

5 Transit, Race, and Neighborhood Change in Los Angeles and San Francisco

As capital and people were set into motion in Oakland and the East Bay in these years, a stunning fact of American political economy was always evident: restoring property values was easier, and a higher priority, than sustaining human communities. Powerful new institutions like BART ordered space in particular ways, but their actions were bound within a longer history of already ordered spaces.
—R. O. Self, *American Babylon: Race and the Struggle for Postwar Oakland*, 136

When transit systems are added to an existing neighborhood, a struggle often ensues. Even when transit reuses existing rail right-of-way (as is often the case in both San Francisco and Los Angeles), the very construction of the line and its stations can disrupt local activity and displace residents. Then, the new availability of transit can change a neighborhood's identity and transform property values. The residents, however, may have had little say in how the transit station's location was decided—or what would happen afterward.

The vast literature on neighborhood change pays little attention to the role of infrastructure, particularly transit, in reshaping areas—and who lives in them. Economists explain how housing markets and preferences function, sociologists focus on how residential sorting and segregation occur, and political scientists pinpoint how political economy shapes the distribution of resources across neighborhoods, but few mention the transit facilities that shape daily activity and access to city amenities and economic opportunities. Transportation planners may identify how investments are capitalized into land use, but they often neglect the impacts these investments have on people.

Thus, this chapter investigates how the development of transit systems intersects with neighborhood trajectories to reshape the lives of residents, with a particular focus on that “longer history of already ordered spaces” that affects both the decision to locate transit and the local reaction to it.

Specifically, after outlining the evolution of transit in Los Angeles and the San Francisco Bay Area, we examine the role of transit in attracting new development, and its possible link with gentrification and exclusion, reduction of housing affordability, displacement of residents, and racial inequity.

Overall, the new accessibility that transit brings to a neighborhood transforms its built environment and results in significant shifts of neighborhood population. In particular, when new transit is located in low-income communities of color, it tends to attract in-movers who are more affluent and transforms the area. The devil is in the details, however: the impacts of new transit lines vary depending on their location within the region and the specific local contexts for each station. But let's start the story from its beginning and detail how railway networks were first established in San Francisco and Los Angeles.

The Context for Change: The Development of Transit Systems in San Francisco and Los Angeles

Much of San Francisco's current rail network—the San Francisco Municipal Railway (MUNI), Bay Area Rapid Transit (BART), Caltrain, and the Santa Clara Valley Transportation Authority (VTA)—follows rights-of-way established over a century ago in the region's streetcar, commuter rail, and rail freight systems. In Los Angeles, many transit lines were embedded in existing rights-of-way of older railway lines or were sometimes built in the middle of freeways. This allowed transit agencies in the two regions to minimize land acquisition and construction costs as well as avoid the political perils of acquiring property and introducing the nuisances of a new train system to existing neighborhoods. Thus, many transit lines and stations are located far away from affluent neighborhoods, instead being sited adjacent to industrial areas or working-class neighborhoods. In the rare cases where new rail systems run through high-income areas, they often tend to be located underground.

This locational pattern has introduced tension in the low-income communities where new transit stations are located, generally exacerbating existing income and racial inequalities. For some neighborhoods formerly isolated by freeways or with locations adjacent to environmental hazards, the new investment comes as a shock. Previously ignored because of disinvestment, an aging housing stock, and declining commercial areas, these

neighborhoods may quickly gain new residents seeking the accessibility of the new transit. Other low-income neighborhoods, located nearer to downtown, were always relatively accessible. For these areas, the influx of new residents and capital has been more gradual over a long period of time, but the new transit station may accelerate the pace of change. In both cases, residents who are not property owners may not be able to stay in their neighborhood—and this is disproportionately the case for communities of color. The following sections examine how each region planned and constructed its transit lines.

San Francisco: Gradual Expansion of Fragmented Systems

The San Francisco Bay Area is home to four different rail transit systems, each developed in a different era and different type of community (figure 5.1). The city of San Francisco largely grew up around MUNI rail lines, and since these station areas are now fully built out, development that is more recent has tended to locate on vacant land in neighborhoods that had not formerly been transit accessible. In contrast, Caltrain is a revitalized commuter line that runs through low-density, predominantly white (at least originally) neighborhoods, to which it is able to attract significant new development (as described in the Redwood City case in chapter 6). Though the BART system was meant to reshape the metropolitan structure, including many communities of color, with dense new subcenters, its impact on land use has been relatively modest, in part because of the lack of supportive local policies (Cervero and Landis 1997). Learning from this experience, the VTA has made a more concerted effort to support joint development around its rail stations, which are located in both white and Latino neighborhoods. The following discussion describes each system in turn, from oldest to newest.

MUNI has the longest history of any transit system in the Bay Area, because it grew out of the horse-drawn omnibus lines, which dated from 1851 (San Francisco Municipal Transportation Agency n.d.). By 1875, there were already eight omnibus companies, with 80 miles of rail, competing for space with each other and with San Francisco's geography (Callwell 1999). Although cable cars were popular for a brief period at the end of the nineteenth century, streetcar lines proliferated under the new San Francisco Municipal Railway, with its 304 miles of track in 1921 following routes dictated by history as well as by the location of power plants (O'Shaughnessy

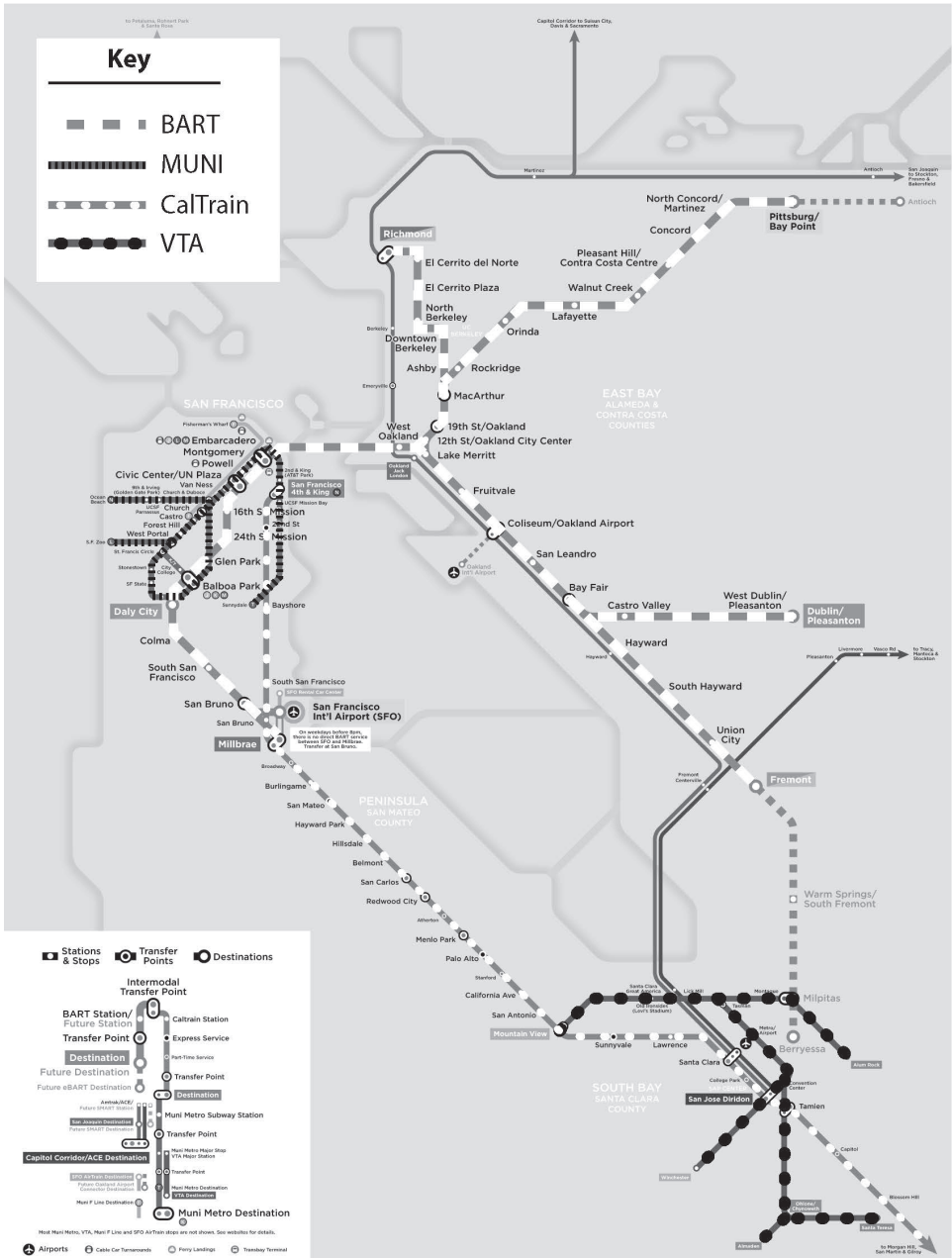


Figure 5.1

San Francisco Bay Area rail transit. Adapted by the authors from Steve Boland, Calurbanist.com.

1921). San Francisco's downtown and neighborhoods thus developed and matured around these train lines, and several hilly neighborhoods were untouched because the MUNI ran tunnels underneath them. Despite the mass conversion of streetcar lines to bus service after World War II, many of the MUNI lines were spared because of the agency's five tunnels and exclusive rights-of-way that could not be reutilized by buses; other lines were converted to trolley buses rather than motor bus lines because of the availability of free electricity (Boorse 2001; Callwell 1999). Development of new lines also stalled for several decades during midcentury because of anticipation of the development of BART stations—some of which never materialized (Callwell 1999). Expansion resumed in the first decade of the twenty-first century, with the construction of a new line to Bayview–Hunter's Point and a new tunnel to Chinatown. By 2017, MUNI had the third-highest ridership of any light rail system in the United States (after Boston and Los Angeles), with 52 million trips and 142 million passenger miles (American Public Transit Association 2017).

Caltrain originated from the commuter railroad originally opened in 1863 to connect San Jose to San Francisco, supported in part by bond issues in three counties (Amin 2017). Most of the route lay within a few blocks of the historic El Camino Real, and its planning unleashed a wave of speculation; the owners of land around the stations profited as developers began subdividing and building (Duncan 2005). Apart from new tunnels, there were no changes to the alignment of the 47-mile route after 1935 (Miller 1987). The system's ridership peaked in 1954, but by then employers had already begun building farther out on greenfield land, and highway capacity had expanded significantly (Amin 2017). Ridership began a rapid decline, bottoming out in 1977, and the line became deeply unprofitable (Amin 2017). The state department of transportation, Caltrans, took over service as it recovered, until the Peninsula Corridor Joint Powers Board took the reins in 1987. Subsequent changes included an extension to the city of Gilroy and the introduction of Baby Bullet express service, which improved travel times between the three key stations of San Francisco, Palo Alto, and Mountain View, which serve half of all its passengers. Caltrain ridership is the seventh highest among US commuter rail systems, with 18.4 million trips and 488 million passenger miles (American Public Transit Association 2017). Nine stations along the Caltrain route have committed to guiding the surrounding development via a TOD plan (Amin 2017).

In contrast, the regional BART system was not even conceptualized until a joint Army-Navy study in 1948 (Healy 2016). The vision for BART was as a regional hub-and-spoke system with San Francisco and, to a lesser extent, Oakland as the hubs. Though it was originally planned for six counties, planners dropped Marin County because of local resident opposition to paying for the cost of a new tube under the bay; Santa Clara and San Mateo counties also declined to join the BART District. Thus, the initially planned 123-mile system was reduced to 75 miles, and downtown San Francisco interests dominated the planning process. Even Oakland politicians struggled to impact the route, failing to win a station at Jack London Square because it would have added to the commuting time to downtown San Francisco (Self 2005). Thus, BART was quickly perceived as a system to accommodate the commutes of white middle- and upper-class suburbanites, reinforcing the “white noose” around the region’s diverse core communities (Self 2005, 195). BART’s creators also saw the system as a way to help minorities exit from their inner-city neighborhoods. As BART general manager B. R. Stokes stated, “The non-white clearly needs mobility, the freedom to move out of ghetto life on a daily basis; for others, on a lifetime basis” (quoted in Self 2005, 195).

Planners designed BART to run through tunnels through most of San Francisco and reutilized existing rights-of-way (particularly the old Key Route streetcar line) in Alameda and Contra Costa counties where possible. However, many suburban municipalities resisted the route alignment, and ultimately 15 of 33 planned stations were relocated (Healy 2016). Although Berkeley residents resisted the route through their downtown, they voted to tax themselves in order to build a tunnel. The predominantly black West Oakland residents were not as lucky. Despite dramatic impacts to the neighborhood from urban renewal projects and highways, West Oakland was not able to stop BART from using eminent domain to destroy its black business corridor (7th Street) at the heart of the city (Healy 2016).

Thus, when BART opened in 1973, the system featured a variety of stations: many underground, some through built-up areas, and others on greenfields. As discussed in chapter 2, studies of BART’s impact on development found that it was modest at best (Dyett et al. 1979; Cervero and Landis 1997). Where land use changes had occurred, primarily in downtown San Francisco, downtown Oakland, and a handful of suburban stations, it was because of proactive redevelopment agencies, supportive zoning, and a lack of local resident opposition (Cervero and Landis 1997). The tepid pace

of TOD has gradually persuaded BART to enact more joint development policies,¹ for example its Resolution 3434 (in 2001) mandating the adoption of minimum residential densities around greenfield stations. BART is continuing to expand within Santa Clara, Alameda, and Contra Costa counties. Initial ridership was higher than projections, and the system logged 137 million trips over 1.845 billion passenger miles in 2017, the most of all heavy rail systems in the state.

Perhaps building on BART's momentum, the VTA in Santa Clara County began to take shape after county voters approved a 1972 ballot measure establishing a new transit district (Santa Clara Valley Transportation Authority 2005). Shortly thereafter, the newly funded transit agency bought out three struggling privately operated local bus lines. Once voters approved a half-cent sales tax in 1976, planning for a new light rail system finally began to move ahead, and the system was completed in 1986. Even though streetcars had crisscrossed the region in the early twentieth century, the light rail lines followed just a few routes (figure 5.2). In 1988, a two-mile stretch of light rail opened in San Jose, and the full 21-mile system began service in 1991. Subsequent expansions, funded by a 30-year extension of the 1996 tax passed in 2000, reached north to Mountain View, east to Milpitas, and south to Campbell. Planners paid little attention to developing supportive land uses until 1995, when the VTA became the county's Congestion Management Agency and gained responsibility for the integration of multimodal transportation with land use; the VTA began a transit-oriented development program shortly thereafter. In 2016, the system logged 32 million passenger trips, covering 190 million miles.

TODs in the San Francisco Bay Area

The construction of new transit lines and stations presents an opportunity for TOD. Building walkable neighborhoods around transit both facilitates access to the station and potentially boosts transit ridership. New transit lines present opportunities for value capture strategies as well (i.e., recapturing via taxation or other methods some of the new land value created by the transit investment). In California in particular, many tools have emerged to promote TOD, including joint development on agency land, underwriting land costs, help with land assembly, financial incentives, streamlined planning processes, and sharing parking (Cervero 2003).

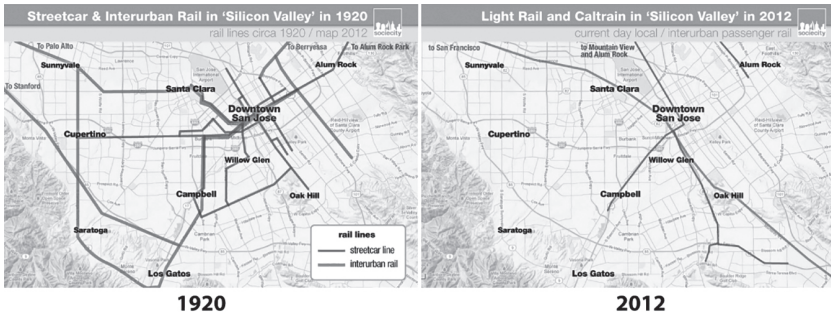


Figure 5.2

Fixed rail then and now in San Jose and Silicon Valley.

Source: <http://sociocity.org/post/2012/death-and-life-of-american-streetcar/>, ShareAlike 4.0 International (CC BY-SA 4.0).

When planning new transit systems, most transit agencies now propose, or at least mention, TOD near stations (California Department of Transportation 2011), but this was not always the case. As recently as 1990, there were few plans and mechanisms in place to build TOD in the state, and almost no examples to point to.

In the Bay Area, BART might well have served as a TOD model for the other transit systems, given its regional extent, but at least early on, little growth, particularly high-density residential development, materialized around BART stations (Webber 1976; Dyett et al. 1979). New office space typically outcompeted multifamily development around BART stations: from 1965 to 1993, the built square footage of office space increased from 28 percent to 46 percent, while the multifamily share declined from 23 percent to 18 percent (Cervero and Landis 1997). In general, the outlying suburbs were more successful at spurring residential development, benefiting from the availability of local land, the lack of opposition by local residents, and the proactive efforts of redevelopment authorities using a variety of tools to attract developers (Cervero and Landis 1997).

The challenges of developing housing around BART gave rise to renewed efforts to encourage development, led by the regional agencies, the Association of Bay Area Governments and the Metropolitan Transportation Commission (MTC), which in turn were pushed by civic organizations such as TransForm and San Francisco Planning and Urban Research (SPUR).² Nevertheless, even as TOD planning began in earnest in the 1990s with MTC's



Figure 5.3

TOD at Fruitvale.

Source: Photo by Eric Fredericks, <https://www.flickr.com/photos/neighborhoods/3158131357>.

Transportation for Livable Communities program, it became apparent that only a small amount of affordable housing would be built around transit, despite increasing need and income segregation in the region (Chapple, Hickey, and Rao 2007). Even as TODs such as Fruitvale (figure 5.3) won kudos for revitalizing low-income communities, questions arose about their potential for gentrification and displacement: Fruitvale offered just 10 subsidized housing units.

By 2007, seeing little progress, a group of regional nonprofits (Transform, Urban Habitat, and the Greenbelt Alliance) formed the Great Communities Collaborative, with the explicit goal of supporting equitable TOD. Although the extent to which their effort directly led to the construction of any affordable housing is debatable, stakeholders credit it with raising awareness and building political support for TOD (ICF International 2014).

As of 2018, there are almost 20 TODs constructed in the Bay Area, with dozens more under way or planned. Despite the long history of MUNI and



Figure 5.4

Mission Bay.

Source: <http://sfpublicworks.org/project/third-street-light-rail>, San Francisco Public Works Department.

Caltrain, both systems did not develop their first TODs until the early years of the new millennium. MUNI's light rail extension along Third Street created an opportunity for the development of the 303-acre site that became the University of California San Francisco's Mission Bay research campus, along with more than 1,000 housing units (figure 5.4); the Third Street Line also spurred a couple of small housing developments in the Bayview neighborhood. Several large TODs, including Treasure Island, remain in the planning phase.

Of Caltrain's 32 stations, only a handful already have significant commercial or industrial development that would preclude new TOD (HNTB Corporation, Strategic Economics, and Hexagon Transportation Consultants 2007). Caltrain's earlier TODs included Bay Meadows in San Mateo (built in 2008), with 1,100 units and over one million square feet of office space, and The Crossings in Mountain View (built in 1994), a mixed-use neighborhood with 540 units of housing. A half dozen other TODs have either been completed more recently or are under construction. Most stations still have constraints that hinder TOD construction, however, such as challenges with land acquisition or assembly, barriers in zoning ordinances, and poor connectivity between the station and the local community (HNTB Corporation, Strategic Economics, and Hexagon Transportation Consultants 2007).

BART has completed 12 developments, with almost 2,000 housing units and 200,000 square feet of commercial space, with several more in progress

Table 5.1
BART TOD projects completed and in progress

Status	Station	Total units	Affordable units	Percentage affordable	Office (SF)	Retail (SF)
Completed	Castro Valley	96	96	100		
	Fruitvale Phase I	47	10	21	27,000	37,000
	Pleasant Hill Phase I	422	84	20		35,590
	Hayward	170	0	0		
	Ashby	0	0	0	80,000	
	Richmond Phase I	132	66	50		9,000
	MacArthur Phase I	90	90	100		
	San Leandro Phase I	115	115	100	5,000	1,000
	West Dublin	309	0	0		
	East Dublin	240	0	0		
	South Hayward Phase I	354	152	43		
	Total completed		1975	613	31	112,000
Completed / planned	MacArthur Phase II	787	56	7		39,100
	San Leandro Phase II	85	85	100		
	Walnut Creek	596	0	0		
	Coliseum Phase I	110	55	50		
	West Pleasanton	0	0	0	410,000	
	Pleasant Hill Block C	200	0	0		
	Fruitvale Phase IIA	94	92	98		
	Total under construction and planned		1872	288	15	410,000
Grand total		3847	901	23	522,000	121,690

Source: <https://www.bart.gov/about/business/tod>.

(table 5.1). Most influential have been the Pleasant Hill and Fruitvale TODs. Pleasant Hill grew out of a planning process from the 1980s, making it one of the earliest examples of suburban TOD in the United States (California Department of Transportation 2002). Key to its success were the availability of land (in the form of a surface parking lot) and the reduction of parking requirements for office, retail, and housing. The Fruitvale Transit Village also stands out for its treatment of parking, notably the redevelopment and replacement of surface parking by a new parking structure and the mixed-use development (housing, office, retail, library, and health clinic). The project also revealed the complexity of TOD finance: its developer, the



Figure 5.5

Moffett Park.

Source: Photo by Pedro Xing, https://commons.wikimedia.org/wiki/File:Moffett_Park_VTA_1084_01.JPG, Wikimedia Commons.

Unity Council (a community development corporation with Latino roots), had to cobble together more than 20 sources of funding, each with unique requirements (California Department of Transportation 2002).

Although the VTA transit-oriented development program was a relative latecomer to the scene, it has made up for time through smart TOD design that promotes transit and pedestrian use (California Department of Transportation 2011). The VTA not only engages in station area planning and joint development but also reviews over 400 development projects annually to ensure integration with transit (Santa Clara Valley Transportation Authority n.d.). Still, some of its signature successes, such as Moffett Park in Sunnyvale, remain dominated by parking (figure 5.5).

As described further in chapter 10, MTC began implementing a TOD policy in earnest after 2000, which creates a framework for focusing future regional growth around transit stations. The Regional Transit Expansion Program (referred to as Resolution 3434) required that expansion projects

meet a minimum amount of housing development within a half mile of the station along the corridors to ensure future growth in transit ridership, to make the investments cost-effective, and to ease the Bay Area's chronic housing shortage, among other goals. Although these TODs are mandated to include neither affordable housing nor a minimum threshold for jobs, other programs, such as station area planning grants, are gradually evolving to address these issues.

TODs in greenfield station areas face few obstacles. In contrast, as the slow progress of TOD approval and construction suggests, local opposition is a barrier in infill locations, where existing communities do not always welcome the new development. In some cases, simple NIMBYism is at fault, but in others, the perception is that TODs will revive long-standing patterns of segregation and will not do enough to address the needs of existing low-income communities of color. Given the lack of new affordable housing in TODs, that fear is not unfounded.

Los Angeles: The Rise, Demise, and Rise Again of Railway Transit

Los Angeles has been inscribed in the public imagination as the city of the automobile, yet decades before the automobile took hold in Southern California, railroad lines defined the region's geographic territory, polycentric urban pattern, and eventual urban sprawl. The building of streetcar lines started in the late nineteenth century, and by 1925 Los Angeles had the largest electric interurban railway system in the world (Dear 1996), serving Los Angeles, Orange, San Bernardino, and Riverside counties.

The lines were owned by wealthy tycoons, who often carved the railway tracks through lands that they owned as a way to valorize their land holdings, which were then subdivided and sold to homeowners (Wachs 1996). By the turn of the century, two major lines were crisscrossing Southern California. The Pacific Electric (PE), owned by multimillionaire Henry Huntington, ran its Big Red Cars along 1,100 miles of track. At its peak in 1924, PE was operating 2,700 trains per day. The Los Angeles Railway, also owned by Huntington, ran its Yellow Cars in the middle of city streets, connecting shorter distances from downtown to neighborhoods to the north, south, east, and west. At its peak ridership, during World War II, it operated 742 streetcars on 316 miles of track (Wachs 1996) (figure 5.6).

These streetcar lines had a tremendous impact on the urbanization patterns of the Los Angeles region, as they opened up vast new territories for



Figure 5.6

(a) Big Red Car (Pacific Electric); (b) Yellow Car in Los Angeles.

Source: <http://www.flickr.com/photos/metrolibraryarchive>, NonCommercial-ShareAlike 2.0 Generic (CC BY-NC-SA 2.0).

suburban development at substantial distances from downtown (figure 5.7). Between the last quarter of the nineteenth century and the first quarter of the twentieth, streetcar suburbs such as Boyle Heights, Highland Park, Glendale, Burbank, Pasadena, and Santa Monica, among others, developed, and the region's population exploded from less than 5,000 people in 1870 to over 320,000 in 1910 (Wachs 1996).

Railway transit reached its heyday in Los Angeles in 1924, when it carried 109 million passengers annually, but thereafter it quickly started to lose ground to the automobile. A popular conspiracy theory pictured General Motors as being responsible for the downfall of public transit in Los Angeles (among other cities) because the company, along with Chevron, Firestone, and Mack Truck, had purchased railway stocks and eventually converted trolley lines into bus lines (Wachs 1996). However, as some scholars have argued, the decline of transit was primarily driven by the whim of the public, who voted with their feet and increasingly abandoned transit in favor of the automobile. These changing tastes meant decreasing ridership and revenue for the transit companies, which led to service reduction and lack of maintenance (Dear 1996; Wachs 1996). At the same time, the proliferation of automobiles brought increasing traffic congestion, which made the streetcars slow, unreliable, and even prone to crashes with automobiles.

Starting in the 1930s, public policy decidedly favored the automobile, as many rail transit lines were replaced by bus lines, a trend that rapidly accelerated in the 1950s. Most of the railway lines were phased out in the 1950s; the Red Cars completed their rides in 1961, and two years later, the Yellow Cars also stopped operating. Meanwhile, a different transportation system—freeways—was being superimposed on the Los Angeles region. The first segment of the Arroyo Seco Parkway, “the first freeway of the West,” was completed in 1939, connecting Pasadena to downtown Los Angeles. The substitution of one transportation system for the other was not equitable, however; it favored automobile owners, who were disproportionately wealthier and whiter. At the same time, the decline and eventual demise of reliable and effective public transportation left in the dust the largely carless low-income and minority communities that were residing in inner-city neighborhoods (Sides 2003).

Nevertheless, the many miles of freeways that were subsequently constructed in Southern California in the following decades would define the region's auto-centered urban form and transportation patterns. Martin

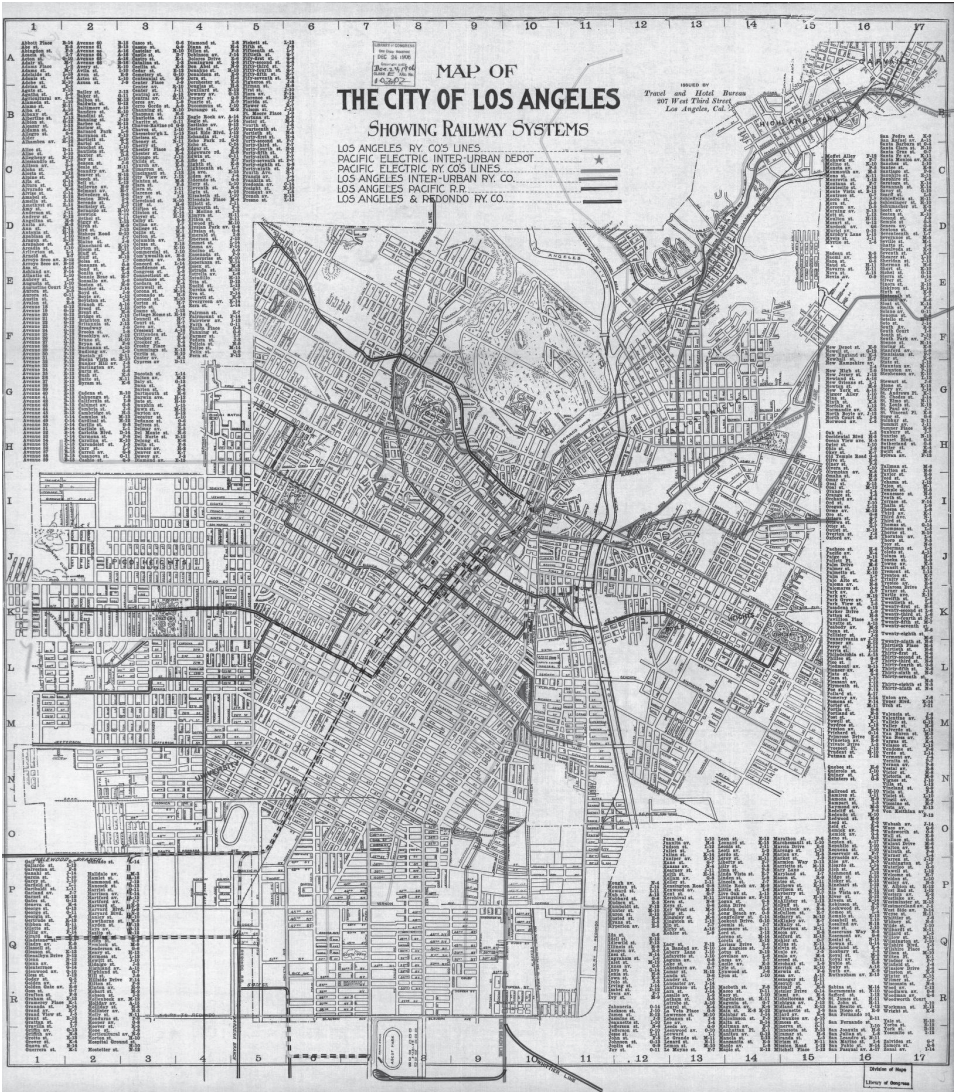


Figure 5.7
Pacific Electric lines in Los Angeles County.
Source: Library of Congress.

Wachs (1996, 117–118) explains that the rise of the automobile “had a lot to do with images of modernity associated with the different transportation modes and also with the balance of political power within the Los Angeles area.” Private cars and the GM-manufactured buses running on the then uncongested freeways epitomized modernity and were deemed by their proponents as far superior to the trains. Thus, a coalition of automobile advocates (spearheaded by the Automobile Club of Southern California), civic leaders, and suburban land developers pushed hard for a regional transportation network focused around the automobile.

Despite the dominance of the internal combustion engine, transit advocates in Los Angeles repeatedly sought to rekindle the importance of transit in the Los Angeles region, and over the next three decades (from 1950 to 1980) a number of transit projects were proposed but never materialized. A significant effort to reintroduce rail transit in Southern California was the state legislature’s establishment of the LA Metropolitan Transportation Authority in 1952. This agency, which in 1964 was renamed “Southern California Rapid Transit District” (SCRDT), was given the authority to levy taxes for the construction of a railway system if the public voted to develop such a system. However, different bond measures were unsuccessful in gathering the support of the majority of the electorate. Thus, while BART trains had started crisscrossing the Bay Area in 1973, Southern California could not jump-start a railway program, despite significant federal funding for rail transit capital investments (Wachs 1996).

Public sentiment, however, would tilt toward rail (re)construction in the early 1980s. Already in 1976, the California state legislature had established a new public agency, the Los Angeles County Transportation Commission (LACTC), which had the explicit aim of identifying funding for rail transit through ballot propositions. In 1980, LACTC put on the ballot Proposition A—a half-cent sales tax mostly earmarked for the construction of the region’s metro rail system—which was approved by the public. Several reasons stand behind this shift in public attitude in favor of rail, such as the availability of generous federal funding for rail projects, coupled with declining revenue for highway construction, and the realization that automobile traffic was primarily responsible for the region’s worsening traffic congestion and air pollution.

In 1992, SCRDT and LACTC consolidated as one agency, the Los Angeles County Metropolitan Transportation Authority (MTA or Metro), created to

plan, fund, construct, and operate public transit. The first leg of the new rail system was the Blue Line, which started operation in 1990, connecting downtown Los Angeles to Long Beach. In 1990, voters again favored another half-cent sales tax, allowing LACTC to buy the right-of-way of Southern Pacific and initiate the construction of Metrolink, Southern California's suburban commuter rail system. Over the following decades, Southern California voters would consistently pass transit-friendly propositions, adding more local funds to rail transit projects.

It should be noted that not everyone in Los Angeles welcomed the reintroduction of rail transit. Interestingly, opposition to the building of the Metro rail system came from both the wealthy and the poor. Powerful congressman Henry Waxman, representing his affluent constituents, successfully stopped the rail system from intruding into the wealthy Westside and Beverly Hills communities, under the assertion of possible risk from a methane fire, later proven false (Berkowitz 2005). At the same time, an activist organization, the Bus Riders Union, acting on behalf of lower-income bus riders, most from communities of color, sought to block the Metro project through litigation, claiming that funds for the rail system were being taken away from bus improvements, thus disadvantaging poor Los Angelenos (Soja 2010). Fueling these conflicts, in part, were deep-seated tensions dating back to the disinvestment in some of these same communities, including removal of the historic streetcar lines.

Despite these hurdles, railway construction proceeded at a rapid pace in the 1990s and the following decade, reinstalling in the Southern California terrain a mesh of six Metro lines (see table 5.2 and figure 5.8), composed of 116 miles of railway track and 119 stations, and carrying 111,458,473 riders in 2016—interestingly, about the same number as in the peak year of the original streetcar system—making it sixth in the country in both passenger trips and miles (American Public Transit Association 2017; Metro 2017). Some lines (such as the Blue Line and Expo Line) followed existing rights-of-way of earlier railway systems, while others (such as parts of the Green Line and Gold Line) were built in the middle of freeways. As Wachs argued, “From being unable to reach consensus on a single rail project prior to 1970, the LA region turned transportation politics on its head and pursued the most vigorous transit capital investment program of any metropolitan area in the country” (Wachs 1996, 138).

Table 5.2
Southern California's public transit lines

Line	Route	Beginning of operation	Type of rail
Blue Line	Downtown LA to Downtown Long Beach	1990	Light rail
Red Line	Downtown LA to N. Hollywood	1993	Heavy rail (subway)
Purple Line	Downtown to Mid-Wilshire	1993	Heavy rail (subway)
Green Line	Redondo Beach to Norwalk	1995	Light rail
Gold Line	Downtown LA to Pasadena	2003	Light rail
Gold Line Eastside Extension	Downtown to East LA	2009	Light rail
Gold Line Foothill Extension	Pasadena to Azusa	2016	Light rail
Expo Line	Downtown LA to Santa Monica	2012	Light rail
Metrolink	Operates in Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties	1992	Heavy commuter rail

Source: Compiled by authors from <https://www.metro.net/news/facts-glance/>.

TODs in Los Angeles

The lucrative federal incentives for rail projects, the worsening environmental conditions in the region, and the lobbying from labor unions were not the only factors driving the resurgence of rail in Los Angeles. Jonathan Richmond (2005) attributes the shift in public sentiment in favor of rail construction to the ability of its proponents to invent a powerful “myth.” This capitalized on nostalgia for the past, when the Big Red Cars were the main transportation option for Los Angelenos, and a belief in an idealized future of higher density and walkable pockets around transit stations. There were also promises by politicians about development and economic benefits that transit lines would bring to their adjacent neighborhoods (Loukaitou-Sideris and Banerjee 2000).

This did not happen overnight, however, and transit-oriented development in the region initially had a slow start. Examining the areas around the Blue Line stations in 2000, 10 years after the inauguration of this first leg of the Metro rail system in Los Angeles, Loukaitou-Sideris and Banerjee (2000)

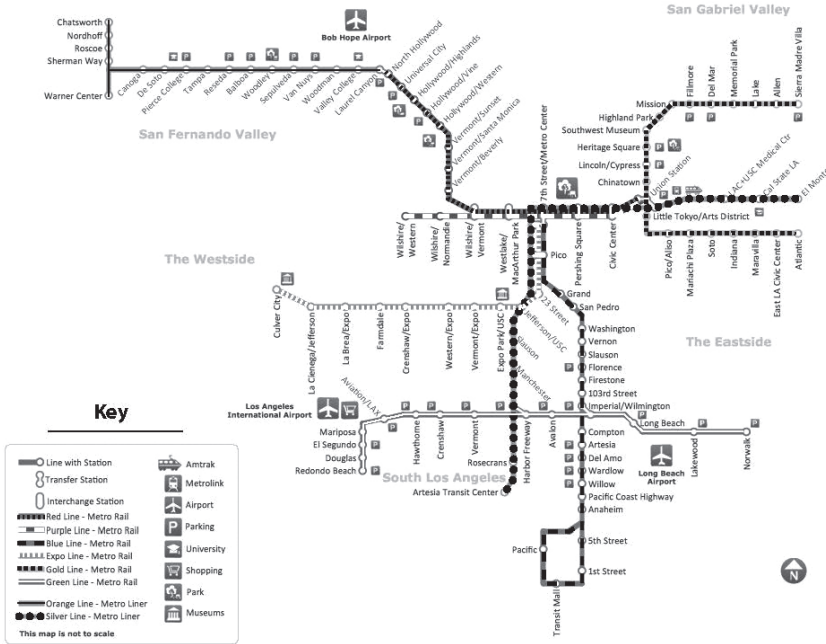


Figure 5.8

Metro Line network in Los Angeles County.

Source: Adapted by authors from <https://media.metro.net/documents/90e3378c-e786-4cc7-8f4b-88fc15a4b3b3.pdf>.

found very little development, with the exception of the downtown stations. They observed that TOD was hindered by a combination of planning, environmental, social, and economic problems, and a number of missing antecedents for development. Planning problems included lack of anticipatory planning by municipalities and jurisdictions and a lack of coordination among the different public sector agencies to instigate joint development opportunities. Environmental problems included many contaminated sites in the vicinity of stations. Much of the land along the Blue Line corridor was simply not fit for new housing or neighborhood development or was zoned for uses not compatible with TODs. Most of the Blue Line stations were located in low-income, minority neighborhoods characterized by many of the social problems that can beset inner-city communities—poverty, unemployment, and crime—which gave them a negative image for TOD investment. At the time, such neighborhoods were also lacking the political clout

to voice their opinions or demand affordable housing, commercial, and mixed-use projects. Lastly, economic problems such as the inflated cost of land near stations, combined with a general lack of development incentives, frustrated TOD efforts (Loukaitou-Sideris and Banerjee 2000).

Most of these problems were not present in the case of the Red Line, which opened in 1993, connecting downtown to North Hollywood, passing through some dense urban neighborhoods, a few miles west of downtown Los Angeles. In fact, this line's impact has been considered catalytic for the revitalization and gentrification of Hollywood (Steckler and Payne 2012). By the early years of the twenty-first century, a number of TODs had appeared around Red Line stations. In particular, the vicinity of the three Red Line stations along Hollywood Boulevard (Hollywood/Highland, Hollywood/Vine, and Hollywood/Western), which were part of a redevelopment area, witnessed intense commercial and condo development (figure 5.9) triggered by joint development projects and by a Community Redevelopment Agency strategy that focused investment around stations. Some of these TODs, such as the W Hotel and Condos on Hollywood/Vine and the



Figure 5.9
Hollywood Boulevard commercial development.
Source: Los Angeles County Metropolitan Transportation Authority.



Figure 5.10

Hollywood/Vine: W Hotel and Condos.

Source: Los Angeles County Metropolitan Transportation Authority.



Figure 5.11

Hollywood/Vine Apartments.

Source: Los Angeles County Metropolitan Transportation Authority.

Hollywood/Vine Apartments, were built on land owned by Metro (figures 5.10 and 5.11). A 2012 report about Hollywood's comeback had this to say:

By 2009 the demographics of Hollywood's residents had changed: they owned more cars, composed smaller households, and had higher incomes than the previous area residents. Despite all the development, the study outlines that the number of people living in central Hollywood fell by about 10 percent, while population in the city grew by about 9 percent. Per capita income rose 34 percent in Hollywood, but only 2 percent citywide. And there was an increase in car ownership despite the easy availability of high-quality transit: The area witnessed a 32 percent decrease in car-free households, while households with one car increased by 15 percent. This information has implications for ridership on the transit system. All the numbers suggest that, despite the city's extraordinary efforts to keep housing affordable, Hollywood is gentrifying. (Steckler and Payne 2012)

Similarly, the construction of the Gold Line, the first leg of which opened in 2003, connecting downtown Los Angeles to Pasadena, triggered significant development activity around its stations. By the time the Gold Line was built, many Southern California municipalities had become increasingly eager to make TODs happen by specifically planning for them and offering development and financial incentives (figure 5.12). For example, the cities of Pasadena and South Pasadena prior to the opening of the Gold Line and in anticipation of it had designated TOD districts, offering increased densities and reduced parking requirements to developers willing to build there. Similar to the Red Line, some of the properties now housing TODs around the Gold Line stations (such as the apartment housing development in the Sierra Madre Villa station and the mixed-use development in the Del Mar station) were sold to developers by the public agency (in this case, the Gold Line Construction Authority). The development incentives and enabling policy environment found a receptive audience in developers, who built a number of TODs around the stations of the Gold Line (Loukaitou-Sideris 2010).

By the 2010s, TODs had become the cornerstone of the region's planning. The county of Los Angeles has sought to concentrate the bulk of development in the region's unincorporated areas around transit stations, designating new transit-oriented districts and preparing TOD Specific Plans that incentivize development to locate within these districts (Los Angeles County Department of Regional Planning website). Similarly, starting in 2012, the city of Los Angeles initiated the preparation of Transit Neighborhood Plans



Figure 5.12

Aerial view of Lincoln Heights Station area under construction.

Source: <https://www.flickr.com/photos/19902364@N00/85449677/in/album-1824460/>, NonCommercial 2.0 Generic (CC BY-NC 2.0).

(TNPs) to also concentrate the city's development around its expanding railway network. Metro has also initiated a joint development program that actively seeks to collaborate with developers and build TODs by often underwriting or sharing some costs. Providing housing for a mix of incomes is listed as a goal in most of these plans, and transit-oriented districts are described as “keys to enhancing affordable living” (Center for Transit-Oriented Development 2010). But is this assertion true, or have transit stations resulted in gentrification of their adjacent areas, with displacement of the original residents? In the next section, we will examine this question with an empirical analysis of Los Angeles and the Bay Area.

Defining and Describing Gentrification and Displacement

As noted in previous chapters, there is considerable disagreement about how to define gentrification and displacement, with some even equating

the two. In order to determine how proximity to transit shapes gentrification and displacement, we decided to make an analytical distinction between the two. We consider gentrification as neighborhood transformation that is characterized by both an influx of new investment and an inflow of new people, typically having higher educational and income levels than the original residents. As discussed in chapter 3, this definition thus encompasses both *upgrading* and *upscaling*. In contrast, displacement is a situation experienced by incumbent residents when they are forced out of neighborhoods or cannot move into them. These areas then experience a net loss of affordable housing and/or low-income residents. To operationalize these definitions, we use several sources of secondary data on households and housing prices, described in the following section.

Data Sources and Terms

Gentrification Following Freeman (2005) and Bates (2013), we used the criteria outlined here to define a neighborhood (census tract) as having gentrified between two time periods (Year 1 and Year 2).

In Year 1, a tract was classified as eligible for (or vulnerable to) gentrification if it met all of the following criteria:

1. The tract had a population of at least 500 residents
2. The tract had at least three out of four of the following indicators indicating vulnerability to gentrification:
 - Percentage of low-income households (household income below 80 percent of the county median) above the county median
 - Percentage of college educated (bachelor's degree or higher) below the county median
 - Percentage of renters above the county median
 - Percentage nonwhite above the county median

In Year 2, a tract was considered gentrified or gentrifying if it met the following criteria:

1. Demographic change between Years 1 and 2
 - Change in percentage of college educated above that of the county (percentage points)
 - Change in median household income above that of the county (absolute value)

For Los Angeles only:³

- Change in percentage of non-Hispanic whites above that of the county (percentage points)

2. Investment between Years 1 and 2

Growth in either

- Single-family sales price per square foot above the regional median or
- Multifamily sales price per square foot above the regional median

For the Bay Area:

- Home value above the regional median

For Los Angeles:

- Change in the median household rent value above the change in the regional median

Using the criteria for the Bay Area, we find that 83 tracts gentrified between 1990 and 2000, and 85 tracts gentrified between the years 2000 and 2013 (for a total of about 10 percent of all tracts). Of the 85 that gentrified between 2000 and 2013, 19 were tracts that gentrified between 1990 and 2000 as well. In total, we estimate that 149 tracts gentrified between 1990 and 2013, or about 9.4 percent of the total. In Los Angeles, using a somewhat different definition of gentrification, as explained in note 3, we find that 81 tracts gentrified between 1990 and 2000 and 82 tracts gentrified between 2000 and 2013. Of the 82 tracts that gentrified between 2000 and 2013, eight had also gentrified in the previous decade. We estimate that a total of 155 tracts gentrified between 1990 and 2013 in Los Angeles, or 6.6 percent of the total.

Exclusion Exclusionary displacement creates barriers that make it difficult for disadvantaged residents to move into a neighborhood. To analyze exclusion, we look at the share of newcomers by demographic and socioeconomic characteristics. Specifically, we focus on the share of newcomers who are in poverty (and also over age 15), have high income (with household income over 120 percent of the county median), are non-Hispanic whites, are individuals with less than a high school diploma, and are persons with a bachelor's degree or higher (persons 25 years old or older).⁴

Changes in affordable housing For this analysis, we look at a more direct measure of displacement by examining the loss of affordable housing as a

proxy for the loss of households. We measure this by analyzing the change in affordable rental units, Section 8 vouchers, and subsidized units, including Low-Income Housing Tax Credit (LIHTC) units, from 2000 to 2013.⁵ We define affordable rental units as those where low-income households are paying less than 30 percent of their income on rent. Researchers often call these “naturally occurring” affordable housing since they are not subsidized by government but rather are units produced by the market that decrease in quality and thus price.

Loss of low-income households Another approach to estimating displacement is by using the loss of low-income households. Because of the lack of readily available panel data on where households live, it is not possible to measure displacement of individual households directly.⁶ Instead, we measure the number of low-income households at Year 1 (e.g., 1990) and Year 2 (e.g., 2000) to determine the change, which may occur either because of neighborhood turnover or from changes in income experienced by existing residents.

Although this measure has rarely been used before, it is one of the best proxies that is readily available. Researchers have found that neighborhood composition in the United States is considerably stable (Wei and Knox 2014; Landis 2016). In general, the number of low-income households is increasing in the United States because of increasing income inequality. For example, the average Bay Area census tract saw an increase of 59 low-income households between 2000 and 2013. Therefore, we may assume that any neighborhood that experienced a net loss of low-income households while remaining stable in overall population has experienced displacement pressures.⁷

Development in Transit Neighborhoods

As a first step toward understanding the relationship between transit and gentrification, we examine new residential development in transit neighborhoods. As chapter 3 showed in its review of approaches to understanding gentrification, “new-build” development can be a key indicator of a gentrification process in some neighborhoods.

We use the term “transit neighborhood” here to encompass the built environment within a half-mile radius of a fixed-rail transit station. This

is a broader term than TOD, which generally refers only to the new or redeveloped property in the vicinity. This section examines the location of transit neighborhoods and characterizes the different types of development that have occurred within them.

The number of rail stations in the Bay Area has more than doubled since 1990. Thus, as of 2014, there were 548 census tracts within a half mile of rail transit in the Bay Area, or just over one-third of all tracts, mostly clustered in heavily populated areas. In 2000, 488 census tracts were near transit, while in 1991 there had been just 418.

One way of differentiating between transit neighborhoods is by the amount of development of both housing and transit that has occurred. In the San Francisco case, we use a cluster analysis to distinguish between transit neighborhoods that have significant subsidized housing development (near existing transit), transit areas with significant private development near transit, and transit areas with very little development at all (despite some new transit) (figure 5.13). Altogether, the first decade of the new

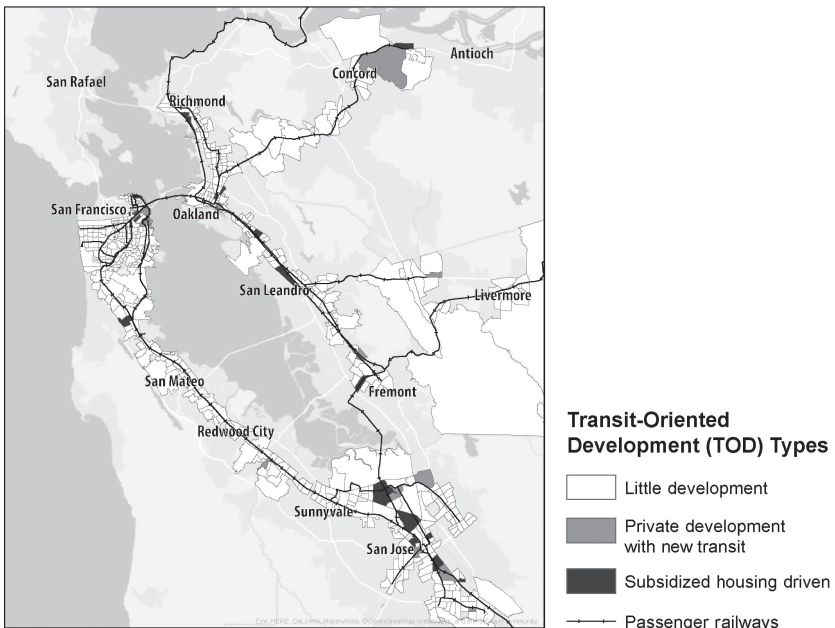


Figure 5.13

Development tracts in the Bay Area. Calculations by the authors.

millennium saw the construction of some 85,200 market-rate units and 22,700 subsidized units in transit neighborhoods.⁸ However, this development has been highly concentrated in just a few neighborhoods. The vast majority of transit neighborhoods (93 percent) have seen little development of any kind, 24 tracts have seen mostly subsidized housing development, and 14 tracts have mostly gained private development.

Similarly, despite its 80 transit stations and 387 transit neighborhoods, Los Angeles has seen significant development in just 21 of its transit neighborhoods, or 5 percent of the total. Overall, Los Angeles experienced significantly less residential development in its transit neighborhoods than the Bay Area did, with just 9,700 market-rate units and 5,000 subsidized units constructed.⁹ Transit neighborhoods in Los Angeles clearly show the impact of Metro's joint development program. Based on a cluster analysis, almost two-thirds (13) of the transit neighborhoods can be characterized as a mix of market-rate and subsidized housing units in Metro joint development projects (figure 5.14). Four transit neighborhoods feature new development primarily in the form of subsidized housing (LIHTC units). The remaining four neighborhoods (including, for example, the Arts District in downtown) host development that is privately driven, with a couple of hundred subsidized units as well.

Development and gentrification do not have a clear relationship in transit neighborhoods. Figures 5.15 and 5.16 map the extent of gentrification in transit neighborhoods in the Bay Area and Los Angeles, respectively, for the decade of the 1990s, the following period (2000–2013), and both combined. As noted, both regions experienced gentrification in about 150 neighborhoods (though we use a more conservative definition in Los Angeles, which may underestimate its extent). Many transit neighborhoods do not undergo gentrification, either because they were not low income to begin with or because there was not sufficient demographic change during the time period of analysis.

In the vast majority of neighborhoods, neither development nor gentrification occurred (figure 5.17). Where development did take place, it was often without gentrification. Similarly, where gentrification has occurred, it has typically been without development. Having failed to find a simple relationship between gentrification and development, we next model gentrification, in order to identify the factors that may predict it.

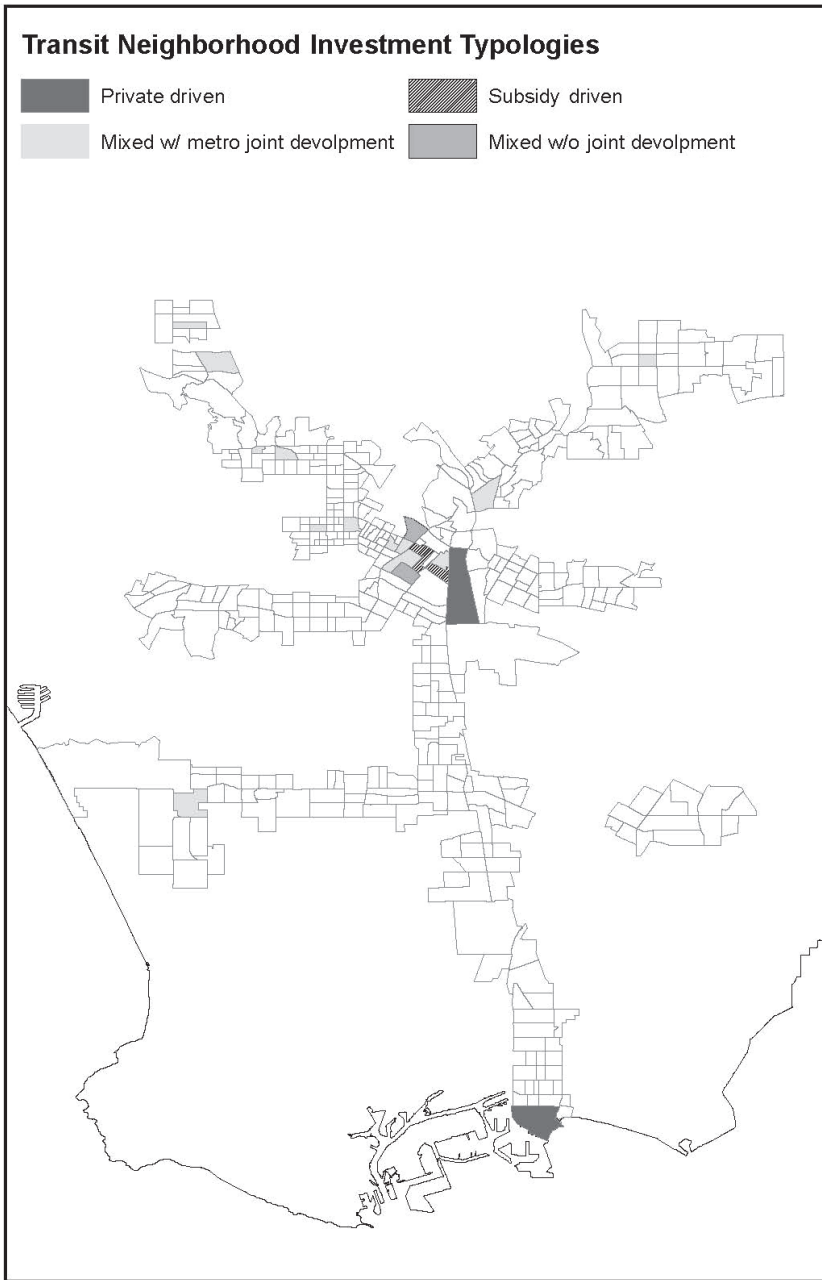


Figure 5.14
Development tracts in Los Angeles County. Calculations by the authors.

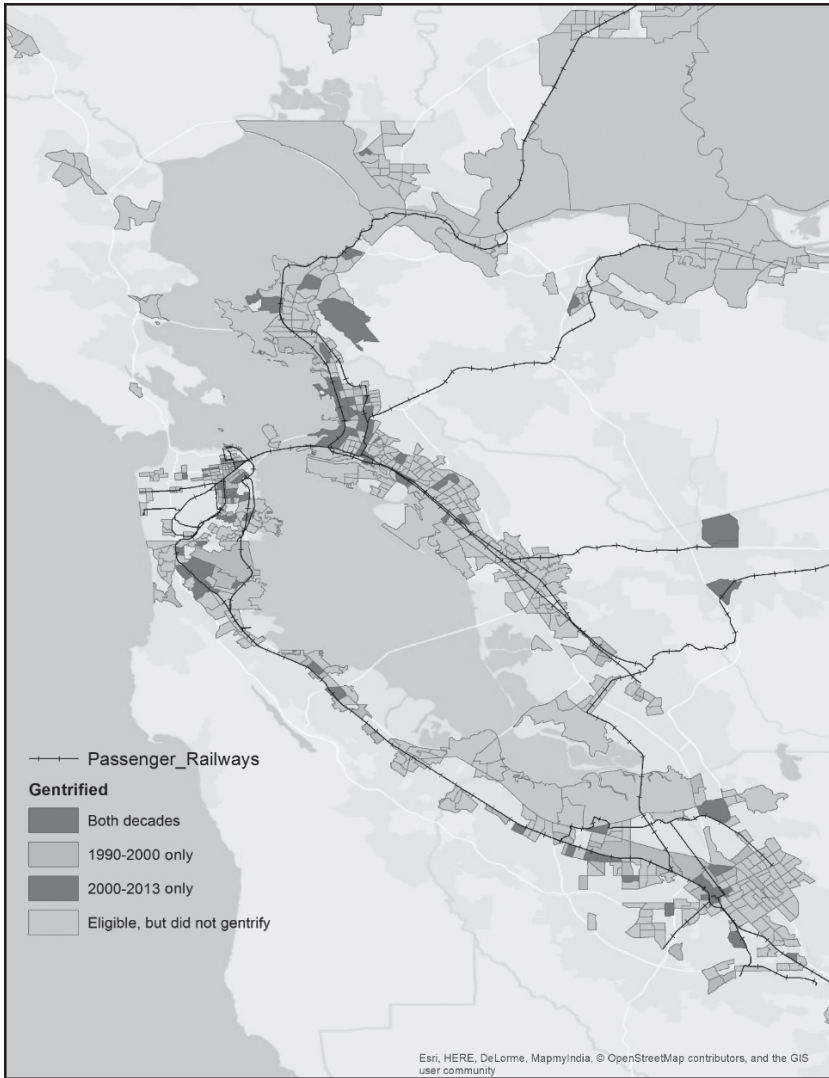


Figure 5.15
Gentrification in transit neighborhoods, Bay Area. Calculations by the authors.



Figure 5.16
Gentrification in transit neighborhoods, Los Angeles. Calculations by the authors.

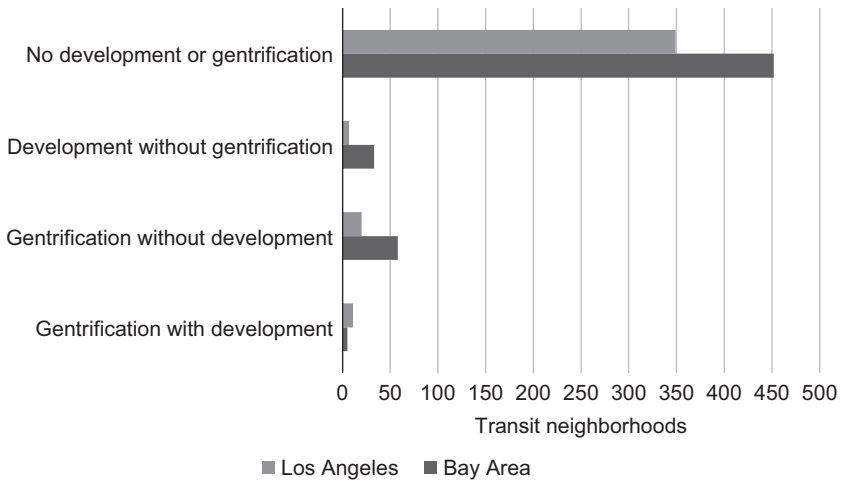


Figure 5.17
 Relationship between gentrification and development, Bay Area and Los Angeles. Calculations by the authors.

Modeling Gentrification

As we noted in chapter 4, gentrification does not follow a set schedule; processes may unfold over a few years or decades. It is also possible that the characteristics of gentrification shift over time, for instance as housing market preferences evolve. Thus, for each region, we model gentrification for two individual time periods, 1990–2000 and 2000–2013, looking at the subset of gentrification-eligible tracts in each region (tables A.1 and A.2 in appendix A).

In the San Francisco Bay Area, only established stations (those built in the 1990s) appear to positively influence gentrification. In the 1990s, they predicted gentrification in both the three major cities (Oakland, San Francisco, and San Jose) and the rest of the region, but by the following decade, the effect was seen only downtown. A similar pattern can be observed in Los Angeles, where a downtown location is significant in both decades. In that region, however, both established (1990s) transit neighborhoods and very recent (post-2012) ones have a positive impact on gentrification. However, neighborhoods that gained transit in the first decade of the new millennium have a negative effect on gentrification. It is unclear why; perhaps it has to do with the specifics of the communities where the stations were built in that decade, which cannot be captured in aggregate census data.

These results suggest that if transit has an impact on gentrification, it generally takes decades to unfold. Gentrification is also far more likely to result if a station is located in the core of the region rather than at the periphery. Although our models do not account for this possibility, it could be that other factors are influencing gentrification as well. For instance, the redevelopment of downtown Los Angeles may have had just as much of an effect as its new accessibility.

We sought to control for two other factors that could influence gentrification: the percentage of all housing units that were built before 1950 and tract-level job density. In Los Angeles, both are significant in both decades. For the Bay Area, the share of older housing is only significant in the latter decade, potentially reflecting shifts in neighborhood and housing preferences.

In the United States, the concentration of minority populations in neighborhoods is thought to play a significant role in making them vulnerable to gentrification, perhaps because of the lack of economic power of these populations to withstand market forces, as well as the long-standing disempowerment and even trauma they have experienced (Pinderhughes et al. 2015). Indeed, in Los Angeles, neighborhoods with concentrations of African Americans, Latinos, and Asians were more likely to gentrify in the 1990s. However, this had shifted by the following decade, when neighborhoods with a higher share of nonwhites in the population were actually less likely to gentrify. Most likely, gentrification was initially concentrated in minority areas and then shifted to other neighborhoods, or alternatively, neighborhoods that lost much of their minority population in the 1990s continued to gentrify in the next decade. In the Bay Area, race and ethnicity are less likely to play a significant role: only African American neighborhoods significantly attract gentrification, and only in the decade after 2000, possibly reflecting shifts in neighborhood preferences or housing availability.¹⁰ This suggests that as the housing market tightens further, more communities of color may be at risk.

Gentrification is not an end state. For the tracts that have gentrified, neighborhood change is occurring before and after gentrification. On an ongoing basis, neighborhoods experiencing gentrification are often also experiencing fewer low-income households moving in, are losing their naturally occurring affordable housing, and are continuing to lose low-income residents. We turn next to these indicators.

Modeling Exclusion

As chapter 3 notes, although researchers disagree about the extent to which gentrification leads to displacement, they concur that gentrification is strongly associated with exclusion. Low-income neighborhoods traditionally experience a disproportionate share of churn, or resident turnover (as discussed further in chapter 8). When neighborhoods gentrify, there are fewer opportunities for low-income households to move in.

To model exclusion, we look at the change in the share of in-movers in the neighborhood (in the past year) who are in poverty (persons 15 years old or older), have high income (household income over 120 percent of the county median), and are non-Hispanic whites, individuals with less than a high school diploma, and those having a bachelor's degree or higher (persons 25 years old or older) (see tables A.3 and A.4 in Appendix A). After accounting for the demographic and socioeconomic characteristics (race and ethnicity, income, and tenure) of the neighborhood, individuals in poverty actually are associated with moving into downtown transit neighborhoods in the Bay Area, while they are excluded from nondowntown transit neighborhoods in Los Angeles. This may be related to the location of housing opportunities for low-income households in both regions: in the Bay Area, much new subsidized housing construction is in transit neighborhoods, while Los Angeles, particularly outside downtown, has seen less. Conversely, higher-income, better educated, or non-Hispanic white persons make up a higher share of movers into all transit neighborhood areas, *ceteris paribus*. However, in both regions, the higher the share of African American, Asian, and Latino residents, the less likely that high-income, highly educated, and/or non-white populations will move in.

Modeling Changes in Affordable Housing

Affordable housing comes in many different forms, including the units produced by the market that filter down to lower-income households, the units subsidized by Section 8 housing choice vouchers, and units subsidized by the state or federal government (via LIHTC or other means). Each of these types is vulnerable to loss. Affordable units are also lost via conversion to condominiums or, most directly, eviction of residents.

We first examine what is happening with the housing market overall, in regard to the change in affordable rental units (see tables A.5 and A.6 in Appendix A).¹¹ Transit neighborhoods are significantly associated with the loss of affordability in Los Angeles but not in San Francisco. This may reflect the hot market in San Francisco, which creates additional pressures on the housing stock beyond the effect of proximity to transit.

We then look specifically at subsidized housing, both changes in Section 8 and units in subsidized projects.¹² Again, for Section 8, the presence of transit does not significantly affect changes in Section 8 or other subsidized housing in the Bay Area, perhaps because of other market pressures. In Los Angeles, transit neighborhoods outside downtown are losing Section 8 units, despite an overall increase of such units in Los Angeles County within the last decade. Federally subsidized housing offsets some of the loss; location in a transit neighborhood positively predicts the addition of federally subsidized housing throughout Los Angeles, but in the Bay Area, only in the major cities. In general, in both regions, minority (African American or Latino) neighborhoods are associated with increases in affordable and subsidized housing.

The loss of apartments to condo conversion in transit neighborhoods (see tables A.7 and A.8 in Appendix A) is significant only in Los Angeles, perhaps because of the prevalence of condo conversion regulations across the cities of the Bay Area. Eviction data, available only for the city of Los Angeles and the city of San Francisco, suggest mixed results. In Los Angeles, Ellis Act evictions are occurring relatively less frequently in downtown transit neighborhoods and are not significant outside downtown.¹³ In San Francisco, location in a transit neighborhood increases fault (and overall) eviction rates but not no-fault evictions. In general, communities of color in both regions are associated with lower eviction and condo conversion rates, with the exception of Latinos, who experience significantly higher eviction rates in San Francisco, all things equal.

Modeling Loss of Low-Income Households

A final analysis models the loss of low-income households. In the Bay Area, transit neighborhoods outside the three major cities (San Francisco, Oakland, and San Jose) experienced an increase in the likelihood of losing low-income households from 2000 to 2013, which is consistent with the lower rates of low-income inward migration and higher rates of higher-income

inward migration. In contrast, transit neighborhoods in the three major cities experienced an increase in the likelihood of gaining low-income households, which may be related to the growth in subsidized housing found in these neighborhoods. Controlling for other factors, neighborhoods with a high proportion of renters were more likely to lose low-income households, whereas minority neighborhoods were more likely to gain them.

As noted previously, displacement may be related to the lack of new housing development around transit. In fact, using the same data for the San Francisco Bay Area, we show that the new construction of both market-rate and subsidized housing decreases the incidence of displacement in tracts across the region (Zuk and Chapple 2016).

Neighborhoods after Transit

Slowly but surely, transit investment transforms neighborhoods. Effects tend to be measured in decades rather than years, but the trends are quite clear: gentrification tends to occur in the region's core, and whether or not displacement is occurring, movers into transit neighborhoods are most likely to be affluent, educated, and white (table 5.3). Proximity to rail transit is often associated with a loss of affordable rental units, particularly those provided by the market, for instance via Section 8 vouchers.

However, there are caveats. Gentrification in Los Angeles and the Bay Area transit neighborhoods cannot be attributed to new residential development, as the vast majority of these neighborhoods experienced relatively little residential development from 2000 to 2013. The loss of affordable housing units is more directly attributable to transit in Los Angeles than in San Francisco, suggesting that transit's impact on displacement may be less in strong market regions or in regions where the system is relatively well established. In general, the differences between the two regions suggest that regional and local context matters in complex ways that are challenging to capture purely by quantitative analysis and require a deeper, qualitative approach. One example is the contradictory findings on race and ethnicity, with different effects on gentrification and displacement across regions and decades. An African American neighborhood may be at risk in San Francisco in 2018 but not in Los Angeles or in 1990 San Francisco. This has to do with both the dynamics of the regional housing market and the deep histories of specific neighborhoods.

Table 5.3
Relationships between transit and gentrification and displacement

Region	TOD area	Gentrification, 1990s	Gentrification, 2000–2013	Low-income movers in	<High school movers in	Change in affordable rental units	Change in Section 8 vouchers	Change in federally subsidized housing
San Francisco Bay Area	Downtown	+	+	+	-	n.s.	n.s.	+
	Outside downtown	n.a.	n.a.	n.s.	-	n.s.	n.s.	-
Los Angeles	Downtown	+	+	n.s.	n.s.	-	n.s.	+
	Outside downtown	n.a.	n.a.	-	n.s.	-	-	+

Notes: n.s. = not significant, n.a. = not analyzed.

Additionally, the analytic findings suggest the imprint of policy mechanisms. Federally subsidized housing and local restrictions on condo conversion seem to be offsetting displacement effects near transit, yet both regions experience displacement impacts outside their downtown areas, suggesting the need for a regional approach to antidisplacement policy. Without intervention from a higher level of government, in fact, cities may lack motivation to enact policies on their own. Chapter 10 thus discusses anti-displacement and affordable housing policies at the regional level.

Lastly, and possibly the biggest caveat of all, is that this quantitative analysis is based on aggregate data at the census tract level, but TOD neighborhoods are lived and experienced places that do not necessarily fit nicely within census tract boundaries. As we have mentioned, gentrification is a dynamic process that may take some time to be documented by census analysts, but it is certainly experienced immediately and dramatically by the household that sees its rent increase or the mom-and-pop store that loses its lease. Gentrification often takes place lot-by-lot, block-by-block, and the particular experiences of people on the ground may not fit nicely with statistical averages and models.

For this reason, chapter 6 turns to particular neighborhoods and their people in an attempt to clarify the mixed findings of the quantitative models in this chapter. As described in chapter 4, even if the quantitative analysis enables systematic comparison between and within regions, it falls short by depicting coarse geographies, using a limited time frame that may not capture the full extent of displacement and gentrification, failing to discern the motivations of key actors, and even presenting challenges in terms of how to interpret statistical significance. Thus, in chapter 6, we examine case studies that allow us to zero in on the transit station geography in ways that cannot be achieved through an analysis at the census tract level, examine a time frame both before and after the 1990–2013 period studied in this chapter, ask actors about their experiences, and assess the neighborhoods more qualitatively. Using this lens helps us verify that even if models do not find significant impacts, fears of displacement are not unwarranted. Processes of neighborhood change are ongoing, and even if new development has been slow to emerge, processes of speculation and churn are already under way. The reality on the ground thus complicates our mixed results on the impacts of transit stations and race and ethnicity on gentrification and displacement.

