

GIBBONS DRIVE SIDEWALKS & TREES PLAN

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CONTENTS

01	Executive Summary	1	
02	Problem, Purpose, and Goals.	2	
	a. Problem		
	b. Purpose		
	c. Goals		
03	Connection to Other	4	
	City Plans and Policies:		
	a. 2010 Master Street Tree Plan		
	b. 2024 Draft Urban Forest Master Plan		
	c. Climate Action and Resiliency Plan		
	d. Alameda Municipal Code, Article VII Section 13-21-Preservation of Historical and Cultural Resources		
	e. 2024 ADA Self-Evaluation + Transition Plan		
	f. Active Transportation Plan		
	g. Sidewalk Repair Program		
	h. Alameda General Plan 2040		
	i. Storm Drain Master Plan		
04	Existing Conditions.	8	
	a. History of Gibbons Drive		
	b. Existing liquidambar population		
	c. Tree age and condition		
	d. Sidewalk and curb damage		
	e. Liquidambar Maintenance history		
	i. Gibbons Drive Right-of-Way and Utilities		
05	Community Engagement	14	
	a. Engagement Process		
	b. Meetings 1 and 2: Tree Assessment and Initial Community Input		
	c. Meetings 3 and 4: Discussion of Approaches		
	d. Meetings 5 and 6: Additional Analysis of Management Approaches		
	f. Public Review of Draft Gibbons Sidewalks and Trees Plan		
06	Evaluation Criteria	23	
	a. Pedestrian Safety and Accessibility		
	b. Tree Preservation		
	c. Community Values		
	d. Feasibility and Adaptability		
	e. Cost and Funding		
	f. Environmental impact of tree removal		
07	Management Approaches.	26	
	Considered		
	a. Continue Existing Management Practice		
	b. Relocate Sidewalk to Roadway		
	c. Raised Sidewalk		
	d. Remove Sidewalks on Gibbons		
	e. Roadway Reconfiguration with Chicanes		
	f. Location-by-Location Management Approach		
08	Cost of Select	32	
	Management Approaches		
	a. Location-by-Location Approach		
	b. Chicane Roadway Reconfiguration		
09	Evaluation Matrix of	34	
	Management Approaches		
10	Recommended Path Forward	35	
	a. Tree Replacement and Community-Informed Tree Palette		
	b. Tree Planting		
	c. Analysis of Recommended Path Forward		

01 EXECUTIVE SUMMARY

The mature liquidambar trees (*Liquidambar straciflua*) along Gibbons Drive in the City of Alameda (Alameda) are a defining feature of the corridor and a beloved community asset.

The trees form a distinctive canopy that provides shade, seasonal color, environmental benefits, and a strong sense of place for the surrounding neighborhood. At the same time, the size and extensive root systems of the mature trees, combined with constrained growing space within the public right-of-way, have resulted in significant and long-standing conflicts with sidewalks, curbs, gutters, drainage, and other infrastructure. In many locations, these conflicts have contributed to uneven sidewalks and other conditions that affect pedestrian safety and accessibility.

The Gibbons Drive Sidewalks and Trees Plan (Plan) establishes a community-informed approach for addressing these infrastructure conflicts while managing the corridor's liquidambar canopy over time. The Plan recognizes two important and sometimes competing objectives: improving pedestrian safety and accessibility and preserving the mature trees and distinctive character of Gibbons Drive.

Since the liquidambars on Gibbons Drive are in fair or good condition, the Plan focuses on prioritizing sidewalk and other infrastructure repair, addressing locations that present the greatest hazard or barrier to accessibility first. At each location, the sidewalk will be removed to evaluate the conflicting roots and other site-specific conditions. Options to make the repair and preserve the tree will be considered. This may include root pruning, meandering sidewalks, raised walkways, curb modifications and other treatments. Tree removal would be considered only when the location-specific evaluation determines that necessary infrastructure improvements cannot reasonably be completed while retaining the tree. Any proposed removal would follow the City's Tree Removal Policy, including documentation of the preservation measures considered and applicable public posting, notification, and protest procedures. A maximum five-year removal cap provides an additional safeguard on top of this tree-specific review.

This cap is not an authorization or target for tree removal. Under the recommended approach, no more than 20% of the liquidambars remaining at the beginning of each five-year increment could be removed during the subsequent five years. The cap is intended to ensure that any necessary transition of the existing canopy occurs gradually, while maintaining flexibility to address pedestrian safety, accessibility, and infrastructure repair needs. Actual removals may be fewer and will depend on tree health, infrastructure conditions, and the results of individual location-specific evaluations.

The plan also establishes a replacement tree-palette informed by community input. As liquidambars may be removed over time, the City will seek to maximize replacement planting where site conditions allow. Community feedback helped shape the replacement palette, including a preference for large-stature trees and maintaining the seasonal fall-color character valued along Gibbons Drive. The use of a diverse mix of replacement species will improve the long-term resiliency of the Gibbons Drive urban forest and reduce the vulnerabilities associated with a predominantly single-species canopy, while carrying forward the substantial tree-canopy benefits valued by the community.

02 PROBLEM, PURPOSE, AND GOALS

A Problem

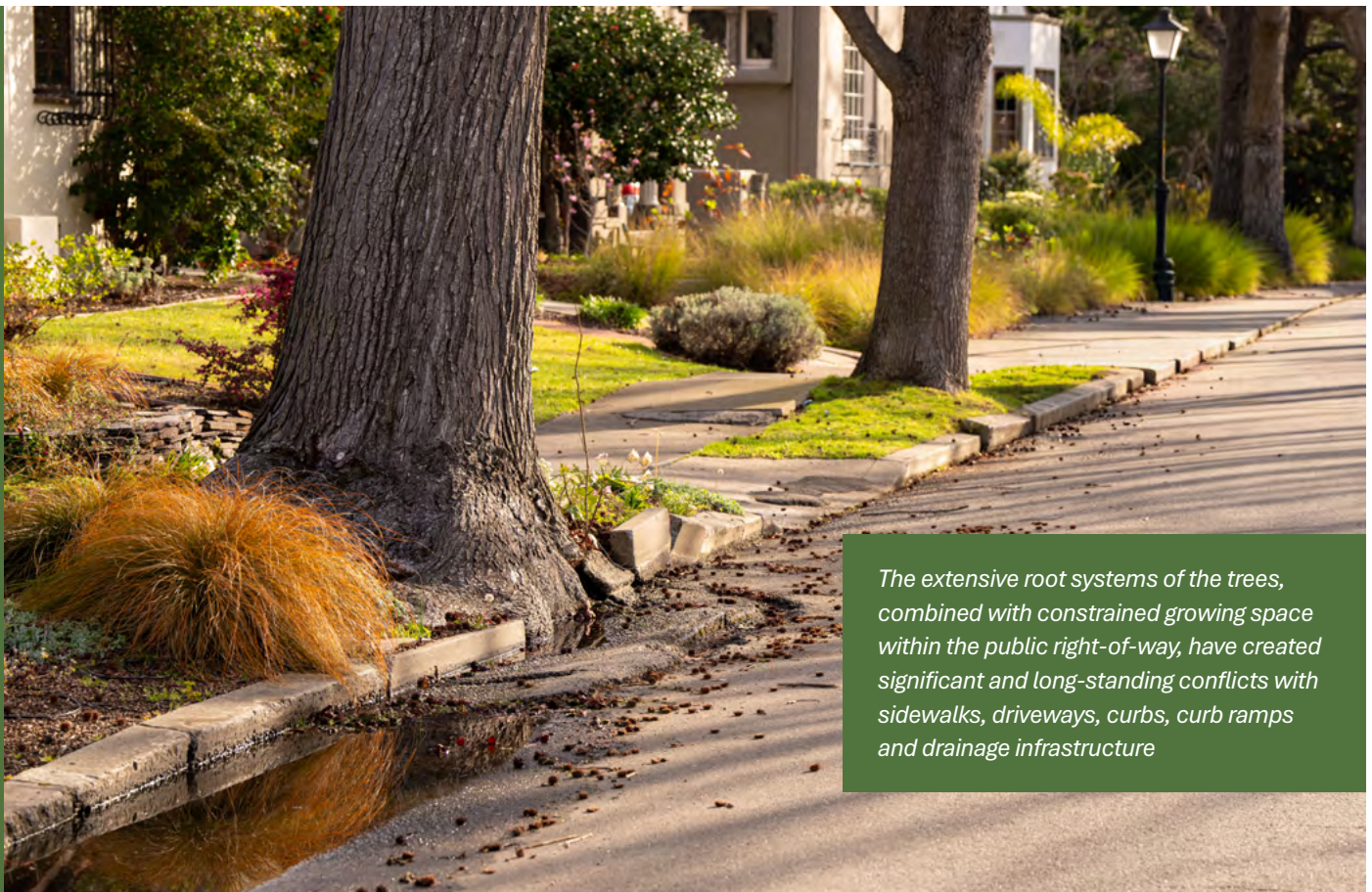
The mature liquidambar tree canopy along Gibbons Drive is a defining feature of the corridor and an important community asset. At the same time, the extensive root systems of the trees, combined with constrained growing space within the public right-of-way, have created significant and long-standing conflicts with sidewalks, driveways, curbs, curb ramps and drainage infrastructure. In several locations, displaced and uneven sidewalks create pedestrian safety concerns

and barriers to accessibility, as defined in the Public Right-of-Way Accessibility Guidelines (PROWAG).

Addressing these conditions is particularly challenging because conventional infrastructure repair can affect tree roots and the long-term health and stability of mature trees. Preserving existing trees without addressing surrounding infrastructure can allow accessibility, safety, and maintenance concerns to continue or worsen. A coordinated, corridor-level approach is therefore needed

to balance infrastructure needs with preservation of Gibbons Drive's distinctive mature tree canopy.

In July 2025, Alameda retained HortScience | Bartlett Consulting, Divisions of The F. A. Bartlett Tree Expert Company (H | BC), to assess the liquidambar trees and adjacent infrastructure and to assist the City with developing a long-term management strategy for the corridor.



The extensive root systems of the trees, combined with constrained growing space within the public right-of-way, have created significant and long-standing conflicts with sidewalks, driveways, curbs, curb ramps and drainage infrastructure

B Purpose

The purpose of the Gibbons Drive Sidewalks and Trees Plan is to establish a community informed framework for addressing conflicts between liquidambar trees and adjacent public infrastructure while preserving the existing tree canopy to the greatest extent reasonably feasible, improving pedestrian safety and accessibility, addressing infrastructure repair needs,

and creating guidelines for any future planting needs.

The Plan provides a consistent, location-by-location approach for evaluating tree and infrastructure conditions, considering tree-preservation and infrastructure-repair strategies, determining when tree removal may be necessary, and guiding replacement planting over time.

The Plan focuses specifically on management of the street trees and associated sidewalk and infrastructure conditions along Gibbons Drive. It also establishes an approach for the gradual transition of the street tree canopy as existing liquidambars are removed over time, whether due to conflict or natural decline, with replacement planting focused on developing a diverse and resilient mix of large-stature trees.

C Goals

THE GOALS OF THE PLAN ARE TO:

01

Preserve existing tree canopy to the extent possible.

02

Improve pedestrian safety and accessibility.

03

Repair and protect public infrastructure.

04

Engage with and educate the community regarding ongoing urban forest management of the corridor.

05

Establish a long-term vision and management approach that thoughtfully guides the gradual evolution of the Gibbons Drive street tree canopy towards a more diverse and resilient mix of large-stature trees with fall color.

A coordinated, corridor-level approach is needed to balance infrastructure needs with preservation of Gibbons Drive's distinctive mature tree canopy.



The trees form a distinctive canopy that provides shade, seasonal color, environmental benefits, and a strong sense of place for the surrounding neighborhood.

03 CONNECTION TO OTHER CITY PLANS & POLICIES

A 2010 Master Street Tree Plan

Alameda’s Master Street Tree Plan, adopted by City Council in 2010, recognized Gibbons Drive as a priority street because of its distinctive population of mature liquidambar trees and the canopy they provide. This plan highlighted the trees’ large stature, benefits to adjacent homes and wildlife habitat, and the sense of “maturity, grace and permanence” they contribute to the street.

At the same time, the Master Street Tree Plan acknowledged the challenges associated with liquidambar trees in constrained planting areas, including their extensive root systems and resulting conflicts with pavement, driveways, utilities, and other infrastructure. In response to these concerns, the plan recommended systematically replacing the existing liquidambar trees over a 20 year period. The intent was to allow the canopy

to transition incrementally over time and avoid the significant loss of canopy that could result from removing many trees at once.

The 2010 plan also recommended retaining the corridor’s characteristic fall color through the careful selection of replacement species, planting the largest appropriate replacement trees, educating property owners about watering and fertilizing practices, and where feasible, increasing space for new tree root systems.

The Gibbons Drive Sidewalks and Trees Plan
builds upon these earlier recommendations while incorporating current tree and infrastructure conditions, accessibility requirements, updated urban forestry practices, and extensive community input.

B 2024 Draft Urban Forest Master Plan

Alameda is currently developing an Urban Forest Plan to update and expand upon the 2010 Master Street TreePlan. The draft Urban Forest Plan establishes a citywide framework for maintaining and expanding Alameda’s urban forest cover, with an emphasis on canopy preservation and expansion, species diversity and resiliency, equitable distribution of canopy, and effective long-term management of the City’s trees.

The publicly available draft of the Urban Forest Plan, Section 3.6.1, specifically identifies Gibbons Drive, calling for a corridor-specific plan for trees on Gibbons Drive as sidewalk conflicts cause safety and ADA compliance issues. The draft plan emphasizes that available measures to mitigate tree and infrastructure conflicts should be considered before a tree is evaluated for removal.

This Plan responds to that recommendation. The Plan provides the more detailed, location-specific framework needed to evaluate tree and infrastructure conflicts along Gibbons Drive, prioritizes reasonable tree-preservation strategies before removal is considered, and establishes an approach for the gradual transition of the liquidambar population over time. Consistent with the broader direction of the draft Urban Forest Plan, replacement planting will focus on a diverse and resilient mix of large-stature trees appropriate for the available growing conditions.

C Climate Action and Resiliency Plan

The City Council adopted an update to Alameda’s Climate Action and Resiliency Plan (CARP) in April 2025. The CARP establishes a comprehensive framework to reduce greenhouse gas emissions and increase Alameda’s resilience to the effects of climate change. Urban greening is one of the Plan’s focus areas, with urban forestry identified as a strategy to increase carbon sequestration and provide additional environmental and community benefits. The CARP specifically calls for implementation of the City’s Urban Forest Plan to grow and maintain Alameda’s urban forest and increase tree canopy coverage.

The Gibbons Drive Sidewalks and Trees Plan supports this broader citywide objective by seeking to preserve mature tree canopy, when feasible, and emphasizing replacement planting when tree removal is necessary. The Plan also provides for the gradual transition of the existing liquidambar population toward a more diverse and resilient mix of large-stature trees, supporting the City’s broader efforts to sustain a healthy urban forest as climate conditions change.

D Alameda Municipal Code, Article VII Section 3-21-Preservation of Historical and Cultural Resources

Section 13-21 of the Alameda Municipal Code, Preservation of Historical and Cultural Resources, establishes regulations intended to preserve and protect resources that contribute to Alameda’s historical and cultural heritage. In addition to provisions addressing historic buildings, structures, sites, and districts, the ordinance provides specific protections for certain trees that meet the ordinance’s definition of a “protected tree.” Removal of a protected tree is subject to the review and approval procedures established by Section 13-21.

The Liquidambar trees along Gibbons Drive do not meet the definition of a protected tree under Section 13-21. Accordingly, their removal does not require approval by the Historical Advisory Board under the Historic Preservation Ordinance. The Gibbons Drive trees remain subject to the City’s Tree Removal Policy and the other policies and procedures described in this Plan.

E 2024 ADA Self-Evaluation and Transition Plan

The Alameda City Council adopted a citywide ADA Self-Evaluation & Transition Plan (ADA Plan) in June 2024. The ADA Plan identifies physical, programmatic, and policy barriers to accessibility and establishes a phased approach to removing them. The ADA Plan recognizes that achieving accessibility across the City requires prioritizing improvements and implementing them over time based on available resources and other considerations.

The Gibbons Drive Sidewalks and Trees Plan advances the goals of the ADA Transition Plan by establishing a framework for addressing sidewalk conditions that create barriers to accessible pedestrian travel along Gibbons Drive. Because many of these conditions are directly related to conflicts between mature tree roots and adjacent infrastructure, improving accessibility must be considered together with tree preservation, infrastructure repair, and the long-term health and stability of the trees.

Consistent with the phased approach established by the ADA Transition Plan, the Gibbons Drive Plan provides for improvements to occur incrementally, prioritizing locations based on the severity of sidewalk and infrastructure conditions and evaluating appropriate solutions on a location-by-location basis. This approach allows the City to make continued progress toward improved pedestrian accessibility while considering available resources and preserving mature trees to the greatest extent feasible.

E Active Transportation Plan

The City Council adopted the Alameda Active Transportation Plan in December 2022 to guide improvements that make walking, bicycling, and the use of mobility devices safer, more comfortable, and more accessible for people of all ages and abilities. The Plan recognizes sidewalks as an essential part of Alameda's transportation network and emphasizes the importance of providing continuous and accessible pedestrian routes.

Along Gibbons Drive, displacement and deterioration of sidewalks associated with mature liquidambar tree roots have created uneven surfaces and accessibility barriers that affect the pedestrian experience. The Gibbons Drive Sidewalks and Trees Plan provides a framework for addressing these conditions while recognizing that mature trees also contribute shade, comfort, and other benefits to people walking along the corridor. By evaluating each location individually and considering alternative repair techniques before tree removal, the Gibbons Plan seeks solutions that improve the walking environment while, where reasonably feasible, preserving mature trees.

G Sidewalk Repair Program

The City's Sidewalk Repair Program provides an ongoing framework for identifying and addressing sidewalk hazards throughout Alameda and is designed to implement the responsibilities established under the California Streets and Highways Code and Alameda Municipal Code. Adjacent property owners are generally responsible for maintaining sidewalks, curbs, gutters, and driveway approaches; however, the City has a longstanding practice of repairing sidewalk damage caused by City street trees. The City also uses concrete cutting, where appropriate, to remove trip hazards and extend the useful life of existing sidewalks, while preserving the adjacent tree. When tree-related damage cannot be addressed through concrete cutting, more extensive sidewalk reconstruction may be necessary, and whether the existing tree can be retained depends on site-specific conditions.

The Gibbons Drive Sidewalks and Trees Plan provides a corridor-level framework for addressing these conditions over time. Consistent with the City's existing Sidewalk Repair Program and Tree Removal Policy, each location will be evaluated individually, and reasonable alternatives to tree removal will be considered before removal is pursued. The Gibbons Plan does not predetermine which trees will ultimately require removal; rather, it establishes an overarching approach for managing a concentration of tree and infrastructure conflicts that is expected to require incremental repairs and, in some locations, tree removal over many years.

The Gibbons Plan establishes an overarching approach for managing a concentration of tree and infrastructure conflicts that is expected to require incremental repairs and, in some locations, tree removal over many years.

■ Alameda General Plan 2040

The Alameda General Plan 2040, adopted by the City Council in November 2021, establishes the City's overarching policy framework for land use, mobility, conservation, public infrastructure, and other matters affecting Alameda's physical environment. The General Plan is organized around four overarching themes: equity, environment, access, and preservation and enhancement of Alameda's distinctive character and cultural diversity. It recognizes Alameda's extensive tree canopy, walkability, and livability as important characteristics of the community and calls for enhancing mobility and accessibility and improving safety on Alameda streets.

The Gibbons Drive Sidewalks and Trees Plan supports these General Plan objectives by addressing conditions that affect the safety and accessibility of pedestrian facilities while seeking to preserve mature tree canopy, when feasible. When tree removal is necessary, the Plan emphasizes replacement planting to support the establishment of a new canopy over time. The Plan establishes a location-by-location approach to addressing conflicts between mature trees and sidewalks and other public infrastructure, recognizing both the value of the existing canopy and the need for safe and accessible pedestrian facilities.

The Gibbons Drive Plan is focused specifically on street tree management and associated sidewalk and infrastructure conditions. Other City planning and capital improvement efforts separately address broader transportation and traffic safety needs along Gibbons Drive and the surrounding street network.

! Storm Drain Master Plan

Stormwater is currently conveyed primarily as surface flow along the curb of Gibbons Drive. The City's Storm Drain Master Plan identifies a future storm drain along Gibbons Drive. This proposed improvement is part of a broader drainage solution for the surrounding area rather than a response to drainage conditions on Gibbons Drive alone. The Master Plan's hydraulic modeling identified significant flooding along High Street during the modeled 10-year storm event and recommends a new storm drain along Gibbons Drive to intercept a portion of the stormwater flow before it reaches High Street. The improvement was identified as a high-priority project in the Master Plan.

Observed conditions since completion of the Master Plan, however, have not indicated that High Street experiences flooding to the extent predicted by the hydraulic model. At the same time, other areas identified as high priority in the Master Plan have experienced significant recurring flooding. The City must prioritize its available stormwater resources toward locations with the greatest demonstrated needs. Existing storm drain revenues are not sufficient to implement all of the capital improvements identified in the Master Plan, requiring the City to strategically sequence investments based on observed flooding, risk, available funding, and other infrastructure needs. As a result, implementation of the proposed Gibbons Drive storm drain is not currently anticipated ahead of higher-need storm drainage projects. This timeline makes the condition and continuity of the curb and gutter particularly important to drainage along the corridor.



A consistent theme throughout the engagement process was the importance community members place on the existing mature Liquidambar canopy.

The oldest liquidambers on Gibbons Drive were likely planted during development, making them approximately 100 years old



04 EXISTING CONDITIONS

A History of Gibbons Drive

Gibbons Drive in Alameda was laid out in the 1920s – 1930s, during the development of the Fernside neighborhood. The oldest liquidambers on Gibbons Drive were likely planted during development, making them approximately 100 years old (Photo 1). The trees are an iconic feature and important to the community's character and urban forest.

B Existing liquidambar population

In July, 2025, Alameda retained HortScience | Bartlett Consulting, Divisions of the F. A. Bartlett Tree Expert Company (H | BC), to assess the liquidambar trees and adjacent infrastructure damage along Gibbons Dr. and to assist the City with creating a community-informed long-term management strategy for the corridor.. One hundred and seventeen (117) liquidambers were assessed on July 29 and 30, 2025.

Tree age and condition

The mature canopy of large, fused crowns defined the landscape character of the neighborhood. Planting space was limited, with approximately 4 feet between the back of curb and the sidewalk on either side of the road.

Most individual liquidambar were mature in development.

According to arboricultural best management practices, this corresponds to having lived roughly 40–80% of their natural lifespan. Ninety-nine (99) trees had trunks that were 20 inches in diameter or larger. Eighteen (18) trees had trunks measuring between 6 – 19 inches in diameter, indicating a degree of successional planting of the species over time.

88 Good

Of the 117 liquidambar, 88 were in good condition.

These trees were generally vigorous and free of major structural conditions of concern such as cavities or decay columns. Most trees had been maintained using a combination of branch removal, branch reduction, and heading cuts over the years to create a candelabra form (Photo 1). Large scaffold branches often emerged at a single point on the trunk and swept upwards. Branch attachments appeared sound.

Photo 1: Trees #1550 (left) and #1608 (right) are in good condition and candelabra shaped



24 Fair

Twenty-four (24) liquidambar were in fair condition.

These trees often had lower vigor than those in good condition. Some had moderate structural defects such as well-compartmentalized cavities or weak branches that may be abated with treatment like pruning. For example, tree #1584 had a moderate vigor and slightly thin foliage. The lowest branch on the west side was weakly attached and damaged at the attachment point (inset), which could be remedied by pruning. Tree #1537 had a decayed branch on the northeast side. H | BC recommended removing these two branches. The City took action, and pruned the trees to remediate these conditions.

Photo 2: Tree #1584 had a slightly thin crown



5 Poor

Five liquidambar (#1538, 1547, 1564, 1571, and 1582) were in poor condition.

These were characterized by poor vigor or structural conditions of concern that would be impossible to correct. Tree condition can be expected to decline, regardless of treatment. We recommend these be considered for removal.

For example, liquidambar #1571 leaned north into the road at the corner of Gibbons Dr and Cornell Dr (Photo 3). Buttress roots on the tension side, which offer most of the structural support, were heavily constrained. A large cavity with significant decay was present on the northeast stem. Both conditions would only worsen over time.

The five trees that were in poor condition were posted for removal, in accordance with the City's Tree Removal Policy, and ultimately removed in April 2026. Hardscape and utilities around the removed trees were repaired, and the locations were replanted with a species from the neighborhood tree palette established by the 2010 Street Tree Master Plan. The remaining 112 trees were in fair or good condition.

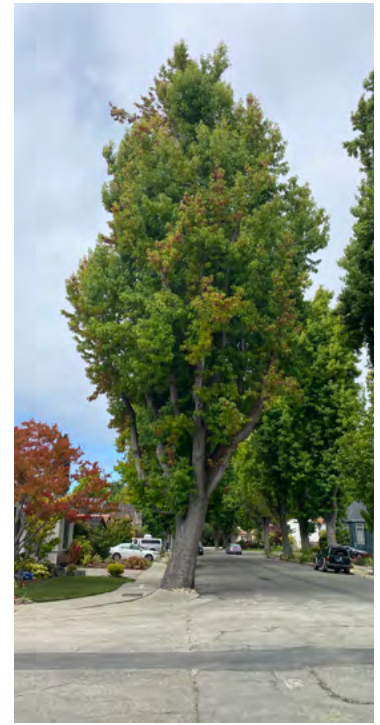


Photo 3: Looking west at tree #1571 leaning into the street.

▮ Sidewalk and curb damage

In high-density and compact urban areas such as the public right-of-way, trees and hardscape including concrete or asphalt paving often conflict. Planting space is limited to the parkway, otherwise known as the landscape strip, between the sidewalk and curb.

The soil below conventional paving restricts root growth due to compaction, surface sealing, and inadequate soil volume. In response, roots tend to grow just below the pavement where more air and water are available. Subsequent root thickening may cause pavement cracking, heaving, and/or shifting. Above ground, roots and trunks can begin to pillow over the tops of curbs or sidewalks once the space within the planting strip has been filled. Such damage can create a tripping hazard and require expensive repairs. Liquidambar, as a species, are known to cause particularly severe damage due to large and fast-growing surface roots. Damage is already severe throughout much of this stretch of Gibbons Drive (Photo 4).



Photo 4: Roots from tree #1539 damaged hardscape on all sides of the trunk. Note pillowing over curb and sidewalk.

Growing space is limited to approximately 4 feet between the edge of the sidewalk and the back of curb along Gibbons Dr. Many of the mature liquidambars have entirely filled this space with surface roots. Some trunks were large enough to occupy this space on their own, with a portion of the trunks pillowing over either the sidewalk or curb. The roots of many trees have caused significant and longstanding damage to the adjacent sidewalks, curbs, and storm infrastructure, creating both safety hazards and accessibility challenges.

As part of the July 2025 tree assessment, H | BC rated both sidewalk and curb damage, categorized in the following qualitative evaluations of severity: none, minor, moderate, or significant. Counts of categorizations of sidewalk and curb damage are described in **Table 1**.

Curbs were most often significantly damaged (82 locations, ~70% of total). Conditions consisted of significant displacement of concrete into the street, pillowing of the trunk or root flare over the concrete, or a completely demolished curb. Moderate damage (18 locations, ~15% of total) included less severe displacement or bowing into the street. Minor (9 locations, ~8% of total) included either minor displacement or cracking without displacement.

Sidewalks were also commonly significantly damaged (45 locations, ~39% of total). These were often characterized by significant displacement of many sidewalk panels near the tree and/or the trunk encroaching into the walkway. Moderate (37 trees, ~32% of total) often displaced a few panels to a lesser degree, or were areas where temporary asphalt repairs conducted by the City continued to be damaged. Minor damage (27 trees, 23% of total) generally consisted of less severe cracking or bumps in asphalt paving, or minor displacement to individual concrete panels (**Photo 5**).

Of the 112 liquidambars remaining along Gibbons Drive, approximately 30% of trees were located adjacent to, within a few feet of, or otherwise were constrained by driveways. In many cases, driveways occurred immediately adjacent to the trunk, root flare, or major buttress roots, further limiting the available rooting area and potential options for infrastructure modification (**Photo 6**).

Severity Rating	Curb	Sidewalk
None	8	8
Minor	9	27
Moderate	18	37
Significant	82	45

Table 1: Hardscape damage evaluations – Gibbons Drive, Alameda



Photo 5: Displacement of sidewalk panels encroaching into the walkway at trunk of tree



Photo 6. The tree located at 2975 Gibbons Dr. was growing next to the driveway. Source: Google/maps/StreetView



Alameda conducts an enhanced level of pruning for these liquidambars compared to other street trees. Typically, street trees in Alameda are pruned once every 5 years.

E Liquidambar Maintenance history

Alameda conducts an enhanced level of pruning for these liquidambars compared to other street trees. Typically, street trees in Alameda are pruned once every 5 years. The subject liquidambars are pruned on a 2.5-year cycle with the primary goal of reducing the likelihood of branch failure. Trees along Gibbons Drive are being pruned regularly and with the following three objectives. Given the nature of the site and tree resources, the existing pruning regime should continue.

Pruning must have specific objectives as described in the American National Standards Institute (ANSI) A300 standard for tree pruning. All terms should be familiar to ISA Certified Arborists. The following are appropriate objectives of the current pruning that should be continued as needed:

PRUNING TO IMPROVE STRUCTURE

Structural pruning is commonly defined as pruning to improve tree form and correct defects. The defect can be caused by a variety of different occurrences, both biotic and abiotic. The subject trees have been structurally pruned over time to achieve the candelabra-shaped branch structure.

PRUNING TO REDUCE THE LIKELIHOOD OF FAILURE

End weight reduction can be defined as branch shortening and removal to reduce the load on a lateral or scaffold branch. End weight reduction is often recommended when limbs, stems and laterals have grown in length or weight, leaving the exterior of the canopy heavier than is sustainable. Heavy end weight can cause branches to fail. In contrast to lion tailing, reduction works from the tip of the branch towards the interior.

PRUNING FOR CLEARANCE

Clearance pruning involves removing branches that block or impede sight lines along sidewalks, roadways, or driveways.

E Gibbons Drive Right-of-Way and Utilities

Gibbons Drive is located within a 60-foot right-of-way. The roadway is 36 feet wide from curb to curb and consists of two travel lanes with curbside parking on both sides of the street. On each side of the roadway, an approximately 4-foot-wide planting strip separates the curb from a 5-foot-wide sidewalk. The planting strips contain the mature liquidambar trees that are the focus of this Plan.

Based on available information, the public right-of-way is believed to extend approximately 2 feet beyond the back of the sidewalk on each side of the street. A boundary survey was not completed as part of this planning effort; therefore, the right-of-way dimensions shown and described in this Plan are approximate.

01

STREETLIGHTING

Gibbons Drive is served by decorative streetlights powered by an underground electrical system. Like much of the streetlight infrastructure in the broader Fernside neighborhood, portions of the electrical system have reached the end of their useful life due to a combination of age, ground settlement, and damage associated with tree root growth. These conditions have resulted in recurring repairs and unreliable streetlight service.

The City has been replacing the streetlight electrical system in phases as funding becomes available. Given the frequency of repairs and service reliability issues along Gibbons Drive, the segment between Lincoln Avenue and Fernside Boulevard was identified as a high priority and has been replaced as part of this broader neighborhood investment. The electrical system serving the remaining portion of Gibbons Drive will be replaced in a future phase as funding becomes available.

02

WATER

Water service along Gibbons Drive is provided by the East Bay Municipal Utility District (EBMUD), which owns and maintains the public water system and associated water service infrastructure. Water meter boxes serving adjacent properties are generally located within or near the sidewalk and planting strip. In some locations, meter boxes have been displaced or damaged by the growth of mature liquidambar roots.

Although the water system is owned and maintained by EBMUD and is not within the City's direct control, the location and condition of water infrastructure are important considerations in developing a comprehensive approach that balances preservation of the mature tree canopy with the need to maintain, repair, and protect infrastructure within the Gibbons Drive right-of-way.

03

STORMWATER FACILITIES

Gibbons Drive does not currently contain a storm drain main. As a result, stormwater is conveyed primarily as surface flow along the curb. Runoff travels along Gibbons Drive until reaching intersection culverts and other drainage connections, where it may be conveyed to an adjacent street before ultimately entering the City's storm drain system and discharging to San Francisco Bay. This makes the condition and continuity of the curb and gutter particularly important to drainage along the corridor.

Together, these conditions illustrate the many competing priorities and interests for space in the Gibbons Drive right of way.

05

COMMUNITY ENGAGEMENT

A Engagement Process

Throughout the planning process, and over the 15 months before presentation of this Plan, the City conducted extensive community outreach with the goal to engage with as much of the community as possible. Given the defining characteristics of the tree canopy and complexity of the conflicts, the City undertook a multi-pronged engagement process to reach residents. The engagement process included in-person and virtual community meetings, door-to-door outreach, online and mailed surveys and letters, a dynamic project website, email blasts, and ongoing engagement with the Fernside Homeowners Association. These engagement activities and the timeline are described below.

Appendix XX, Community Engagement Materials, provides supporting materials from the engagement process, including mailed notices and letters, community meeting presentation materials, surveys and survey results, and other outreach materials.

Figure 1, right, illustrates the project timeline and community outreach efforts.

City staff, with support from H | BC, hosted a series of six community meetings between March 2026 and July 2026. Three in-person meetings were held along with three identical virtual meetings to involve people who could not attend the in-person evening meetings (six meetings total). Electronic and paper mailers were sent before the March and May meetings to promote them and engage community members. Before the July meeting, the Public Works Director and Staff went door-to-door along Gibbons Dr. to engage community members who may not have attended or been aware of previous meetings.

The Project Timeline and Community Outreach Efforts



Figure 1: Project Timeline and Community Outreach Efforts



MEETINGS ARE SUMMARIZED BELOW:

B Meetings 1 and 2: Tree Assessment and Initial Community Input

MARCH 2, 2026 – EDISON ELEMENTARY SCHOOL | MARCH 3, 2026 – VIRTUAL

The first round of community meetings introduced the project and provided an opportunity for the community to review and respond to the findings of the HortScience | Bartlett Consulting tree and infrastructure assessment.

The project team presented the assessment findings, including the condition of the mature liquidambar trees and the conflicts between tree roots, sidewalks, and other infrastructure. The presentation was followed by approximately 40 minutes of facilitated community discussion. Participants were invited to share their overall perspectives on conditions along Gibbons Drive, provide feedback on potential approaches identified in the assessment, and identify additional issues or ideas the project team should consider.

These meetings served as an early listening opportunity and helped the project team better understand community priorities and preferences before developing the management approaches evaluated through this Plan.

PARTICIPANT FEEDBACK

During the facilitated community discussions, City staff asked participants to respond to five questions. These questions were open-ended and gave participants the opportunity to describe their experience on Gibbons Drive, their initial responses to the HortScience Tree Inventory Report and Assessment, and feedback on a few possible approaches to improving the corridor. To end the discussion, participants were asked if they had other ideas for possible approaches to preserving the mature tree canopy or repairing infrastructure.

In general, comments at both the in-person and virtual meetings centered around a few themes: the Liquidambar trees provide beauty and character to the Gibbons corridor, sidewalk repairs are necessary, and if Liquidambar trees are removed there needs to be a clear plan for tree replanting using species more suitable to the residential environment. There was strong support among the groups for phased removals with a pace that considers current tree health, infrastructure repairs, and ongoing costs of maintaining existing trees. Participants also expressed curiosity about street redesign options, such as chicanes, bulb-outs, and one-way traffic.

City staff took notes during the discussions, which were summarized and posted for public review on the project's webpage. These are included in Appendix XX.

☞ Meetings 3 and 4: Discussion of Approaches

MAY 12, 2026 - EDISON ELEMENTARY SCHOOL | MAY 13, 2026 - VIRTUAL

The second round of community meetings built upon the input received during the first two meetings and through subsequent online engagement. The purpose of these meetings was to report back on what the City had heard, demonstrate how community input was shaping the planning process, and gather additional feedback on potential approaches and associated tradeoffs.

Prior to Meetings 3 and 4, community members were asked to identify the factors most important to them as the City considered how to address tree and infrastructure conflicts along Gibbons Drive. Feedback reflected a range of perspectives, but several priorities emerged. Sidewalk and roadway conditions, as well as pedestrian accessibility, were among the most frequently identified considerations. Participants also emphasized the preservation of mature trees, a gradual and balanced approach to any necessary tree removals, and the importance of a clear replacement planting strategy. These results were presented at Meetings 3 and 4 and helped shape the approaches brought forward for community consideration.

COMMUNITY FEEDBACK

“Yes, the sidewalks are in terrible condition, but does that outweigh the charm?”

“A lot of people can’t enjoy the street because of the hazardous sidewalks.”

“Can pedestrians just use other streets?”

“What could the street look like if we preserve the healthy Liquidambars?”

“Under no circumstance should trees be removed”

“I’ve seen an elderly woman fall and injure herself on Gibbons”

“Can you produce illustrations of phased removal and other approaches?”

☞ Location-by-Location Approach

At Meetings 3 and 4, the project team introduced the location-by-location approach for the first time. Under this concept, the City would prioritize sidewalk and infrastructure repairs based on the severity of existing conditions rather than undertaking widespread tree removal or reconstruction at one time. Each location would be evaluated individually to determine whether the infrastructure could be repaired while retaining the existing tree.

The project team presented examples of potential preservation and repair strategies to be considered based on site conditions. These include root pruning, meandering or realigning sidewalks around existing trees, raising portions of sidewalk where sufficient distance is available to maintain an accessible slope, and modifying the curb or extending the planting area into the roadway through localized curb extensions or bulb-outs. The intent was to demonstrate that tree removal would not automatically result from a damaged sidewalk or curb and that a range of site-specific solutions could be evaluated first.

Because some locations may ultimately require tree removal even after preservation measures are considered, the project team also presented three potential maximum rates for pacing removals under the location-by-location approach:

01

No more than 10% of the liquidambar population during 5-year increments

02

No more than 25% during 5-year increments

03

No more than 35% during 5-year increments

Community Members want to know more about...

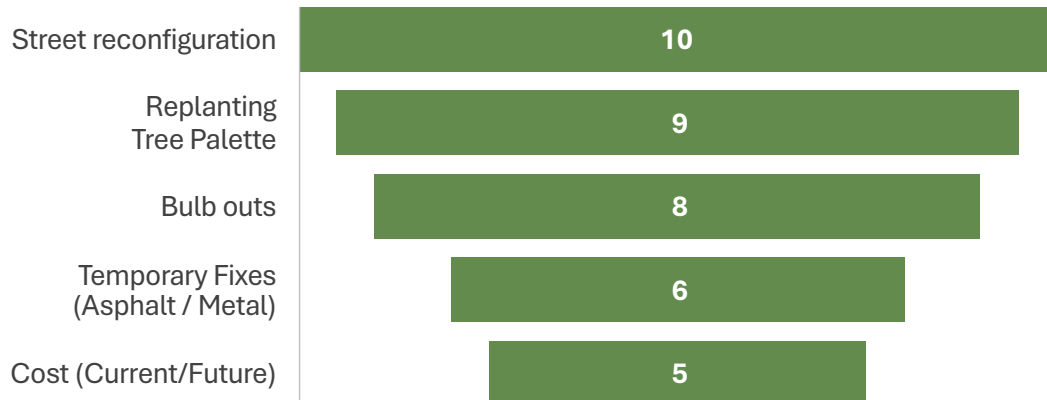


Figure 1: Data source: Public Response gathered at Community Meetings, March 2, 2026, Edison Elementary; March 3, 2026, Zoom Webinar; Online Survey (still open; comments as of 3/16/2026)

Community Members want to prioritize solutions around...

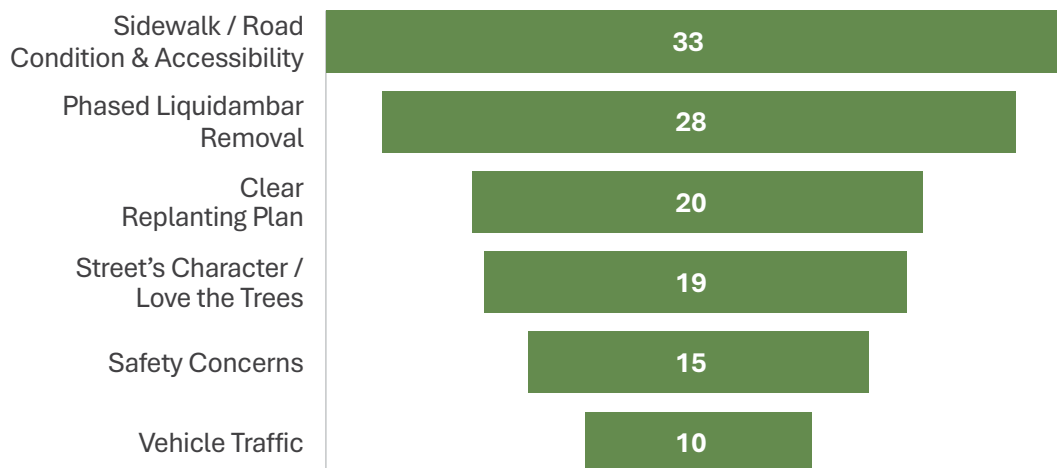


Figure 2: Data source: Public Response gathered at Community Meetings, March 2, 2026, Edison Elementary; March 3, 2026, Zoom Webinar; Online Survey (still open; comments as of 3/16/2026)

Community members wanted to prioritize several factors in any adopted approach, as depicted in **Figure 2**.

Conceptual illustrations were presented to help visualize the potential effect of different tree-removal pacing scenarios over time, including the growth of replacement trees. Appendix XX includes the illustrations. The illustrations are not to scale and were intended only to provide a general representation of how the corridor canopy could change under each pacing scenario. For illustrative purposes, each scenario assumes that the maximum number of trees allowed under the applicable removal cap is removed during each five-year period. The removal caps represent maximum allowable pacing, not removal targets.

➡ Street Reconfiguration Approach

The project team also presented a broader street-reconfiguration concept that could create additional growing space for some existing trees by modifying the roadway. This concept included the use of chicanes, which create a gentle, alternating shift in the vehicle travel path by extending the curb into the roadway at selected locations. Along Gibbons Drive, this could allow the curb to be moved farther away from certain trees, providing additional space for roots and potentially allowing a tree to remain where repair within the existing curb and sidewalk configuration would otherwise be infeasible.

Chicanes can also provide a secondary traffic-calming benefit. The alternating alignment of the travel path encourages lower vehicle speeds. While traffic calming was not the primary purpose for considering this approach as part of the Gibbons Drive Sidewalks and Trees Plan, it was identified as a potential additional benefit of the concept.

At Meetings 3 and 4, the street-reconfiguration concept was presented at a conceptual level. The project team had not yet completed a location-specific analysis to determine where additional growing space could meaningfully benefit existing trees or the extent of the associated tradeoff in on-street parking. While participants did not express strong interest in pursuing the street-reconfiguration approach, they indicated that additional information was needed to better understand the potential tree-preservation benefits relative to the potential loss of on-street parking. In response, the project team subsequently conducted a more detailed analysis to identify locations where expanded growing space could potentially benefit existing trees and estimate the associated loss of on-street parking. The results of that analysis were presented during the next round of community engagement. Please see Section 6 Roadway Reconfiguration with Chicanes for the details of the analysis.

➡ Replacement Tree Theme

Meetings 3 and 4 also began the community conversation about replacement planting. Acknowledging that some trees will be removed under any approach and understanding the importance of the trees and their landscape-character contributions to the community, H | BC presented several considerations on replacement planting. At this stage, the project team did not present or ask participants to select specific tree species. Instead, participants were asked to provide feedback on the desired general character or theme for future replacement trees.

FOUR BROAD THEMES WERE PRESENTED FOR CONSIDERATION:



H | BC explained that liquidambar is not an appropriate replacement planting candidate. As has been seen on Gibbons Drive and across many communities throughout the Bay Area, the large surface roots are incompatible with the constrained growing area in the public right-of-way. Hardscape damage can be extensive. Replanting with liquidambar would only continue the problem.

This initial feedback was intended to inform the development of a more specific replacement tree palette for consideration during the next phase of community engagement.



Throughout the planning process, the City conducted extensive community outreach with the goal to engage with as much of the community as possible.

PARTICIPANT FEEDBACK

Following the presentation of the potential approaches, participants were asked to identify their first- and second-preferred approaches to addressing tree and infrastructure conflicts along Gibbons Drive. This exercise provided the project team with additional information about community preferences regarding both the overall management strategy, including the potential pace of tree removal under the location-by-location approach, and interest in the street-reconfiguration concept.

Participants were also asked to provide feedback on the desired character of future replacement trees. This feedback was used to help inform development of a more specific replacement tree palette for consideration during subsequent community engagement.

The results of both exercises helped the project team refine the approaches and identify areas where additional information and analysis were needed before the next round of community engagement.

Although subsequent input was obtained, at the conclusion of Meetings 3 and 4, the location-by-location approach with a 10% tree removal cap garnered the most community support, followed by the location-by-location approach with a 25% cap, and then Chicanes. The location-by-location approach with a 35% removal cap did not receive any community support. The fall-color street theme was overwhelmingly preferred by participants in these meetings.

A detailed summary of voting results and related comments from community participants were posted on the project's webpage and are included in Appendix XX.

➤ Meetings 5 and 6: Additional Analysis of Management Approaches, Presenting a Replacement Tree Palette, and the Recommended Approach

JULY 28, 2026 CITY HALL COUNCIL CHAMBERS | JULY 29, 2026 - VIRTUAL

Following Meetings 3 & 4, the project team conducted additional outreach to broaden participation. City staff conducted door-to-door outreach along Gibbons Drive to connect directly with residents, including those who may not have participated in previous meetings. Project information and contact details were provided at each residence. Staff spoke with available residents about the project and heard additional perspectives regarding the approaches under consideration and community priorities.

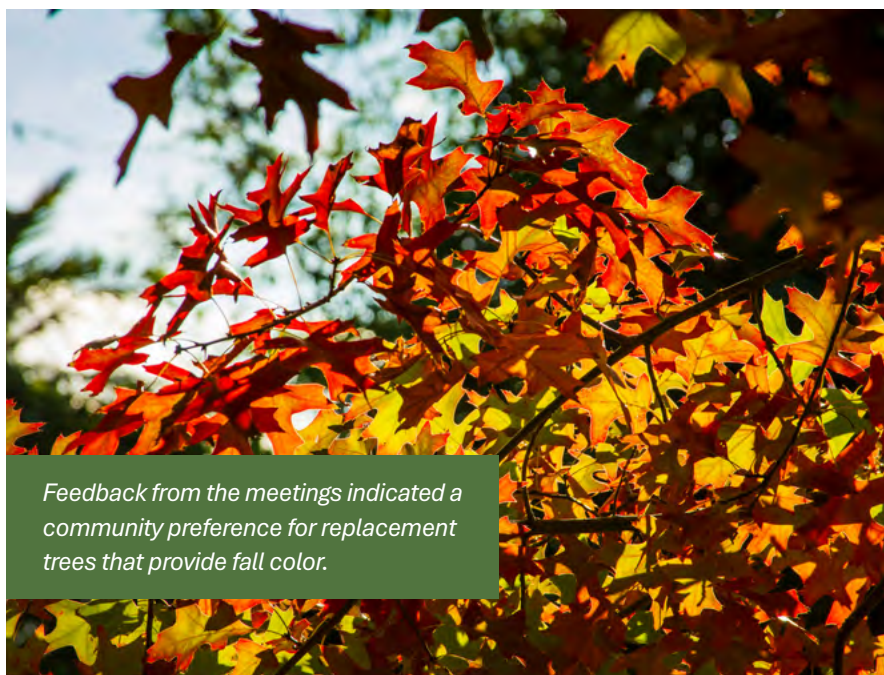
At Meetings 3 and 4, participants had expressed interest in better understanding the costs and tradeoffs associated with the approaches under consideration. In response, the project team conducted additional analysis to present cost estimates for the location-by-location approach at 10% and 25% pacing, as well as for the street-reconfiguration/chicane concept.

The project team also returned with a more detailed analysis of the chicane street-reconfiguration concept requested during the previous meetings. This analysis evaluated locations where moving the curb into the roadway could provide meaningful additional growing space for existing trees and considered the corresponding trade-off in the loss of on-street parking.

Meetings 5 and 6 were intended to provide the additional analyses, continue development of the replacement tree palette, present a staff-recommended path forward, and provide an additional opportunity for community feedback.

➤ Replacement Tree Palette

Meetings 5 and 6 also continued the discussion of replacement planting. Feedback from the previous meetings had indicated a community preference for replacement trees that provide fall color. Using that input, the project team developed a preliminary palette of 11 potential tree species consistent with the community-selected theme. Participants were invited to indicate their preferred species to narrow the preliminary list of 11 to approximately 6–8 species.



➔ Preliminary Path Forward, as Presented at Meetings 5 & 6

Based on the community priorities heard to date, technical analysis, and implementation considerations, the project team presented a location-by-location approach as a preliminary path forward. Under this approach, locations with the most significant sidewalk and infrastructure conditions would be addressed first. At each location, the City would evaluate the tree and its roots, accessibility requirements, infrastructure conditions, and feasible site modifications before determining the appropriate solution. Potential preservation measures could include concrete shaving, careful root pruning, sidewalk meandering or raising, curb modifications, and other site-specific treatments. Tree removal would be considered only when the infrastructure conflict could not feasibly be resolved while retaining the tree.

As presented at Meetings 5 and 6, the preliminary approach included a maximum removal of 25% of the 112 liquidambar during five-year increments. During the meetings, participants expressed concern that describing the approach in this manner made the 25% figure sound

like a removal target, suggesting that 25% would be removed every five years. The project team recognized this concern and clarified during the meetings and in future communications that the 25% figure was intended as a maximum cap, not a target.

The project team also explained that it is not possible to determine in advance which individual trees, or how many trees, will ultimately require removal. At many locations, the extent and configuration of tree roots beneath the sidewalk cannot be fully evaluated until the existing sidewalk is removed. Once exposed, the roots can be assessed together with accessibility requirements, infrastructure conditions, and potential site modifications to determine whether the sidewalk and other infrastructure can feasibly be repaired while retaining the tree.

Accordingly, actual liquidambar removals would be determined through the location-by-location evaluation. The cap is intended as an additional safeguard to limit the pace of removal and ensure that any transition of the mature canopy occurs gradually.

PARTICIPANT FEEDBACK

Some participants were comfortable providing preferences for the tree palette at the meeting, while others requested additional time to evaluate the potential species before making a selection. Participants also raised questions about why liquidambar was not included among the proposed species and expressed concerns about the time required for newly planted trees to mature and begin providing canopy and other benefits comparable to those of existing mature trees.

In response, the project team converted the species-selection exercise into an online format, allowing community members additional time to review information about the proposed species and provide their preferences following the meetings. The online format also enabled community members unable to attend Meetings 5 and 6 to participate in the tree-selection process. Feedback received through both the meeting and online exercises was used to further refine the replacement tree palette.

Participants also continued to express strong support for preserving the mature liquidambar canopy. A recurring concern was that the 25% cap on tree removals was seen as too high and would present the opportunity for a rate of tree loss that community members were not comfortable with. Many participants emphasized a preference for a slower, gradual transition of the existing liquidambar population. Other comments highlighted necessary accessibility improvements along Gibbons Drive to increase enjoyment and safety for all pedestrians. This feedback helped inform subsequent refinement of the recommended approach, including reconsideration of the proposed removal cap and continued emphasis on evaluating reasonable tree-preservation measures before removal.

E Public Review of Draft Gibbons Sidewalks and Trees Plan

CONTENT TO BE INSERTED FOLLOWING REVIEW OF THE DRAFT PLAN.

➔ Planning Board

The draft Plan will be presented to the Planning Board on October 12, 2026. Although the Gibbons Drive Sidewalks and Trees Plan is a planning document rather than a capital improvement project, Planning Board review is also included in recognition of the City's Tree Removal Policy. Section C of the Policy requires Planning Board review of capital improvement projects that would remove more than five percent of the street trees on any given block face. Because implementation of the Plan will occur incrementally over many years and the specific trees, locations, and timing of future infrastructure improvements and any associated tree removals cannot be identified in advance, the City elected to bring the overall management framework to the Planning Board before implementation begins.

The Planning Board's review of the Plan is intended to serve as the Planning Board review contemplated by Section C of the Tree Removal Policy for future City infrastructure improvements implemented in accordance with this Plan. Individual tree removals will nevertheless remain subject to the applicable requirements of the Tree Removal Policy, including location-specific evaluation of reasonable preservation alternatives, documentation, and applicable public posting and notification procedures. If a future project materially departs from the management framework established by this Plan, additional Planning Board review may be required, as applicable.

[PLACEHOLDER FOR SUMMARY OF KEY COMMUNITY COMMENTS/THEMES AND MATERIAL REVISIONS TO THE PLAN; APPENDIX TO INCLUDE DETAILS]

➔ Commission on Persons with Disabilities

The draft Plan will be presented to the Commission on Persons with Disabilities on October 14, 2026.

[PLACEHOLDER FOR SUMMARY OF KEY COMMUNITY COMMENTS/THEMES AND MATERIAL REVISIONS TO THE PLAN; APPENDIX TO INCLUDE DETAILS]

06 EVALUATION CRITERIA

A range of management approaches to address conflicts between liquidambar trees and sidewalks and other public infrastructure along Gibbons Drive was considered. In developing the recommended approach, the City evaluated the alternatives against a consistent set of criteria reflecting the objectives of the Plan, existing conditions, technical considerations, community input, and implementation constraints. The criteria used are described below.

No single criterion was considered in isolation. The recommended approach seeks to improve pedestrian safety and accessibility, address needed infrastructure repairs, preserve mature trees to the greatest extent reasonably feasible, and allow the City to respond to conditions that will change over time.

A Pedestrian Safety and Accessibility

Improving pedestrian safety and accessibility is a primary objective of the plan. Approaches were therefore evaluated based on their ability to make meaningful progress toward repairing these conditions and providing a safer, more accessible pedestrian route. Because the severity of existing conditions varies considerably along the corridor, the City also considered whether an approach would allow the most significant barriers and infrastructure deficiencies to be addressed first.



B Tree Preservation

The mature liquidambar trees are a defining feature of Gibbons Drive and provide substantial canopy, shade, environmental benefits, and neighborhood character. Community input throughout the planning process demonstrated a strong preference for preserving healthy mature trees and avoiding widespread or premature removal.

Approaches were evaluated based on their ability to preserve existing trees. The City also considered how each approach could affect the pace of change to the existing canopy.

C Canopy Transition

Because some tree removals will likely be necessary as infrastructure is repaired and as the trees naturally decline or die, the evaluation considered whether an approach would allow this transition to occur gradually and provide opportunities for replacement trees to become established and grow over time.

D Community Values

Community input was an important component of the evaluation process. Through multiple community meetings, online engagement opportunities, direct outreach to Gibbons Drive residents and participation from the broader neighborhood and Alameda community, the City received substantial feedback regarding both the existing conditions along Gibbons Drive and the approaches being considered to address them.

A consistent theme throughout the engagement process was the importance community members place on the existing mature Liquidambar canopy. Participants described the trees as a defining feature of Gibbons Drive and emphasized their contribution to neighborhood character, aesthetics, seasonal fall color, shade, wildlife habitat, environmental benefits, property value, and overall experience of walking and living along the corridor or in the neighborhood.

Community members generally recognized the need to address deteriorated sidewalk conditions and improve accessibility. Feedback frequently focused on whether infrastructure could be repaired while retaining individual trees. Community members expressed interest in approaches such as sidewalk meandering, localized curb modifications, bridging or raising sidewalks over roots, concrete shaving, careful root pruning, and other site-specific solutions. General feedback also included making tree preservation the default.

The engagement process also demonstrated the importance of gradual change, if change is needed. Community members consistently expressed concern about the cumulative effect that removing multiple mature trees could have on the character and canopy of Gibbons Drive.

Community input helped inform the City's approach to replanting. Participants expressed preferences for replacement trees that preserve qualities valued in the existing corridor, including large mature stature, substantial canopy, seasonal interest and fall color, wildlife habitat and relatively rapid growth.

E Feasibility and Adaptability

Not all of the information needed to make decisions about individual locations along Gibbons Drive is available today, and conditions will continue to change over time. Important information about the extent and configuration of tree roots beneath the sidewalk will not be available until the existing sidewalk is removed and the roots can be fully evaluated. In addition, tree health, root growth, sidewalk and infrastructure conditions, and other site-specific factors will evolve throughout implementation of the Plan.

Accordingly, approaches were evaluated based on whether they provide a practical implementation framework and enable decisions to be made as additional information becomes available. An effective approach must provide sufficient flexibility to evaluate conditions at the time improvements are undertaken and select the most appropriate solution for each location.

The preferred approach should establish clear and consistent decision-making principles while retaining the flexibility to respond to changing tree and infrastructure conditions, new information, available resources, and future repair needs.



The community expressed interest in preserving qualities in the existing corridor, including large mature stature, substantial canopy, seasonal interest and fall color, wildlife habitat, and rapid growth.

E Cost and Funding

Cost and the availability of funding were also considered. Approaches that require substantial roadway reconstruction would require significantly greater upfront investment, whereas a phased approach allows improvements to be prioritized and implemented over time as funding is available in the City's existing Sidewalk Repair Program and Street Tree Maintenance Program.

The evaluation also considered the cost and effectiveness of continuing to make repeated short-term repairs, such as asphalt patching of displaced sidewalks. These treatments can provide an important interim improvement by reducing immediate tripping hazards and allowing a mature tree to remain in place longer, but they do not resolve the underlying conflict between tree roots and adjacent infrastructure and are often not compliant with ADA standards.

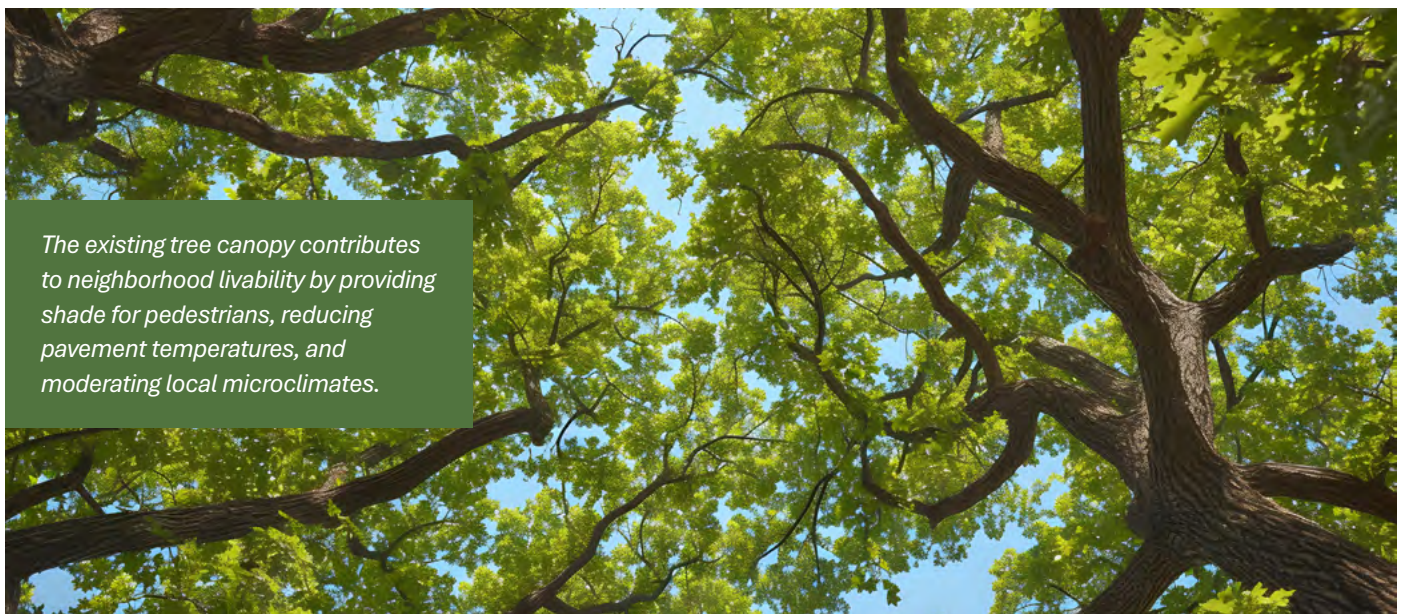
G Environmental Impact of Tree Removal

Removal of mature trees along Gibbons Drive would result in the loss of numerous environmental benefits currently provided by the existing canopy. Mature trees intercept stormwater, reduce urban heat, improve air quality, store carbon, and provide habitat for birds and other wildlife. Because these benefits increase with tree size and age, the loss of mature trees would not be immediately replaced through replanting efforts.

The existing tree canopy also contributes to neighborhood livability by providing shade for pedestrians, reducing pavement temperatures, and moderating local microclimates. Removal of the trees would increase solar exposure along the street and sidewalks, resulting in higher surface and ambient temperatures until replacement trees mature. It may take decades for newly planted trees to provide canopy cover and ecosystem services comparable to those of the existing mature trees.

Mature tree removals would also reduce visual screening and alter the established character of Gibbons Drive. The mature canopy creates a defining landscape feature and contributes to the neighborhood's sense of place. While replacement planting could restore some of these functions over time, there would be an interim period during which canopy cover, environmental benefits, and neighborhood aesthetics would be diminished.

Although replacement trees will help offset long-term impacts, the environmental effects of removing mature trees are immediate, while the benefits of mitigation occur gradually as new trees establish and grow. For this reason, preserving existing mature trees where feasible generally provides greater environmental value than removal and replacement.



The existing tree canopy contributes to neighborhood livability by providing shade for pedestrians, reducing pavement temperatures, and moderating local microclimates.

07 MANAGEMENT APPROACHES CONSIDERED

Six distinct management approaches were evaluated during the planning process. Several additional variations and combinations of these approaches were also considered to address project objectives, accessibility requirements, and tree preservation goals.

A Continue Existing Management Practice

Under this approach, the City would continue to manage the trees, sidewalks, and other infrastructure along Gibbons Drive through its existing policies and programs without adopting a corridor-specific management framework.

The City has established policies and programs that guide management of both its urban forest and sidewalk infrastructure. These include citywide urban forest policies and canopy goals consistent with the Master Street Tree Plan, the Sidewalk Repair Program, and the City Council adopted Tree Removal Policy. Along Gibbons Drive, however, implementation of these policies has been particularly challenging because tree and infrastructure conflicts are widespread throughout the corridor and the mature liquidambar trees are highly valued by the community and closely associated with the character of the street.

Recognizing these competing considerations, the City has taken a cautious approach to infrastructure repairs and associated tree removals. In recent years, the City has primarily relied on temporary measures, such as asphalt repairs, to address the most immediate sidewalk concerns while retaining the mature trees. Although the City's existing policies provide mechanisms for more permanent sidewalk repairs and, where necessary, tree removal, the City has been reluctant to make a series of consequential, location-by-location tree removal decisions without first establishing a community-informed plan for the corridor as a whole.

This cautious approach is not a sustainable long-term management strategy. Temporary repairs do not resolve the underlying conflicts between tree roots and surrounding infrastructure, and repeated repairs will continue to be necessary as roots grow and conditions change. At the same time, sidewalk displacement and other infrastructure deficiencies will continue to affect pedestrian safety and accessibility.

» ***This approach was deemed non-tenable early in the planning process.***

B Relocate Sidewalk to Roadway

The project team considered relocating the existing sidewalk from its existing alignment behind the mature liquidambar trees to the roadway side of the trees. Under this concept, a new sidewalk and curb would be constructed approximately 5 feet into the existing roadway. The existing sidewalk area could then be incorporated into the planting area, substantially increasing the amount of growing space available around the mature trees.

This approach offered several potential benefits. By moving the pedestrian travel away from the existing root systems, it could avoid many of the tree-root conflicts affecting the current sidewalk and reduce the need for significant root pruning or tree removal associated with reconstruction in the existing sidewalk alignment. It could also provide substantially more growing space for the mature trees and create a new, accessible pedestrian route.

The approach also presented two significant constraints. First, applying the concept on both sides of Gibbons Drive would reduce the remaining curb-to-curb roadway width to approximately 15 feet, which does not provide sufficient width to maintain required emergency vehicle access.

Second, relocating the sidewalk would not eliminate the root-related conditions within the existing sidewalk area. That area would remain within the public right-of-way and would continue to be affected by surface roots and root uplift as the trees grow. Although pedestrians would have a new accessible sidewalk, the City would still need to determine how to safely manage and maintain the former sidewalk area. Retaining a substantially uneven, root-affected area within the public right-of-way would present ongoing maintenance and risk-management concerns.

» ***This approach was eliminated early in the planning process.***

Raised Sidewalk

The project team evaluated whether the sidewalk could be raised above the root zone of the mature liquidambar rather than reconstructed at its current elevation. Raising the sidewalk could reduce root pruning and would potentially allow more trees to remain. However, placing fill over existing roots is generally not recommended because it can reduce soil oxygen levels, alter soil moisture conditions, and adversely affect root health.

To provide meaningful separation from existing roots and accommodate future root growth, the team evaluated concepts that raised the sidewalk approximately 2 feet above existing grade. One concept lowered the sidewalk at each driveway and raised it again between driveways. However, accessibility requirements would require approximately 40 feet of horizontal distance to accommodate each elevation change, and the closely spaced driveways along Gibbons Drive do not provide sufficient room for these transitions. A second concept maintained the raised sidewalk across driveways. While this approach would reduce conflicts with tree roots, it would create excessively steep driveway grades and substantial grade differences between the public sidewalk and adjacent private properties.

A smaller increase in sidewalk elevation could reduce these impacts but would provide less separation from existing roots and would be less effective at preventing future root-related sidewalk displacement. Given the arboricultural concerns associated with placing fill over existing roots, possible root severance if retaining features are needed, and the engineering constraints identified during the evaluation, raised sidewalk alternatives were eliminated from further consideration.

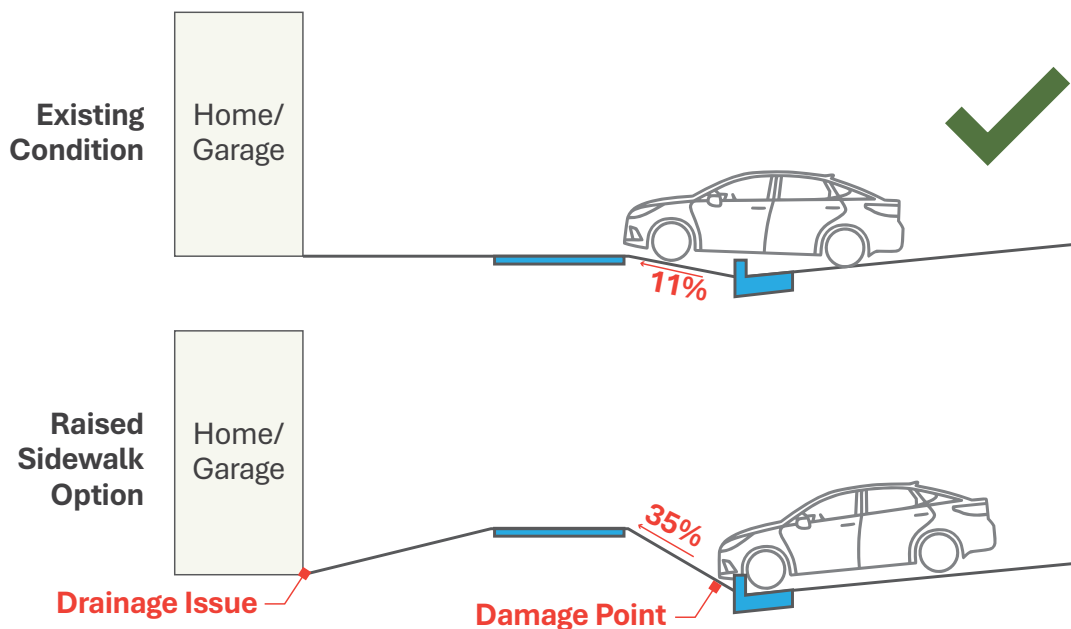


Figure 1: Steep driveway Transition

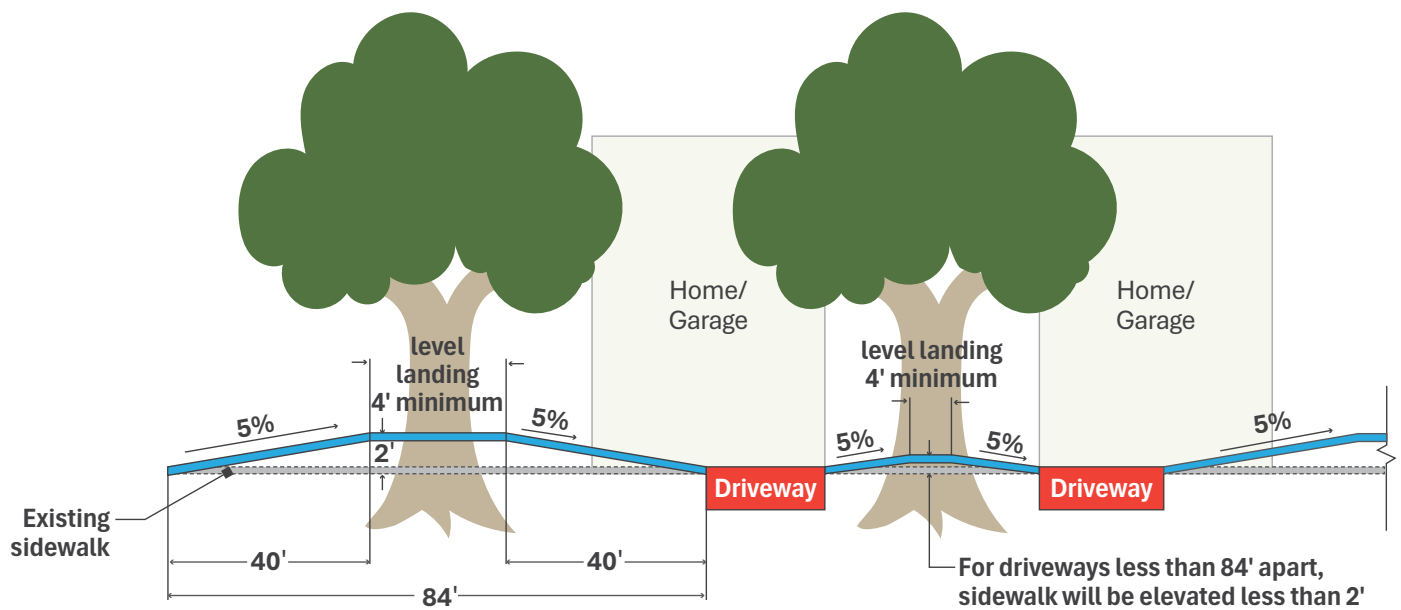


Figure 2: Raised Sidewalk with Transitions at Driveways

Remove Sidewalks on Gibbons

During the community engagement process, there was discussion of removing the sidewalks along Gibbons Drive and converting the existing sidewalk areas to additional planting space for the mature trees. Because this approach would avoid reconstructing sidewalks in areas heavily affected by tree roots, the City considered whether eliminating the sidewalks could help preserve existing trees and reduce future tree-and-infrastructure conflicts.

Removing the sidewalks would provide additional unpaved area around the mature trees and would eliminate the recurring conflict between tree roots and the existing sidewalk. It would also avoid the cost and tree impacts associated with reconstructing sidewalks around the existing root systems.

However, the approach would eliminate the existing pedestrian travel way along Gibbons Drive without providing a replacement pedestrian route. Pedestrians, including people with disabilities, would instead need

to travel within the roadway. In addition to creating significant pedestrian safety concerns, this would reduce rather than improve pedestrian accessibility along the corridor.

The project team evaluated this concept and determined that removal of the sidewalks without provision of an appropriate alternative accessible pedestrian route would not be consistent with the City's accessibility obligations. Federal accessibility requirements applicable to alterations of pedestrian facilities generally prohibit alterations that decrease the accessibility of an existing pedestrian facility. Where existing physical constraints make full compliance technically infeasible, accessibility is nevertheless required to be provided to the maximum extent feasible. Similar requirements under the California Building Code prohibit alterations that decrease accessibility below applicable standards.

» ***This approach was eliminated early in the planning process.***

■ Roadway Reconfiguration with Chicanes

The project team evaluated whether Gibbons Drive could be reconfigured using chicanes to create additional growing space for existing trees. A chicane creates a gentle, alternating shift in the vehicle travel path by extending the curb into the roadway at selected locations. Along Gibbons Drive, the curb could be shifted away from trees within the chicane, increasing available growing space and potentially reducing conflicts between tree roots, sidewalks, and other infrastructure. Chicanes can also have the secondary benefit of reducing vehicle speeds by creating a less direct travel path.

The concept has an important limitation as a tree-management strategy: additional growing space is created only for trees on the side of the street where the curb is extended into the roadway. Trees on the opposite side do not receive the same benefit. The location and spacing of chicanes must also be designed around roadway geometry, and as a result, this approach would not necessarily allow the City to prioritize improvements at locations with the most significant sidewalk displacement or accessibility needs.

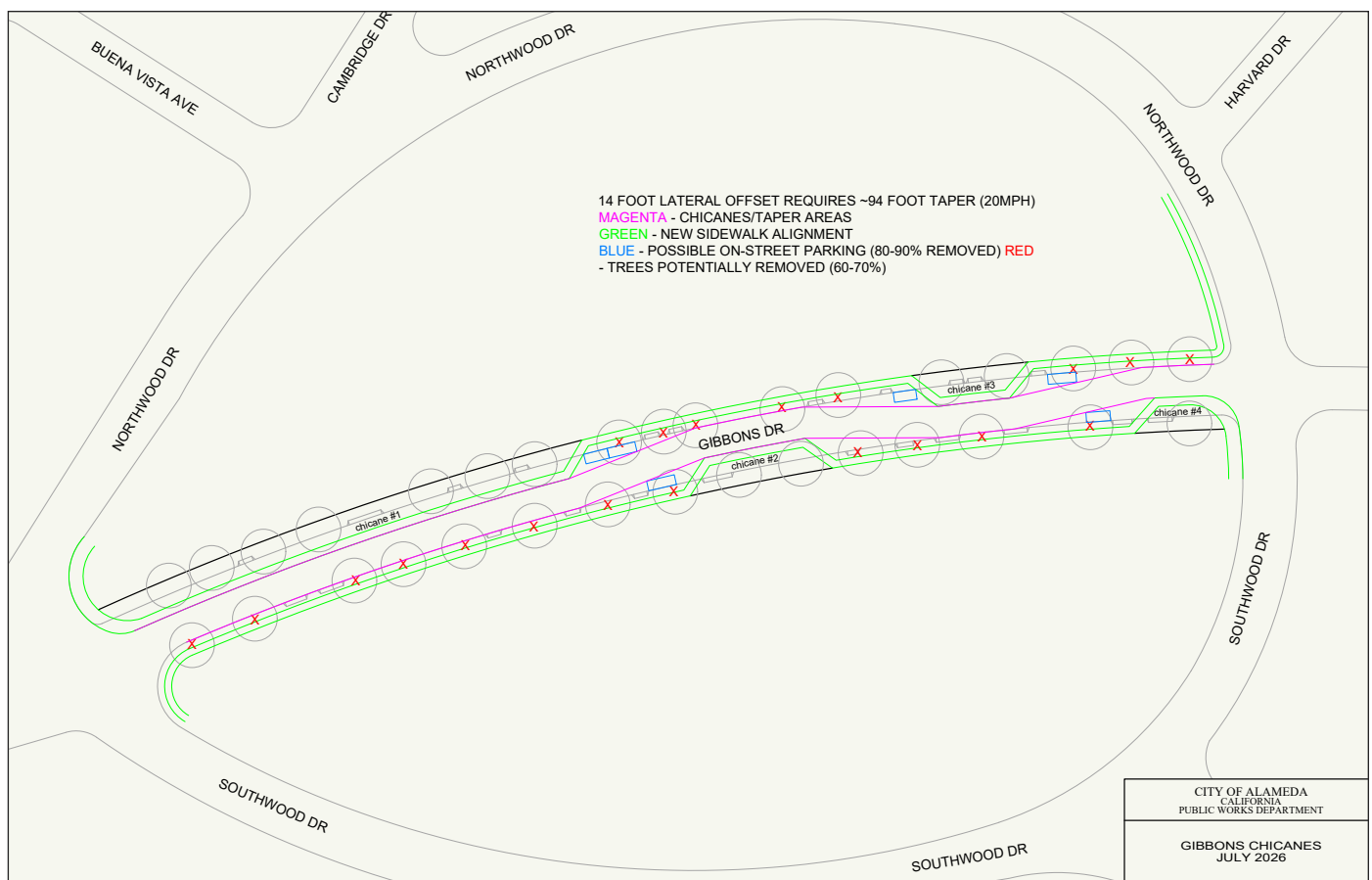


Figure 3: Visualization of roadway reconfiguration with chicanes

Following community interest in better understanding the concept, the project team conducted a more detailed analysis of a representative block of Gibbons Drive. See **Figure 3** for a rendering of the chicane design concept. The analysis evaluated where chicanes could provide meaningful additional growing space for existing trees and the corresponding impact to on-street parking. Based on the sample block, approximately 30 to 40 percent of the existing trees could potentially receive additional growing space. Providing that space, however, was estimated to result in the loss of approximately 80 to 90 percent of the existing on-street parking on the block.

The project team also evaluated whether converting Gibbons Drive to one-way vehicle travel could reduce the impact of parking loss while retaining the tree-preservation and traffic-calming benefits of the chicane concept. This configuration did not substantially improve the result. Fire access requirements necessitate maintaining an unobstructed roadway width of approximately 20 feet. As a result, the roadway width remaining under the chicane concept could not accommodate both a vehicle travel lane and on-street parking within the required unobstructed area. Conversion to one-way travel, therefore, did not provide a practical means of retaining substantially more parking.

E Location-by-Location Management Approach

The project team evaluated a location-by-location approach that would address sidewalk and infrastructure conflicts individually and incrementally. Under this approach, locations would be prioritized based on the severity of existing sidewalk, curb, and infrastructure conditions, allowing the City to address areas with the greatest needs for pedestrian safety, accessibility, and infrastructure first.

At each location, the City would consult with a qualified arborist to evaluate the tree's condition, the extent and configuration of its roots, the condition of the surrounding infrastructure, accessibility requirements, and the site's physical characteristics. The City will remove the existing sidewalk to uncover the roots currently concealed beneath the concrete, so the arborists can evaluate root-pruning options that would not compromise the tree's health and structural stability.

The City would then consider reasonable measures to repair the infrastructure while retaining the mature tree. Depending on site conditions, these measures could include concrete shaving, careful root pruning, bulb outs, sidewalk meandering, bridging over roots, a combination of treatments, and other creative solutions. This approach aligns with the City's Tree Removal Policy and draft Urban Forest Plan, which further specifies various treatments to be considered before tree removal is considered.

This approach recognizes that conditions vary considerably from one location to another and that not all the information needed to make individual tree decisions is available today. The amount of visible sidewalk displacement alone does not necessarily indicate whether a tree can be retained. For example, a location with significant sidewalk uplift may be caused primarily by a single root that can be carefully pruned without compromising the tree's health or structural stability, allowing the sidewalk to be reconstructed. At another location, the visible sidewalk uplift may be relatively minor but caused by a large structural root that cannot be pruned without adversely affecting the tree's health or stability. The location-by-location management approach establishes a process for making decisions as improvements are undertaken rather than attempting to determine in advance which trees will ultimately be retained or removed.

FIVE-YEAR LIQUIDAMBAR REMOVAL CAP

Because some tree removals will likely be necessary as sidewalk, curb, and infrastructure repairs are implemented, the project team also evaluated a five-year removal cap to limit the potential pace of change in the liquidambar population on Gibbons Drive.

Three variations of the location-by-location approach were presented during the community engagement process:

01	02	03
No more than 10% of the liquidambar population over 5-year increments	No more than 25% over 5-year increments	No more than 35% over 5-year increments

The need for tree removal over the life of the Plan will not necessarily be limited to infrastructure conflicts. The majority of existing liquidambar on Gibbons Drive are mature trees that will continue to age, and individual trees may experience declining health, structural defects, disease, storm damage, or other conditions that warrant removal regardless of sidewalk or infrastructure repairs. The relationship between these types of removals and the five-year removal cap is discussed further in the Recommended Path Forward section.

For each variation presented to the community, the percentage represented the maximum number of liquidambar that could be removed during a five-year period, not a tree-removal target. Trees would not be selected for removal simply to reach the applicable percentage.

A lower cap would provide greater protection against rapid change to the existing mature canopy and more time for replacement trees to become established and grow between removal cycles. However, if the number of locations requiring tree removal exceeded the cap, some permanent infrastructure repairs could need to be deferred and managed through interim measures, such as asphalt repairs, until additional removals were permitted in a subsequent five-year period.

A higher cap would provide greater flexibility to complete permanent sidewalk and infrastructure repairs as needs are identified, but would also allow a greater portion of the mature liquidambar population to be removed within a shorter period if location-specific evaluations determined that removal was necessary.

TREE REMOVAL REVIEW AND PUBLIC NOTIFICATION

Regardless of the applicable five-year removal cap, individual street tree removals would continue to follow the procedures established in the City's Tree Removal Policy, including applicable public posting and notification requirements.

For a tree proposed for removal because of a conflict with sidewalks or other public infrastructure, the City would first complete the location-specific evaluation described above. The evaluation would consider the tree and root conditions, accessibility and infrastructure needs, and reasonable site modifications that could allow the infrastructure to be repaired while retaining the tree. The City would prepare a report documenting the preservation measures and site modifications considered and explaining why they were determined not to be feasible before proceeding with the proposed removal.

Consistent with the Tree Removal Policy, the City would then post public notice of the proposed removal at the site and on the City's webpage, and provide notice to adjacent residents, allowing an opportunity to engage in the protest procedure outlined in the Policy before the removal and before work proceeds. This process provides transparency regarding the basis for each infrastructure-related removal and an opportunity for the public to review and respond to the City's site-specific determination.

The five-year removal cap, therefore, would not, by itself, authorize removal of any particular tree. Rather, it would establish an additional limit on the overall pace of removal. Individual infrastructure-related removals would still require a location-specific determination that reasonable preservation measures are not feasible and would remain subject to the City's established public notification and protest procedures.



Individual street tree removals would follow procedures established in the City's Tree Removal Policy, including applicable public posting and notification requirements.

08 COST OF SELECT MANAGEMENT APPROACHES

To better understand the relative cost implications of management approaches that remained feasible for further consideration, the City prepared high-level, rough-order-of-magnitude cost estimates for three of the approaches evaluated: the location-by-location approach with a 10% five-year tree removal cap, the location-by-location approach with a 25% five-year tree removal cap, and the chicane roadway-reconfiguration approach.

The estimates were developed for planning and comparison purposes and should not be interpreted as project budgets. Each approach would be implemented over an extended period, during which tree and infrastructure conditions, construction costs, available funding, and the specific improvements ultimately required will change. The estimates, therefore, rely on broad assumptions regarding the amount and type of work that could occur over time.

A Location-by-Location Approach

For purposes of comparing the 10% and 25% removal-cap scenarios, both estimates assumed that a maximum of approximately 100 liquidambar trees could ultimately be removed over a 50-year planning horizon due to a combination of aging, declining tree condition, infrastructure conflicts, storm damage, pests, or other causes. This assumption was used solely for cost estimating and does not represent a tree-removal target or prediction of the number of trees that will actually require removal.

For simplicity and to provide a consistent basis for comparing the approaches, all costs are expressed in current 2026 dollars and have not been escalated for future inflation. In reality, implementation would occur over several decades, and the actual costs incurred in future years would likely differ from the estimates presented here. The estimates, therefore, rely on broad assumptions regarding the amount and type of work that could occur over time and are intended primarily to illustrate the relative cost differences among the approaches.

As a result, the 10% removal-cap scenario assumes more interim repair work over the planning horizon than the 25% scenario. The resulting rough-order-of-magnitude costs were:

10% FIVE-YEAR REMOVAL CAP:
APPROXIMATELY \$4.05 MILLION

25% FIVE-YEAR REMOVAL CAP:
APPROXIMATELY \$3.28 MILLION

The line item details of the cost estimates are included in Appendix XX. The approximately \$770,000 difference does not reflect a significant difference in the assumed ultimate amount of permanent sidewalk, driveway, curb and gutter, or curb-ramp replacement. Rather, it primarily reflects the additional cycles of interim repair assumed under the lower removal cap.

This comparison illustrates an important tradeoff associated with the removal cap. A lower cap provides greater protection against rapid change to the mature canopy and allows more time for replacement trees to become established between removal cycles, but it may also require the City to maintain some locations through repeated interim repairs for a longer period before permanent reconstruction can occur.

B Chicane Roadway Reconfiguration

The City also prepared a high-level cost estimate for implementing the chicane roadway-reconfiguration concept along the entire Gibbons Drive corridor. Unlike the location-by-location approaches, this concept would require substantial reconstruction of the street, including relocation of curbs, roadway grading and paving, sidewalk reconstruction, driveway work, curb-ramp improvements, and other associated improvements.

The rough-order-of-magnitude cost for the chicane roadway-reconfiguration approach was approximately \$4.24 million. Major components of the estimate included approximately \$1.13 million for roadway paving, \$690,000 for curb and gutter replacement, \$600,000 for sidewalk replacement, and \$320,000 for driveway reconstruction, as well as grading, tree work, traffic control, mobilization, and construction administration. The line item details of the cost estimates are included in Appendix XX

Management Approach	Rough Cost Estimate	Primary Cost Driver
Location-by-Location – 10% Cap	\$4.1M	Assumed a greater reliance on repeated interim repairs
Location-by-Location – 25% Cap	\$3.3M	Assumed fewer interim repairs before permanent improvements
Chicane Roadway Reconfiguration	\$4.2M	Roadway, curb, sidewalk, and driveway reconstruction

Table 1. Management Approach Cost Comparison

Cost and funding are only one criteria of many considered in evaluating the management approaches. Cost was not considered in isolation from pedestrian safety and accessibility, tree preservation and canopy transition, infrastructure condition, community priorities, and feasibility and adaptability. Rather, the estimates helped illustrate the financial tradeoffs associated with different approaches and the importance of considering both the initial cost and expected longevity of infrastructure repairs.

The timing and availability of funding also differ among the approaches. The roadway-reconfiguration approach, including construction of chicanes and associated roadway, curb, drainage, sidewalk, and other improvements, would require a substantial upfront capital investment. The City does not currently have funding identified for such a project, and implementation would therefore depend on securing a new funding source and programming the project through the City’s capital improvement process.

The City already funds ongoing sidewalk repair and tree maintenance programs on an annual basis. Either of the location-by-location approaches could be incorporated into these existing programs and implemented incrementally as locations are prioritized for repair. Funding needs would occur over time as individual locations are addressed, rather than requiring the full corridor investment at the outset.

Accordingly, the cost estimates should not be interpreted solely as a comparison of total expenditures over the planning horizon. The availability, timing, and scale of the funding required to implement each approach are also important considerations. An approach that can be integrated into established, annually funded programs presents a different implementation pathway than an approach requiring a new, substantial upfront capital investment.



09 EVALUATION MATRIX OF MANAGEMENT APPROACHES

These proposed approaches were evaluated per criteria put forth in Section 6. Criteria were ranked as follows: 1: pass, -1: fail, 0: N/A, or neither.

Approach	Evaluation Criteria							Sum
	Pedestrian Safety and Accessibility	Tree Preservation	Canopy Transition	Community Values	Feasibility and Adaptability	Cost and Funding	Environmental Impact of Tree Removal	
Continue Existing Management Practice	-1	1	-1	1	-1	1	1	1
Relocate Sidewalk to Roadway	1	1	-1	-1	-1	-1	1	-1
Raised Sidewalk	1	-1	-1	0	-1	-1	-1	-4
Remove Sidewalk	-1	1	-1	0	-1	1	1	0
Roadway Configuration with Chicanes	1	-1	1	-1	-1	-1	-1	-3
Location by Location 10% 5-year tree removal cap	1	1	1	1	-1	-1	1	3
Location by Location 25% 5-year tree removal cap	1	-1	1	-1	1	1	1	3
Location by Location 35% 5-year tree removal cap	1	-1	1	-1	-1	1	-1	-1

10 RECOMMENDED PATH FORWARD

Based on the technical analysis, evaluation criteria, and community input received throughout the planning process, the City recommends a location-by-location approach with a maximum 20% cap on tree removal for the remaining liquidambar, applied in five-year increments.

The location-by-location approach best addresses the range of conditions present along Gibbons Drive and the competing objectives identified through the planning process. It allows the City to prioritize locations with the greatest needs for pedestrian safety, accessibility, and infrastructure, while evaluating reasonable opportunities to preserve each mature tree before removal is considered. It also recognizes that conditions vary substantially from one location to another and that some of the information needed to determine the appropriate solution, particularly the extent and configuration of roots beneath existing sidewalks, will not be available until improvements are undertaken.

Other corridor-wide approaches evaluated through the Plan presented significant limitations. Continuing existing management practices would not adequately

address current conditions along Gibbons Drive. Given the community value and sensitivity surrounding the mature Liquidambar, the City has more recently taken a cautious approach to implementing its Sidewalk Repair Program. Over time, however, sidewalk and other infrastructure conditions have continued to deteriorate, resulting in numerous locations that do not provide safe and accessible pedestrian travel. Continuing this approach would perpetuate reliance on temporary repairs and continue deferral of more substantial improvements.

Several approaches that could provide additional growing space for existing trees, including relocating or raising the sidewalk, were found to have a significant impact on tree health or physical, accessibility, emergency access, or other feasibility constraints. Removing the sidewalks would reduce pedestrian accessibility

and was determined to be neither safe nor legally viable. The chicane roadway-reconfiguration approach could provide additional growing space for some trees, but the sample-block analysis found that only approximately 30 to 40 percent of trees could be provided additional growing space, and approximately 80 to 90 percent of existing on-street parking could be lost. Chicanes would also limit the City's ability to prioritize improvements based on the severity of sidewalk and infrastructure conditions.

In contrast, the location-by-location approach allows the City to address the most significant needs first, tailor preservation measures to the conditions at each tree, phase improvements as funding is available, and adapt decisions as tree and infrastructure conditions change over time. It also avoids predetermined tree removals or comprehensive reconstruction of the corridor.



The location-by-location decision process will implement the preservation-first framework established by the City's Tree Removal Policy.

THE 5-YEAR CAP

During the community engagement process, the City presented location-by-location approaches with maximum five-year removal caps of 10%, 25%, and 35%. The different caps were intended to help evaluate the tradeoffs between limiting the pace of canopy change and maintaining sufficient flexibility to address sidewalk, accessibility, and infrastructure needs.

At the final round of community meetings, the City presented the location-by-location approach with a 25% five-year removal cap as the preliminary recommended approach. Participants generally supported the location-by-location framework but expressed concern that a 25% maximum could allow the mature canopy to change more quickly than desired. Participants also noted that describing the approach using a percentage could make the figure sound like a removal target rather than an upper limit.

In response to this feedback, the City made two changes to further limit the potential pace of tree removal. First, the maximum five-year removal cap was reduced from 25% to 20%. Second, the cap was revised so that the 20% maximum would be calculated based on the number of remaining Liquidambar trees at the beginning of each five-year period, rather than repeatedly applying the percentage to the original number of trees.

As a result, the maximum number of trees that could be removed generally decreases over successive five-year periods. This approach provides an additional safeguard against rapid canopy change and allows more time for replacement trees to become established and grow, while retaining sufficient flexibility to address significant pedestrian safety, accessibility, and infrastructure needs as they arise.

Importantly, the 20% cap is a maximum, not a removal target. The City will not seek to remove 20% of the remaining Liquidambar trees during each five-year period. Actual removals may be substantially fewer and will depend on tree health, infrastructure conditions, and the results of individual location-specific evaluations. The cap establishes an outer limit on the potential pace of removal; it does not determine whether any individual tree should be removed.

LOCATION-BY LOCATION DECISION PROCESS

The location-by-location decision process will implement the preservation-first framework established by the City's Tree Removal Policy. The Tree Removal Policy requires the City to consider reasonable alternatives and site modifications before removing a City tree. The Gibbons Drive Plan applies that existing policy systematically to the unique and recurring tree and infrastructure conflicts along the corridor, while providing additional guidance for prioritizing improvements and managing the overall pace of tree removal.

Implementation will begin by prioritizing locations based primarily on the severity of sidewalk displacement, pedestrian accessibility barriers, and associated infrastructure conditions. The amount of visible sidewalk displacement alone will not determine whether a tree can or should be retained.

At each location, the City will evaluate the condition of the tree, the extent and configuration of its roots, accessibility and infrastructure requirements, and the physical characteristics of the site. The existing sidewalk will be removed to allow roots concealed beneath the pavement to be exposed and evaluated.

This field evaluation is important because visible conditions do not necessarily indicate the nature of the underlying root conflict. For example, significant sidewalk uplift may be caused primarily by a root that can be carefully pruned without compromising the health or structural stability of the tree. At another location, relatively minor sidewalk uplift may be associated with a large structural root that cannot be pruned without adversely affecting the tree. The appropriate solution therefore cannot always be determined from surface conditions alone.

Consistent with the Tree Removal Policy, the City, in consultation with a qualified arborist as appropriate, will evaluate reasonable alternatives and site modifications that could allow needed infrastructure repairs to proceed while retaining the tree. Depending on the conditions at a particular location, these may include concrete shaving or other interim treatments, careful root pruning, sidewalk meandering or localized realignment, raising

portions of the sidewalk, curb modifications or expanded planting areas, or a combination of treatments.

Tree removal will be considered only when the location-specific evaluation determines that the necessary infrastructure improvements cannot reasonably be completed while retaining the tree. In this way, the Plan does not replace the City's existing Tree Removal Policy; rather, it establishes a consistent framework for applying the Policy as sidewalk and infrastructure improvements are implemented along Gibbons Drive.

For infrastructure-related removals, the City will document the site modifications and preservation measures considered and why they were determined not to be feasible. Any proposed removal will then proceed through the applicable posting, notification, and protest procedures established by the Tree Removal Policy, as described in the following section.

TREE REMOVAL REVIEW AND PUBLIC NOTIFICATION

The five-year removal cap does not, by itself, authorize removal of any individual tree. Tree removals will continue to follow the procedures established in the City's Tree Removal Policy, including applicable public posting, notification, and protest procedures. Nothing in this Plan supersedes or modifies the Tree Removal Policy procedures.

Before a tree is proposed for removal because of a sidewalk or other infrastructure conflict, the City will prepare a site-specific report documenting the tree and root conditions, the infrastructure improvements needed, the preservation measures and site modifications considered, and why those measures were determined not to be feasible.

Consistent with the Tree Removal Policy, the City will then post public notice of the proposed removal and notify adjacent residents, providing an opportunity to protest the removal before work proceeds.

The recommended approach, therefore, incorporates multiple safeguards for the existing mature trees: a location-specific preservation evaluation, documentation of alternatives considered, public notification and an opportunity to protest, and an overall five-year cap on the pace of removal.

TREE AGING, HEALTH AND UNANTICIPATED REMOVALS

The Plan will be implemented over decades, during which the existing liquidambar will continue to age. Tree removal needs therefore, will not arise solely from sidewalk and infrastructure conflicts. Individual trees may decline in health, develop structural defects, sustain storm damage, experience disease or pest impacts, or otherwise require removal for arboricultural or public safety reasons.

These conditions cannot be reliably predicted at the time the Plan is adopted. All liquidambar removals on Gibbons Drive will count toward the 20% five-year removal cap, including removals that are not associated with planned sidewalk or infrastructure improvements. For example, if a tree must be removed because it dies, declines in condition, or is damaged by a storm, that removal will reduce the number of additional liquidambar that could be removed during that five-year period.

This approach provides protection against rapid loss of the existing mature canopy by limiting the overall number of liquidambar that may be removed during a five-year period, regardless of the reason for removal. If unanticipated tree losses substantially affect the City's ability to address significant pedestrian safety, accessibility, or infrastructure needs, staff will return to the City Council to reassess how those removals should be treated under the cap.

Nothing in the removal cap is intended to require the City to retain a tree that requires immediate removal for public safety or other reasons. The City's Tree Removal Policy separately defines the circumstances under which a tree may require immediate removal and establishes the applicable review, notification, and documentation procedures for those removals. Nothing in this Plan supersedes or modifies those procedures. Any immediate removal of a liquidambar would, however, count toward the applicable five-year removal cap established by this Plan.

A Tree Replacement and Community-Informed Tree Palette

Replacement planting is an important component of the recommended approach and the long-term transition of the Gibbons Drive street tree canopy. As existing liquidambar trees are removed over time, whether due to infrastructure conflicts, declining condition, storm damage, or other factors, the City will seek to plant replacement trees to maintain the benefits of an urban forest canopy while increasing species diversity and resiliency.

The majority of existing liquidambar trees are mature in development and have lived roughly 40 to 80% of their natural lifespan. The large-stature trees provide substantial canopy, shade, seasonal color, wildlife habitat, carbon sequestration, and other environmental benefits. At the same time, a single species population is vulnerable to pests, disease, and other changing environmental conditions. Something that could harm one tree would likely harm the entire corridor. A population of trees of the same age also faces the same maintenance problems synchronously as they naturally mature, as can be seen on Gibbons Drive, with most trees having outgrown the available space. The replacement strategy therefore, does not propose recreating a single-species corridor. Instead, replacement planting will focus on developing a diverse and resilient mix of large-stature trees that are appropriate for the available growing conditions and capable of providing substantial canopy and environmental benefits as they mature. This approach is consistent with the draft Urban Forest Plan.

Community input played an important role in developing the replacement tree palette for Gibbons Drive. During the

community engagement process, participants were asked what characteristics they valued in future replacement trees. Maintaining the distinctive fall color associated with Gibbons Drive was selected as the preferred overall theme for the replacement palette. Participants also expressed interest in species that: 1) were fast growing to expedite the replacement of benefits lost through large tree removal; 2) had lower potential for sidewalk damage than the existing liquidambar trees; and 3) offered similar or improved benefits in terms of wildlife value and carbon sequestration.

Based on this input, the project team identified 11 potential replacement species from the City-approved list included in the draft Urban Forest Plan. See Appendix XX for Species Information Sheets for the 11 species presented to the community. The intent was to narrow the potential palette to approximately 6 to 8 species.

During the final round of community meetings, participants were invited to review and vote on their top preferences for potential replacement species. The species-selection process was also available online for an extended period of time. Eleven (11) species were presented, Appendix XX. Community members were interested in how the species were performing in Alameda if currently planted. Each species, accompanied by a photo of the species growing in the Alameda landscape, is one of the species chosen for the Planting Palette. Note that for some species, only young trees were present. Photos do not depict the mature size of trees.



Replacement planting will focus on developing a diverse and resilient mix of large-stature trees that are appropriate for the available growing conditions and capable of providing substantial canopy and environmental benefits as they mature.

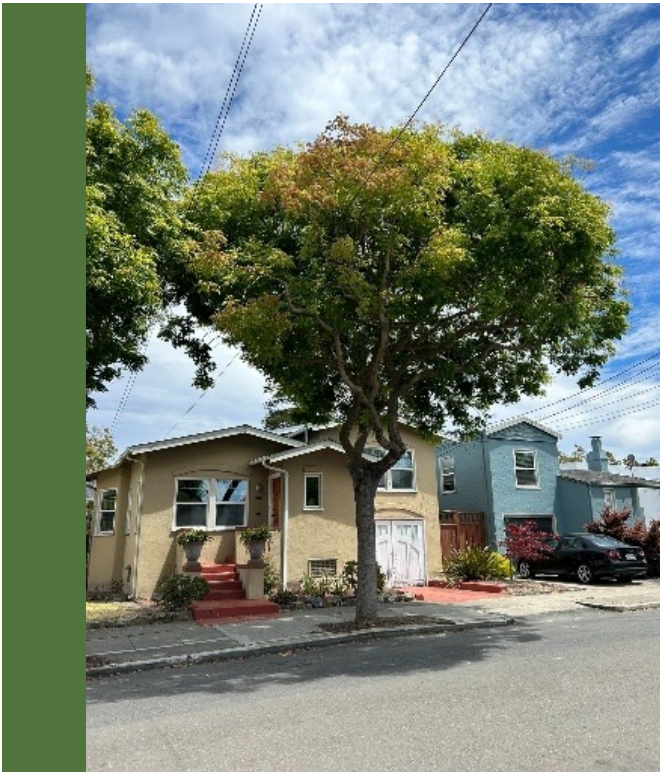
GIBBONS DRIVE TREE PLANTING PALETTE



Red maple and cultivars (*Acer rubrum* + cultivars ‘October Glory’, ‘Somerset’, and others)



Autumn blaze red maple (*Acer x freemanii*)

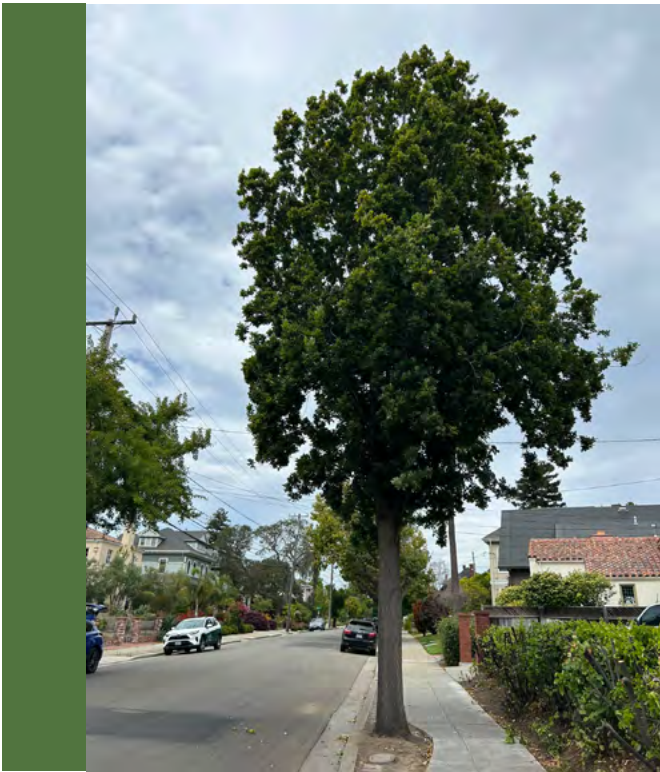


Chinese pistache (*Pistacia chinensis*)



Scarlet oak (*Quercus coccinea*)

GIBBONS DRIVE TREE PLANTING PALETTE CON'T



English oak (*Quercus robur*)



Shumard red oak (*Quercus shumardii*)



Silver linden (*Tilia tomentosa*)



Sawleaf zelkova (*Zelkova serrata*)

B Tree Planting

New tree planting on Gibbons Drive will be part of the City's broader urban forest tree planting program and policies. The City will seek to maximize replacement planting along Gibbons Drive as existing liquidambar are removed while considering available planting space. Because these conditions vary along the corridor and will need to be evaluated as individual locations are addressed, the Plan does not establish a one-for-one replacement requirement or predetermine the total number of replacement trees that can ultimately be accommodated. As noted in the spacing guidelines for new plantings set forth in the Master Street Tree Plan, the goal is to provide one tree, at minimum per property and at least one tree for every 40 feet of frontage.

Successful canopy transition will depend not only on selecting and planting appropriate replacement trees, but also on providing the care necessary for young trees to become successfully established. Consistent with the City's draft Urban Forest Plan and current practices in the Urban Forest Program, newly planted trees along Gibbons Drive will receive establishment care during the critical first years following planting.

The City's current program provides three years of establishment care for newly planted trees. Establishment care includes regular deep watering along with appropriate mulching, management and eventual removal of tree stakes, and other maintenance needed to support development of a healthy root system. Young trees will also receive appropriate structural pruning as they develop to promote healthy form and long-term tree structure.

The standard size replacement tree under the City's broader urban forest program is currently a 15-gallon tree. During the community engagement process, some participants expressed concern about the size of newly planted 15-gallon trees and the length of time it will

take replacement trees to develop substantial canopy. The City recognizes that the transition from a mature liquidambar to a young replacement tree represents a significant temporary reduction in canopy and visual impact to the corridor.

The City's standard street-tree planting practices are intended to provide a consistent level of public investment and benefit across Alameda. Accordingly, the baseline replacement tree size and City-funded planting investment along Gibbons Drive will generally be consistent with the City's street-tree planting program elsewhere in Alameda.

In response to community interest in larger replacement trees, the City also presented the possibility of planting 24-inch box trees, the largest trees feasible to plant in the public right-of-way, if community funding is available to cover the additional cost above the City's standard 15-gallon tree. Based on current costs, the incremental cost is approximately \$900 per tree. This amount is provided for planning purposes and may change over time based on nursery, installation, and other costs.

The City has used a similar cost-sharing approach elsewhere in Alameda where a special financing district was already established and provided a mechanism for collecting the additional revenue. No comparable funding or collection mechanism currently exists along Gibbons Drive; however, the City remains open to exploring ways to partner with the community to fund the incremental cost of larger replacement trees.

At this time, the Plan does not assume that 24-inch box trees will be planted. If a workable approach is identified, the City will offer larger replacement trees where supplemental community funding is available, while maintaining the City's standard level of investment in street-tree planting and establishment care.

Analysis of Recommended Path Forward Approach

The recommended path forward provides a balance between infrastructure improvements, public safety, and urban forest preservation. This approach does not eliminate the inherent tradeoffs between maintaining mature trees and addressing deteriorated infrastructure. Rather, it provides a framework for making those decisions incrementally, based on the conditions at each location, while prioritizing tree preservation and limiting the pace of canopy change. From an environmental perspective, the recommended path forward maintains many of the ecosystem benefits provided by the existing tree population, including shade, carbon sequestration, stormwater interception, air quality improvement, and wildlife habitat.

Where mature trees are removed, there will be an immediate reduction in canopy and associated benefits that cannot be fully replaced by newly planted trees in the near term. The Plan seeks to minimize these impacts by retaining mature trees wherever reasonably feasible, limiting the pace of removal, and includes replacement planting. As replacement trees grow and mature over the following decades, they will progressively restore canopy and associated environmental benefits while contributing to a more diverse and resilient urban forest.

From an economic perspective, the existing mature trees represent valuable community assets. Their value extends beyond the cost of the trees themselves and includes the benefits, previously discussed, provided by an established mature canopy. Retaining healthy, structurally sound trees preserves the existing assets and avoids premature removal and replacement costs. At the same time, retaining mature trees in constrained

planting areas may require additional or more frequent investment in sidewalk and other infrastructure repairs.

The recommended path forward recognizes both considerations by evaluating tree preservation and infrastructure needs together at each location rather than treating either the trees or the surrounding infrastructure as expendable.

The recommended path forward also preserves key aesthetic features of the streetscape. Mature trees contribute to the visual identity of the area and create a sense of place that would take decades to replace. By retaining healthy trees where feasible, the project maintains much of the existing character while allowing necessary infrastructure improvements to proceed.

The recommended path forward supports urban forest diversity by retaining a mix of species and age classes. Preserving established trees while introducing new plantings creates a more resilient urban forest. Diverse urban forests are better able to withstand future pests, diseases, and climate-related stresses. Species selection for replacement trees should emphasize diversity and suitability for site conditions.

Finally, the recommended path forward recognizes that tree planting opportunities are constrained by sidewalk widths, underground utilities, driveways, intersections, sight-distance requirements, and other infrastructure. New trees should be planted where adequate soil volume, rooting space, and long-term growing conditions can be provided to maximize survival and future canopy development. At some locations more than one tree may be planted to replace a removed tree depending on available space.



The recommended path forward provides a balance between infrastructure improvements, public safety, and urban forest preservation.

