

Los Angeles

Turning Pavement into Plants: A Block-by-Block Approach to Adapting L.A.

DEPAVELA

A COLLABORATIVE PROJECT BETWEEN
ACCELERATE RESILIENCE L.A. AND
HYPHAE DESIGN LABORATORY

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Authors

This report was a collaborative partnership between Accelerate Resilience L.A. ([ARLA](#)) and Hyphae Design Laboratory from concept to completion.

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LA County Chief Sustainability Office
Environment • Economy • Equity

Land Acknowledgement

Accelerate Resilience L.A. acknowledges that we live, work, and collected the data for this report on the ancestral lands of the Tongva, Tataviam, Serrano, Kizh, and Chumash Peoples. We honor their elders – past, present, and emerging – and recognize their ongoing stewardship of these lands and waters. We acknowledge that colonization has caused, and continues to cause, displacement, violence, and lasting trauma, and affirm our commitment to truth, healing, and strengthening relationships with Indigenous peoples and local tribal governments.

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As climate adaptation accelerates in L.A. County, removing unnecessary pavement is no longer a fringe idea but an urgent need.

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EXECUTIVE SUMMARY

This report responds to a growing ecological crisis and policy consensus: the time has come to depave paradise.¹ If Los Angeles wants to reduce heat, manage water, expand tree canopy, and support public health and equity goals, it needs an actionable strategy for transforming pavement. The following report is a necessary step towards envisioning and quantifying that strategy.



PURPOSE AND CONTEXT

Los Angeles County is home to over 310,000 acres of pavement, an expanse so vast, it would form California's largest city if consolidated. This pavement burden is more than a visual or planning issue. It directly contributes to extreme heat, stormwater runoff, flooding, and ecological degradation, with disproportionately severe impacts on front-line communities. Schoolyards bake in the sun, sidewalks flood after storms, and tree planting opportunities are limited without first removing the asphalt that dominates

so many of our shared spaces. Depaving requires a fundamental shift in how we value and design urban land. In a region where pavement has long been synonymous with progress, DepaveLA urges us to remove excess pavement and allow the land to breathe, recharge, and sustain healthier, more resilient communities.

This report provides the foundation for a first wave of depaving implementation. It provides a novel quantitative and geospatial dataset to understand the County's existing pavement distribution and narrow down locations where removal might be possible. It also highlights twenty-two practical design and depaving strategies, from planted

bulbouts to parking lot reconfigurations, that local agencies and partners can use to remove unnecessary asphalt and regenerate urban land. Together, the dataset and depaving strategies offer a scalable approach to advance climate, health, and equity goals: one sidewalk, schoolyard, parking lot, and neighborhood block at a time.

SCOPE AND METHODOLOGY

DepaveLA presents the first countywide pavement analysis at both the parcel and right-of-way (ROW) level, distinguishing between roads, other paved surfaces, parking, and sidewalks using aerial imagery and land cover data.

Using high-resolution mapping and planning heuristics, the analysis categorizes pavement into two categories:

- Core pavement (needed for roads, sidewalks and required parking)
- Non-core pavement (not required for roads, sidewalks, and parking).

This technical assessment integrates parcel- and ROW-level pavement data with fine-scale metrics for heat, flood risk, canopy coverage, and pavement intensity, identifying “stacked needs” areas – places where top-quartile environmental burdens overlap – to guide equity-focused, multi-benefit, depaving interventions. It also offers a framework for public agencies to identify the scope of pavement removal opportunities and set quantifiable targets to guide pavement removal initiatives.

The scope of the analysis spans all of Los Angeles County, not just unincorporated areas. This assessment fills a critical

data gap by providing the high-resolution depaving analysis that other plans call for, while also supporting implementation across public agencies, cities, school districts, community organizations, and private landowners.

SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

Scale of Opportunity

LA County has **312,453 acres** of pavement, or 488 square miles. This is an area so vast it would form California’s largest city if consolidated.

An estimated **137,438 acres (44%)** of the existing pavement is what we call non-core pavement, meaning it is not thought to be required for roadways, sidewalks, or parking. This pavement should be further examined to determine how much of it might be potentially removable.

Hotspots of Intersecting Needs

In the most impacted areas of the County (the top 25% of communities showing overlapping pavement burden, heat, flood and canopy need), there are about 788 acres of pavement. 79% of these depaving hotspots with highest need are located in designated Disadvantaged Communities under SB 535.

Privately-Owned Parcels

Approximately 90% of non-core impervious surface lies within parcels, not in the public right-of-way. Of this parcel-based pavement, **nearly four times more acreage is privately owned than publicly owned**. This 4:1 ratio underscores the need for strategies that extend beyond public land and engage private property owners in high-impact depaving efforts.

Residential Pavement Area

Amongst parcel types, residential parcels contain the largest amount of parcel pavement, with **74,685 acres**, which is 41% of the total pavement in all parcel types.

Within that residential area, **81% of the pavement is located on single-family parcels**, accounting for **58,936 acres** of total pavement.

Our pavement analysis estimates that of the total of 74,685 acres of pavement on residential parcels, approximately 26,587 acres is required for parking, with 4,204 acres reserved for roads. What remains is **43,894 acres** of pavement that is likely to be patios, walkways, and driveways.

If all residential properties were retrofitted to meet the County’s current minimum landscape requirement of 20% of non-building parcel area, **571 acres** could be depaved. Currently 3.7% of residential parcels (68,013 parcels) do not meet this requirement.

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If each residential parcel cut a single 6'x6' tree well in their patio, it would amount to **1,530 acres** of pavement removed, while on average only reducing notional patio space by 3% (calculated by noting that, on average, residential parcels have 1,126 square feet of pavement that is not required for parking).

Vacant Lots

There are **14,862 acres** of pavement on vacant parcels throughout the County. This is pavement that is not being used, and could potentially be removed without compromising any activities.

While Residential and Industrial vacant parcels contain the most vacant parcel pavement overall, commercial vacant parcels tend to have more pavement per vacant parcel, with the average residential vacant parcel being 11% paved, the average industrial vacant parcel 37% paved, and the average commercial vacant parcel 46% paved.

Commercial and Industrial Parcels

Commercial non-core pavement (pavement not required for roadways, parking or sidewalks) makes up 22,857 acres countywide.

If all commercial properties were retrofitted to meet the **County's 10% minimum landscape requirement**, this would amount to **1,018 acres** of pavement removal.

Conservatively estimating that 50% of the 4 million required commercial and industrial parking spaces are already angled less than 90 degrees, switching the remaining spaces to angled parking could free up pavement equal to 1,259 football fields and create space to plant one small tree for each of the 2 million parking spaces.

Government Parcels

There are **30,649 acres** of pavement on parcels assessed for government use. Of this pavement, 17,023 acres (55%) are on parcels assessed for "Government owned - unspecified," suggesting that understanding and reclassifying these parcels more accurately can help surface hidden depaving opportunities on land already in public control.



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Right-of-Way

There are **15,418 acres** of pavement in the public right-of-way that are thought to not be in use as roads or sidewalks. Such pavement is likely to have wide shoulders, islands, and medians.

There are **102,933 acres** of pavement in the rights-of-way between parcels that **are in use as roadways**. This is around a third of all of the pavement in the County, and so future depaving strategies could include foci on road diets and other interventions for road pavement. The present study does not focus on road pavement but the category should be considered as a logical next step.

Supervisorial District Pavement

Each supervisorial district has unique pavement conditions. Districts 1, 2, and 4 have pavement as their largest landcover category, with District 2 further impacted by disproportionately low tree canopy. Districts 3 and 5 have relatively lower pavement coverage as a percent of their total area.

While all supervisorial districts show right-of-way and residential parcels as the largest pavement categories, the third-ranked pavement type varies for each district and might suggest different opportunities and solutions. For Districts 1, 2, and 4, it is industrial, for District 5 it is government, and for District 3, it is commercial.

The 3,179 school campuses in Los Angeles contain approximately 14,683 acres of pavement.

The average school campus is 40% covered in pavement.

Watershed Pavement

The South Santa Monica Bay, Lower San Gabriel River, and Lower Los Angeles River watersheds have relatively high road and non-road pavement in proportion to their size relative to the other watersheds, as well as relatively lower vegetation.

In all watersheds, rights-of-way and residential pavement were the largest pavement categories. However, the South Santa Monica Bay, Lower San Gabriel River and Lower Los Angeles River watersheds have the highest industrial pavement burden of the watersheds, with others showing more government and commercial pavement.

Schools Pavement

We calculated pavement coverage for all schools in the County, along with their extreme heat exposure, flood risk, and canopy coverage.

The 3,179 school campuses in Los Angeles County (including primary and secondary schools, adult education, as well as colleges and universities, including public, charter, and private schools) serve >2 million students, and contain approximately **15,240 acres** of pavement, with the average school campus being 40% covered in pavement. Many have a much higher pavement coverage.

If all of the school campuses with above average pavement coverage were brought down to the average, it would require removing **1,531 acres** of pavement.

Pavement Intensity versus Pavement Quantity

While single-family homes contain the **largest total area** of residential pavement, multi-family and industrial parcels are significantly more **pavement-intensive**, meaning there is a higher proportion of pavement on these parcels. This higher intensity is relevant when prioritizing where to address pavement burden.

RECOMMENDATIONS

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Recommendation 1: Implement Depaving Projects in Hotspot Locations and on Vacant Parcels

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Recommendation 2: Create a Depave Taskforce

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Recommendation 3: Use an Implementation Framework

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Recommendation 4: Explore Incentive-Based Approaches for Depaving on Private Property

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Recommendation 5: Promote Depaving of Schoolyards and Campuses