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Back in the Fast Lane: How to Speed Public Transit Planning & Construction in California

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Introduction

On December 1, 1925, a 4,325 foot-long subway tunnel (approximately four-fifths of a mile) opened in downtown Los Angeles, from Pershing Square to 1st and Beverly, northwest of downtown at Glendale. Construction took eighteen months, at a cost of \$3,500,000 (\$47.4 million in 2014 dollars). It followed one year of major planning.¹

Fast forward to 2014, and the Los Angeles County Metropolitan Transportation Authority (MTA) analyzed plans to build a similar tunnel in a different part of downtown. The MTA estimated the 1.9 mile downtown regional connector tunnel would cost over \$1.427 billion. At \$751 million per mile, the new tunnel entailed almost a *thirteen-fold price increase* from the inflation-adjusted \$59 million per mile in 1925.² Advance work on the regional connector began in July 2014, and MTA officials expected the line to boost ridership by 10 percent across the rail system primarily by eliminating the need for transfers among multiple light rail lines.

The increase in cost for the regional connector tunnel resulted in part from higher prices for real estate acquisitions, construction materials, worker safety technologies, skilled labor, and more advanced construction equipment. But

despite improved construction technology, the timelines have only gotten worse. In 1925, workers took 19 months to tunnel using primarily steam shovels, while modern workers, with an expensive tunnel boring machine and the most advanced construction equipment available, will require six years and four months for their project. A rate of 23.75 months per mile in 1925 therefore became 40 months per mile in 2014. Meanwhile, the planning process for the regional connector took at least four years, with two years alone elapsing between the completion of the alternatives analysis and the MTA board's approval of the selection of the preferred route.

The downtown Los Angeles tunnels are just one example of the ballooning price tags and protracted planning and construction processes afflicting public transit projects in California and across the United States. To be sure, these challenges are not unique to transit projects. Infrastructure projects ranging from the new Oakland-San Francisco Bay Bridge to Boston's Central Artery/Tunnel Project (known as the "Big Dig") suffer the same fate. But the delays and higher costs are arguably more detrimental to the public interest when they affect public transit projects, which are unique among other infrastructure projects

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Bus and rail lines can decrease congestion nationwide by reducing each household's driving as much as 4,400 miles per year, averting an estimated \$13.7 billion in congestion costs.

due to their central role in protecting the environment and public health, improving the economy, and meeting social equity goals by serving the transit-dependent.

This brief seeks to explain some of the causes of the planning and construction delays and escalating costs for major public transit projects, such as rail and bus rapid transit. Among the factors are counter-productive regulatory processes, lack of coordination among overlapping agencies and entities, poor agency oversight of construction, and political compromises meant to appease powerful neighborhood groups and automobile drivers at the expense of the regional good.

The brief recommends policies to overcome the major barriers to better, faster, and cheaper planning and construction of public transit.

Recommendations include:

1. Reform regulations to ensure that transit serves areas with the densest population and job concentrations;
2. Change state laws to allow local agencies to prioritize transit over automobile traffic;
3. Require stricter oversight of construction management and awards;
4. Allow priority access for buses on existing roads; and
5. Enact new federal, state, and local policies to boost transit funding, such as through tax-increment financing and low-cost loans.

The ultimate goal of these reforms is to help meet California's broader economic, environmental, public health, and social equity goals by putting transit planning and construction back in the fast lane.

I. Public Transit As a Societal Priority

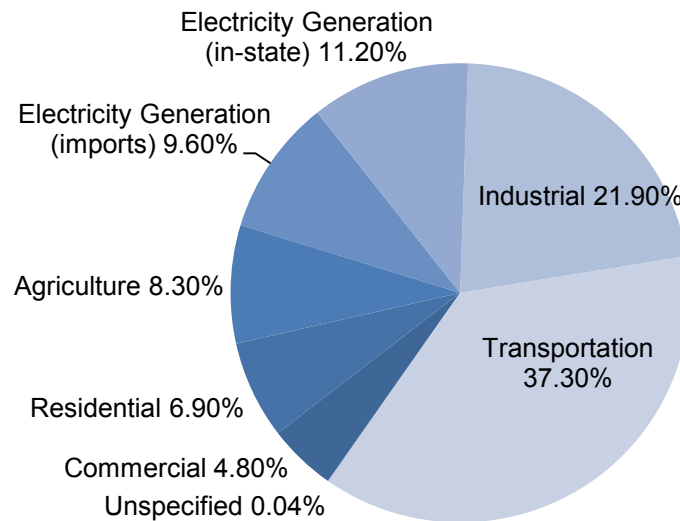
Public transit – referring here to buses and passenger rail cars – provides more economic, environmental, public health, and social equity benefits than most other public investments. Economically, public transit offers relief from – and an alternative to – California's severe traffic congestion. This congestion costs the state economically in terms of lost productivity, stifled goods movement, lower quality-of-life, and diminished private sector ability to attract workers and engage in commerce. The Texas Transportation Institute estimated that individual drivers in California's major metropolitan regions averaged 61 hours per year (two and a half days) in 2011 stuck in traffic, second only to the Washington, D.C., metropolitan region. Drivers in Los Angeles and San Francisco, on average, lost more than \$1,200 each in productive time.³

Bus and rail lines, however, can decrease this congestion nationwide by reducing each household's driving as much as 4,400 miles per year, averting an estimated \$13.7 billion in congestion costs. The Texas Transportation Institute calculated that the bus and rail system in Los Angeles alone reduced 32.34 million hours of traffic delay in 2011 at a cost savings of \$695 million, while San Francisco's bus and rail system reduced over 36.7 million hours of traffic delay and saved \$775.9 million.⁴ The Institute's 2009 Urban Mobility Report indicated that Americans living near transit services saved 646 million hours in travel time and 398 million gallons of fuel annually.

Public transit also offers important environmental and public health benefits. California's transportation sector accounts for almost 40 percent of the greenhouse gas emissions that cause climate change, making it California's single largest source of these emissions (see Figure 1). Nationally, according to the American Public Transportation Association, reductions in driving facilitated by public transit save 37 million metric tons of carbon dioxide annually, equivalent to the emissions

Figure 1. Greenhouse Gas Emissions by Economic Sector

Source: California Air Resources Board



from generating electricity for 4.9 million households.⁵ Transit also reduces the automobile sector's significant contributions to California's harmful and deadly air pollution. Over 90 percent of Californians breathe unhealthy levels of one or more air pollutants during some part of the year, according to the California Air Resources Board.⁶ Premature deaths from particulate matter are now comparable to deaths from traffic accidents and second-hand smoke. Transit can mitigate all of these impacts and also shape land use patterns to minimize car dependence and encourage walking and biking.⁷

Finally, transit can improve social equity and quality-of-life by saving residents time, stress, and money and providing mobility for low-income, disabled, and senior residents. For these individuals, transit represents a vital social service. Disadvantaged residents may not be able to own or operate private vehicles and are therefore

dependent on transit for basic tasks, access to jobs, and recreation.

Despite its importance, however, governments chronically underfund transit. Federal support has diminished significantly from its peak in the 1970s, state funding dwindled in the past decade with budget cutbacks due to the great recession, and local governments in California face difficulty raising taxes and fees to cover transit. Transit also lacks the powerful constituencies of other infrastructure projects, such as highways and bridges that support automobiles. As a result, the provision of this important public good suffers from scarce and unreliable resources. The available dollars for transit must therefore be spent as effectively as possible.

The next section describes the key barriers preventing the maximization of transit resources and recommends policies to overcome them.

Unfortunately, the planning process for modern transit projects often succumbs to political pressure for outcomes that reduce ridership and increase costs.



II. Getting Public Transit Back in the Fast Lane

A. Over-Planning Transit with Negative Results

All transit planning for major capital investments, such as new rail and bus rapid transit lines, must ensure safety, cost-effectiveness, maximum public benefits, and minimal negative impacts. These infrastructure projects have become increasingly complicated over the decades due to more advanced construction methods, greater utility line deployment, stricter building and workplace safety codes, and new and diverse agencies with jurisdiction over construction zones.

Unfortunately, the planning process for modern transit projects often succumbs to political pressure for outcomes that reduce ridership and increase costs. In Los Angeles, the region's burgeoning modern rail transit network provides multiple examples of the political bargaining that influences rail route selection and alignments. Planners originally envisioned the Red Line heavy rail subway to serve the Wilshire Corridor, the most densely populated region in the

western United States. However, the line today only serves a small portion of Wilshire. Political pressure from San Fernando Valley constituents and their representatives resulted in a route that travels north through Hollywood to the San Fernando Valley, despite the lack of population and job density in that region compared to the westside of Los Angeles along Wilshire. Exacerbating the problem, a tunneling ban along the major portion of Wilshire, enacted in 1985 largely to protect the Fairfax community from gentrification impacts and repealed in 2007, further limited the route. Similar examples of political compromises that worsen outcomes for transit abound across California and the nation.

Counter-productive environmental analysis of various proposed routes can also subject transit lines to undue scrutiny and litigation that can delay planning. Currently, under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), transit agencies with federal- and state-funded projects must study project-related impacts on areas such as parking, traffic, and greenhouse gas emissions, despite the purpose of transit to help reduce driving and pollution. Project opponents can challenge proposed lines based on claims that the agencies incorrectly analyzed the impacts. The

The protracted litigation risks facing transit projects cause delays and sometimes route changes to less efficient alignments in order to mollify well-organized and resourced neighbors or other opposition groups.

protracted litigation risks cause delays and sometimes route changes to less-efficient alignments in order to mollify well-organized and resourced neighbors or other opposition groups. As an example in Los Angeles, legal challenges to the Expo Line light rail project to Culver City and Santa Monica from downtown Los Angeles forced changes that resulted in greater project expenses and a slower ride for thousands of daily passengers.⁸

As an alternative example, the Los Angeles Metrolink system, funded by local sales tax dollars to create commuter rail cars on existing freight rights-of-way, became operational within two years of planning, largely due to an exemption from the California Environmental Quality Act (CEQA) for rail projects on existing freight rights-of-way. While the lack of a need to engage in new construction certainly helped expedite the timeline, the planning process was remarkably efficient compared to other rail projects.

Recommendations

Federal, state, and local transit decision-makers should ensure that rapid transit stations and routes serve only areas that meet (or have the necessary land use plans in place to meet) population or job density metrics. An independent formula for determining routes and station locations that serve the most people and jobs could help ensure that political influence does not outweigh ridership and cost-effectiveness. The Metropolitan Transportation Commission (MTC) in the San Francisco Bay Area pioneered a similar approach by conditioning future spending on improved land use plans for new rail transit station areas. The MTC offers planning grants and works with local communities to develop realistic development targets for commercial and residential needs.⁹ Transit agencies should apply this approach to route selection decisions as well, using metrics formulated by independent state or federal agencies. Of note, the U.S. Federal Transit Administration (FTA) calculates similar metrics in making funding decisions for

local projects, but they are not dispositive.

Federal and state leaders should exempt transit projects from some aspects of environmental review, including auto delay, parking, greenhouse gas emissions, and growth-inducing impacts. Due to the strong environmental benefits of transit projects, they should be exempt from study and litigation risk for unnecessary or counter-productive analysis, such as for automobile delay, parking, aesthetics, greenhouse gas emissions, and cumulative and growth-inducing impacts, as currently required under NEPA and CEQA.¹⁰ Many of these impacts are intrinsic to transit technologies, which by definition provide less-polluting mobility and are potentially disruptive to automobile travel and related land development. Although critics may argue that these exemptions would limit opportunity for community input and related mitigation measures, the existing transit planning process provides multiple opportunities for public input, separate from the environmental review process. Meanwhile, the exemptions would expedite environmentally beneficial transit projects by reducing their cost and planning time.

Policy makers should consider retaining requirements for studying the economics and public health impacts specific to proposed projects, such as for project alternatives (based on cost-effectiveness and ridership) and public safety. They should also consider expediting litigation timetables to reduce uncertainty and costs, perhaps through a dedicated dispute resolution venue at a neutral agency. These steps could greatly reduce the planning time for transit projects.

B. Bogged Down Construction

Transit projects can involve the most challenging and complex construction process of any infrastructure project. Costs for these projects are high for many legitimate reasons. Projects often occur in already-developed areas, with multiple property owners, utility lines, agency jurisdictions, local governments, building



stock types, traffic rights-of-way, and concerned neighbor groups. Tunneling or trenching must also consider seismic and geologic factors. In addition, building in urban areas requires expensive land or land rights purchases, such as for underground easements and track segments or substations. Labor costs and regulations have also increased with the more complex construction processes (which require extensive training to operate equipment), intricate communications infrastructure, and greater attention to workplace safety. Rail regulations require extensive testing of the equipment and routes even after construction is complete. Finally, the price of raw materials has increased, such as for copper and steel. These factors help explain some of the escalating costs and delayed timetables related to construction.

Yet political factors also increase construction costs unnecessarily. Local governments and opponents along the routes can exact changes that increase costs and delays. The aforementioned legal challenges to the Expo Line, for example, forced an additional station to slow the train cars, at the cost of time and effectiveness for thousands of riders. As another example, the Blue Line light rail line from Los Angeles to Long Beach traveled through a number of local jurisdictions in which city leaders along the route protested the line's implementation, including via a lawsuit by the city of Compton. Local

residents and city officials did not want trains traveling at street level near busy intersections due to the potential impacts on traffic and planned development projects. As a result, the transit agency had to build a number of aerial sections to elevate the tracks, which increased costs significantly.¹¹

Cities also can extract concessions over infrastructure costs that often should be covered by the cities themselves and not the transit agencies. When the Los Angeles transit agency removed the sewer lines, traffic lights, electric utilities, and other city-owned infrastructure from the construction path of the Blue Line, standard contract language required the agency to "replace" the infrastructure, which would rightly come out of the project budget. But if the replacement was superior to the original, the agency could deem it a "betterment" for which the city would have to contribute. Conflicts arose when cities claimed that infrastructure improvements were merely "replacements" and therefore refused to pay. James Okazaki, working for the City of Los Angeles Department of Transportation at the time, noted, "There were continuous disputes about whether changing up six-inch sewers to 10-inch sewers is a 'replacement' or a 'betterment.' Every intersection they went through, there were improvements. And a lot of those areas hadn't been worked on in a long time. That's why costs went up."¹² Finally, cities exact costly concessions from rail budgets for street widening and traffic

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Transit should have a higher priority than automobile traffic because transit modes carry more passengers and offer greater public utility for the environment, economy, and social equity.

mitigation in order to avoid delaying auto traffic – improvements that either should not be made in order to avoid inducing more automobile traffic or that should be funded by the local jurisdiction that wants them, rather than the transit agency.

Lack of adequate protections against overly generous contractor awards and poor construction oversight may also increase costs. Transit agency decisions to award contracts may be negatively influenced by campaign contributions, which can lead to higher costs to transit agencies. As an example, questionable contracts dogged the Los Angeles transit agency throughout the 1990s. Political races in major cities such as Los Angeles often require vast sums of money to run expensive television advertisements, and that pressure can sometimes induce elected officials to seek contributions from firms under consideration for transit bids. As Jeff Rabin, who covered the MTA for the *Los Angeles Times* during the 1990s, commented, “The MTA had an enormous ability to spend money and award contracts. Those contractors were campaign contributors to many of the supervisors and certainly to the Mayor of Los Angeles, who controls four of thirteen votes” on the MTA board.¹³ Contractors even made significant contributions to the Los Angeles County District Attorney, who was responsible for enforcing worker safety laws and investigating deaths of job accidents on rail construction sites. While allegations that campaign contributions result in overly expensive contracts and poor oversight are difficult to prove, they create a dynamic that is more likely to result in poor outcomes for taxpayers and transit riders.

Recommendations

Transit agencies should make better use of the initial planning period by employing advance purchases, up-front permitting, and early contracting. In response to the complex nature of building major transit projects in modern, urban environments, transit agencies can fast track planning and construction by engaging in some of the early, smaller construction efforts before final

design work is complete. Examples of work that could be undertaken early include utility relocation, property acquisitions, third-party agreements, and permits and approvals for relatively minor construction work, such as for equipment staging and utility relocation. These often time-consuming yet relatively minimal activities can be handled via simple early contracts in order to avoid delaying major construction later. To the extent that federal regulations prevent this advance work for projects funded with federal dollars, federal regulators should allow local agencies greater flexibility to pursue local innovation in proportion with the amount of non-federal funding they provide.

This advance construction approach may mean that the activities are undertaken in a broader-than-necessary fashion, without the detailed design finalized. For example, a transit agency may end up moving more utilities farther away than necessary or acquiring more real estate than needed for the ultimate route. However, transit agencies can potentially recoup these added costs through a faster and less costly construction phase (and investments in utility upgrades could also prepare the surrounding station-area neighborhood for future growth, provided the municipality contributes). This early work could thereby turn formerly sequential activities into parallel activities that speed major construction.

State and local leaders should ensure that transit projects do not have to accommodate automobile traffic flow with expensive modifications. Each elevated section, additional station, and local “betterment” to accommodate politically powerful constituencies along the route and to ease the flow of automobile traffic increases the costs and delays of transit. State and federal decision-makers should develop strict standards for these cost-incurring improvements to ensure that they are implemented solely to protect public safety, improve ridership, and ensure cost-effectiveness. In all other cases, transit should have a higher priority than automobile traffic because transit modes carry more passengers and offer greater



public utility for the environment, economy, and social equity. Transit projects should not have to fund street widening and other improvements meant to benefit auto flow.

Policy makers should therefore ensure that environmental analysis for transit under CEQA does not include auto delay as a significant impact. Currently, most lead agencies for CEQA, as well as congestion management agencies, use the “level of service” standard to ensure that new projects do not degrade automobile traffic below an acceptable level. SB 743 (Steinberg, 2013) removes this standard for projects at least within “transit priority areas,” defined under SB 375 (Steinberg, 2008), and potentially statewide. State and local leaders should extend this removal in congestion management programs and local general plans for all transit projects. Local transportation agencies and municipalities should also ensure signal priority for transit and cease requiring costly road expansions and other improvements to benefit automobiles at the expense of transit by adopting and implementing a “transit first” policy. To compensate, at-grade tracks should be outfitted with crossing guards and other features necessary to ensure public safety.

Federal and state leaders should offer incentives for local governments to implement more bus-only lanes on existing rights-of-way.

Local political resistance to bus-only lanes on major arterials and highways often torpedo these effective options to improve public transit service. Southern Californians have repeatedly resisted attempts to convert freeway lanes to bus-only lanes, as has been advocated since the Carter Administration in the 1970s. More recently, Angelenos refused to extend dedicated lanes on all of busy Wilshire Boulevard for buses, as well as other major boulevards, out of concern for the impacts on auto flow. However, building new transit lines on this existing infrastructure can greatly reduce construction costs (and planning time). Federal and state incentives, through grant funding and streamlined permitting, could encourage local governments to adopt these measures.

State leaders should develop and enforce rules to insulate contract decision-making and oversight from campaign contributions.

To address the appearance of impropriety and the potential financial consequences for taxpayers and transit

The public, through media outlets and community groups, should encourage elected officials to manage transit projects to completion faster.

Lowering the voter-approval threshold for local transit-related tax measures to 55 percent would enable more local transit funding.

riders, state legislators and officials may need to improve campaign finance laws and better enforce existing laws, such as SB 761 (Hayden, 1993), which prohibits any voting member of the MTA from influencing the awarding of contracts to campaign contributors on non-competitive bids. State policy makers could also consider creating separate, regional transit construction authorities in metropolitan areas that would be responsible for designing and building projects. These authorities could oversee the construction process without the conflict of interest challenges facing transit agencies and with greater accountability for on-time and economically efficient performance.

Media and interest groups should engage in greater public scrutiny of transit construction.

Greater public scrutiny of transit construction projects may motivate elected officials to manage contractors more closely. When Interstate 10 in Los Angeles collapsed after the 1994 Northridge quake and the “MacArthur Maze” in the Bay Area was damaged by fire in 2007, public scrutiny of the repair process, due to the centrality of those projects to auto commuters, prompted quicker-than-expected completion. The public, through media outlets and community groups, should similarly encourage elected officials to manage transit projects to completion faster.

C. The Overarching Need for More Transit Funding

While policy makers can use existing transit dollars more efficiently, both in the planning and construction phase, transit funding shortfalls continue to hamper badly needed expansion. More funding for transit would also help address some of the political conflicts associated with transit deployment. For example, in many instances, grade separation would improve transit travel times and avoid political battles with residents concerned about impacts on automobile drivers and pedestrians. But tunneling underground or building overhead lines instead is costly, with a general rule that

overhead lines are twice as expensive as at-grade construction, while tunneling costs three times as much. Increased funding for transit could pay for these alternatives, as well as support more projects and improved service.

Recommendations for policies to boost transit funding

Federal subsidies for local borrowing for transit.

Low or no-interest federal loans that can be repaid by future local transit revenues, such as from existing sales taxes, can allow local transit agencies to leverage existing streams to finance transit projects. Known as “America Fast Forward,” Congress passed legislation in 2012 to create this option but could expand the program to bolster more transit projects. In addition, the federal government could issue a new class of tax credit bonds to finance rail construction.

State legislation placing an initiative on the state ballot to decrease voter approval thresholds for transit taxes.

California’s constitution currently requires a two-thirds voter-approval threshold for local transit-related tax measures. Lowering that threshold to 55 percent would enable more local transit funding. This need became clear in 2012 when Los Angeles County voters failed to pass a sales tax extension measure, despite achieving a remarkable 66 percent approval. It fell roughly 15,000 votes short of the two-thirds threshold.¹⁴ Alameda County’s transportation sales tax measure also lost that year by a mere 800 votes, at 66.53 percent.¹⁵ New legislation pending in the state legislature would place a proposal to avoid these outcomes before the voters, who must approve such a constitutional change.

State legislation allowing tax-increment financing for transit.

Tax-increment financing allows local governments to borrow against future increases in property tax stimulated by rail investments. The upfront capital could fund transit improvements that



lead to property tax revenue increases to pay back the loans. Such local measures, with state-enabling legislation (including for expanded use of infrastructure financing districts), would present innovative means to capitalize on the private benefits bestowed upon property owners from rail transit and encourage local action to plan for more development near transit.

More state cap-and-trade funding for transit construction and operation.

California's cap-and-trade program seeks to reduce greenhouse gas emissions in accordance with AB 32 (Nuñez, 2006). Covered entities must purchase or trade for allowances for the greenhouse gases they emit, resulting in auction revenue for the state. The 2014 California state budget dedicated a percentage of this revenue (allocated at \$832 million in the first year) to transit construction and operation, including \$25 million for low-carbon transit operation.¹⁶ The state should consider increasing these totals in future years under the program, given the greenhouse gas reduction benefits of transit.

Local action to boost transit funding.

Cities and counties can increase real estate transfer taxes and institute benefit

assessment districts (where property owners vote to fund transit improvements in their vicinity via assessments on their property tax bills) to support transit.

Conclusion

Despite the current inadequate levels of funding for public transit, fiscal pressures can have the positive result of encouraging innovation and better use of existing resources. Recent examples include "rapid buses" that skip stations to provide express service and relatively inexpensive bus rapid transit that functions like rail on rubber tires on dedicated rights-of-way or bus-only lanes. Further innovation will now be necessary to decrease planning and construction timelines and costs. Advocates and policy makers should ensure that these streamlining efforts do not jeopardize public safety or compromise the long-term soundness of transit projects. But with improved processes, transit leaders can maximize existing resources and put transit projects, like the future Los Angeles downtown regional connector, back in the fast lane.

Endnotes

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- 7 For more information, please visit: <http://www.arb.ca.gov/research/health/fs/fs1/fs1.htm> (accessed August 30, 2013).
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- 9 For more information about the MTC policy, please visit: http://www.mtc.ca.gov/planning/smart_growth/tod/ (accessed June 20, 2013).
- 10 Notably, SB 743 (Steinberg, 2013) amended CEQA to replace the existing formula to analyze transportation impacts with a broader metric that encompasses other modes of travel and greenhouse gas emissions, promising significant improvement for future transit projects on this issue. SB 743 (Steinberg), Chapter 386, Statutes of 2013. Available at: http://leginfo.ca.gov/pub/13-14/bill/sen/sb_0701-0750/sb_743_bill_20130927_chaptered.pdf (accessed October 15, 2013).
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- 14 Los Angeles County’s Election Results, “Los Angeles County Measure J,” County of Los Angeles Registrar-Recorder, 2012. Available at: http://rrccmain.co.la.ca.us/0012_CountyMeasure_Frame.htm (accessed December 20, 2012).
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