Los Angeles Urban Forest Equity Streets Guidebook

April 2021

Prepared by: CAPA Strategies

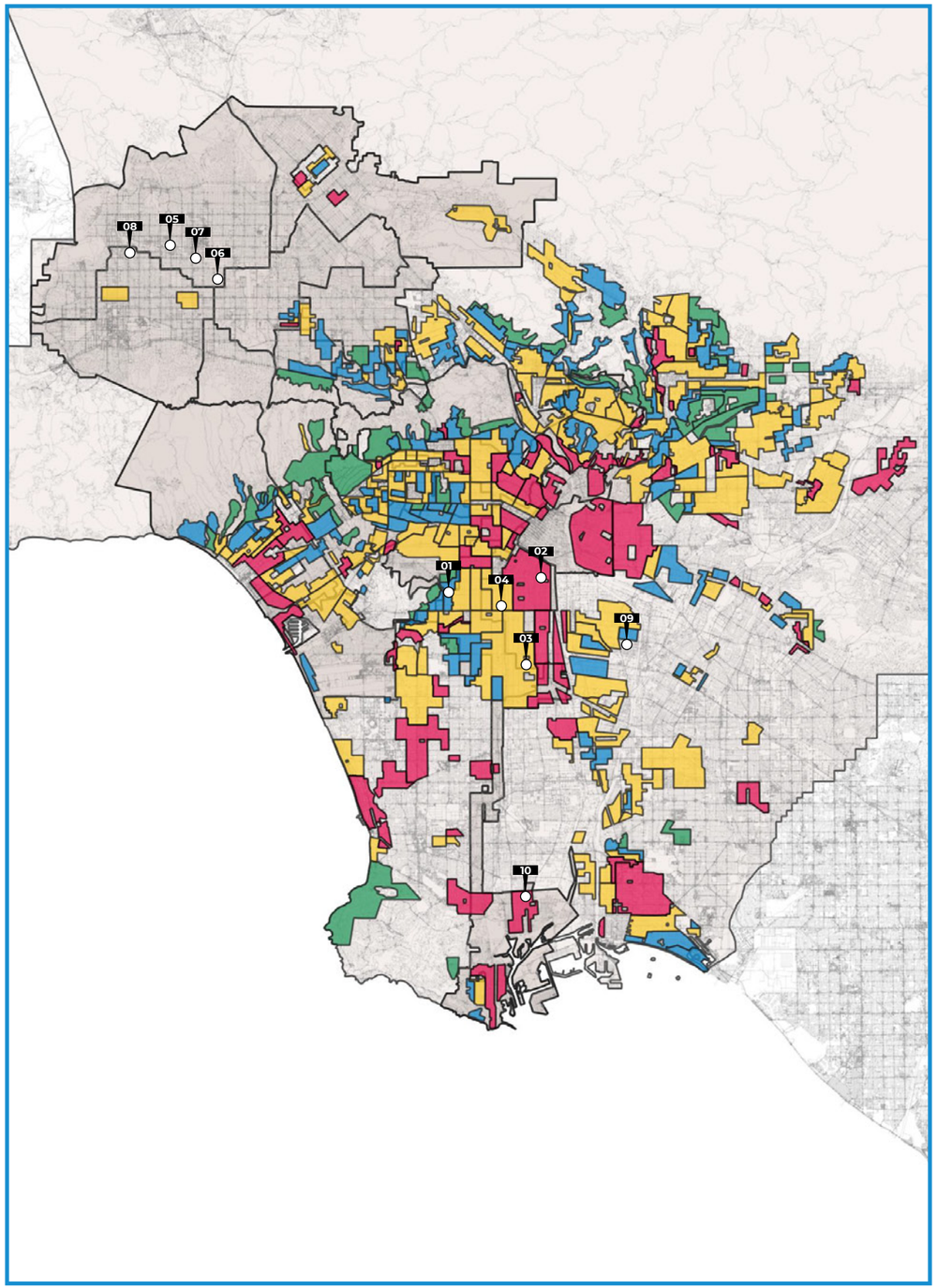


Figure above: 'Redlining' map of the County and City of Los Angeles with annotated site-specific case study locations.

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Introduction



Concerns about the systemic lack of green spaces in lower income communities and communities of color has sparked a national debate about the reasons for and solutions to the disproportionate exposure to environmental insults including extreme urban heat, degraded air quality, and heightened levels of flooding. Recent studies suggest that a lack of urban green spaces in some neighborhoods is due in part to historical planning decisions that invested in parks and street trees within whiter and wealthier parts of town. Other studies note that current landscape patterns within some neighborhoods preclude the planting of trees and creation of parks because tearing up concrete or asphalt is cost-prohibitive. Despite the mounting evidence about the inability of lower income communities and communities of color to access the 'ecosystem services' provided by green spaces, arguably and with a few exceptions, municipalities have yet to take decisive action to expand green spaces into areas that currently lack trees and parks. Some reports go further by suggesting that a lack of green space is part of a larger system of colonial and white supremistist ideologies that are entrenched within municipal decision-making processes and policies that hamstring even well-intended efforts at reducing disparities of access to urban green spaces.

Municipalities have yet to take decisive action to expand green spaces into areas that currently lack trees and parks.

Today, the convergence of increasingly compelling data about urban forest inequities is aligning with municipal leaders who want to center historic disinvestment communities and neighborhoods with programs that advance urban greening. While these initiatives are world wide — see, for example, the United Nations tree planting programs, the World Land Trust, LEAF International — local municipalities represent the vast majority of tree planting programs. The Mayor of Los Angeles, for example, has recently committed to planting 90 thousand trees and increasing canopy by 50% in the lowest canopy communities. While such programs promise to advance important equity-based considerations in urban greening decisions, they also have two additional and essential aspects. First, trees and parks within cities have long been considered amenities, and a larger number of reports, scholars, and municipal managers are describing green spaces as necessary infrastructure and one part of a health care program, given their known public health benefits. Second, the integration of multiple municipal bureaus (i.e., departments of transportation, urban planning, housing, etc.), each of which directly impact the presence/absence of urban green spaces is becoming commonplace.

Describing green spaces as necessary infrastructure and one part of a health care program, given their known public health benefits.

This document represents the second (of two) reports that are part of the Los Angeles Urban Forest Equity Fellowship. The first report aimed to contextualize the debate about the distribution of existing canopy and provide diverse perspectives about what might be done, including a set of recommendations. We go deeper into some details with this report with the following three aims: (1) provide greater detail to address a broader set of LA urban forest equity futures; (2) identify the distinct characteristics of neighborhoods throughout the LA region, including the delineation of several built environment factors that have made tree planting potentially challenging; and (3) offer suggestions for envisioning specific streets and corridors with greater tree canopy with visual depictions of case studies, which we offer as a way to expand options for expanding greening efforts.

The structure of this report follows an innovative approach developed by a group of members, who met bi-monthly as part of the LA Urban Forest Equity Fellowship -- for purposes of this report we refer to this group as the LA Forest Equity Collective (LAFEC). At the center of our approach is the use of a three tier system, which describes the relationship between the level of effort or investment in relation to the amount of greening expected. By involving additional researchers from California State University Los Angeles and STOSS, a landscape architecture firm, this report opens with a detailed description of the methodology used for identifying specific locations, based on the three tiers, where tree canopy could be increased, and then a series of graphic illustrations that offer suggestions about the extent and quality of tree planting possible. While we make no claims about the accuracy of these techniques, we do recognize that surmounting decades long impacts from race-based policies will require visions about landscapes that reflect a more equity urban forest. We note that this report represents a beginning of a dialog that centers historically marginalized communities and neighborhoods through active involvement by those affecting and affected by LA's urban forest.

Methodology



A. Purpose: Why A Streets Guidebook?

The Guidebook serves as a compendium of parts, highlighting the complexity and nuance that exists within LA's urban forest -- based in part on our current understanding of the known challenges in addressing urban tree equity. The typologies of the street and the potential application of trees is not essential but a proving ground for centering tree equity within the broader management of streets and landscapes within the region. By illustrating the advantages and disadvantages of integrating trees into specific areas of the LA region, specifically, this Guidebook offers a means for city planners, residents, urban forest managers, and policy makers to evaluate the opportunities that can improve the likelihood of achieving the goal of increasing tree canopy within the region. The geographic scale and complex policy history of Los Angeles requires an approach that divides the region into specific neighborhoods and street corridors. As such, our methodology is based on a case study and is site-specific. Examples illustrated herein describe existing conditions, existing infrastructural conflicts, while identifying social, infrastructural, and environmental constraints. The Guidebook attempts to use these case studies to address an explicit policy goal of increasing canopy by 50%, specifically in historically disinvested areas of the region -- this is part of the charge presented by the Mayor of City of LA's Green New Deal commitments.



B. How to Use This Guidebook

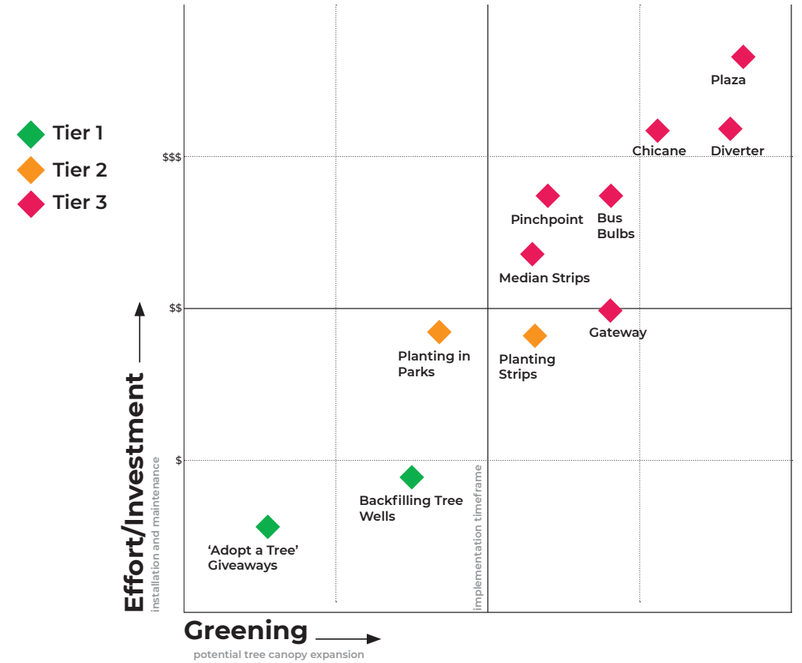
Based on the aforementioned assumptions and expectations, this Guidebook offers a heuristic framework for stakeholders to examine the proportional investment required to achieve desired levels of greening. While we make every effort to identify our assumptions and bias, the case studies are selected based on input from the LAFEC, which includes considerations about historically disinvested areas of the region, current demographics, land use, infrastructure, and tree canopy cover. The cases are instructive and provide 'what if' analysis for canopy improvements -- meaning that the graphic illustrations below address the question, "what would this neighborhood look like with additional trees?" As such, these are intended to be idealized cases, and rather to be considered as one option given the site conditions, past planning practices, and focus on equity.

The three tiers also use different methods and techniques for identifying possible tree planting locations. While we provide greater detail on each of the tiers below, of note is that each are based on different scales (e.g. city, neighborhood, street, etc.), input data (e.g. existing tree crowns, street designs, census data, etc.), and methods (e.g. GIS, graphic design, land use assessment, etc.). Tier 1, for example, examines the locations across the whole city/region, and uses an extensive GIS for identifying specific tree planting locations for individual streets. On the other hand, Tier three studies a specific location and illustrates the possibilities for tree canopy, thereby offering a vision for improving conditions at a site. As such, by engaging and reclaiming the public right of way, this Guidebook is not a scorecard or metric even. Consider it a resource guide to demonstrate how greening can take place and the requisite effort required. Canopy offers a way to consider issues of 'shade equity,' which is increasingly becoming an important consideration with rising temperatures. The Tiers assume no net loss in tree canopy. Finally, while this document contains a majority of materials produced during this second phase of the collaborative LAFEC discussions, due the multimedia approach, the document does not include other materials such as videos and field visits that are used for characterizing a specific location.

Tiered System Approach

Why Tiers?

While the desire to plant more trees in low-canopy, historically disinvested neighborhoods is widely accepted and acknowledged on the national and even international stage, the mechanisms for implementing impactful and lasting solutions at the local level remain a mystery, in many cases. Moreover, while various data tools, projects, and programs seek to rectify the issue of urban forest inequity, the need to articulate a common language and enact a targeted, coordinated prioritization and action plan remains. The tiered model presented here emerged from a necessity for scalability, and it seeks to codify new terminology for measuring levels of investment, trade-offs, and opportunities to reach meaningful solutions to the decades-long, systemic problem of urban forestry inequity. This tiered model addresses urban forest inequity at the street level, where the human impacts of lack of canopy become visceral and political, while also taking into account issues of scalability. The tiers defined in this Guidebook reflect types of interventions and levels of investments needed to reach a more equitably distributed tree canopy, from individual streets to council districts and larger political jurisdictions throughout Los Angeles.





Tier 1 - Available

No site modification is needed. Tree canopy goals can be achieved by planting vacant existing vacant locations.



Tier 2 - Moderate

Minimal site modifications needed. Tree canopy goals can be achieved with additional financial resources and possible site modifications within current City and County standards.



Tier 3 - Hard

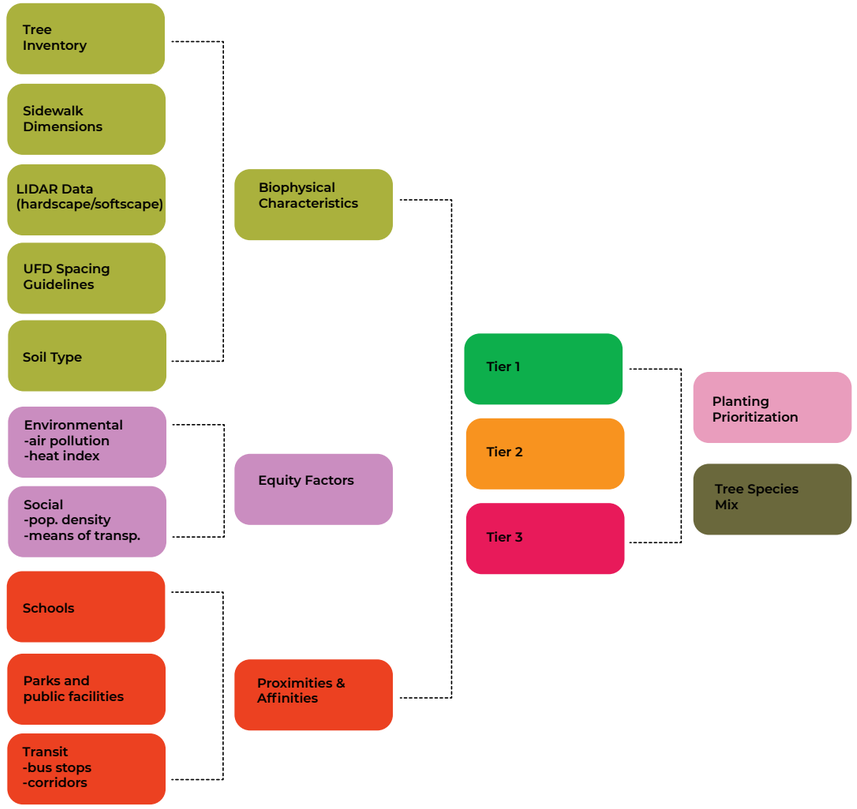
Drastic site modifications needed. Significant tree canopy increase cannot be achieved with exisiting infrastructure and policy modifications are needed to reach canopy equity and public health targets.

The tiers defined in this Guidebook reflect types of interventions and the levels of investment needed to reach a more equitably distributed tree canopy.

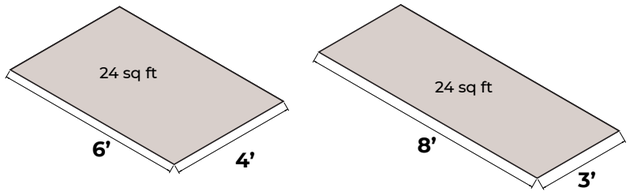
With the recognition that every street, neighborhood, and community of Los Angeles represents its own unique set of social, economic, environmental, ecological, and infrastructural dynamics and challenges, this tiered model creates a simpler, more streamlined system to define a tree planting strategy at the human scale and street level. It also provides an entry point and pathway to visualize opportunities, trade-offs, and potential impacts for decision makers and community members alike.

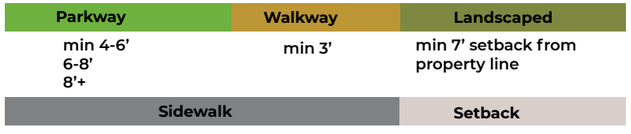
This tiered model was applied to specific case studies and streets spanning various neighborhoods of Los Angeles. This guidebook is a reflection of what the urban forestry community in Los Angeles is grappling with and an admission of the complexity of achieving urban forestry goals and targets.

Planting Tree(iage) Model



Concrete Cutouts





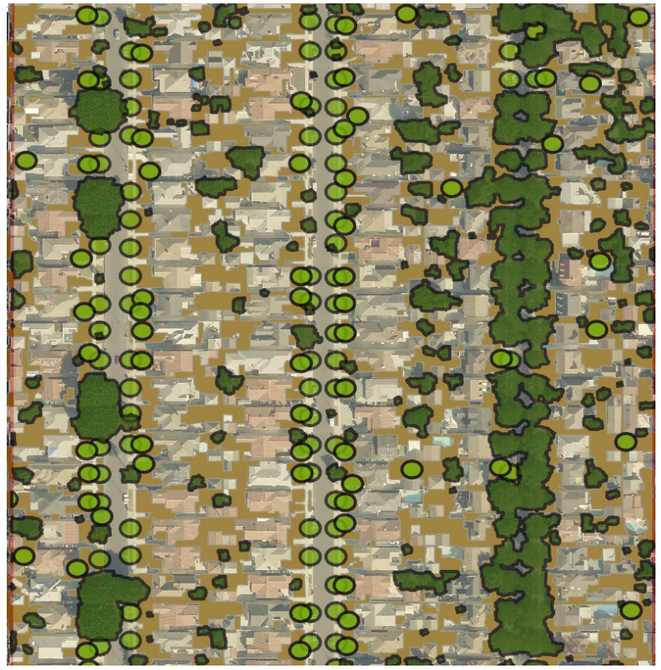


Pictured left - A method and model for assessing and devising tree prioritization levels on the basis on multiple equity and biophysical characteristics in the urban landscape. Also shown is an illustration of the classic concrete cutout typologies and parkway dynamics at play.

Pictured above - A classic example of a Tier 1 location: an immediately plantable open location.

Tier 1 - Observations & Analysis





Pictured left to right: CD10 Welland St before and after.

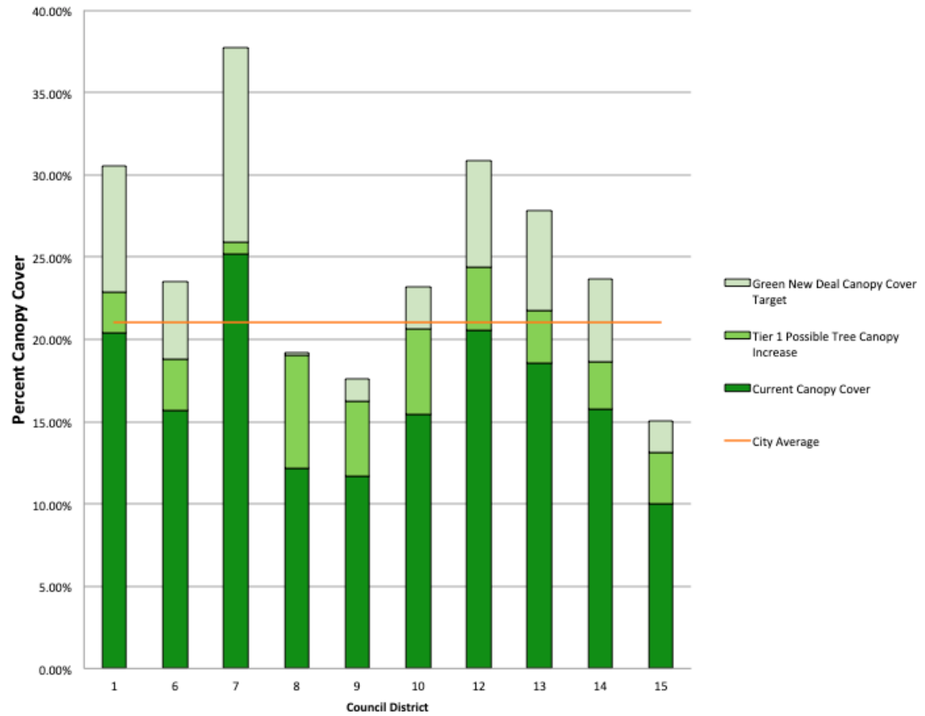
Closing LA's Urban Forest Canopy Equity Gap

Contributor Cindy Chen, Cal State LA

With Tiers 1, 2, and 3 defined, the LA Forest Equity Collective set out to tackle the lowest hanging fruit. We estimated possible canopy increase in low canopy, historically underinvested regions by utilizing GIS to locate and target plantable Tier 1 locations on both public and private land. We wanted to answer the question: Could we achieve a minimum of 50% net increase in low canopy communities by prioritizing the locations easiest to plant, or will we need to target Tier 2 and Tier 3 sites to achieve significant canopy equity and public health goals?

Tier 1 sites include existing, open, grassy parkways and plantable space on private property. Because these sites require minimal infrastructure modification (ex: no concrete cuts), they could be targeted for planting quickly, and in many cases, leverage already existing resources for planting and programs. Tier 1 sites require the least amount of heavy lifting for a potentially high impact on public health. Utilizing GIS, the team built models to automate the process of locating viable planting sites in the public right of way and project possible canopy increase over time. Parkways, the unpaved soil or grassy strips located between the sidewalk and the street, were targeted for the street tree analysis. A similar analysis was also applied to private property. For the purposes of this modeling, certain assumptions were made regarding tree spacing in relation to other critical city infrastructure and modeled trees were assigned a standard crown spread of 15 feet, the size of an average small stature tree. The

Tier 1 - GIS Canopy Projection Results



modeling did not take into account other factors that impact urban tree canopy growth, including net canopy loss, population growth, and development. The goal of this analysis was to calculate the impact of planting Tier 1 locations so that Los Angeles could begin to visualize closing the gap to canopy equity.

Methodology: Right Tree, Right Place, Right Reason

Tree placement in relationship to other infrastructure is an important consideration for the health and vitality of our urban forest, the sustainability of other critical city infrastructure, and the resilience of our communities. As such, the City of Los Angeles' Street Tree Spacing Guidelines served as the backbone for this analysis, as it provided a list of existing infrastructure that must be taken into consideration when planting new trees in L.A. Datasets for each infrastructure within the right of way were used as parameters in this Tier 1 GIS modeling. Most of the infrastructure datasets were found on the Los Angeles GeoHub or were obtained through various agencies within the City of Los Angeles. Ultimately, these datasets were used to create a model that first, identified viable planting locations along streets and within

Council District	Current Tree Canopy Cover %	Desired Tree Canopy % by 2028 Green New Deal Goal	Projected Canopy Increase % Via Tier 1	Projected New Tree Canopy Cover % Via Tier 1	Number of Street Trees Needed to Reach New Projected Tree Canopy Cover	Number of Private Property Trees Needed to Reach New Projected Tree Canopy Cover	Total Trees Needed to Reach New Projected Tree Canopy Cover	Cost Estimation for Needed Street Trees	Cost Estimation for Needed Private Property Trees	Total Estimated Combined Cost
15	10.03%	15.05%	31.32%	13.15%	17,046	22,660	39,706	$44,319,600	$1,472,900	$45,792,500
9	11.71%	17.57%	38.47%	16.21%	11,636	11,516	23,152	$30,253,600	$748,540	$31,002,140
8	12.20%	18.30%	56.12%	19.05%	24,007	19,324	43,331	$62,418,200	$1,256,060	$63,674,260
10	15.46%	23.19%	33.55%	20.64%	15,975	13,638	11,442	$41,535,000	$886,470	$42,421,470
6	15.68%	23.52%	19.83%	18.79%	16,595	17,289	33,884	$43,147,000	$1,123,785	$44,270,785
14	15.80%	23.70%	17.76%	18.61%	11,480	15,288	26,768	$29,848,000	$993,720	$30,841,720
13	18.56%	27.84%	17.23%	21.77%	9,708	7,472	17,180	$25,240,800	$485,680	$25,726,480
1	20.36%	30.54%	12.52%	22.91%	7,600	8,290	15,890	$19,760,000	$538,850	$20,298,850
12	20.59%	30.89%	18.51%	24.40%	37,754	50,514	88,268	$98,160,400	$3,283,410	$101,443,810
2	24.99%	37.49%	6.02%	26.49%	14,833	N/A	14,833	$38,565,800	N/A	$38,565,800
7	25.16%	37.74%	2.93%	25.90%	15,747	N/A	15,747	$40,942,200	N/A	$40,942,200
3	25.61%	38.42%	6.01%	27.15%	22,263	N/A	22,263	$57,883,800	N/A	$57,883,800
5	35.20%	52.80%	3.19%	36.32%	16,637	N/A	16,637	$43,256,200	N/A	$43,256,200
11	36.43%	54.65%	1.92%	37.05%	17,520	N/A	17,520	$45,552,000	N/A	$45,552,000
4	36.66%	54.99%	2.12%	37.44%	12,554	N/A	12,554	$32,640,400	N/A	$32,640,400
					251,355	165,991	399,175	$653,523,000	$10,789,415	$664,312,415

Pictured Tier 1 Results - Table breakdown by council district and cost estimation. Council districts highlighted in grey did not have a private property analysis performed due to GIS limitations. Cost estimates are based on current average price points for tree planting in City of LA and three years of maintenance.

Tree placement in relationship to other infrastructure is an important consideration for the health and vitality of our urban forest.

private property and second, planted “trees” to project possible canopy increase over time.

We did some initial modifications to the datasets to make the model as accurate as possible. Areas excluded from this analysis included golf courses, cemeteries, parks, airports, and more. Trees for this projection model were planted 10 feet away from each other with a standard 15 foot canopy spread, an intentionally conservative decision. We also determined that trees should be planted a minimum of 10 feet away from existing trees and buildings.

Tier 1 - Parkway Model

To project possible street tree canopy increase, we created models to automatically locate parkways that could be planted. Two models were created: one to automatically select the parkways to plant, and a second to place points (“trees”) in the parkway. Parkways that fit the criteria of the Street Tree Spacing Guidelines were automatically selected as viable locations. The result included a layer of selected parkways, a layer of trees equally spaced along the selected parkways, and a layer of the canopy projection set at a 15-foot canopy spread. This model was applied citywide and analyzed at the council district level.

Tier 1 - Private Property Model

To project possible private property canopy increase, we created a model to automatically locate open grass and soil areas for tree planting on private property. This analysis was done at the council district level, and only the council districts with a tree canopy lower than the city average (~21.63%) were used in the analysis. Utilizing a land cover dataset from TreePeople and Loyola Marymount University, we separated Grass and Soils (GS) and Tree Canopy and Buildings (TCB) into two layers and created a 10 foot buffer around TCB to locate potential sites for tree planting. The end result was a layer with one tree planted in every grass or soil plot greater than 100 square feet and fewer than 20,000 square feet on private property.

Tier 1 - Canopy Projection Calculation

Using the urban forest equity GIS models, we calculated the percent canopy increase and the resulting total new canopy cover that could be achieved through planting open parkways and within private property. We also calculated the number of street trees and private property trees needed to reach the new possible canopy cover.

Tier 1 - Results

Using the parkway and private property projection calculations, we estimated Tier 1 Possible Canopy Increase Percent and Tier 1 Possible Canopy Cover Percent using the surface area of the projected tree canopy spread for both analyses. Through GIS modeling, we calculated estimates for the number of street trees and private property trees needed to reach the new projected canopy cover for each council district. It’s important to note that the projected number of trees is not equal to the number of trees needed to reach the 50% increase target, rather it is the number of trees to reach the possible total tree canopy target through Tier 1 interventions.

After running both models and conducting a projection analysis, 42% of all parkways within the City of Los Angeles were identified as available for planting street trees, following the parameters of the Street Tree Spacing Guidelines, and thousands of locations within private property were also selected. In all but one council district, we discovered that even if we planted all Tier 1 locations, or sites currently available to plant, we would not achieve a 50% canopy increase. This indicates that if significant gains in urban forest equity are to be achieved, Los Angeles will need to prioritize Tiers 2 and 3 investments and address these moderate and difficult locations to plant. In other words, there is insufficient space within currently open parkways and private lots to close the canopy equity gap.

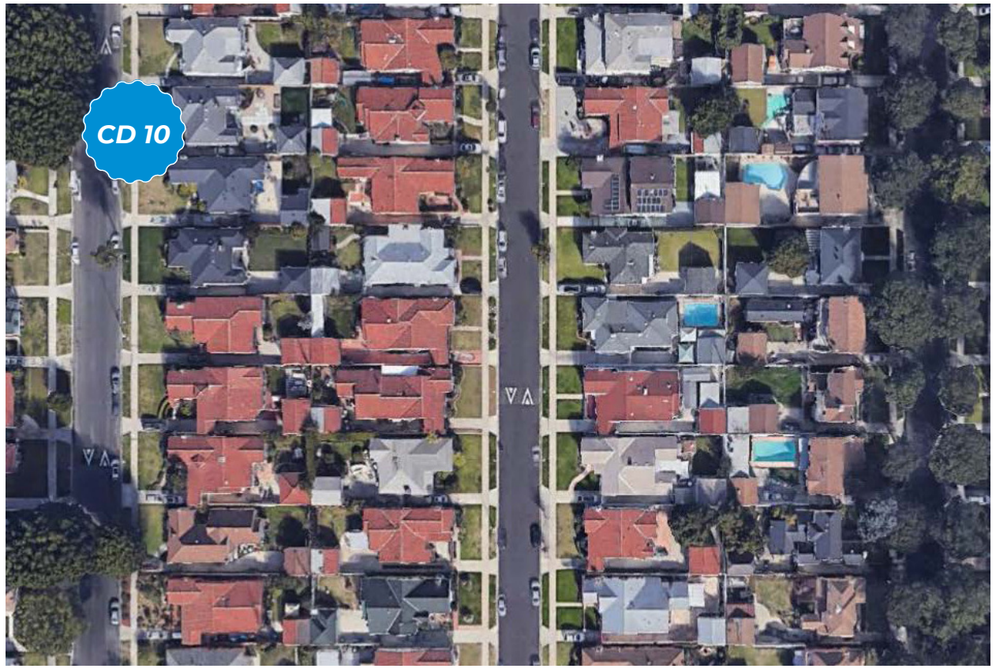
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SavATree Consulting Group, University of Vermont Spatial Analysis Laboratory, TreePeople, & Loyola Marymount University Center for Urban Resilience. Los Angeles County Tree Canopy Assessment, 2016.

Streets Profiles

South Los Angeles

01. Welland Ave



Site Conditions

Residential street that stands out given the available plantable space on both private and public land.

Designated Local Street with Roadway width of 36' and Right-Of-Way width of 60'.

Equity Considerations

THIS NEIGHBORHOORHOOD WAS

REDLINED
"DESIRABLE"

6.57%
Average Existing Tree Canopy

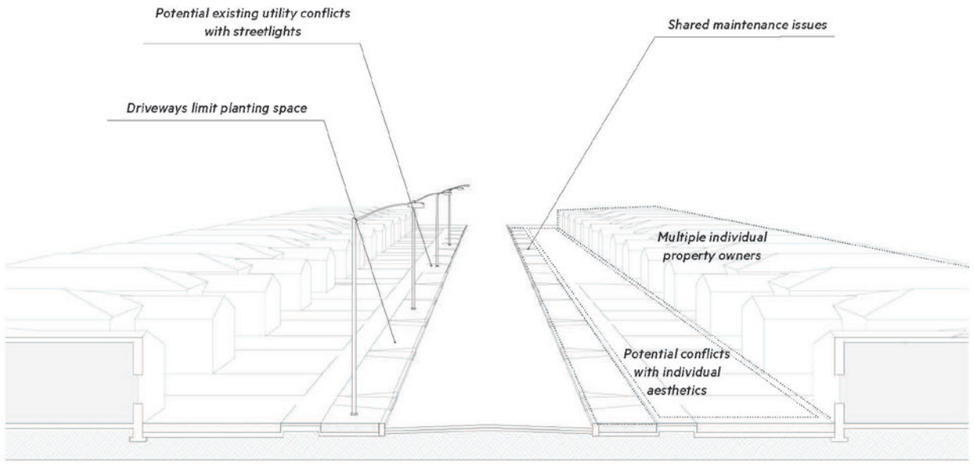
45.00
Average Heat Health Action Index



01. Welland Ave

Challenges

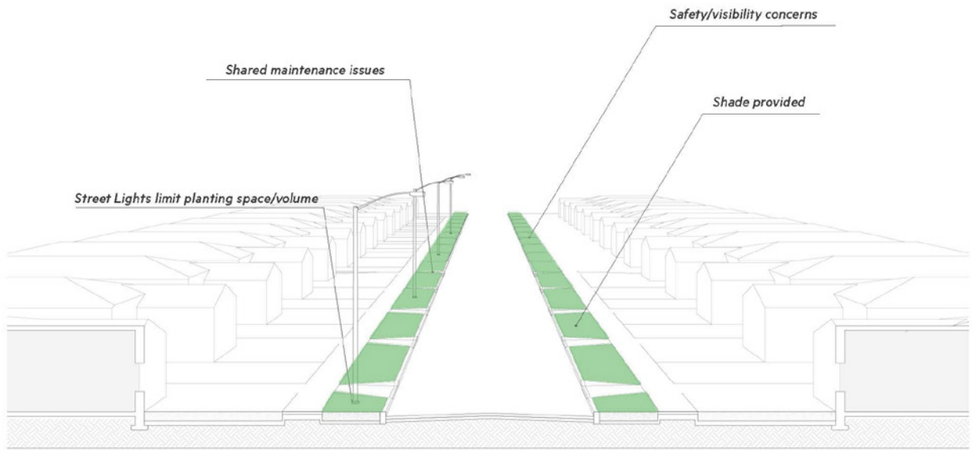
to potential canopy expansion



Trade-Offs

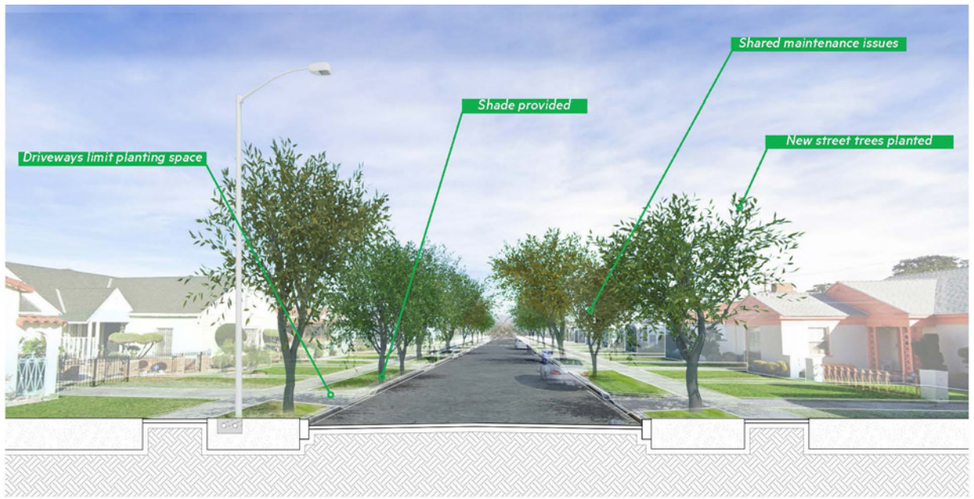
to weigh with options

- Tier 1
- Tier 2
- Tier 3



01. Welland Ave

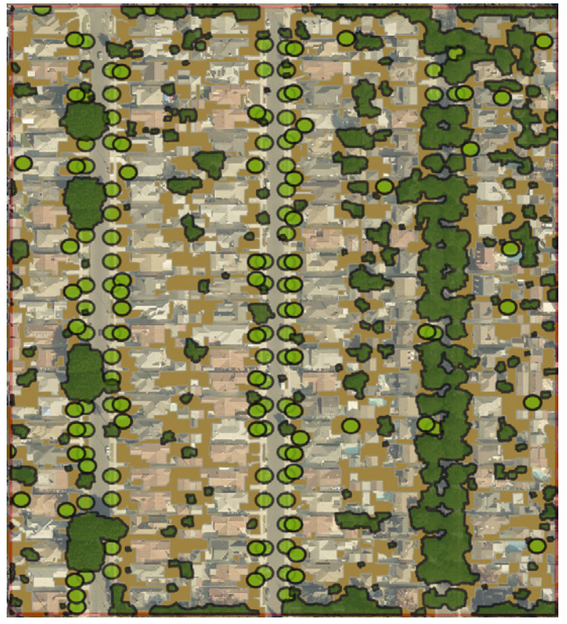
Tier 1



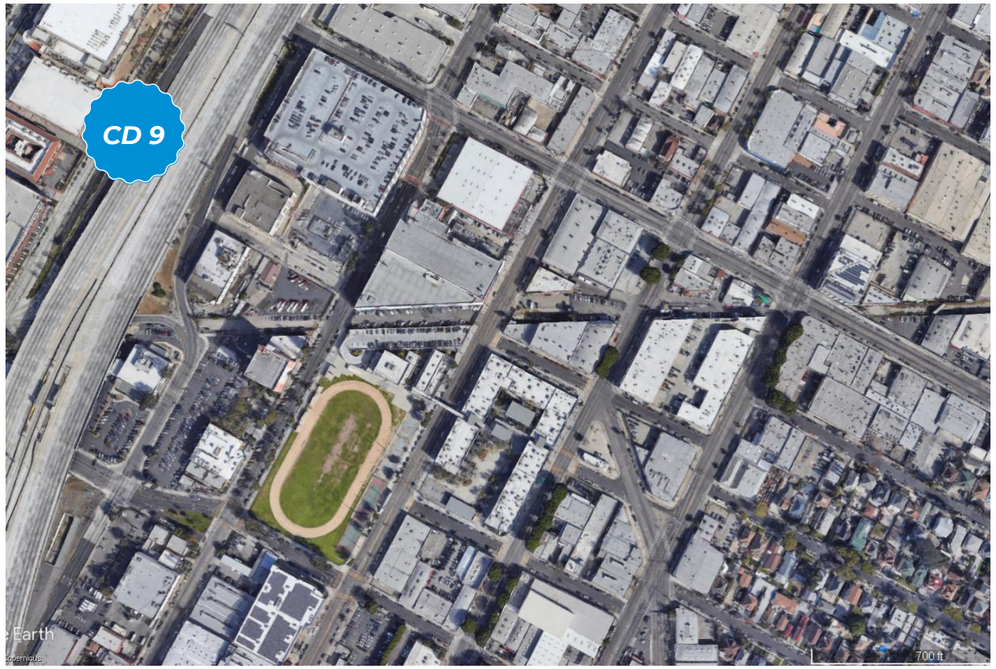
Additional Notes

Existing parkways allow for Tier 1 plantings to be added to provide new street trees, which would provide shading, cooling and other benefits. Soil planting volume is constrained by driveways. Existing subgrade infrastructure (sewer, power, etc.), will also be a limiting factor in determining planting sites.

Pictured on right: CD10 Welland St after Tier 1 GIS projection analysis.



02. **S. Hill St**



Site Conditions

Large commercial and public facility sites have large driveway aprons that eliminate planting options.

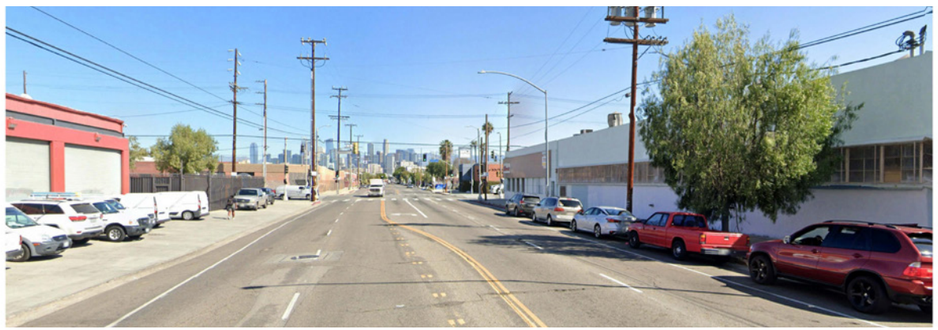
Designated Avenue II (Secondary Highway) witih Roadway width of 56' and Right-of-Way width of 86'.

Equity Considerations

THIS NEIGHBORHOORHOOD WAS
REDLINED
"HAZARDOUS"

2.69%
Avgerage Existing Tree Canopy

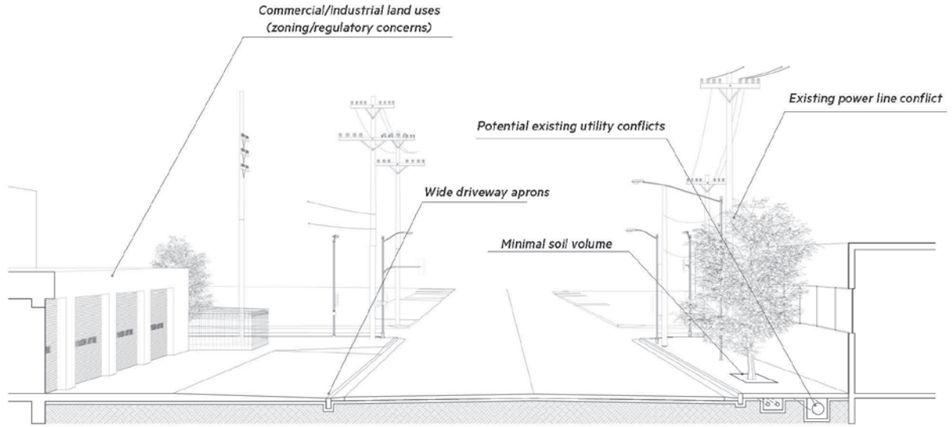
45.00
Average Heat Health Action Index



02. **S. Hill St**

Challenges

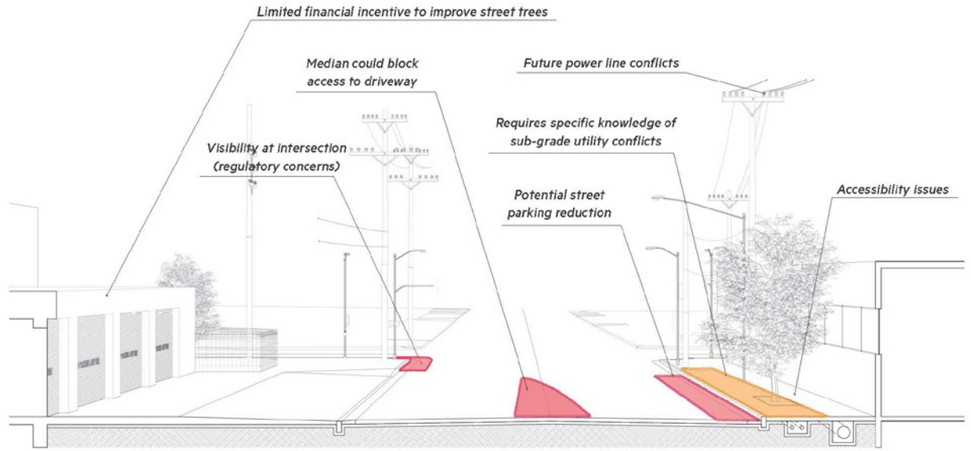
to potential canopy expansion



Trade-Offs

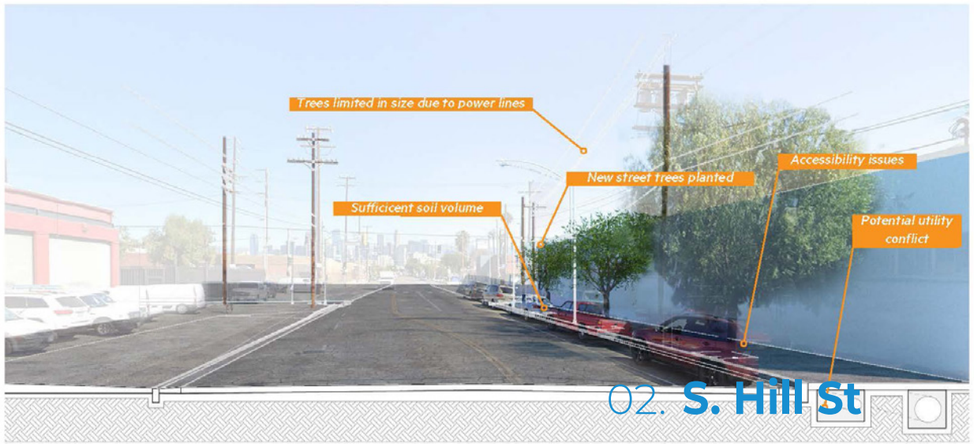
to weigh with options

Tier 1
Tier 2
Tier 3



02. **S. Hill St**

Tier 2



02. **S. Hill St**

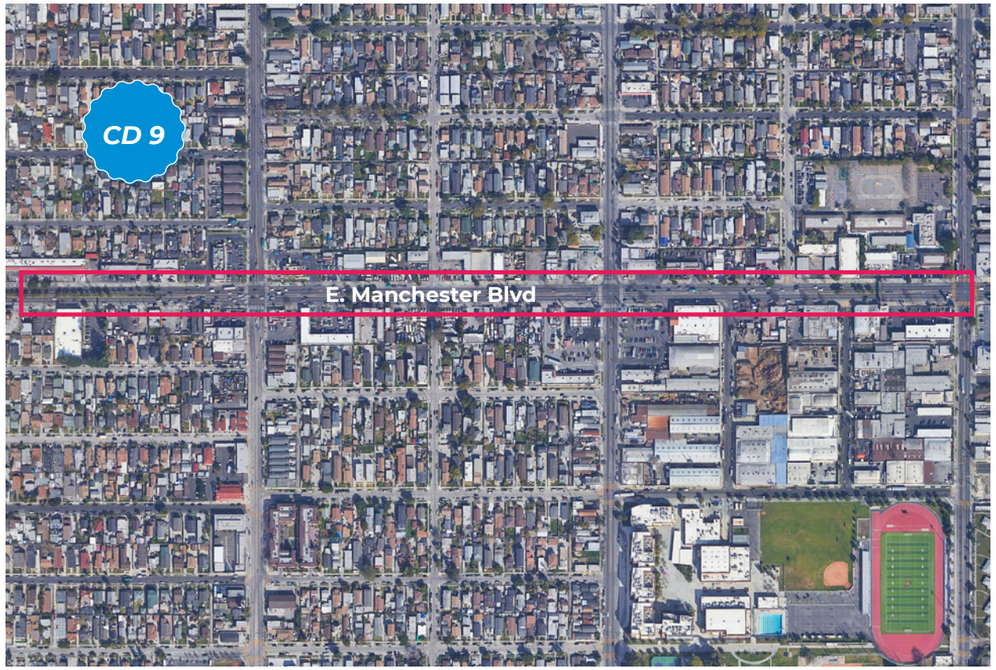
Tier 3



Additional Notes

The addition of Tier 3 improvements (median planting strip and curb bump outs) would provide substantial improvement to canopy coverage at this site. The median would allow for substantial soil volumes creating conditions for improved tree health and longevity. Bump outs minimize challenges posed by potential infrastructural conflicts.

03. E. Manchester Blvd



Site Conditions

Commerical area with median strips offer potential, since the rest of the areas are replete with driveways and other infrastructure (e.g. pavement, buildings, etc.).

Designated as Avenue I (Secondary Highway) with Roadway width of 70' and Right-of-Way width of 100'.

Equity Considerations



Recommendations

Tier 2: Expand median strips and create tree wells for tree speices. Understand the limitations and goals of current policy in terms of commercial land use and tree canopy.



4.07%

Average Existing Tree Canopy

65.00

Average Heat Health Action Index

03. E. Manchester Blvd





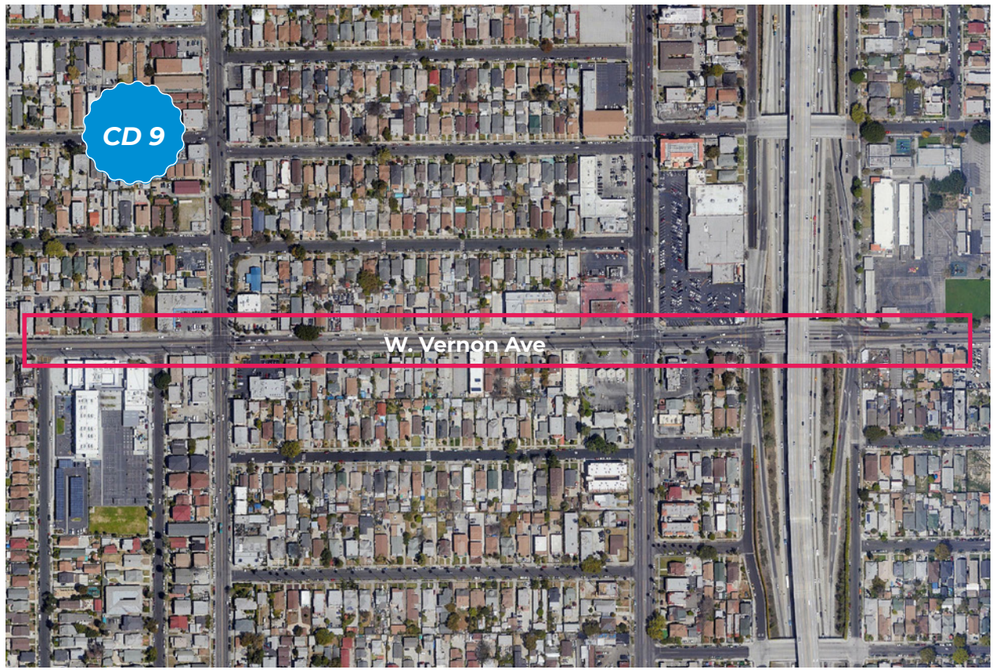




Legend

- *Existing Canopy*
- *New Potential Canopy*

04. W. Vernon Ave



Site Conditions

Vernon is an east west commerical corridor where the sidewalk and parkways are often too narrow to plant trees.

Designated Modified Avenue II with 56' Roadway width and Right-Of-Way width of 80'.

Equity Considerations



Recommendations

Addition of bus bulbs paired with median strips adjacent to bus stops and possibly added to other corners as well.



3.54%

Average Existing Tree Canopy

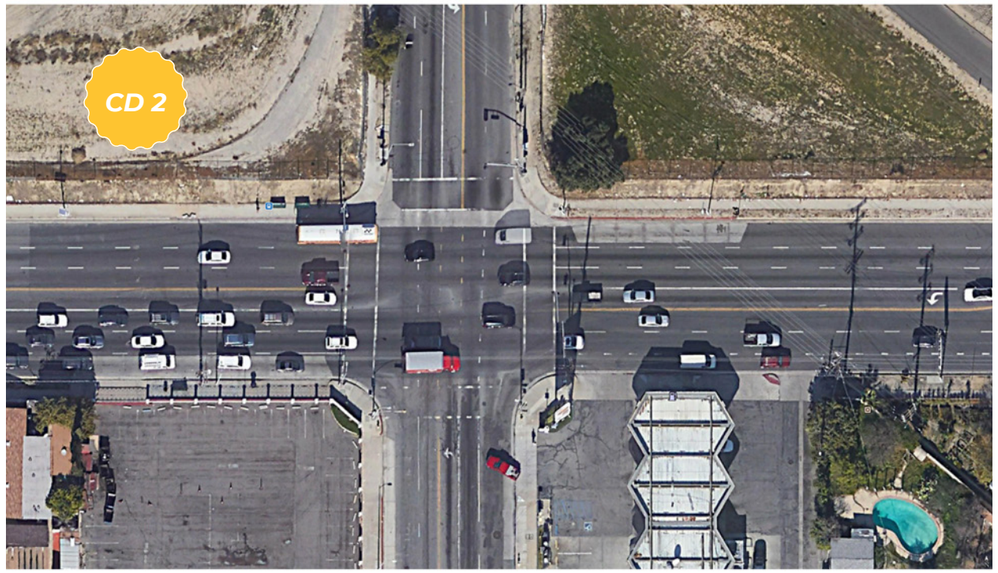
77.00

Average Heat Health Action Index

Streets Profiles

San Fernando Valley

05. Roscoe Blvd



Site Conditions

Not the most hospitable place to wait for the bus. Designated Boulevard II (Major Highway) with Roadway width of 80' and Right-of-Way width of 110.'

Equity Considerations

3.94%
Average Existing Tree Canopy

49.00
Average Heat Health Action Index

Additional Notes

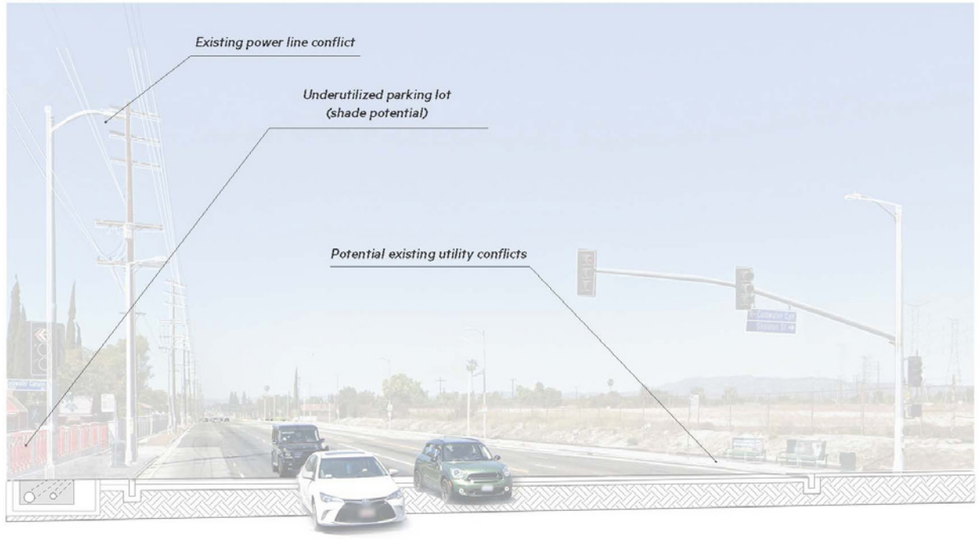
This corner is not uncommon in the northeast Valley. If there are no buildings to shade, the sidewalk becomes a less plantable area.



05. Roscoe Blvd

Challenges

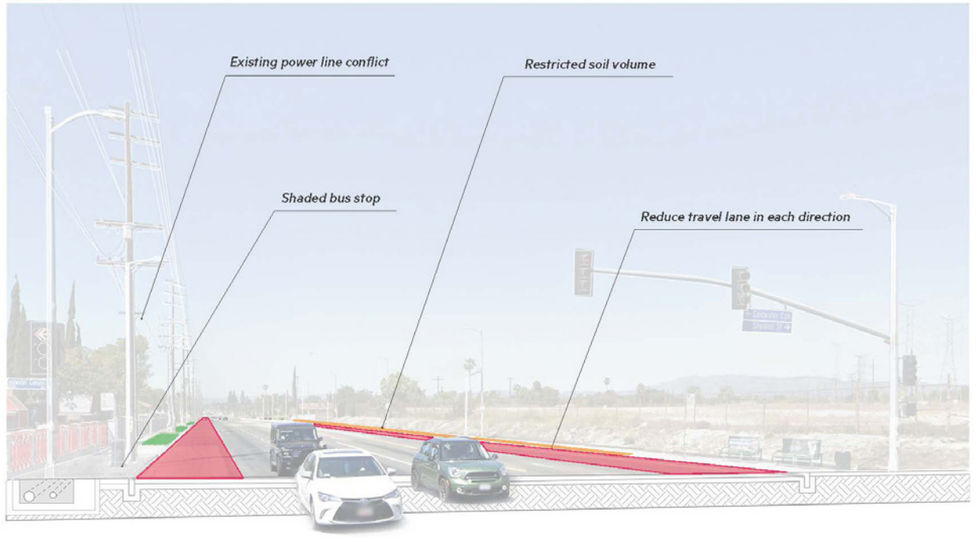
to potential canopy expansion



Trade-Offs

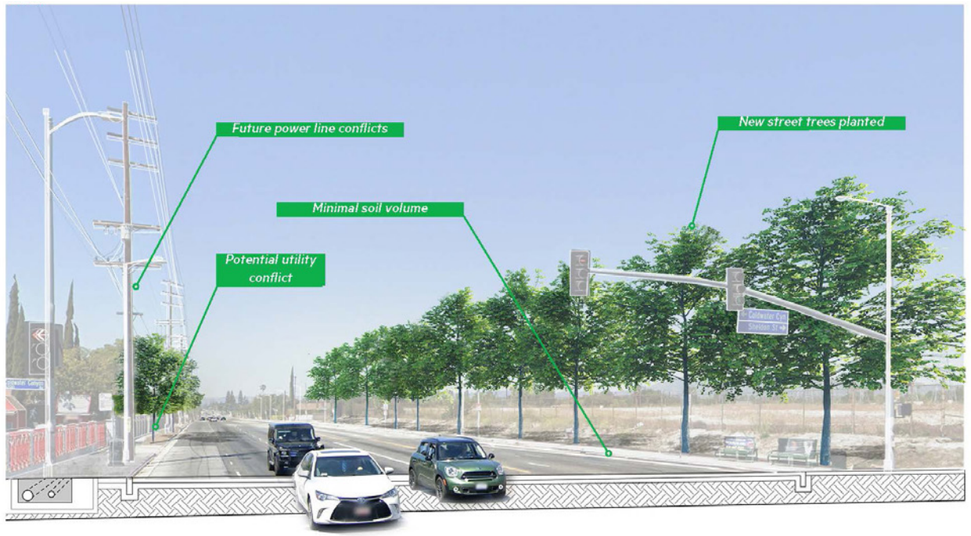
to weigh with options

Tier 1
Tier 2
Tier 3



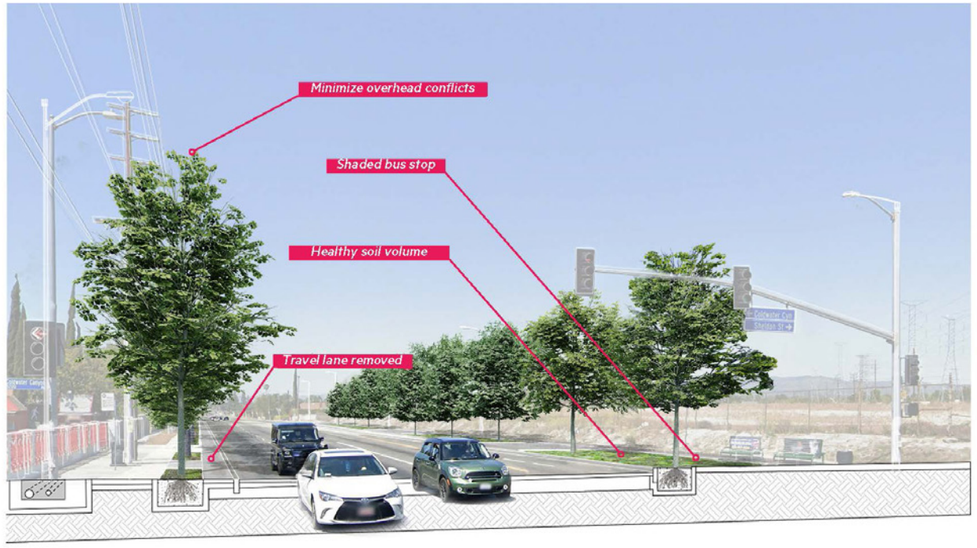
05. Roscoe Blvd

Tier 1



05. Roscoe Blvd

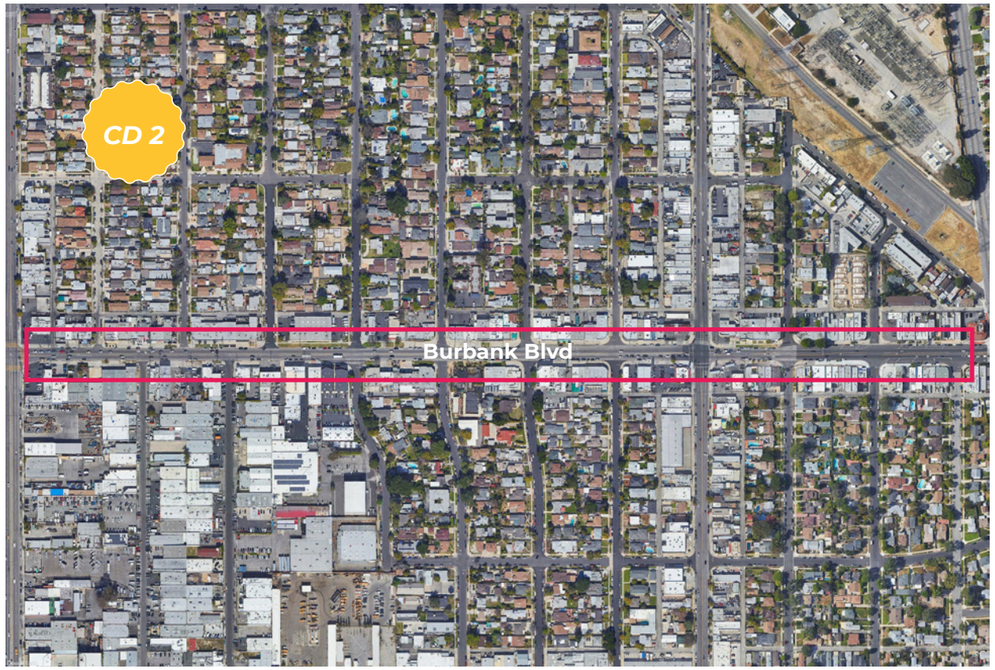
Tier 3



Additional Notes

Expansion of sidewalk and planting beds into the existing roadway creates generous shade for pedestrians and bus riders. Although a similar number of trees could be achieved through Tier 1 or 2 interventions, Tier 3 maximizes investment by creating conditions for larger and healthier trees, as well as more canopy coverage, long-term.

06. Burbank Blvd



Site Conditions

A typical commercial and industrial corridor in the Valley: extremely wide driveway aprons and utilities clustered at corners make planting trees near impossible.

Designated Boulevard II (Major Highway Class II). Roadway width 80' and designated right-of-way width of 110'.

Equity Considerations

THIS NEIGHBORHOORHOOD WAS
REDLINED
"DECLINING"

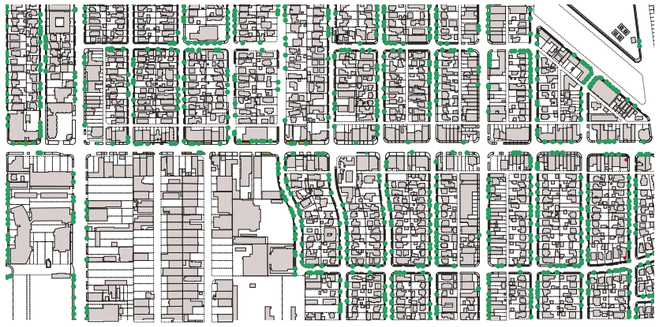
7.94%
Existing Tree Canopy

49.00
Average Heat Health Action Index



06. Burbank Blvd





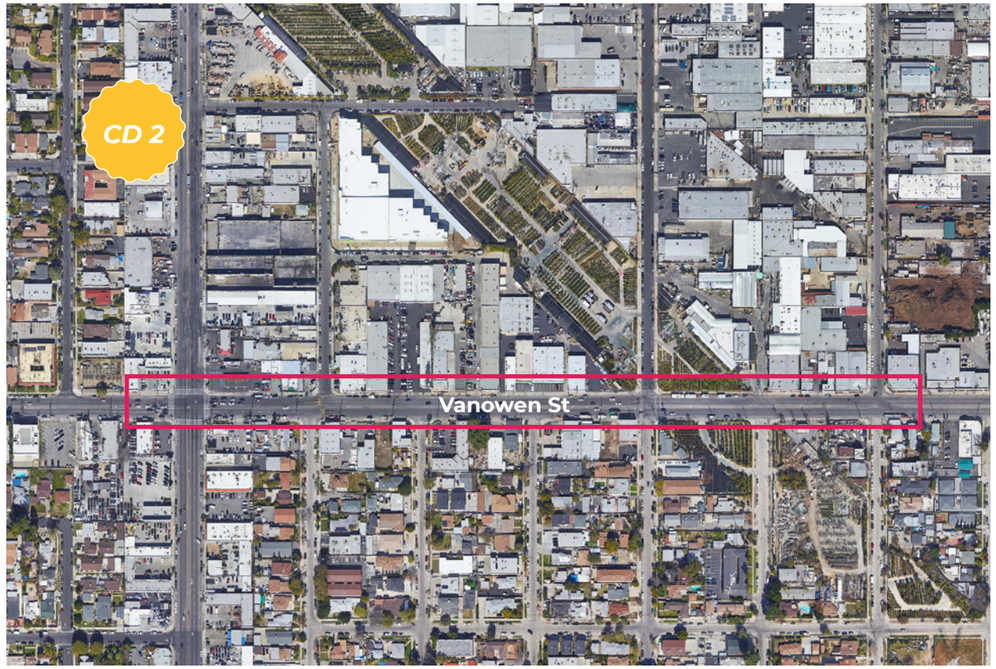




Legend

- *Existing Canopy*
- *New Potential Canopy*

07. Vanowen St



Site Conditions

Look at this double row of major utility lines running both sides of the street! A natural vegetated perspective of the horizon has been replaced by a human created, industrial one.
Designated Avenue II (Secondary Highway) with 56' roadway width and 86' Right-Of-Way Width.

Equity Considerations

4.47%

Existing Tree Canopy

53.00

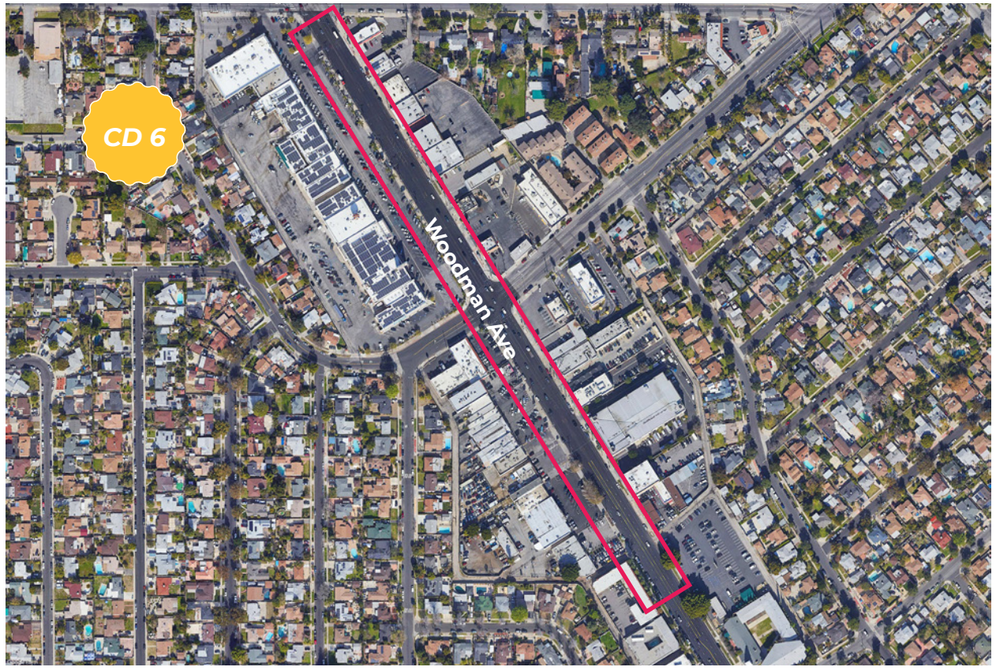
Average Heat Health Action Index

Recommendations

Introduction of a plaza and pinch-point between intersections.



08. Woodman Ave



Site Conditions

Another typical look in the Valley. There are no plantable sites, heavy parking to accomodate commerical.

Designated Avenue I (Secondary Highway) with 70' roadway width and 100' Right-Of-Way width.

Equity Considerations

9.32%

Existing Tree Canopy

50.25

Average Heat Health Action Index

Recommendations

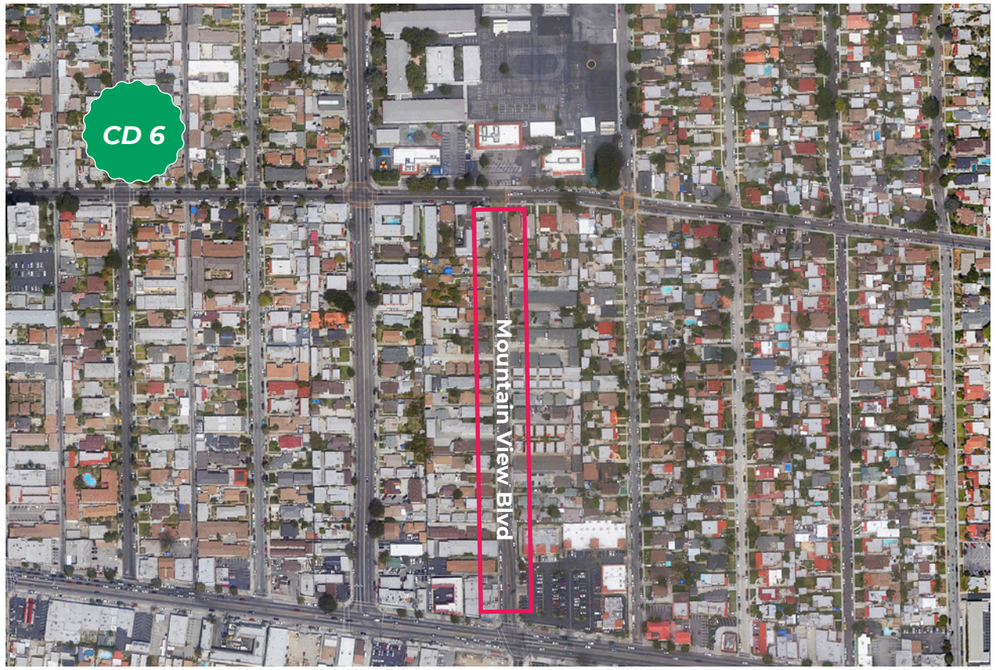
Introduction of a plaza that encircles parking lot. Addition of bus bulbs paired with median strips as well.



Streets Profiles

South and Southeast Communities

09. Mountain View Blvd



Site Conditions

Typifies Tier 3 hardest example. Example of multifamily housing with no parkways. Active walking path to neighboring Miles Ave Elementary School.

38-42’ street widths, 6’ sidewalks, no parkways, two ways.

Equity Considerations

2.69%

Existing Tree Canopy

55.00

Average Heat Health Action Index

Recommendations

Introduction of a gateway at entry and pinchpoints along corridor. Replacing street parking.



09. Mountain View Blvd







Recommendations

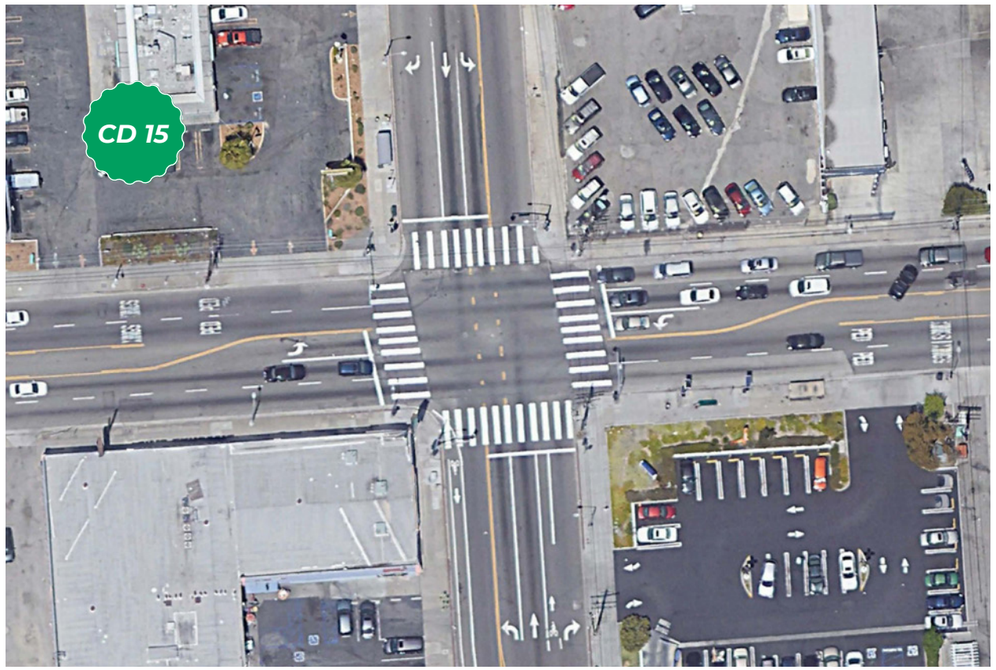
Plant street trees on “pinchpoint” curb extensions aligned to parking lane to narrow overall profile of the street. These curb extensions can be applied midblock to calm traffic speeds and add public space.

Legend

Existing Canopy

New Potential Canopy

10. Wilmington / Anaheim



Site Conditions

Commercial corridor. Designated Avenue II (Secondary Highway) with Roadway width of 56’ and designated Right-Of-Way width of 86’.

Equity Considerations

3.21%

Existing Tree Canopy

59.00

Average Heat Health Action Index

Recommendations

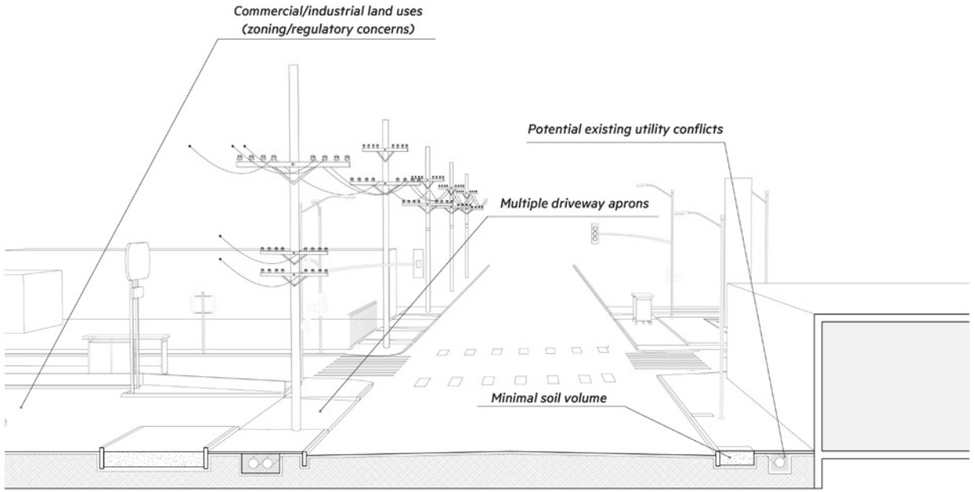
Expansion of sidewalk/planting beds into the existing roadway offers generous shade for pedestrians and bus riders. Larger soil volumes create better conditions for tree health and longevity. Tier 3 intervention allows for additional tree planting, while maximizing investment by creating conditions for larger and healthier canopy.



10. Wilmington / Anaheim

Challenges

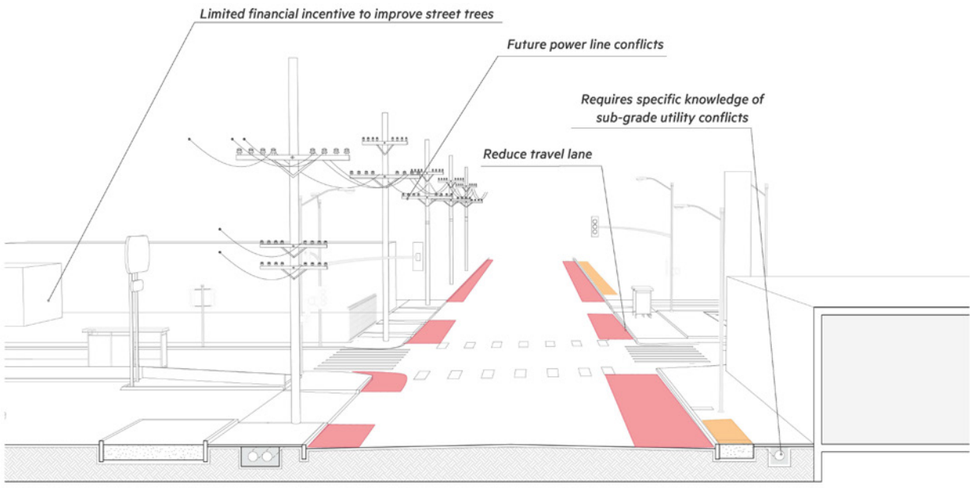
to potential canopy expansion



Trade-Offs

to weigh with options

- Tier 1
- Tier 2
- Tier 3

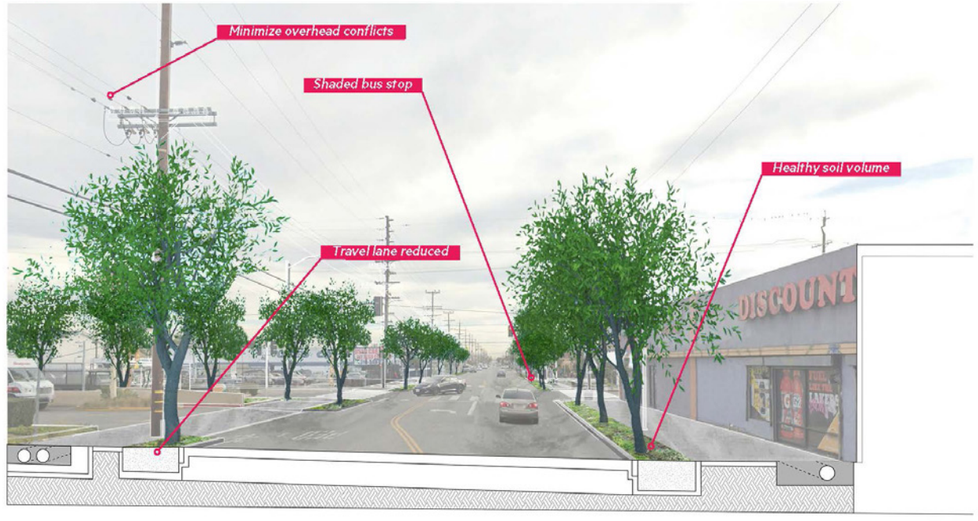


10. Wilmington / Anaheim

Tier 2



Tier 3



Next Steps



This Guidebook is intended to equip communities, practitioners, and policy makers alike in growing a more equitable future for Los Angeles. In this document, we begin to paint a picture of what is needed and what is possible if equity is actively centered in tree planting initiatives and regional planning across agencies and communities. While this Guidebook is not definitive, it seeks to provide a malleable and action-oriented framework that paves the way for a prioritization plan to protect Los Angeles' frontline and historically under-invested communities, correcting decades of systemic inequity. It also indicates that for urban forest equity to be realized with the urgency and attention it warrants, radically intentional and inclusive coordination, action, and investments are required.

The tiered model presented here points to an acute need for additional investments in historically under-resourced communities, far surpassing existing efforts. Through site investigations, case studies, and GIS modeling, the LA Forest Equity Collective uncovered that Tier 1 interventions alone are insufficient, and Tier 2 and Tier 3 interventions present critical opportunities for equity-rooted urban greening. Additionally, expanding site conditions to prioritize and accommodate larger trees, throughout both public and private jurisdictions, is critical to equitable canopy expansion. Large trees can provide canopy coverage nearly eleven times that of small trees and three times that of medium trees.



The following applications of this Guidebook will take concerted coordination and proactive action.

Short Term Applications:

1. Targeting the Low-Hanging Fruit
With Tier 1 locations identified, regional stakeholders and community leaders can continue to work together to plant trees and expand canopy coverage in existing parkways, existing parks, and private property. This effort needs to be inclusive, phased, and adequately resourced, as the Tier 1 analysis in this Guidebook indicates that projected Tier 1 investments required to hit current regional canopy targets far surpass current resources allocated to planting. Additionally, greater attention should be given towards opportunities to intentionally expand canopy within private property.

2. Adopting the Framework
Policy makers and stakeholders within various city and regional agencies can utilize this tiered framework today. This model can be applied to both current and future projects to quantify site-specific decisions, trade-offs, and investments needed to increase canopy coverage when working in historically under-resourced neighborhoods.

Next Steps



Long Term Applications:

1. Embedding the Framework
Although this Guidebook takes a case study approach, each street in Los Angeles should be classified as Tier 1, 2, and/or 3 in order to craft a prioritization plan to assist communities, practitioners, and policy makers. With each street classified according to its tier(s), site developments that support maximizing space for larger trees can be enacted and species recommendations can be planned ahead of time. With a street-level prioritization plan readily available and proactively embedded into planning processes, City and County planners - across various agencies - could more easily incorporate urban forest equity at the front-end of projects. Interdepartmental coordination toward urban forest equity goals could be more easily achieved. This model could be embedded into existing or future asset management systems.

2. Expanding the Framework:
The model presented here should expand to include parks and unincorporated areas of Los Angeles County. Parks have a considerable impact on tree canopy coverage and, in many cases, represent the only pockets of green space available in historically under-invested communities. Expanding tree canopy coverage within existing parks, and adding additional park space in under-invested communities, warrants full exploration. New additions of park space

may deserve its own tier in the model presented here. For the parkway projection calculations, we only modeled a standard small tree canopy spread projection of 15 feet in diameter. Incorporating Medium (30 feet) and Large (50 feet) tree canopy spread projections would significantly impact the overall canopy cover increase. Additionally, we would like to refine the parkway model by obtaining additional datasets from the Street Tree Spacing Guidelines, including the water meters, gas meters, electrical power poles, and street signs, all of which could impact the number of viable locations picked up by the model.

3. Targeting Tier 3 and Enacting Proactive Policies:
While Tier 3 interventions may pose the biggest challenges and greatest complexities, they also represent the most significant opportunities for equitable canopy expansion. Undertaking Tier 3 interventions will require a radical reimagining of streets, one that prioritizes tree planting - and tree maintenance - through existing and future policies, ordinances, zoning codes, and plans.

4. Quantifying Costs and Benefits:
While initial Tier 1 cost estimates were explored in this Guidebook, Tiers 2 and 3 costs require further investigation and integration into a larger cost/benefit analysis. This analysis should consider not just tree planting but long term tree maintenance to ensure investments in urban forest equity are sustained and adequately resourced.

Los Angeles can continue to pave a path forward by building broad coalitions within city government and the commmunities they serve.

5. Building Broad Coalitions:
Los Angeles can continue to pave a path forward by building broad coalitions within city government and the communities they serve, as the stakeholders who have a hand in site specific projects are vast and span multiple departments. Community co-ownership and governance in the care and stewardship of urban trees is essential. Additionally, incorporating the framework into urban forest management plans and other policy documents in the region, coupled with developing neighborhood implementation plans are criticial to advancing this foundational work.

Thank You



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Miranda Hutten
U.S. Forest Service and LA Urban Center for Natural Resources Sustainability

Preston Mills
Mayor's Office of Business and Innovation

Rachel Malarich
City Forest Officer, City of LA,
Board of Public Works

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TreePeople

This report is made possible through a grant secured by TreePeople and is part of a project managed by City Plants in partnership with the LA Urban Center for Natural Resource Sustainability. Project funding is generously provided by Accelerate Resilience Los Angeles, a sponsored project of Rockefeller Philanthropy Advisors. Special thanks to Rachel O'Leary, Rachel Malarich, Amy Schulenberg, and Edith de Guzman for their extra support. Special thanks to Cindy Chen for devising and implementing the Tier 1 GIS analysis and to her advisor, Michael Beland and Kevin Gaston for their guidance.

We recognize and acknowledge that we work and reside on Indigenous and tribal homelands. We acknowledge the first people of this ancestral and unceded territory. We recognize Gabrieleño Tongva, Fernandeño Tataviam, Ventureño Chumash, and Gabrieleño Kizh, and other tribal groups not mentioned who still live in the region. We are committed to lifting up their stories and culture.