cut in half; that is, if the added time due to underground electrical work was cut to 122 days and overhead work to 70 days. The results are reported below.



**Please refer to the methodological appendix for a more detailed discussion of the data from DWP.*

Although some factors have a large effect on approval or construction time, such as EIR on approval time and CPIOC on construction time, these factors may not apply to many projects. To measure the overall salience of a factor on development time, we computed its combined effect on approval and construction time and multiplied that by the total number of dwelling units in projects affected by that factor. The salience of each factor is reported in Figure 9. Salience is measured in unit-years. A salience of 48,085 means that if the marginal contribution of that factor were eliminated, an additional 48,085 units would have been completed one year faster. So if all not-by-right projects were instead made by-right, then 48,085 unit-years in development time would have been saved. If all projects requiring new underground circuit installation instead did not require it, then 46,957 unit-years in development time would have been saved. **By-right and underground power installation are far and away the two most salient factors, so two policy recommendations arise naturally out of this result. First, more by-right pathways for the entitlement of new housing (eliminating discretionary review) should be established. Second, measures should be taken to speed up the City's ability to perform underground electrical work.**

Figure 9: Salience of Entitlement-Related Factors



Source: Authors' calculations.

Developers and city officials both agree that the process is complex and fragmented, and that more accountability and coordination between stakeholders is necessary.

To generate further insight on the approvals and entitlement process in L.A., we conducted a survey of housing developers.[9] We asked developers to provide information about the three largest projects they undertook in the past 5 years. We received responses from 13 developers who provided us with information on a total of 21 projects.[10] These included 14 affordable housing projects and 7 market-rate projects. In total, the projects comprised 1,401 affordable dwelling units and 1,313 market-rate units. The average reported development cost of an affordable project was $538,805 per unit and the average reported development cost of a market-rate project was $510,724 per unit.

[9]The survey was conducted online. A PDF version of the survey instrument is available in the appendix.
[10]Not every developer provided us with information on three projects.

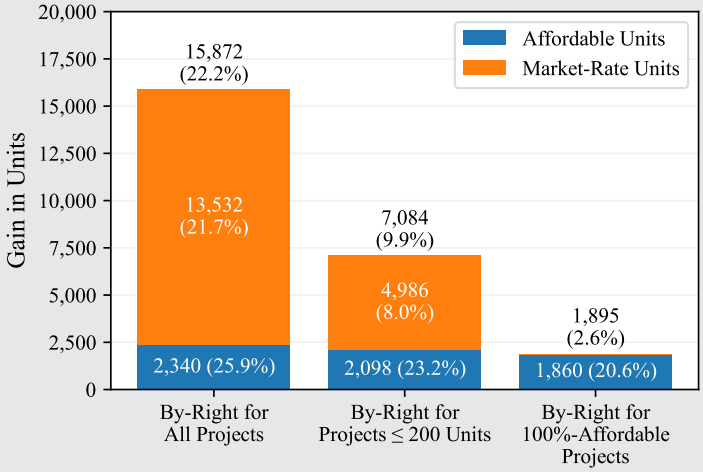
Policy Simulation 2: Establishing More By-Right Pathways

Our analysis suggests that creating more by-right pathways for the entitlement of new housing would have a large impact on speeding up development.

To investigate how creating more by-right pathways would affect housing production, we used our model to simulate completion times under the assumption that all projects were approved by-right.* To operationalize this assumption, we reduce development time of not-by-right projects by the marginal effect of "by-right" and all other entitlement-related factors as reported in Table 3. We assume that the time spent in DBS permitting is not directly affected.

Making all projects by-right is an ambitious plan, so we also consider more limited policies such as allowing all projects under 200 units to be developed by-right or allowing by-right for 100%-affordable projects.

Please refer to the appendix for a discussion on the limitations of the simulation methodology.

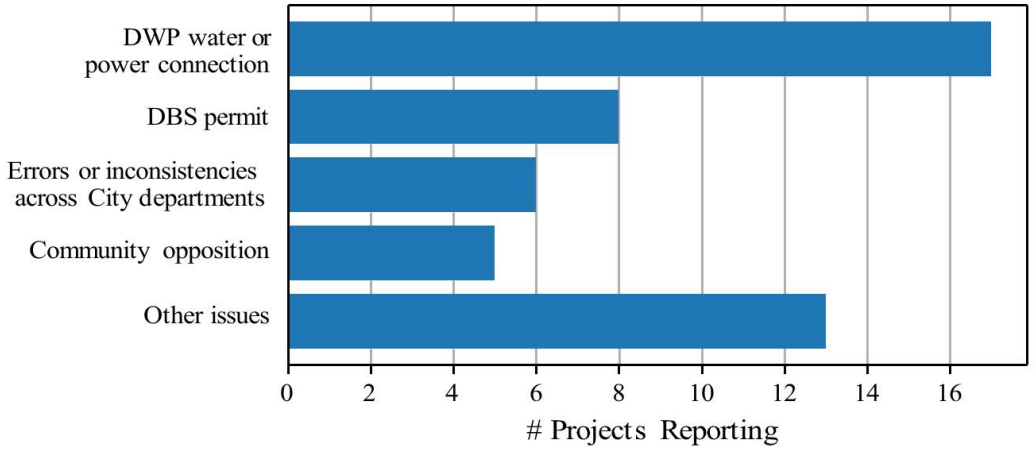


Although the sample size of the survey was not adequate to conduct rigorous statistical analysis, the survey provided us with important qualitative information about the housing development process in Los Angeles. Crucially, we asked developers about a range of issues that may have caused delays or added costs to the project. A full 18 out of the 21 projects reported at least one such concern. Affordable projects were more likely to run into issues: 14 out of 14 affordable projects reported at least one issue whereas only 4 out of the 7 market-rate projects did so.

The most commonly reported issue (17 out of 21) is that the water or power connection took longer than expected. This finding is consistent with our regression results, and in our conversations with both city officials and developers, delays associated with electrical infrastructure was a frequently mentioned pain point.

The second most commonly reported problem (8 out of 21) is that the issuance of building permits by DBS took longer than expected. This could be for any number of reasons, including errors and inconsistencies that arise between City departments, which is itself the third most commonly reported issue (6 out of 21). These responses highlight the overall complexity of the process and how the large number of agencies involved can sometimes cause confusion and delay. One city official noted that the number of steps and people involved in the approvals process can cause delays even to projects requiring only ministerial review, simply because of how long it takes to prepare all the required documents and signatures. The official noted that this was especially true in overlay zones, which is consistent with our model findings.

Figure 10: Reported Causes of Delay



Source: Authors's survey of developers.

The fourth most commonly reported issue (5 out of 21) is that the project was delayed due to community opposition. Community opposition appears to be more prevalent for affordable projects than for market-rate projects: 4 out of 14 affordable projects reported experiencing community opposition while only 1 out of 7 market-rate projects reported it. Communities can delay or add costs to projects in multiple ways including filing appeals, not scheduling timely meetings, and pressuring elected officials to impose additional requirements on the project.

Other causes for delays that were noted more than once in the survey include: the City imposed aesthetic requirements (4); Site Plan Review took longer than expected (4); Environmental Impact Review took longer than expected (3); Fire Department safety inspection took longer than expected (3); a Council Member intervened to delay a hearing or approval schedule (2); the schedule for public hearings was changed by a City department (2).

In addition to the survey, we conducted interviews with a number of developers and city officials. We interviewed both market-rate and affordable housing developers as well as officials from the Planning Department, Department of Building and Safety, and staff from the Mayor's office. We asked each interviewee to tell us what they perceived to be the major pain points in the housing development process, especially those most amenable to reform.

Interview responses were largely consistent. All interviewed developers and city officials highlighted the overall complexity of the process and did not think that delays could be blamed on any single issue. However, one issue that consistently came up was the added costs and delays associated with connecting to the city's electrical infrastructure. One city official blamed the situation on a lack of coordination both across and within city departments. For example, two projects may be approved to connect to one transformer. Although the transformer is able to handle the load of each building individually, it cannot handle both together. However, this problem is not discovered until late in the development process, thus causing delays for one or both projects.

Besides electrical infrastructure, there was no single issue that consistently surfaced other than the complexity of the process. Both developers and city officials feel that there is a lack of accountability and transparency in the process. One developer in our survey called the process "fragmented" with "no accountability". Developers are frustrated when city

officials incrementally add new development requirements, but city officials also note that developers sometimes do not come prepared with all the requirements. Miscommunication between the large number of people involved may be partly responsible. One city official commented that consultants may bring plans to the city that do not meet requirements, but they then tell the project owners that the city added requirements. The developers feel that the city added requirements but the city feels that the developers did not come prepared. This city official noted that the most successful projects are the ones in which "everyone is in the same room together, communicating."

Complexity, coordination, and communication do appear to be central issues in slowing down development. One affordable housing developer in our interviews noted that their most successful projects involved help from the Director of Affordable Housing Production in the Mayor's office. This person had access to key decision-makers in various city departments and could help move projects along by identifying where the holdups were and resolving inconsistencies between departments. However, requiring a person with that level of access and authority for every project may not be scalable. More scalable solutions for increasing transparency, accountability, and coordination should be considered. Another possibility is for the City to create a dedicated team comprised of representatives of the relevant departments and charged with enhancing coordination to expedite project completion.

Both the developers and the city officials we interviewed reacted positively to the idea of a centralized information management system for housing development projects. One developer in our survey commented:

"A lot of time could have been saved if various departments communicated better with each other to minimize redundancy and inefficiencies. Each department had their own requirements, which at times conflicted with other departments and caused confusion and delays. This problem could be avoided if LADBS had one agency that signs off on all clearances, like a 'clearing house' to run things more smoothly."

Another benefit to having a centrally managed system, noted a different developer, is that it would increase accountability and transparency by putting on paper what the requirements were at each point in time and who was responsible for signing off on them. Delays at each step could also be measured and bottlenecks identified. From our perspective as researchers and the authors of this report, and having spent an inordinate amount of time reconstructing project timelines from scattered data sources, we can attest to the potentially significant efficiencies of a centrally managed information system.

RECOMMENDATIONS

Based on the above analyses of city data related to the development approval process, as well as survey research and interviews with industry professionals and city officials, we make the following recommendations:

1. The City should increase the threshold for Site Plan Review to 200 units for all projects.

Our simulations show that eliminating discretionary reviews for projects under 200 units would have resulted in 7,084 additional units produced from 2010 to 2022, a 9.9% increase over baseline, taking into account only the pull-forward effect and not the incentive effect. 4,986 of those units would have been market-rate and 2,098 of them would have been affordable.

The City Council has already adopted Council File #22-0268, which would exempt affordable units from Site Plan Review threshold calculations.[11] The permanent affordable exemption will apply to any deed-restricted unit, including units considered affordable for up to 120% Area Median Income, depending on the area.

2. The City should expand and make permanent Mayor Bass' Executive Directive 1.

Mayor Bass' Executive Directive 1, which expedites and streamlines affordable housing development, should be expanded and made permanent. According to our simulations, requiring permit review for affordable housing projects to be completed within 60 days of application and eliminating Site Plan Review for 100%-affordable projects would have yielded 2,268 additional affordable units from 2010 to 2022, a 25.1% gain over baseline. Again, this effect takes into account only the pull-forward effect and not the incenvitization of new development that ED1 would certainly provide to the market. Expanding this directive to mixed-income projects (projects that include both affordable and market-rate units) would have created 3,277 (36.3%) more affordable units and 8,325 (13.3%) more market-rate units. Expanding ED1 to all projects would have created a similar number of affordable units plus 19,950 market-rate units (a 31.9% increase).

This analysis shows that expanding expediting to mixed-income housing would yield more affordable units than simply expediting affordable projects alone. We recommend expanding ED1 to affordable units up to 150% AMI in order to target "missing middle" housing, and creating a tiered system for expediting additional projects. Concurrent permitting and approvals, which is a feature of ED1, should also be made permanent and expanded to mixed-income projects.

We recommend supporting market-rate housing in addition to affordable housing for two reasons. First, the data shows that the majority of housing units under development are still market-rate units. Policies that streamline the production of market-rate units will have a larger impact on the City's overall housing supply than policies that narrowly target affordable housing. Second, other research has demonstrated that the production of new market-rate housing can increase the affordability of older housing units.[12] This happens because when higher income households move into new market-rate units, the units they move out of become available to lower income households.

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[11]Los Angeles City Council. Council File: 22-0268. June 6, 2022. https://cityclerk.laci ty.org/lacityclerkconnect/index.cfm?fa=ccfi.viewrecord&cfnumber=22-0268. Accessed April 18, 2023.

[12]See, for example, Rosenthal (2014) and Asquith et al. (2023).

3. The City should implement a Master Plan and create more by-right pathways for housing development.

According to our analysis, if all projects citywide had been approved by-right, the shortened timeline alone would have produced 15,872 additional units between 2010 and 2022, a 21.7% increase over baseline. As with the previous simulation, this simulation accounts only for the pull-forward effect and not any incentive effects. 13,532 of the gained units would have been market-rate and 2,340 would have been affordable. Our findings suggest that shortening development times can, by itself, have very large impacts on the rate of housing production. We also found that by-right projects have significantly shorter development times than not-by-right projects. The City should therefore adopt policies to make as many projects by-right as possible.

Master Planning, as has been done in other cities, would enable more buildings to be approved by-right or with simple administrative approval. San Jose, for instance, conducted a blanket EIR that pre-approved more than 14,000 new homes, allowing large projects to be permitted in as few as six months.[13] In addition, they have dropped minimum parking requirements for new housing and adopted an "urban villages" strategy to master plan around major transit hubs.[14]

Sacramento adopted a Comprehensive Mater Plan that designated sites for 5,000 homeless housing units in the City, allowing most sites to bypass the lengthy discretionary review process.[15]

Meanwhile, San Diego adopted its "Complete Communities" plan, allowing developers to build apartments with unlimited density and height if they set aside a greater share as affordable housing. It allows them to bypass the Planning Commission and City Council to get building permits directly from city staff, resulting in quick approval of larger projects with smaller, more affordable units.[16]

The City of Los Angeles has taken steps towards master planning. While the Housing Element provides a plan for meeting the City's RHNA goals, the General Plan is updated through 35 individual "Community Plans" which govern land use in each of the City's neighborhoods and acts as a "master plan" for development in that area.[17] The Downtown Community Plan update and the Hollywood Community Plan update were both recently approved by City Council.[18,19] The City should set a deadline for updates to every remaining Community Plan.

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[13]City of San Jose. San Jose 2040 General Plan. https://www.sanjoseca.gov/your-governm ent/departments-offices/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs/envision-san-jos-2040-general-plan. Accessed May 1st, 2023.

[14]City of San Jose. Urban Villages. https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/planning-division/citywide-plann ing/urban-villages. Accessed May 1st, 2023.

[15]City of Sacramento. "Sacramento adopts comprehensive plan for homeless housing solutions." https://engagesac.org/blog-civic-engagement/2021/8/10/sacramento-city-council-ado pts-master-plan-to-help-get-t. Accessed May 1st, 2023.

[16]City of San Diego. Complete Communities. https://www.sandiego.gov/complete-communities. Accessed May 1st, 2023.

[17]Los Angeles City Planning. General Plan Overview. https://planning.lacity.org/plans-policies/general-plan-overview. Accessed May 1st, 2023.

[18]Downtown Los Angeles Community Plan Update. https://cityclerk.lacity.org/lacityc lerkconnect/index.cfm?fa=ccfi viewrecord&cfnumber=22-0617. Accessed May 8, 2023.

[19]Hollywood Community Plan Update. https://cityclerk.lacity.org/lacityclerkconnect/index.cfm?fa=ccfi.viewrecord&cfnumber=21-0934. Accessed May 8, 2023.

In addition, the City should identify areas that could more immediately benefit from programmatic EIRs. In 2012, the City adopted a programmatic ("blanket") EIR for the Warner Center Regional Core in Woodland Hills.[20] It included a plan for 19,848 new housing units to be built without having to conduct lengthy environmental reviews under CEQA. This could be a model for additional areas throughout the city in which a neighborhood could benefit from denser development in a commercial or transit hub.

The City has also taken steps toward master planning along transit corridors through the Transit Oriented Communities (TOC) incentive program.[21] This program encourages the development of affordable housing within a half mile of major transit stops by creating a tier-based system of incentives. TOC along with Density Bonus allow greater housing density in exchange for affordable units. Since its inception in 2017, more than 43,500 housing units have been proposed under the TOC program.[22]

The TOC program expires in 2026 unless the City Council extends it. We recommend building on the success of the program by expanding its reach beyond a half mile radius. It should also be expanded to include more moderate-income units in the incentives and should be made permanent.

Additionally, AB2011, which takes effect July 2023, allows for ministerial, by-right approval of affordable housing in commercially-zoned areas.[23] It allows for such approvals for mixed-income housing along commercial corridors if they meet specific labor, environmental, and affordability criteria. The City should work swiftly with developers ready to take advantage of these provisions.

In summary, to facilitate more by-right pathways for housing development, the City should adopt programmatic EIRs or master plans in select transit or commercial areas, extend and expand the TOC program, and set a deadline for every community plan update. The City should also examine what other cities in California have done in this space and consider models that could be applicable to Los Angeles.

4. The City should allocate resources to expedite power installation for multifamily housing developments.

Our analysis showed that power installation is a significant contributor to project delays. Requiring a new underground circuit installation adds 245 days to project time and an overhead circuit adds 140 days. If these effects were halved, simulation results showed that 4,443 additional units would have been produced between 2010 and 2022, simply due to the pull-forward effect (a 6.2% increase over baseline). 588 of these units would have been affordable and 3,855 would have been market-rate. In addition to our statistical analysis, many of the developers and city officials we interviewed highlighted electrical connection as a major pain point and bottleneck for multifamily housing development.

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[20]Los Angeles City Planning. Warner Center 2035 Plan. https://planning.lacity.org/eir/ WarnerCntrRegionalCore/feir/WarnerCenter_FEIR.pdf. Accessed May 1st, 2023.

[21]Los Angeles City Planning. Transit Oriented Communities Incentive Program. https://planning.lacity.org/plans-policies/transit-oriented-communities-incentive-program. Accessed May 1st, 2023.

[22]Los Angeles City Planning. Housing Progress Reports. https://planning.lacity.org/reso urces/housing-reports. Accessed May 1st, 2023.

[23]AB-2011 Affordable Housing and High Road Jobs Act of 2022. https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB2011. Accessed April 20th, 2023.

DWP has recently taken steps to improve their support for affordable housing. Their newly approved "Project PowerHouse" program aims to: (1) Eliminate costs for routing power to some development projects; (2) Determine power needs for 100%-affordable projects through up-front coordination with architects; and (3) shorten timelines for DWP approval of a project's on-site service plans.[24]

We believe that this plan is a good step. We additionally recommend that enhanced coordination be made available to developers of mixed-income and market-rate projects as well, perhaps with tiered levels of priority. The City should ensure that adequate staff training and technology resources are available for this purpose.

A more standardized process would also help increase predictability and certainty for developers, architects, and engineers. The American Institute of Architects, Los Angeles, issued a series of recommendations for DWP reforms, including improving service planning, addressing overhead power lines earlier, encouraging adaptive reuse, and improving development services.[25] These detailed recommendations are worth considering to further streamline housing production.

5. The City should leverage technology to improve transparency and coordination.

The industry professionals we interviewed said that the housing development process in L.A. is fragmented and complex. Lack of coordination between departments was frequently cited as an issue that resulted in delays. Increasing coordination between stakeholders would go a long way in increasing efficiency and predictability in the development process.

The City's Information Technology Agency (ITA) should use software to integrate department systems into a centralized clearinghouse like BuildLA with a real-time picture of the approvals process for any given project in the development pipeline.[26] A user should be able to log in and see exactly where a project is in the overall timeline, track progress, and see what is still needed to move forward. At the outset of a project, the user should be able to access an up-front checklist of items that map out what would be needed for successful completion. All departments for which approval or input is needed for the completion of a housing project, including DWP and Fire, should be integrated into the system at the start of a project.

6. The City should implement policies to improve case management and accountability.

If the City is to reach its RHNA goals, it must drastically scale up the production of housing. This will not be possible without an improvement in the City's ability to handle a larger caseload. We therefore recommend that the city adopt policies to improve case management and accountability during the housing development process.

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[24]L.A. Department of Water and Power. L.A. Water & Power Commissioners Unanimously Approve New Energy Services Policy Changes to Speed Construction, Lower Costs for 100% Affordable Housing Developments and Permanent Supportive Units. March 14, 2023. https: //www.ladwpnews.com/l-a-water-power-commissioners-unanimously-approve-new-ene rgy-services-policy-changes-to-speed-construction-lower-costs-for-100-affordabl e-housing-developments-and-permanent-supportive-units/. Accessed April 6, 2023.

[25]American Association of Architects, Los Angeles. AIA LA Recommendations to LADWP for Improved Service. https://www.aialosangeles.org/wp-content/uploads/2021/10/AIA-LA-Letter-of-Recommendations-to-Los-Angeles-Department-of-Water-and-Power_100421.pdf. Accessed May 8, 2023.

[26]BuildLA. https://buildla.lacity.org/. Accessed April 21st, 2023.

This can be achieved a number of ways. First, the municipal code could be amended to state that any application or entitlement is deemed approved if specified timelines are not met (for example, 120 days after receiving environmental clearance). This would make departments accountable to conduct reviews in a timely manner and default projects to by-right if they are not.

City Departments could also be required to complete plan check within a limited timeframe and to require all corrections to come back to the developer at once. AB2221 recently did this for Accessory Dwelling Units, giving plan checkers one chance to ask for corrections and 60 days to approve or explain why plans were not approved.[27] The City could implement a similar policy for all housing projects. AB 2234 recently addressed certain types of permits (for demolition, excavation, and grading permits, and permits for off-site improvements) by requiring local agencies to make a determination within 15 days of the application or else it is deemed complete.[28]

7. The City should ensure adequate staffing.

Implementing the above policies to scale up housing production will require adequate human resources. We therefore recommend that the City evaluate departmental staffing needs, especially for positions relevant to the housing development process. We also recommend that the Mayor's office develop and monitor key housing metrics which they will use to evaluate the performance of department heads. Finally, we recommend that the City create a team dedicated to coordinating the entitlements and approvals process for housing development projects. This team should have the ability to address conflicting definitions and inconsistencies across departments.

The Southern California Association of Non-Profit Housing (SCANPH), who participated in the LABC Institute's working group for this report, also released recommendations in this vein, suggesting that the Mayor put together an Affordable Housing Division. Additionally, they wrote that: "timelines should be set and adhered to for review and approvals. The City should provide expeditors for affordable housing construction. All necessary agencies should be involved including Fire and LADWP." We concur with these recommendations.

Recently the City Council passed a measure, introduced by Councilmember Nithya Raman, to develop a plan to streamline affordable housing approvals, increase staffing at various departments, and create positions within the City Administrative Officer's office to act as liaison and project manager between City departments that provide development services to affordable housing projects.[29] This is a good first step in line with these recommendations.

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[27]AB-2221 Accessory Dwelling Units. https://leginfo.legislature.ca.gov/faces/billTex tClient.xhtml?billid=202120220AB2221. Accessed April 20th, 2023.

[28]AB-2234 Planning and Zoning: Housing: Postentitlement Phase Permits. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB2234. Accessed April 20th, 2023.

[29]City of Los Angeles. Council File #21-0658. https://cityclerk.lacity.org/lacityclerk connect/index.cfm?fa=ccfi.viewrecord&cfnumber=21-0658. Accessed May 1st, 2023.

CONCLUSION

The City of Los Angeles is in dire need of more housing. Yet, the City's housing approval and development process is long and complex, leading to added costs and a high degree of uncertainty among developers. Delays can occur at every step of the process, from entitlement to permitting, construction, and final approval. We conservatively estimate that simply reducing approval and entitlement times by 25% would increase the rate of housing production by 14.1%, simply by pulling forward delayed projects. Considering a more concrete policy, we estimated that Mayor Bass' Executive Directive 1 would have increased the production of affordable housing units.

To help the City reach its ambitious housing goals, we recommend that the City create as many by-right pathways for the entitlement of new housing as possible. This can be done by exempting projects from Site Plan Review and adopting an area-wide master plan and blanket EIRs. Besides entitlement reform, we also recommend that the City provide resources for expediting power connections to multifamily housing developments. Although the focus is on producing affordable housing, we recommend that the city also consider streamlining the development process for workforce, middle-income, and market-rate projects. Technology should be leveraged to increase coordination and transparency between developers and city departments, and measures should be taken to improve case management and accountability within departments. Finally, scaling up the production of housing will require adequate human resources. We recommend that the City evaluate its staffing needs so that the above reforms can be implemented.

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Rosenthal, Stuart S., "Are Private Markets and Filtering a Viable Source of Low- Income Housing? Estimates from a "Repeat Income" Model," *American Economic Review, 2014, 104* (2), 687–706.

A. METHODOLOGICAL APPENDIX – DATA

Our goal was to develop a comprehensive dataset with detailed information on the timing, cost, and approvals for a large representative sample of housing development projects in the City of Los Angeles. After investigating publicly available sources and consulting with developers and city officials, we were unable to identify a sufficiently representative sample with reliable cost information inclusive of both affordable and market-rate projects.

Fortunately, we were able to develop a dataset with rich information on development times. We started with a list of all multi-family projects issued a new building permit by the L.A. Department of Building and Safety (DBS) between January 2010 and November 2022.[30] This data is publicly available on the city's open data portal.[31] We exclude closed and expired permits, so the final dataset includes only the projects that are still actively in development or have been completed. We measure project completion by the issuance of a Certificate of Occupancy (CofO). For each project, we determined the number of income-restricted units (i.e. affordable units) and the number of market-rate units by reading the permit work description and associated entitlement requests. A project with all affordable units except a few manager units were categorized as "100%-Affordable" projects. Projects with no affordable units were categorized as "Market-Rate" projects. All other projects were categorized as "Mixed-Income" projects.

The resulting dataset contained 2,677 projects representing 120,213 total units, of which 102,897 are market-rate and 17,316 are affordable. 1,712 projects were completed (issued a CofO) as of November 28th, 2022, and 965 projects were unfinished as of November 28th, 2022. The full breakdown of counts by project type are reported in Table 1.

Linking DBS permit data to entitlements

In that one of our primary goals is to assess the speed of housing production, it is important that we use a meaningful and consistent definition of project start date. The date of DBS permit submittal is not always a good measure of the start date because the entitlement process (the process of getting formal approval from city planners to commence development of a project) can start many years prior to submission of plans to the DBS. This is especially true of projects that seek to build outside the specifications of existing zoning code.

The DBS dataset does not include information on entitlements. In order to link the DBS data to related project entitlements, we take advantage of the L.A. Zone Information and Map Access System (ZIMAS) and Planning Document Information System (PDIS).[32,33] ZIMAS allows users to input an address, assessor parcel number (APN), or parcel identification number (PIN) and retrieve zoning information about the parcel, including all relevant planning department cases. PDIS is a system maintained by the L.A. Planning Department that allows users to retrieve information about specific planning department cases based on case number.

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[30] A project was determined to be multi-family if its permit subtype was not "1 or 2 family dwelling" and if the use description was residential (apartments, senior housing, etc.)

[31] https://data.lacity.org/City-Infrastructure-Service-Requests/New-Building-Permits-2010-to-Present/46r2-n9vp.

[32] **ZIMAS:** https://zimas.lacity.org.

[33] **PDIS:** https://planning.lacity.org/pdiscaseinfo/search.

To facilitate data collection, we built a tool that performs the following functions:

- First, the tool takes the primary address and the associated PINs of a project from the DBS data. It retrieves and stores all the data returned by ZIMAS for that address and the associated PINs. All planning department case numbers returned by ZIMAS are then linked to the project.
- For each planning case associated with the project, the tool retrieves and stores the data about that case from PDIS. The crucial fields that we make use of are the case filing date, the case completion date, and free text fields describing the project and the requested entitlement. The case number itself also encodes valuable information, such as the level of decision-making required (Administrative Review, Director of Planning, City Planning Commission, etc.) and the requested entitlements (Denstity Bonus, Site Plan Review, etc.)

Filtering relevant cases. Using this tool, we are able to link each project to a list of planning cases relevant to the parcels under development. However, not every such case is relevant to the project development timeline. Some cases, for example, are community plan updates that affect a large number of parcels but were not specifically requested by the developer of the project. Other planning cases may have been filed subsequent to completion of the project. Still others may have been filed many years before the project started and are unrelated to project development. To deal with such cases, we mark a case as not relevant to the project if any of the following hold:

- The case was filed or completed after the project's CofO date. This only applies to completed projects where a CofO was issued.
- The case applicant name was "City of Los Angeles" or if the case is linked to 5 or more separate projects.
- The case was filed more than 5 years before the DBS permit submittal date or completed more than 2 years before the DBS permit submittal date. In addition, we only keep cases filed before the DBS permit submittal date if the case's requested entitlement field contains keywords indicating it is a housing development project.

Using these rules, we linked 1,389 projects to at least one related entitlement case. 1,288 projects were not linked to any case. Of the projects that were linked to at least one case, the average number of cases linked was 2.7.

Discussion. Two types of errors may emerge from our linking procedure. First, cases not relevant to a project may be erroneously marked as relevant. Second, some cases relevant to the project may erroneously be marked as not relevant.

To assess the prevalence of the first type of error, we randomly sampled 30 projects linked to at least one planning case. This resulted in a sample of 30 projects linked to 75 cases. We then investigated each case by hand and assessed our level of confidence that it is indeed relevant to the project. We have a very high degree of confidence in 57 of the 75 linked

cases. In these 57 cases, the project description in the entitlement case matches the work description in the DBS permit inclusive of the number of dwelling units proposed. In 16 of the 75 cases we had a medium degree of confidence. In these cases, most of the project features match, such as the number of building stories, but there may be some small discrepancies such as the proposed number of units. A discrepancy does not necessarily mean that the planning case and the permit don't refer to the same project. Discrepancies can arise because project plans may change from the time the entitlement was first requested and the new building permit was submitted. In most cases the discrepancies are quite minor. We had low confidence in only 2 of the 75 cases, both linked to the same project. The error may have been due to an erroneous address.

To assess the prevalence of the second type of error, we randomly sampled another 30 projects with or without any linked planning cases. We then investigated each project by hand to see if any relevant cases were missed. There was one project that our procedure failed to link to any case because the relevant entitlements were filed 6 years before the permit submittal date. For every other project which our procedure failed to link to a case, we did not find any obviously relevant cases.

It is still possible that some cases our procedure marked as not relevant actually are pertinent to the study. For example, developers can push for general or specific plan amendments that affect a large number of parcels at once as a prerequisite to development of a specific project. Yet our procedure would not link the case to any one particular project. To the extent that we are missing such linkages, our procedure can be thought of as a conservative estimate of entitlement and development timelines, because we are measuring fewer entitlements for each project than were actually necessary.

Supplemental data from Department of Water and Power

In addition to data on entitlements, we also sought data on new power service in-stallations from the Los Angeles Department of Water and Power (DWP). This was motivated by our developer survey and our interviews with industry professionals, where long timelines for electrification were identified as a major bottleneck.

To obtain this data, we provided DWP with the primary site address for each of our 2,677 projects. DWP then returned, for each address, all new power service work requests associated with that address from 2010 to present. We filtered out any work requests that were entered before the project start date and we filtered out any work requests that were completed after the project's CofO date.

In total, we received data on 70,114 work requests for 2,324 of our projects. For the projects that we did not receive data for, it is likely because of an error in finding matching addresses. Addresses are not standardized between the DBS and DWP databases, leading to an imperfect matching process.

The vast majority of the work requests are new meter installations. We ignore new meter installations in our analysis because they are required on almost every project. Instead, we focus on work requests for the design and installation of new overhead and underground circuits and service voltage. There were 808 overhead work requests and 1,291 underground work requests. In our regression analysis, we consider the impact of a project requiring any new overhead or underground installations on project timelines.

B. METHODOLOGICAL APPENDIX – MODEL

To explore the factors associated with increased development time, we developed the following regression models for approval and construction time. Approval time was measured as the number of days from the first entitlement application or permit submittal to permit issuance. Construction time is measured as the number of days from permit issuance to CofO issuance.

Approval Time. We statistically model approval time according to the following equation:

$$AT_i = X_i\beta + \epsilon_i \qquad (1)$$

AT_i is the approval time, measured in days, for project i. X_i is a set of project i structural characteristics, including the number of units, building height, building square footage, the project type (market-rate, mixed-income, or 100%-affordable), and whether the project required any entitlements. Table 2 shows the full list of features that we consider in the model. The error term, ϵ_i, is modeled as a logistic distribution with mean 0 and an unknown scale parameter.

Construction Time. Construction time is modeled according to the following equation:

$$CT_i^* = X_i\gamma + v_i \qquad (2)$$

CT_i^* is the construction time, in days, for project i. As above, X_i is a set of project structural characteristics. The error term, v_i, is again modeled as a logistic distribution with mean 0 and an unknown scale parameter.

We assume the independence of ϵ_i, v_i, and X_i. This may not hold in practice. There may be unobserved factors in ϵ_i and v_i that are correlated with observed factors in X_i. Moreover, it is likely that ϵ_i and v_i are correlated as more complex projects may have both unexpectedly long approval times and unexpectedly long construction times. We therefore cannot interpret (1) and (2) as structural equations. Nevertheless, it is still useful to see how X_i is correlated with development time in the reduced form.

In estimating our model for construction time, it is important to note that CT_i^* is not observed for unfinished projects. For these projects, we only know that CT_i^* is larger than the number of days between November 28th, 2022 and the permit issuance date. Our model therefore falls under the class of accelerated failure time models, for which standard statistical techniques have been developed.[34]

Regression Results. The estimation results are reported in Table 3. Each row of the table reports the coefficient estimates for a different factor in X_i. Council District effects are included in the model but the results are omitted for space. The Council District effect estimates are available from the authors on request.

[34]See Kalbfleisch and Prentice (2002).

C. METHODOLOGICAL APPENDIX – SIMULATIONS

We used the model to conduct simulations of various policy scenarios. The simulation procedure was as follows:

1. For each project, we used the model to calculate the residuals ϵ_i for approval time and v_i for construction time. For unfinished projects, we only know that $v_i \geq v_i^*$ where v_i^* is the value of the residual which would make the completion date November 28th, 2022. So for unfinished projects, we draw a random value for v_i from the estimated logistic distribution conditional on $v_i \geq v_i^*$.

2. We then calculate how AT_i and CT_i would have changed under the policy scenario. For example, if the effect of Site Plan Review is eliminated in the simulation, then AT_i would be reduced by β^{SPR} and CT_i would be reduced by γ^{SPR} for projects that required Site Plan Review. If permitting time was limited to 60 days, then AT_i would be reduced by the number of days the actual permitting time took in excess of 60 days.

3. Based on the simulated changes to AT_i and CT_i, a new project completion date is calculated. If the simulated project completion date is before November 28th, 2022, then it is considered completed in the simulation. The number of completed projects and units in the simulation is then compared to the actual number of completed projects and units in the data.

The simulations and their results are discussed in the main report. Here, we discuss some of the limitations to the simulation exercises.

Execution. First, the simulations assume that the policies are executed perfectly. That is, if the policy requires that permitting take no more than 60 days, it is assumed that permitting will not take longer than 60 days. Whether or not it is realistic to achieve this level of execution is outside the scope of our analysis. Failure to execute could occur on many levels. For example, the city may not have adequate human resources to execute these policies at the scale assumed in the simulation. On the other hand, developers may not be sufficiently timely in their responses to city requests to guarantee a 60-day permitting timeline. To the extent that the simulations overestimate the ability of all parties to execute on these policies, the simulation results will be overstated. Nevertheless, the simulation results give a ballpark estimate of what is possible through the various changes in approval policies considered.

Behavioral Response. The simulations do not consider the behavioral response of developers, city officials, or city residents. The simulations assume that the number of projects, their start dates, and their project sizes remain the same before and after the policy. To the extent that reducing development time would incentivize new development, the simulation results will be understated. We believe that this is the case, and that our simulation results are therefore conservative in nature. However, there could be other behavioral responses—for example, actions taken by neighborhood councils—that could work in the other direction.

Second Order Effects. Our statistical models capture the effect of various factors on development time, but they do not capture the relationships between the factors themselves. For example, if Site Plan Review is eliminated, the model can predict the direct effect of that on average development time. But eliminating Site Plan Review may also reduce the number of projects requiring review by the City Planning Commission. Our model would not take into account that secondary effect. Our models can therefore only predict the first order direct effect of a factor on development time but it cannot predict second order effects on other factors.

General Equilibrium Effects. Our computations similarly do not account for second order general equilibrium effects. This refers to the effect of a policy on the overall allocation of resources and prices in the economy. For example, a policy that drastically increases the rate of housing production would cause an increase in the demand for skilled labor and construction materials. This increased demand would lead to higher prices for these input factors, which could offset some of the initial gains in incentivizing new development. Our simulations do not take into account these general equilibrium effects.

Macroeconomic Environment. Our simulations use data from projects started between January 2010 and November 2022. These projects were started and developed under specific macroeconomic conditions that may not be reflected going forward. One major difference between the macroeconomic environment today and that of our historical data period is substantial recent tightening of monetary policy and the higher interest rate environment. As is well appreciated, real estate markets are highly sensitive to the cost of credit. Higher interest rates increase the time cost of money and make lengthy development times a greater barrier than if interest rates were low. In that sense, speeding up development times is even more important in a high-rate environment than in a low-rate one. On the other hand, the supply of capital may be more constrained now than in our data period. Thus, approval policy reforms implemented in the future may not be associated with the same timing response as would had been the case had they been implemented during the prior 10 years.

Driving Down the Cost of Housing Report: Developer Survey

Commissioned by the Los Angeles Business Council
Conducted by Dr. Stuart Gabriel, Distinguished Professor of Finance and Arden Realty Chair, Director, UCLA Ziman Center for Real Estate &
Dr. Edward Kung, Assistant Professor of Economics, David Nazarian College of Business and Economics, California State University, Northridge

Contact Information

First Name Click or tap here to enter text.	Last Name Click or tap here to enter text.
Email Address Click or tap here to enter text.	
Name of Company or Organization Click or tap here to enter text.	

Do you give permission to LABC to share this case study in the final report?

☐ Yes, with attribution ☐ Yes, without attribution (keep us anonymous) ☐ No

Basic Information

Name of Project Click or tap here to enter text.		
Site Address(es) Click or tap here to enter text.		
APN(s) Click or tap here to enter text.		
City Council District Click or tap here to enter text.		
Project Start Date Click or tap here to enter text.	Project Completion Date Click or tap here to enter text.	Date of Land Acquisition Click or tap here to enter text.

Which of the following best describes this project?

☐ Affordable Housing ☐ Market Rate ☐ Other: Click or tap here to enter text.

Physical Characteristics

Number of Units Click or tap here to enter text.	Number of Affordable Units Click or tap here to enter text.
Building Square Footage Click or tap here to enter text.	Land Square Footage Click or tap here to enter text.
Construction Type (1-5) Click or tap here to enter text.	Building Height Click or tap here to enter text.
Number of Stories Click or tap here to enter text.	Parking Count Click or tap here to enter text.
Other amenities or infrastructure requirements (please list any): Click or tap here to enter text.	

Cost Information

Total Development Cost Click or tap here to enter text.

Please list costs broken down by line item categories:

Cost Category	Total Cost
Click or tap here to enter text.	Click or tap here to enter text.
Click or tap here to enter text.	Click or tap here to enter text.
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Click or tap here to enter text.	Click or tap here to enter text.

You may also send us the above data as a spreadsheet or file. Please send as an attachment to edward.kung@csun.edu, and indicate which project the file is for.

Financing Information

Please indicate whether the project used public or private funding sources:

☐ Public, exclusively ☐ Private, exclusively ☐ Mix of public and private

Please list each funding source with total amounts and the date the funding was acquired:

Funding Source	Amount	Date Acquired
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
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Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap to enter a date.

You may also send us the above data as a spreadsheet or file. Please send as an attachment to edward.kung@csun.edu, and indicate which project the file is for.

(continue to next page)

Entitlements and Public Approvals Information

Did this project take advantage of any expedited process or incentive programs? (e.g. TOC, Expedited Processing, Mitigated Negative Dec, etc.)
☐ Yes ☐ No

If yes, please list all incentive programs or expedited processes this project used:

Click or tap here to enter text.

Did this project seek a zoning change? ☐ Yes ☐ No
Did this project seek a General Plan Amendment? ☐ Yes ☐ No

Please list any other requested entitlements:

Click or tap here to enter text.

(continue to next page)

Please list all reviews (e.g. Site Plan Review, EIR) this project was subject to or permits this project required. Indicate the public entity responsible for the review or permit (e.g. City Planning Commission, City Council), whether the review was discretionary or by-right, the date of application, and the date of final approval.

Review or Permit	Agency	Case No.	Discre-tionary?	Date Initiated	Date of Final Approval
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.
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Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.
Click or tap here to enter text.	Click or tap here to enter text.	Click or tap here to enter text.	☐ Yes ☐ No	Click or tap to enter a date.	Click or tap to enter a date.

You may also send us the above data as a spreadsheet or file. Please send as an attachment to edward.kung@csun.edu, and indicate which project the file is for.

Additional Information

Were any of the following applicable on this project? (Check all that apply)

- ☐ Local Hire
- ☐ Project Labor Agreement
- ☐ Other: Click or tap here to enter text.
- ☐ Skilled and Trained Workforce
- ☐ Prevailing Wage Requirement

Which of the following took longer than originally estimated by the issuing department? (Check all that apply)

- ☐ LADWP Water or Power Connection
- ☐ Environmental Impact Review
- ☐ Conditional Use Permit
- ☐ Zone Changes
- ☐ Site Plan Review
- ☐ Other: Click or tap here to enter text.
- ☐ LAFD Safety Inspection
- ☐ LADBS Permit
- ☐ Zoning Administrator Determinations
- ☐ Subdivisions
- ☐ Project Permit Compliance

Did any of the following apply to this project? (Check all that apply)

- ☐ A Council member or office intervened to push back a hearing or approval schedule
- ☐ The schedule for public hearings was changed by a City department
- ☐ Errors or inconsistencies between City departments caused delays
- ☐ You encountered an inconsistency between City's General Plan and zoning requirements
- ☐ You restricted the project's size to avoid Site Plan Review
- ☐ Affordability requirements were added to the project by Council office or City department
- ☐ More parking than anticipated was required
- ☐ City-imposed aesthetic requirements added costs to the project
- ☐ The project was delayed or costs were added due to community opposition
- ☐ Other: Click or tap here to enter text.

If you selected any of the above scenarios, please estimate how much each item added to the cost of delayed the project. (e.g. How much did additional parking requirements add to the cost of and delay the project?):

Click or tap here to enter text.

Please list any other unanticipated costs or delays to the project:

Click or tap here to enter text.

Please list any community outreach meetings or presentations to local community organizations or neighborhood councils. Please provide dates and outcomes if possible.

Click or tap here to enter text.

Please provide any other relevant information that ay help us understand the challenges associated with the process of housing development in the City of Los Angeles.

Click or tap here to enter text.

You have finished answering the survey questions for this project. Please remember to submit a separate survey for each of your organization's three largest projects in the City of Los Angeles in the past 5 years.

You may submit another PDF form or you may also use the online survey instrument:
https://form.jotform.com/222357901187054

Thank you for your time!