

# Technical Appendix: Mapping High-Quality Transit

Jacob L. Wasserman, Research Program Manager, UCLA Institute of  
Transportation Studies

Aaron Barrall, Housing Data Analyst, UCLA Lewis Center for Regional  
Policy Studies

Adam Millard-Ball, PhD, Director, UCLA Institute of Transportation  
Studies and Professor of Urban Planning,

Amy Lee, Postdoctoral Scholar, UC Davis Institute of Transportation  
Studies

March 2026

Report No.: UC-ITS-2025-16

## Technical Report Documentation Page

<b>1. Report No.</b> UC-ITS-2025-16	<b>2. Government Accession No.</b> N/A	<b>3. Recipient's Catalog No.</b> N/A	
<b>4. Title and Subtitle</b> Technical Appendix: Mapping High-Quality Transit		<b>5. Report Date</b> March 2026	
		<b>6. Performing Organization Code</b> UCLA ITS	
<b>7. Author(s)</b> Jacob L. Wasserman, <a href="https://orcid.org/0000-0003-2212-5798">https://orcid.org/0000-0003-2212-5798</a> ; Aaron Barrall, <a href="https://orcid.org/0009-0007-6265-8050">https://orcid.org/0009-0007-6265-8050</a> ; Adam Millard-Ball, <a href="https://orcid.org/0000-0002-2353-8730">https://orcid.org/0000-0002-2353-8730</a> ; Amy Lee, <a href="https://orcid.org/0000-0002-4736-1482">https://orcid.org/0000-0002-4736-1482</a>		<b>8. Performing Organization Report No.</b> UCLA ITS-LA2506	
<b>9. Performing Organization Name and Address</b> UCLA Institute of Transportation Studies Public Affairs Building 3320 Los Angeles, CA 90095-1656		<b>10. Work Unit No.</b> N/A	
		<b>11. Contract or Grant No.</b> UC-ITS-2025-16	
<b>12. Sponsoring Agency Name and Address</b> The University of California Institute of Transportation Studies <a href="http://www.ucits.org">www.ucits.org</a>		<b>13. Type of Report and Period Covered</b> Technical Appendix (October 2024 – March 2026)	
		<b>14. Sponsoring Agency Code</b> UC ITS	
<b>15. Supplementary Notes</b> <a href="https://its.ucla.edu/major-transit-stops">https://its.ucla.edu/major-transit-stops</a>			
<b>16. Abstract</b> <p>“Major transit stop”: how these three words are defined determines what can be built where, throughout much of California. In order to address housing supply constraints, the state legislature has enacted a number of laws that streamline approval and remove zoning constraints in areas close to high-quality transit.</p> <p>But what, exactly, is a “major transit stop”? Planners, developers, and elected officials construe the sparse definition in state law in many ways — though genuine interpretive disagreement, due to modeling and data constraints, and/or in order to serve political goals of encouraging or stymying development.</p> <p>Differences in interpreting the definition of “major transit stop” collectively make a big difference in what areas are covered by state zoning incentives. A maximal approach to defining “major transit stop” grows the eligible area by over three times more than a minimal approach. The area within half a mile of a major transit stop has generally increased over time. But areas with low vehicle travel are doing more to drive affordable housing eligibility than areas with quality transit. Finally, tying transit service to land use regulations has created a perverse incentive to cut transit service in order to avoid state housing mandates.</p>			
<b>17. Key Words</b> Transit stops, Transit routes, Headways, Transit data, Data processing, Zoning, Land use, Housing, Development		<b>18. Distribution Statement</b> No restrictions.	
<b>19. Security Classification (of this report)</b> Unclassified	<b>20. Security Classification (of this page)</b> Unclassified	<b>21. No. of Pages</b> 33	<b>22. Price</b> N/A

Form Dot F 1700.7 (8-72)

Reproduction of completed page authorized

## About the UC Institute of Transportation Studies

The University of California Institute of Transportation Studies (UC ITS) is a network of faculty, research and administrative staff, and students dedicated to advancing the state of the art in transportation engineering, planning, and policy for the people of California. Established by the Legislature in 1947, ITS has branches at UC Berkeley, UC Davis, UC Irvine, and UCLA.

## About the UCLA Lewis Center For Regional Policy Studies

Housed at the UCLA Luskin School of Public Affairs, the Ralph and Goldy Lewis Center for Regional Policy Studies is committed to addressing the pressing policy and planning issues in Greater Los Angeles. The Lewis Center advances research on two critical and overlapping challenges—housing affordability and transportation equity — and how these areas intersect and shape the well-being of Los Angeles residents, especially those from marginalized and underserved communities. Since 1989, Lewis Center scholars and staff have produced high-quality research, programs and publications designed to inform policymakers, officials, students, and the broader public. [lewis.ucla.edu](https://lewis.ucla.edu)

## Acknowledgments

This study was made possible through funding received by the University of California Institute of Transportation Studies from the State of California through the Public Transportation Account and the Road Repair and Accountability Act of 2017 (Senate Bill 1). The authors would like to thank the State of California for its support of university-based research and especially for the funding received for this project. The authors thank Daniel Sjöholm, Chloe Ng-Lee, and Marcel Martin for their work on the project.

The UCLA Institute of Transportation Studies and UCLA Lewis Center acknowledge the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and So. Channel Islands). As a land grant institution, we pay our respects to the Honuukvetam (Ancestors), 'Ahihirom (Elders) and 'Eyoohiinkem (our relatives/relations) past, present and emerging.

The UC Davis Institute of Transportation Studies acknowledges the Patwin people, who have remained committed for thousands of years to the stewardship of the land on which the Davis campus is located. It has been cherished and protected, as elders have instructed the young through generations. Today, there are three federally recognized Patwin tribes: Cachil DeHe Band of Wintun Indians of the Colusa Indian Community, Kletsel Dehe Wintun Nation, and Yocha Dehe Wintun Nation.

## Disclaimer

The contents of this appendix reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the

State of California in the interest of information exchange. The State of California assumes no liability for the contents or use thereof. Nor does the content necessarily reflect the official views or policies of the State of California. This appendix does not constitute a standard, specification, or regulation.

The interactive storymap which this document supplements can be found here:

<https://its.ucla.edu/major-transit-stops> and here:

<https://www.its.ucla.edu/portfolio-items/major-transit-stops-storymap/>

Major acronyms in this appendix are spelled out there.

The repository of code, data sources, and input files used for this project's analysis can be found here:

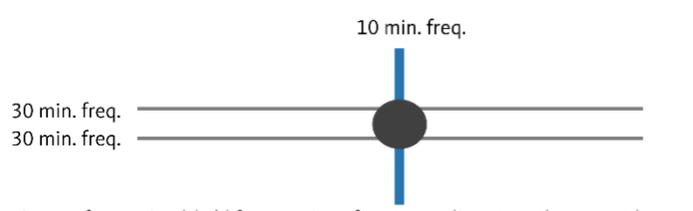
[https://github.com/amilb/transit\\_zoning](https://github.com/amilb/transit_zoning)

# Major Transit Stop Methodology

The following tables describes the parameters by which we created the minimal and maximal maps of major transit stops and details of various issues we encountered and resolved in developing our code.

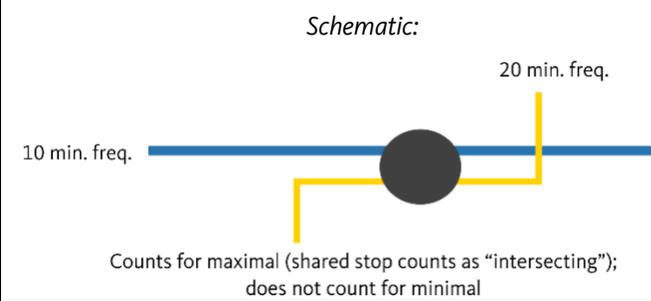
**Table A-1: Major Transit Stop Interpretations**

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Maximal		
Bus intersections	Calculation of morning peak service	Meets headway threshold, averaged over the 6:00 A.M. to 9:00 A.M. period	The most frequent service in any 60-minute period between midnight and noon	Use the definition of peak hours in each region's regional transportation plan	
	Calculation of afternoon peak service	Meets headway threshold, averaged over the 3:00 P.M. to 7:00 P.M. period	The most frequent service in any 60-minute period between noon and midnight	Use the definition of peak hours in each region's regional transportation plan	

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Minimal		
Bus intersections	Overlapping service on the same corridor	Frequency for each route calculated separately	Frequencies of less-frequent routes can be combined at each stop <sup>1</sup>	<p>“Colinear line families’ (i.e., bus routes that share the same route, such as local and rapid lines) are combined and considered as one service route for service frequency. A line family that creates a loop (e.g., clockwise and counterclockwise service) is also considered one route for service frequency, even if each direction has a unique route number....Aside from colinear line families, each bus route is individually assessed for frequency, including unique bus lines that share the same course for a portion of their route” (HCD, 2025, pp. 7–8)</p>	
		<p><i>Schematic:</i></p>  <p>Counts for maximal (add frequencies of east-west lines together to get better than 20 minutes); does not count for minimal</p>			

1. Stop here meaning a single point (latitude/longitude). In practice, when different agencies share stops on a street, their stop locations are often mapped at slightly different locations in the GTFS data. Therefore, combining frequencies across routes operated by different agencies is not normally possible using our method.

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Minimal		
Bus intersections	Definition of an intersection	Must involve separate stops: an intersection must include at least two different nearby stop locations served by at least two different qualifying routes. In practice, this mostly means intersections where different routes cross heading in different directions. <sup>2</sup>	Shared stops can be included: an intersection is any stop or set of nearby stops served by at least two qualifying routes or combinations of routes. In practice, this includes shared stops on overlapping routes (e.g., a stop shared by a local and express route).	“Any two or more unique bus routes that stop within 500 feet walking proximity to one another would be considered ‘intersecting’” (HCD, 2025, p. 9). “Each bus route is individually assessed for frequency, including unique bus lines that share the same course for a portion of their route” (HCD, 2025, p. 8).	
	Transfer distance	Stops within 150 feet count as an intersection.	Stops within 500 feet count as an intersection.		
Other modes	Bus rapid transit	A station that meets the definition of “bus rapid transit” in PRC § 21060.2 (15-minute peak frequencies, dedicated right-of-way <i>at the particular station</i> , signal priority, all-door boarding, and off-board fare collection)	Any stop on any route identified by its agency as “bus rapid transit” (not “rapid bus”) in public documentation	“A BRT station may qualify as a major transit stop if the station itself is adjacent to a full-time dedicated transit lane” (HCD, 2025, p. 9).	Agency websites



2. The same issue in footnote #1 applies here: our algorithm may identify an “intersection” under the minimal approach where routes operated by different agencies functionally serve the same stop, but stop locations are not identical.

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Minimal		
Other modes	Intercity rail (Amtrak)	Excluded	Included	“Any existing rail station—including those without facilities, that are unstaffed or have infrequent or limited service” (HCD, 2025, p. 6)	U.S. Department of Transportation Bureau of Transportation Statistics, 2025
	California High-speed Rail	Excluded	<i>Analysis of 2025 alone:</i> included  <i>Comparison over time:</i> excluded  (See “Planned transit” below)	Not explicitly mentioned	California High-speed Rail Authority, 2025
	Cable cars	Excluded	Included	Not explicitly mentioned	

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Minimal		
Site of the stop	At- or above-ground stations	The single point given in agency's GTFS data	<p><i>Stations on parcels:</i> The entirety of any parcels on which any portion of the publicly accessible station<sup>3</sup> sits, including platforms, ticketing areas, head houses, and parking garages and lots managed by the transit agency and excluding areas not open to the public such as rail yards</p> <p><i>Stations not on parcels (e.g., light-rail stations in the middle of a road):</i> The entirety of the publicly accessible station, as mapped by the research team</p>	"Any point on the parcel or parcels that make up the property upon which a major transit stop is located" (HCD, 2025, p. 6)	Alameda Co. Information Technology Department, 2026; Butte Co., n.d.; Contra Costa Co., 2025; Fiacco, 2025; Co. of Fresno, 2026; KC Assessor Main GIS, n.d.; Co. of Kern, 2025; Llanos, 2025; Co. of Los Angeles, 2025; Madera Co., n.d.; Marin Co., 2025; Merced Co. GIS, 2024; MoCo GIS Admin, 2025; Nevada Co., California Geographic Information Systems, n.d.; Orange Co. Public Works, 2024; Co. of Placer, 2026; Riverside Co. Mapping Portal, 2023; Sacramento Co. GIS Admin, 2026; City and Co. of San Francisco, 2026; San Joaquin Co. Geographic Information Systems, 2026; Co. of San Mateo, 2024; SanGIS, 2026; Co. of Santa Barbara, 2026; Co. of Santa Clara, 2025; Siskiyou Co. GIS, 2025; SLO Co. GIS, 2024; Solano ReGIS, n.d.; Co. of Sonoma, 2025; Stanislaus Co., 2025; Co. of Ventura, 2026; and Co. of Yolo, n.d.

3. For rail, BRTs meeting the minimal definition, and ferries. Off-street bus terminals, off-street regional bus transit centers, etc. excluded due to data availability.

Category	Area of Interpretation	Approaches in This Analysis		HCD Interpretation	Supplemental Data Source(s)
		Minimal	Minimal		
Site of the stop	Underground stations	The single point given in agency's GTFS data	<p><i>Stations that have an above-ground public plaza at the entrance:</i> the parcel(s) on which the entrance plaza sits, plus the point given in the agency's GTFS data</p> <p><i>Other stations:</i> the points of any entrances (elevators, escalators, stairs), plus the point given in the agency's GTFS data</p>	Not explicitly mentioned	OpenStreetMap, 2025
Future stops	Planned transit	Excluded	<p><i>Analysis of 2025 alone:</i> future major transit stops included in the at-least-20-year regional transportation plan for the four most populous MPO regions (Greater Los Angeles, San Francisco Bay Area, San Diego Area, and Sacramento Area), using the dataset and interpretations of each MPO without modification</p> <p><i>Comparison over time:</i> excluded (so as to maintain an apples-to-apples comparison, given a lack of historical datasets on planned transit stops)</p>	"A major transit stop that is included in the applicable [regional transportation plan] qualifies" (HCD, 2025, p. 7)	SCAG, 2024; MTC/ABAG, 2025; SANDAG GIS, 2023; and SACOG, 2020

Supplemental sources: HCD, 2025; SCAG, 2019; and MTC/ABAG, 2025

**Table A-2: Major Transit Stop Interpretations**

Issue	How We Operationalized It	Notes, Examples, and Applications
<p>Comparing over time</p>	<ul style="list-style-type: none"> <li>● “2025”: data from most recent GTFS file for each agency, as of May/June 2025                             <ul style="list-style-type: none"> <li>○ Unlike the present-day analysis of maximal versus minimal, we here exclude planned transit, in order to compare apples-to-apples over time.</li> </ul> </li> <li>● “2020”: data from the newest GTFS file in or prior to January 2020                             <ul style="list-style-type: none"> <li>○ When none was available: first, we used a February 2020 GTFS file if available; then, we used the “2025” data.</li> </ul> </li> <li>● “2014”: data from the closest available file to October 2014</li> </ul> <p>When no close file was available: we used the oldest available file, exempting March 2020-December 2023 (to avoid factoring in temporary pandemic cuts).</p>	<p>We chose January 2020 as a target date to represent service immediately prior to the COVID-19 pandemic. We chose October 2014 as a target date as the earliest time from which a significant share of agencies had published GTFS data (that are still available today), based on our initial scan of the archived GTFS data. In late 2014, around 40% of U.S. agencies analyzed by Voulgaris and Begwani (2023) had adopted GTFS.</p> <p>When archived data were not available, we used “2025” data instead. This means that the “2020” and “2014” datasets are really an amalgam of transit service from (or near) those times where data are available and present-day transit service where unavailable.</p> <p>Approximately 96% of the transit agencies analyzed had data for our “2025” dataset. Approximately 64% of the transit agencies analyzed had data on or prior to January 2020; for the rest, we used their “2025” data. Approximately 37% of the transit agencies analyzed had data from 2014 to 2015; for the rest, we used the oldest available data (26% from 2016 to 2017, 4% from 2018 to 2018, and 33% from their “2025” data). Agencies with available historic data skewed larger by ridership and service supply, which in turn are the types of agencies more likely to contribute to qualifying major transit stops.</p> <p>Archived GTFS data sources: <i>Transitland</i> (Interline, 2026), <i>TransitFeeds</i> (MobilityData, 2025), and the <i>Mobility Database</i> (MobilityData, 2026)</p>

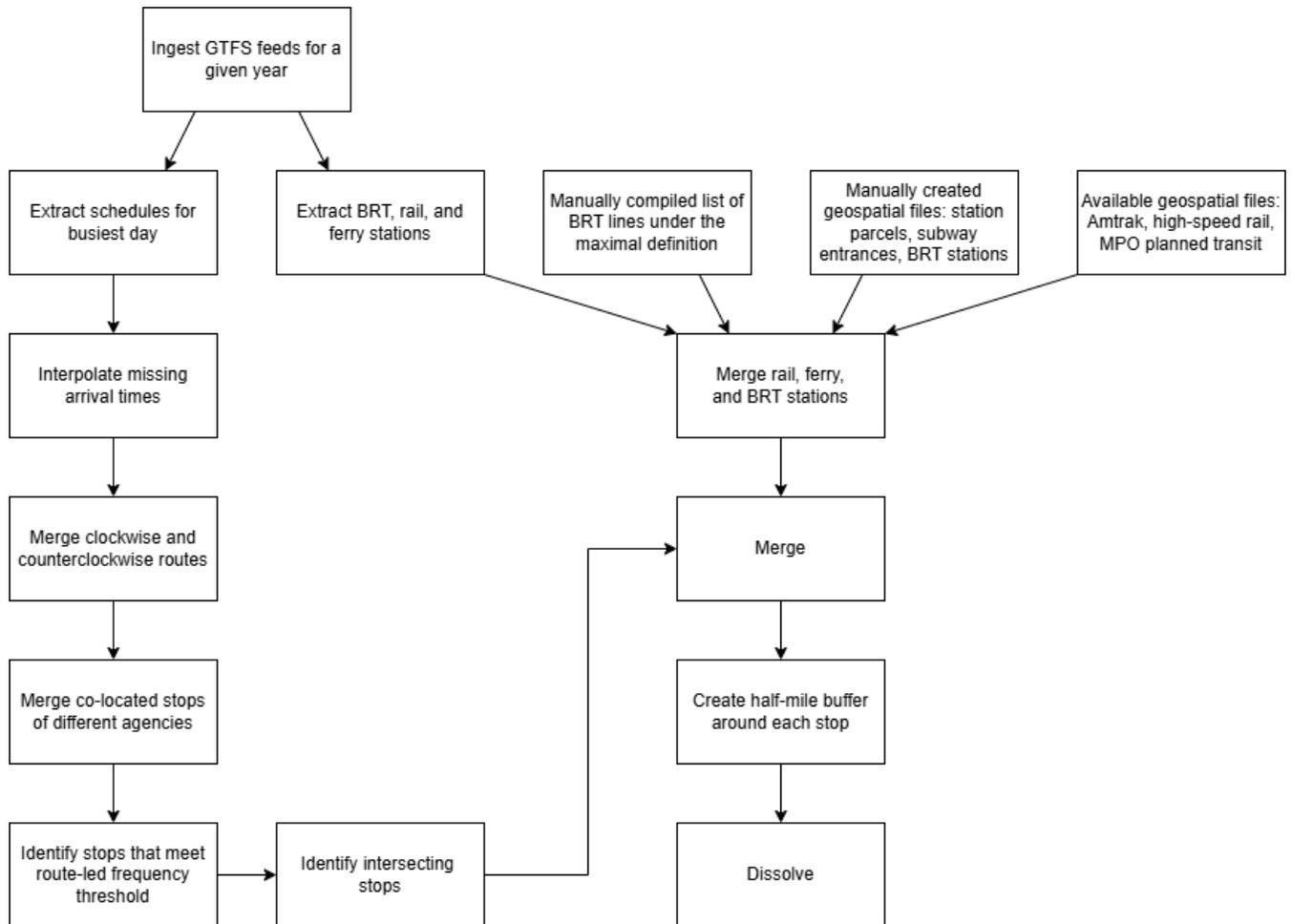
Issue	How We Operationalized It	Notes, Examples, and Applications
Merging similar routes	<p>Any unique route in an agency’s GTFS file is counted as a separate route, <i>unless</i> the route number <i>and</i> name are otherwise the same except for “clockwise” versus “counterclockwise” (or an abbreviation thereof).</p>	<p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>● The Los Angeles Department of Transportation’s DASH Crenshaw Clockwise and DASH Crenshaw Counterclockwise Routes were merged</li> <li>● Unitrans Routes P and Q were <i>not</i> merged (despite being otherwise identical loops in opposite directions)</li> <li>● SFMTA Routes 28 and 28R were <i>not</i> merged (local and express)</li> <li>● Los Angeles Metro Routes 235 and 236 were <i>not</i> merged (share a common trunk but diverge at the end)</li> </ul> <p>This method strikes a balance between, on one hand, respecting agencies’ own public communication decisions about routes—and avoiding arbitrary decisions about how much overlap qualifies routes for merging—while, on the other, recognizing a particular, unique situation (loops) when agencies have a singular route but need to communicate directionality in the route name.</p> <p>Much of the functional effect of merging routes is achieved already in the “Overlapping service on the same corridor” area of interpretation in <b>Table A-1</b>. Atop that distinction, formally merging a greater number of routes is not necessarily a more or less liberal interpretation. Under a minimal interpretation, overlapping routes that otherwise could not add their frequencies can combine frequencies if formally merged, leading more corridors to reach the 20-minute headway threshold. But under a maximal interpretation, formally merging routes will prevent stops along a shared corridor from qualifying that otherwise would have counted as “intersections” between two separate, overlapping routes.</p> <p>Note that HCD advises combining “colinear line families” (including local and express lines) into one route (HCD, 2025, pp. 7, 8).</p>

Issue	How We Operationalized It	Notes, Examples, and Applications
Directional peak service	Under both minimal and maximal interpretations, service at a stop (i.e., a stop location on GTFS, typically serving buses heading in a single direction) had to qualify both in the morning and afternoon peak periods separately.	HCD allows for a more lenient interpretation, averaging frequency across the morning and afternoon peak periods. The Southern California Association of Governments: (SCAG) matches pairs of stops in opposite directions on a route and allows the pair to qualify if the frequency threshold is met in only one direction at each period (SCAG, 2019). Both methods attempt to account for heavily directional commute services, which operate more frequently (or solely) in one direction in the morning and the other in the afternoon. However, these interpretations are not universally shared. The scope of this project did not allow for us to account similarly.

Issue	How We Operationalized It	Notes, Examples, and Applications
Set of transit agencies analyzed	<p>The following agencies and datasets were included:</p> <ul style="list-style-type: none"> <li>• Transit agencies which reported to the National Transit Database in Fiscal Year 2014, Fiscal Year 2020, and the most recent fiscal year of data (2023 at the time of analysis) (Federal Transit Administration, 2023) <i>and</i> which had publicly available GTFS data</li> <li>• Intercity public rail transit (Amtrak and planned California High-speed Rail, where appropriate) (U.S. Department of Transportation Bureau of Transportation Statistics, 2025 and California High-speed Rail Authority, 2025)</li> <li>• Planned transit stops in the four largest regions’ regional transportation plans (as described in the “Planned transit” area of interpretation in <b>Table A-1</b>) (SCAG, 2024; MTC/ABAG, 2025; SANDAG GIS, 2023; and SACOG, 2020)</li> </ul>	<p>Intracity transit agencies that do not report to the National Transit Database were not included, even if they have GTFS data available.</p> <p><i>Examples:</i></p> <ul style="list-style-type: none"> <li>• UCLA Transportation’s BruinBus was not included, despite being run by a public entity, open to the public, and on GTFS, as it does not report to the National Transit Database.</li> <li>• School buses were not included (nor have they been considered by any jurisdiction we know of), though they are transit operated by a public entity.</li> </ul> <p>Planned transit stops were included only for analysis of 2025 data alone, as described in the “Planned transit” area of interpretation in <b>Table A-1</b>. We used planned stop data from the four most populous MPO regions (Greater Los Angeles, San Francisco Bay Area, San Diego Area, and Sacramento Area) (SCAG, 2024; MTC/ABAG, 2025; SANDAG GIS, 2023; and SACOG, 2020), due to data availability. Lacking historic datasets on planned transit, planned stops were not included in our comparisons over time, in order to have an apples-to-apples comparison.</p> <p>Amtrak and California High-speed Rail (U.S. Department of Transportation Bureau of Transportation Statistics, 2025 and California High-speed Rail Authority, 2025) were included in select interpretations listed in <b>Table A-1</b> because their inclusion or exclusion differs across jurisdictions and laws about major transit stops (SCAG, 2019).</p>
Set of routes and stops analyzed	<p>Only routes and stops included in agencies’ GTFS (for transit agencies in the National Transit Database (Federal Transit Administration, 2023)) or geospatial shapefiles (for intercity public rail transit and planned transit) were analyzed.</p>	<p><i>Examples:</i> Caltrain’s Stanford Station, used only for special events/games, was not included because it is not in Caltrain’s GTFS data.</p>

Issue	How We Operationalized It	Notes, Examples, and Applications
Private transit	By virtue of the above, no private transit was included.	<p>The definition of “major transit stop” in PRC § 21064.3 and § 21155 does not include the word “public.” Nonetheless, our analysis excluded private or quasi-public services—even those open for ridership to the general public, such as intercity buses (e.g., Greyhound), for-profit ferries (e.g., private ferry routes in the Bay Area), and shuttles open to the public run by transportation management organizations, universities, other employers, etc. (e.g., various Caltrain-connecting shuttles) that generally do not have GTFS feeds.</p> <p>By a creative enough interpretation, employee-only employer shuttles (e.g., the “Google bus”), tourist railways (e.g., heritage railroads, the Angels Flight funicular in Los Angeles), tourist attraction transport (e.g., the Disneyland monorail, the Grove trolley), etc. might even count!</p>

This flowchart illustrates how the code operates:



**Figure A-1. Major Transit Stop Code Flow Chart**

# State Density Bonus Methodology

To assess the potential of the super density bonus, we flagged parcels where any point of the parcel touches a half-mile buffer from major transit stops in each year (2014, 2020, and 2025) and scenario (minimal, maximal, and maximal with planned stops). We identified parcels for this analysis using Regrid’s Parcel Fabric data (LOVELAND Technologies, 2025).

We identified zones allowing for multifamily housing construction based on their zoning description (contained in the Regrid data (LOVELAND Technologies, 2025)). To constrain our analysis, we excluded parcels smaller than half an acre and parcels larger than 10 acres, because these sites are presumed to be suitable for affordable housing in any case under California’s housing element law (GOV § 65583.2(c)(2)). We also excluded parcels with existing condominiums and those that are parts of public rights-of-way or common areas. We removed overlapping segments of parcels to ensure our area calculations were not erroneously large.

State law also enables affordable housing in areas with low vehicle travel, regardless of whether there is transit nearby. The law defines two geographies as “low-vehicle-travel areas.” The first are areas where vehicle miles traveled (VMT) per capita falls below 85 percent of the average for their municipality. The most dense and walkable neighborhoods in each city often meet this criteria. The second are locations with VMT per capita averages below 85 percent of the *regional* VMT average. Functionally, this means that broad swaths of central cities (which tend to be where major transit stops are located) are covered under this regional VMT standard. For example, most of the City of Los Angeles has substantially lower VMT per capita than the rest of the Greater Los Angeles MPO region, so it qualifies under this definition.

We used Fehr and Peers’ (2022) VMT Index dataset to determine whether parcels were within a low-vehicle-travel area, accounting for both the municipal and regional thresholds. Finally, we identified commercially zoned parcels that are presumptively eligible for AB 2011 (and thus the super density bonus) based on a detailed analysis of the law’s criteria.

Assembly Bill 2011 (2022) allows for affordable housing in commercial corridors; these commercial parcels may also take advantage of the state density bonus. In general, the parcels must be in urban areas, not proximate to polluting sources (e.g., industrial uses, oil and gas wells, freeways), and outside of environmentally sensitive areas. We mapped and identified these exclusion factors to understand how AB 2011 commercial parcels contribute to the potential for the super density bonus.

Some of our analysis, where specified, is limited to areas of the state with generalized, parcel-level zoning information: counties in the Greater Los Angeles MPO region except Imperial, counties in the San Francisco Bay Area MPO region, and Sacramento County.

**Table A-3: State Density Bonus Data and Processing Methodology**

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Parcel data	AB 2011 (2022); super density bonus	Various	Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	County-level parcel datasets merged into consolidated geodatabase  Retained fields: APN, geometry, land-use codes, zoning classifications, area measurements, building attributes, and location coordinates  Stacked parcels (identical geometry, different APNs) removed using ArcPy FindIdentical with 2-foot tolerance. Substantial overlaps (>500 sq. ft.) between distinct parcels identified and largest parcel retained.	Parcel data current as of 2024. Some counties have incomplete coverage in unincorporated areas. Duplicate removal and overlap analysis ensure each geographic location counted once.
Census urban areas and urban clusters	AB 2011	GOV § 65912.111(b)	U.S. Census TIGER/Line shapefiles (U.S. Census Bureau, 2025)	Parcels flagged if centroid falls within U.S. Census-designated urbanized areas or urban clusters	Urban area requirement ensures development occurs in established urban contexts per legislative intent.
Protected areas	AB 2011	GOV § 65912.111(e)	California Protected Areas Database (CPAD) SuperUnits (GreenInfo Network, 2026)	Parcels flagged if any intersection with CPAD SuperUnits  Conservative interpretation: sites bordering protected areas are also excluded	CPAD SuperUnits aggregate individual protected parcels into management units (federal, state, local, non-profit lands). Conservative “bordering” interpretation excludes more sites than strict statutory reading might require.

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Very-high fire hazard severity zones	AB 2011	GOV § 65912.111(j)(2); GOV § 65912.121(j)(2)	CAL FIRE fire hazard severity zone maps (California Office of the State Fire Marshal, 2026)	Parcels flagged if any intersection with very-high fire hazard severity zones  Statute only excludes vacant sites in fire zones; our analysis excludes all parcels regardless of development status, producing lower estimates than statute allows.	AB 2011 only excludes vacant sites in fire zones. Our blanket exclusion of all parcels (vacant and developed) is substantially more conservative than statute requires, producing lower estimates. This approach prioritizes safety but understates statutory development potential.
Freeways	AB 2011; super density bonus	GOV § 65912.113(d); GOV § 65915(p)	Caltrans public road functional classifications (Caltrans, 2025)	Identified freeways using Caltrans public road functional classification, classification types 1 and 2. Created 500-foot buffer around freeway lines (VEH § 332). Parcels with any intersection flagged as ineligible.	Buffer distance (500 feet) specified in statute.
Oil and gas wells	AB 2011	GOV § 65912.113(e)	CalGEM Well Finder database (California Department of Conservation, Geologic Energy Management Division, n.d.)	Filtered CalGEM database to active and idle wells (excluded permanently sealed). Created 3,200-foot buffer from each well location. Parcels with any intersection flagged as ineligible.	Active wells are currently producing while idle wells are not currently producing but could resume at any time. Statute specifies “actively extracts” but idle wells represent potential future activity.

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Oil refineries	AB 2011	GOV § 65912.113(e)	California Energy Commission (CEC) refinery list (California Energy Commission, 2026); manual parcel identification	Manually identified 12 refinery parcels statewide from CEC refinery list. Created 3,200-foot buffer around refinery parcels. Parcels with any intersection flagged as ineligible.	Twelve refineries identified: Benicia (Valero), Carson (Marathon, Phillips 66, Valero), El Segundo (Chevron), Long Beach (PBF), Martinez (Martinez Refining, PBF), Richmond (Chevron), Rodeo (Phillips 66), Torrance (PBF), and Wilmington (Valero). Manual verification ensures accuracy for facilities that may be labeled as chemical plants in automated databases.
VMT-efficient areas	Super density bonus	GOV § 65915(o)(10)	Fehr and Peers VMT Index dataset (Fehr and Peers, 2022)	Spatial join of parcel centroids to Fehr and Peers VMT-efficient block groups (85% threshold of regional VMT per capita or 85% of jurisdictional VMT per capita).	Block-group-level VMT data from regional travel models. Used for super density bonus “very low vehicle travel area” provisions.
Zoning classifications	AB 2011; super density bonus	Various	Regrid Parcel Fabric data (LOVELAND Technologies, 2025)  Attributes: zoning_type, zoning_subtype, zoning_description fields	Keyword-based classification using Regrid standardized fields  Four zoning types identified: commercial, mixed/planned, special, and overlay zones. Classification combines zoning_type (broad category), zoning_subtype (density/use), and zoning_description (specific designation) with pattern matching against inclusion and exclusion keywords. Ensures consistent cross-jurisdictional classification despite varying local terminology.	Keyword matching provides reproducible classification across 15 counties with different zoning terminologies. Regrid provides standardized zoning_type categories, but local specificity retained in zoning_description field. Pattern matching balances consistency with jurisdictional variation. Specific plans and overlay zones captured through special/overlay type designations.

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Multifamily residential zoning	Super density bonus	GOV § 65912.111(g)	Derived from zoning fields in Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	Parcels classified as multifamily-zoned if: 1) zoning_subtype explicitly designated “Multi Family” OR 2) zoning_type is mixed/planned/special/overlay AND zoning_description contains multifamily-related terms (e.g., “multiple family,” “high density,” “transit-oriented”) AND excludes single-family terms. Pattern matching captures both explicit designations and functional permissions in mixed-use zones.	Multifamily flag identifies parcels where 5+ unit development is permitted as primary use. Keyword approach captures explicit multifamily zones plus functional permissions in transit-oriented, downtown, and high-density, mixed-use zones. Exclusion terms prevent false positives from zones mentioning density in suburban or agricultural contexts.
Commercial zoning	AB 2011	GOV § 65912.111(a); GOV § 65912.121(a)	Derived from zoning fields in Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	Parcels classified as commercial-zoned if: 1) zoning_type explicitly designated “Commercial” OR 2) zoning_type is mixed/planned/special/overlay AND zoning_description contains commercial terms (e.g., “commercial,” “office,” “shopping,” “retail”) AND excludes residential-only or agricultural terms. Identifies parcels where commercial uses are principally permitted.	Commercial flag identifies parcels where office, retail, or shopping are primary permitted uses. Critical for AB 2011 site eligibility. Distinguished from parcels where commercial is merely accessory or conditional.

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Mixed-use zoning	AB 2011	GOV § 65912.111(a); GOV § 65912.121(a)	Derived from zoning fields in Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	Parcels classified as mixed-use if zoning_type is mixed/planned/special/overlay AND zoning_description contains mixed-use indicators (e.g., “downtown,” “mixed use,” “corridor,” “transit-oriented development”) AND excludes single-family terms. Captures zones permitting both residential and commercial uses.	Mixed-use flag broader than commercial flag. Identifies zones encouraging both residential and commercial uses, particularly in urban centers, transit corridors, and downtown areas. Recognizes that AB-2011-eligible sites may not be purely “commercial” but rather mixed-use environments.
AB-2011-eligible zoning	AB 2011	GOV § 65912.111(a); GOV § 65912.121(a)	Derived from commercial and mixed-use flags in Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	Composite flag combining commercial and mixed-use classifications. Identifies parcels where “office, retail, or parking are principally permitted uses,” per AB 2011 eligibility requirements (GOV § 65912.111(a); GOV § 65912.121(a)).	AB 2011 zoning flag represents final determination of site zoning eligibility for Articles 2 and 3. Parcels must have valid zoning designations (non-null fields) and permit office/retail/parking as principally permitted uses without conditional approval. Excludes agricultural and purely residential zones.

Variable	Relevant Law(s)	State Code Citation	Data Source	Processing Method	Notes
Industrial zoning and use	AB 2011	GOV § 65912.111(d)	Derived from zoning fields and current use (usedesc) in Regrid Parcel Fabric data (LOVELAND Technologies, 2025)	Parcels classified as industrial if: 1) zoning_type designated “Industrial” OR 2) zoning_description contains industrial/manufacturing terms, OR 3) current use (usedesc) indicates industrial or utility operations. Spatial intersection identifies parcels adjoining industrial uses across streets/highways per GOV § 65912.111(d) “adjoined to” interpretation.	Three-source approach ensures comprehensive industrial identification: explicit zoning, description keywords, and actual current use. Spatial adjacency logic implements “adjoined to” requirement including parcels separated by streets/highways.

# References

Further explanation of the datasets used as inputs for the major transit stop analysis can be found here:

[https://github.com/amillb/transit\\_zoning/blob/main/transit\\_data/sources.txt](https://github.com/amillb/transit_zoning/blob/main/transit_data/sources.txt)

## Primary Sources for Analysis

Alameda County Information Technology Department (2026, February 1). Parcels. *Alameda County Data Sharing Initiative*. Retrieved February 2, 2026, from [https://data.acgov.org/datasets/2b026350b5dd40b18ed7a321fdcdba81\\_0/about](https://data.acgov.org/datasets/2b026350b5dd40b18ed7a321fdcdba81_0/about).

Butte County (n.d.). Parcel Lookup. *Butte County IT Department*. Retrieved February 2, 2026, from <https://gisportal.buttecounty.net/portal/apps/webappviewer/index.html?id=e8ee08e0672d48c8862fd3233e394027>.

California Department of Conservation, Geologic Energy Management Division (n.d.). Well Finder. *California Department of Conservation*. Retrieved February 11, 2026, from <https://maps.conservation.ca.gov/calgem/findwells/>.

California Energy Commission (2026, January 26). California's Oil Refineries. *California Energy Commission*. Retrieved February 11, 2026, from <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries>.

California High-speed Rail Authority (2025, December 17). HSR Train Stations. *California State Geoportal: Unlocking the Power of Government Data*. Retrieved February 2, 2026, from <https://gis.data.ca.gov/datasets/7210a9f57f16407f8fdd4949ac90daea/explore?layer=0>.

California Office of the State Fire Marshal (2026). Fire Hazard Severity Zones. *CAL FIRE: Office of the State Fire Marshal*. Retrieved February 11, 2026, from <https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones>.

Caltrans (2025, December 2). Public Road Functional Classification. *Caltrans GIS Data*. Retrieved February 11, 2026, from [https://gisdata-caltrans.opendata.arcgis.com/datasets/cf4982ddf16c4c9ca7242364c94c7ad6\\_0/about](https://gisdata-caltrans.opendata.arcgis.com/datasets/cf4982ddf16c4c9ca7242364c94c7ad6_0/about).

Contra Costa County (2025, September). Maps and Property Information. *Contra Costa County, California*. Retrieved February 2, 2026, from <https://www.contracosta.ca.gov/552/Maps-Property-Information>.

Fehr and Peers (2022). VMT+: Providing VMT per Capita Estimates across California. *Fehr and Peers*. Retrieved February 3, 2026, from <https://fehrandpeers.maps.arcgis.com/apps/dashboards/e73ae2a501884a50ad2cae390fc6297b>.

- Fiacco, K. (2025, December 19). San Bernardino County. *San Bernardino County Open Data Portal*. Retrieved February 2, 2026, from [https://open.sbcounty.gov/datasets/0b5ac95331bb4be29b2a1aa2a94abc7b\\_0/about](https://open.sbcounty.gov/datasets/0b5ac95331bb4be29b2a1aa2a94abc7b_0/about).
- Fresno, County of (2026, January 23). Regional Parcels VW. *County of Fresno Open Data Hub: Discover Free Public Data, Tools, and Resources from the County of Fresno*. Retrieved February 2, 2026, from [https://datasharing-cofgisonline.hub.arcgis.com/datasets/599a17ca02fe4781af4efe31edd81669\\_11/about](https://datasharing-cofgisonline.hub.arcgis.com/datasets/599a17ca02fe4781af4efe31edd81669_11/about).
- GreenInfo Network (2026). California Protected Areas Database. *CPAD + CCED: California's Protected Areas*. Retrieved February 11, 2026, from <https://calands.org/>.
- Interline (2026). *Transitland*. Retrieved January 26, 2026, from <https://www.transit.land/>.
- KC Assessor Main GIS (n.d.). Kings County Parcel Public Layer. *County of Kings, California*. Retrieved February 2, 2026, from <https://kings-county.maps.arcgis.com/home/item.html?id=b17cd966a12c4eaa881d7e50c72ea03>.
- Kern, County of (2025, November 7). Parcel Maps. *County of Kern: GEODAT Open Data and Portal for Smarter Communities*. Retrieved February 2, 2026, from [https://geodat-kernco.opendata.arcgis.com/datasets/27d216bcc38e474b8a3a78358b01f310\\_0/about](https://geodat-kernco.opendata.arcgis.com/datasets/27d216bcc38e474b8a3a78358b01f310_0/about).
- Llanos, C. (2025, August 13). Parcels. *County of Shasta—Open Data Portal*. Retrieved February 2, 2026, from <https://data-shasta.opendata.arcgis.com/datasets/parcels/about>.
- Los Angeles, County of (2025, July 2). Parcels. *County of Los Angeles Open Data*. Retrieved February 2, 2026, from <https://data.lacounty.gov/documents/4d67b154ae614d219c58535659128e71/about>.
- LOVELAND Technologies (2025). *Regrid Parcel Fabric data* [dataset].
- Madera County (n.d.). Geographic Information System (GIS). *Madera County*. Retrieved February 2, 2026, from <https://www.maderacounty.com/government/geographic-information-system-gis>.
- Marin County (2025, November 13). Parcels. *Marin County GIS Open Data*. Retrieved February 2, 2026, from [https://gisopendata.marincounty.gov/datasets/b32c89cae86148b6b48ab4720a9ccbc\\_0/about](https://gisopendata.marincounty.gov/datasets/b32c89cae86148b6b48ab4720a9ccbc_0/about).
- Merced County GIS (2024, September 24). Assessment Parcels. *Merced County GIS Information Portal*. Retrieved February 2, 2026, from [https://geostack-mercedcounty.opendata.arcgis.com/datasets/77b6b3140b294189a2e606a2dcb6a515\\_42/about](https://geostack-mercedcounty.opendata.arcgis.com/datasets/77b6b3140b294189a2e606a2dcb6a515_42/about).
- MobilityData (2025). *OpenMobilityData*. Retrieved November 26, 2025, from <https://transitfeeds.com/>.
- MobilityData (2026). *Mobility Database*. Retrieved January 26, 2026, from <https://mobilitydatabase.org/>.

- MoCo GIS Admin (2025, December 5). Parcels. *County of Monterey Open Data: Explore, Map, and Download Data*. Retrieved February 2, 2026, from [https://gis-montereyco.opendata.arcgis.com/datasets/187377b392e742208dc7dfeebc6bdc42\\_0/about](https://gis-montereyco.opendata.arcgis.com/datasets/187377b392e742208dc7dfeebc6bdc42_0/about).
- MTC/ABAG (2025, December 3). San Francisco Bay Region Major Transit Stops. *MTC Open Data Catalog*. Retrieved February 2, 2026, from [https://opendata.mtc.ca.gov/datasets/a9f1cffd6458433cbc150a99e1effd0a\\_0/about](https://opendata.mtc.ca.gov/datasets/a9f1cffd6458433cbc150a99e1effd0a_0/about).
- Nevada County, California Geographic Information Systems (n.d.). My Neighborhood 2.0. *Nevada County, California*. Retrieved February 2, 2026, from <https://experience.arcgis.com/experience/45d30af79b1e45f792844b897a45131a/page/Page>.
- OpenStreetMap (2025). *OpenStreetMap*. Retrieved February 2, 2026, from <https://www.openstreetmap.org/>.
- Orange County Public Works (2024, September 9). Parcels with Attributes. *Orange County: GIS Open Data Portal*. Retrieved February 2, 2026, from [https://data-ocpw.opendata.arcgis.com/datasets/e2c8332606da4e51ad941cacfd2c24ed\\_0/about](https://data-ocpw.opendata.arcgis.com/datasets/e2c8332606da4e51ad941cacfd2c24ed_0/about).
- Placer, County of (2026, February 2). Public Parcels. *Placer County Open Data: Connecting Citizens to Information*. Retrieved February 2, 2026, from [https://gis-placercounty.opendata.arcgis.com/datasets/28c744130a1345fab9f464fc65cdd29c\\_2/about](https://gis-placercounty.opendata.arcgis.com/datasets/28c744130a1345fab9f464fc65cdd29c_2/about).
- Riverside County Mapping Portal (2023, September 21). Parcel Lines. *Riverside County Mapping Portal*. Retrieved February 2, 2026, from [https://gisopendata-countyofriverside.opendata.arcgis.com/datasets/d53885b540f0444196356290a13a779d\\_60/about](https://gisopendata-countyofriverside.opendata.arcgis.com/datasets/d53885b540f0444196356290a13a779d_60/about).
- SACOG (2020). 2020 MTP/SCS Existing and Planned Major Transit Stops. *Open Data Portal: Your Gateway to SACOG GIS Data*. Retrieved February 2, 2026, from <https://portal.sacog.org/portal/apps/webappviewer/index.html?id=9df1c17713e546feb905c5d3493a3ea3>.
- Sacramento County GIS Admin (2026, February 1). Sacramento County GIS Open Data Site. *Sacramento County Open Data Hub*. Retrieved February 2, 2026, from <https://data-sacramentocounty.opendata.arcgis.com/>.
- San Francisco, City and County of (2026, February 2). Parcels—Active and Retired. *DataSF: Open Data Portal*. Retrieved February 2, 2026, from [https://data.sfgov.org/Geographic-Locations-and-Boundaries/Parcels-Active-and-Retired/acdm-wktn/about\\_data](https://data.sfgov.org/Geographic-Locations-and-Boundaries/Parcels-Active-and-Retired/acdm-wktn/about_data).
- San Joaquin County Geographic Information Systems (2026, January 13). GIS Data Download. *San Joaquin County Geographic Information Systems*. Retrieved February 2, 2026, from <https://sjmap.org/GISDataDownload.htm>.

San Mateo, County of (2024, August 14). Parcels. *Open San Mateo County*. Retrieved February 2, 2026, from [https://data.smcgov.org/Government/Parcels/nr6j-72z7/about\\_data](https://data.smcgov.org/Government/Parcels/nr6j-72z7/about_data).

SANDAG GIS (2023, December 22). Travel Model Networks. *ArcGIS Hub*. Retrieved February 2, 2026, from <https://hub.arcgis.com/maps/SANDAG::travelmodelnetworks/about>.

SanGIS (2026, January 6). Parcels. Retrieved February 2, 2026, from <https://geo.sandag.org/portal/home/item.html?id=032a5dcf654c4ccbb18711ad8a0ee754>.

Santa Barbara, County of (2026, January 6). Assessor Parcels Public. *County of Santa Barbara Open Data: Discover Free Public Data, Tools, and Resources from County of Santa Barbara*. Retrieved February 2, 2026, from [https://open-data-cosb-ent.hub.arcgis.com/datasets/7a87bfc7a4cd4f98a039bd62c757e849\\_0/about](https://open-data-cosb-ent.hub.arcgis.com/datasets/7a87bfc7a4cd4f98a039bd62c757e849_0/about).

Santa Clara, County of (2025, October 28). Parcels. *County of Santa Clara Open Data Portal*. Retrieved February 2, 2026, from [https://data.sccgov.org/Government/Parcels/796e-2446/about\\_data](https://data.sccgov.org/Government/Parcels/796e-2446/about_data).

SCAG (2024, October 30). Major Transit Stops in the SCAG Region for Plan Year 2050. *SCAG Regional Data Platform: Southern California's Data and Engagement Hub for Planners*. Retrieved February 2, 2026, from [https://hub.scag.ca.gov/datasets/8bfbed890c91423cabe9ccc20369cdca\\_0/explore](https://hub.scag.ca.gov/datasets/8bfbed890c91423cabe9ccc20369cdca_0/explore).

Siskiyou County GIS (2025, January 2). Siskiyou Parcels Public. *Siskiyou County Open Data: Discover Free Public Data, Tools, and Resources from Siskiyou County GIS*. Retrieved February 2, 2026, from <https://open-data-siskiyou.hub.arcgis.com/datasets/siskiyou::siskiyou-parcels-public/about>.

SLO County GIS (2024, June 28). SLO County Parcels. *County of San Luis Obispo Open Data*. Retrieved February 2, 2026, from [https://opendata-slocounty.hub.arcgis.com/datasets/6d3da3a169a14f56bb6128c99ff5ed42\\_0/about](https://opendata-slocounty.hub.arcgis.com/datasets/6d3da3a169a14f56bb6128c99ff5ed42_0/about).

Solano ReGIS (n.d.). Data and Apps. *Solano Regional GIS Consortium*. Retrieved February 2, 2026, from <https://regis.solanocounty.com/apps/>.

Sonoma, County of (2025, March 21). Parcels Public Shapefile. *Sonoma County GIS*. Retrieved February 2, 2026, from <https://gis-sonomacounty.hub.arcgis.com/datasets/sonomacounty::parcels-public-shapefile/about>.

Stanislaus County (2025, April 10). Public Parcels. *Stanislaus County Open Data: Discover GIS Applications and Data from Stanislaus County*. Retrieved February 2, 2026, from <https://open-data-stancounty-gis.hub.arcgis.com/datasets/stancounty-gis::public-parcels/about>.

U.S. Census Bureau (2025). 2025 TIGER/Line Shapefiles: Urban Areas. *United States Census Bureau*. Retrieved February 11, 2026, from <https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2025&layergroup=Urban+Areas>.

U.S. Department of Transportation Bureau of Transportation Statistics (2025, December 16). Amtrak Stations. *National Transportation Atlas Database: Bureau of Transportation Statistics—Open Data Catalog*. Retrieved June 1, 2025, from <https://geodata.bts.gov/datasets/usdot::amtrak-stations/about>.

Ventura, County of (2026, February 2). Parcels Monthly. *Open Data County of Ventura: Discover Public Data, Tools, and Resources from County of Ventura GIS*. Retrieved February 2, 2026, from [https://venturacountydatadownloads-vcitsgis.hub.arcgis.com/datasets/e0721a09a7214788be60dc7f0834ea91\\_0/about](https://venturacountydatadownloads-vcitsgis.hub.arcgis.com/datasets/e0721a09a7214788be60dc7f0834ea91_0/about).

Yolo, County of (n.d.). *Yolo County GIS Viewer*. Retrieved February 2, 2026, from <https://experience.arcgis.com/experience/1c0ae779a0f7456185f1910ef588d8fb>.

## Other Sources

Affordable Housing and High Road Jobs Act of 2022 (2022, September 28). California State Assembly Bill 2011. Retrieved February 3, 2026, from [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220AB2011](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB2011).

Atherton, Town of (2019, January 11). *Special Council Meeting—January 9, 2019*. Retrieved January 26, 2026, from <https://www.youtube.com/watch?v=aGGXz3FT4Bs>.

Barrow, K. (2019, April 9). Silicon Valley Light Rail Line to Close. *International Railway Journal*. Retrieved January 26, 2026, from <https://www.railjournal.com/regions/north-america/silicon-valley-light-rail-line-to-close/>.

California Department of Housing and Community Development, Housing Policy Development Division (2025, January). *Technical Advisory: On the Implementation of AB 2097, Prohibition on Minimum Parking Requirements (Statutes of 2022)*. California Department of Housing and Community Development. Retrieved January 26, 2025, from <https://www.hcd.ca.gov/sites/default/files/docs/policy-and-research/ab-2097-ta.pdf>.

California Government Code § 65583.2 (2025, January 1). Retrieved February 3, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=65583.2.&nodeTreePath=12.1.10.11&lawCode=GOV](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65583.2.&nodeTreePath=12.1.10.11&lawCode=GOV).

California Government Code § 65912.111 (2025, January 1). Retrieved February 11, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=65912.111.&lawCode=GOV](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65912.111.&lawCode=GOV).

California Government Code § 65912.113 (2025, January 1). Retrieved February 11, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=65912.113.&lawCode=GOV](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65912.113.&lawCode=GOV).

- California Government Code § 65912.121 (2026, January 1). Retrieved February 11, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=65912.121.&lawCode=GOV](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65912.121.&lawCode=GOV).
- California Government Code § 65915 (2026, January 1). Retrieved February 3, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=65915&lawCode=GOV](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=65915&lawCode=GOV).
- California Integrated Travel Project (2025, July 4). High-quality Transit Areas. *GitHub*. Retrieved January 26, 2026, from [https://github.com/cal-itp/data-analyses/blob/main/high\\_quality\\_transit\\_areas/README.md](https://github.com/cal-itp/data-analyses/blob/main/high_quality_transit_areas/README.md).
- California Public Resources Code § 21060.2 (2020, January 1). Retrieved February 6, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=21060.2.&lawCode=PRC](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=21060.2.&lawCode=PRC).
- California Public Resources Code § 21064.3 (2025, January 1). Retrieved January 26, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=21064.3.&lawCode=PRC](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=21064.3.&lawCode=PRC).
- California Public Resources Code § 21155 (2009, January 1). Retrieved February 6, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=21155.&lawCode=PRC](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=21155.&lawCode=PRC).
- California Vehicle Code § 332 (n.d.). Retrieved February 11, 2026, from [https://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?sectionNum=332.&lawCode=VEH](https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=332.&lawCode=VEH).
- Caltrain (2020, November 6). Caltrain Votes to Close Atherton Station. *Caltrain*. Retrieved January 26, 2026, from <https://www.caltrain.com/news/caltrain-votes-close-atherton-station>.
- Federal Transit Administration (2023). The National Transit Database (NTD). *Federal Transit Administration*. Retrieved February 6, 2026, from <https://www.transit.dot.gov/ntd>.
- Freemark, Y. (2026). Route Miles for U.S. and Canada Rail Systems. *The Transport Politic*. Retrieved February 11, 2026, from <https://www.thetransportpolitic.com/databook/route-miles-for-us-and-canada-rail-systems/>.
- Gray, M., and Eckhouse, A. (2025, October 12). Everything You Need to Know about SB 79. *Arbitrary Lines*. Retrieved January 26, 2026, from <https://mnolangray.substack.com/p/everything-you-need-to-know-about>.

- Housing Development: Major Transit Stops: Vehicular Traffic Impact Fees (2024, September 19). California State Assembly Bill 2553. Retrieved January 26, 2026, from [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=202320240AB2553](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB2553).
- Housing Development: Transit-oriented Development (2025, October 10). California State Senate Bill 79. Retrieved January 26, 2026, from [https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill\\_id=202520260SB79](https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202520260SB79).
- Internet Archive (2026). *Wayback Machine*. Retrieved February 11, 2026, from <https://web.archive.org/>.
- Lee, A., Millard-Ball, A., and Manville, M. (2025, October 17). State Preemption in Theory and Practice: The Case of Parking Requirements. *Urban Affairs Review*. <https://doi.org/10.1177/10780874251385240>.
- Los Angeles Controller (n.d.). Los Angeles Single-family/Multifamily Zoning Map. *Kenneth Mejia: LA City Controller*. Retrieved January 26, 2026, from <https://single-family-zoning.lacontroller.app/>.
- Los Angeles Metro (2014, June 29). 210. LA Metro. Retrieved January 26, 2026, from [https://web.archive.org/web/20140928141504if\\_/http://media.metro.net:80/riding\\_metro/bus\\_overnight/images/210.pdf](https://web.archive.org/web/20140928141504if_/http://media.metro.net:80/riding_metro/bus_overnight/images/210.pdf).
- Los Angeles Metro (2025, June 22). 210. LA Metro. Retrieved January 26, 2026, from [https://cdn.beta.metro.net/wp-content/uploads/2025/06/20101329/210\\_TT\\_6-22-25.pdf](https://cdn.beta.metro.net/wp-content/uploads/2025/06/20101329/210_TT_6-22-25.pdf).
- Ng-Lee, C. (2025, February 26). *AB 2097 and Its Potential Impacts on Development in California*. UCLA, Los Angeles.
- Planning and Zoning: Density Bonuses: Affordable Housing (2019, October 9). California State Assembly Bill 1763. Retrieved February 3, 2026, from [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201920200AB1763](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200AB1763).
- SCAG (2019, October 17). *Meeting of the Technical Working Group: Thursday, October 17, 2019, 10:00 A.M. - 12:00 P.M.* SCAG. Retrieved February 6, 2026, from <https://www.scag.ca.gov/sites/default/files/2024-05/twg101619fullagn.pdf>.
- Swartz, A. (2019, January 16). Atherton to Reexamine Caltrain Stops in Town: Introduction of New Legislation Delays Decision on Weekday Train Stops. *The Almanac*. Retrieved January 26, 2026, from <https://www.almanacnews.com/news/2019/01/16/atherton-to-re-examine-caltrain-stops-in-town/>.
- Turner, M., Hamparian, R., Moore, M., and Amadeo, A. (2026, January 15). *Federal and State Report (2025–1053, Appendix A; N. Englund, Ed.)*. Los Angeles Metro. Retrieved January 26, 2026, from <https://boardagendas.metro.net/board-report/2025-1053/>.
- U.S. Census Bureau (2023). American Community Survey. *Data.census.gov*. Retrieved January 26, 2026, from <https://data.census.gov>.

Voulgaris, C., and Begwani, C. (2023, January 7). Predictors of Early Adoption of the General Transit Feed Specification. *Transport Findings*. <https://doi.org/10.32866/001c.57722>.

Wolfe, B. (2025, Spring/Summer). Unholy Covenants: How California Courts Came to Enforce Racial and Ethnic Restrictions on Housing and Their Impact Today. *California Supreme Court Historical Society Review*. Retrieved January 26, 2026, from <https://www.cschs.org/wp-content/uploads/2025/04/2025-CSCHS-Review-Spring-Restrictive-Covenants.pdf>.

