

Appendix I. Ecosystems and Biological Resources Technical Report Appendix B

Sepulveda Transit Corridor Project

To: Peter Carter, Project Manager, Metro

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Subject: Initial Protected Tree and Shrub Inventory Memorandum

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INTRODUCTION

This *Initial Protected Tree and Shrub Inventory Memorandum* (Memorandum) provides an initial inventory assessment of protected trees and shrubs that would be affected by construction within the Ground Disturbance Area of the Sepulveda Transit Corridor Project (Project) under each proposed built alternative. This assessment serves to assist the Los Angeles County Metropolitan Transportation Authority (Metro) in the selection of a project alternative as part of the environmental review process. Potentially applicable regulations are detailed in the Regulatory and Policy Background section, and applicability of ordinance jurisdictions and policies for each tree in this all-inclusive inventory are detailed in Regulatory Assignments and Mitigation Number Calculations in the Methods section. Tree species, count, size, and applicable ordinance or policy per alternative are located in Attachment 1; and Tree Inventory Tables, and spatial representations of tree locations are presented in Attachment 2, Tree Map Series.

Following the selection of one project alternative, this Memorandum will be a tool utilized by a “Tree Expert,” as described in the City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance), to complete a separate, more in-depth Tree Report; details on required qualifications for the Tree Expert are detailed in the Regulatory and Policy Background Section. The City of LA Ordinance has jurisdiction across all alternatives; therefore, a Tree Expert is required to conduct the detailed survey, submit a Tree Report, and continue the Project through permitting, regardless of alternative selection. The Tree Report will include comprehensive data such as verification of tree/shrub species, height, diameter, canopy width, tree/shrub health and precise location for the selected alternative’s survey area. Indirect impacts to trees will be assessed during the Tree Expert’s detailed survey after the preferred alternative is selected.

PROJECT ALTERNATIVES

In November 2021, Metro released a Notice of Preparation (NOP) of an Environmental Impact Report pursuant to the California Environmental Quality Act for the Project that included six alternatives. Alternatives 1 through 5 included a southern terminus station at the Metro E Line Expo/Sepulveda Station, and Alternative 6 included a southern terminus station at the Metro E Line Expo/Bundy Station. The alternatives were described in the NOP as follows:

- Alternative 1: Monorail with aerial alignment in the Interstate 405 (I-405) corridor and an electric bus connection to the University of California, Los Angeles (UCLA)
- Alternative 2: Monorail with aerial alignment in the I-405 corridor and an aerial automated people mover connection to UCLA

- Alternative 3: Monorail with aerial alignment in the I-405 corridor and underground alignment between the Getty Center and Wilshire Boulevard
- Alternative 4: Heavy rail with underground alignment south of Ventura Boulevard and aerial alignment generally along Sepulveda Boulevard in the San Fernando Valley
- Alternative 5: Heavy rail with underground alignment including along Sepulveda Boulevard in the San Fernando Valley
- Alternative 6: Heavy rail with underground alignment including along Van Nuys Boulevard in the San Fernando Valley and a southern terminus station on Bundy Drive

The NOP also stated that Metro is considering a No Project Alternative that would not include constructing a fixed guideway line. Metro established a public comment period of 74 days, extending from November 30, 2021 through February 11, 2022. Following the public comment period, refinements to the alternatives were made to address comments received. Further refinements to optimize the designs and address technical challenges of the alternatives were made in 2023 following two rounds of community open houses.

In July 2024, following community meetings held in May 2024, Alternative 2 was removed from further consideration in the environmental process because it did not provide advantages over the other alternatives, and the remaining alternatives represent a sufficient range of alternatives for environmental review, inclusive of modes and routes (Metro, 2024a).

Detailed descriptions of the No Project Alternative and the five remaining “build” alternatives are presented in Sections 4 through 9 of the *Sepulveda Transit Corridor Project Ecosystems and Biological Resources Technical Report* (Metro, 2025). Figures 5-9, 6-9, 7-10, 8-10, and 9-5 of that document display each alternative and the associated Ground Disturbance Area.

REGULATORY AND POLICY BACKGROUND

The following ordinances and policies are relevant to the protection of trees and shrubs that occur within the Tree Survey Area. Trees and shrubs (that meet size requirements to qualify as protected) were classified under the protection of ordinances or policies based on land jurisdiction/ownership and species.

Los Angeles County General Plan

The *Los Angeles County General Plan 2035*, adopted in October 2015 and updated in July 2022, provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of the county will grow (LA County Planning, 2022). In Chapter 9. Conservation and Natural Resources Element, presents guidelines for the conservation of natural resources and preservation of open space areas, including the Santa Monica Mountains National Recreation Area (SMMNRA). Section III Biological Resources states that the main types of biological resources within the area include ‘regional habitat linkages; forests, coastal zone; riparian habitats; streambeds and wetlands; woodlands; chaparral; desert shrubland; alpine habitats; Significant Ecological Areas (SEAs); and Coastal Resource Areas. The plan sets two goals applicable to the Project:

- Goal C/NR 3: Permanent, sustainable preservation of genetically and physically diverse biological resources and ecological systems including: habitat linkages, forests, coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and SEAs.
- Goal C/NR 4: Conserved and sustainably managed woodlands.

The Project would need to consider the preservation and conservation goals of the Los Angeles County General Plan when on unincorporated land within Los Angeles County.

Los Angeles Countywide Sustainability Plan “OurCounty”

Within unincorporated areas of Los Angeles County, the *OurCounty: Los Angeles Countywide Sustainability Plan* (OurCounty) (LA County, 2019) presents an inclusive sustainability plan to balance coequal values of environment, equity and economy for present and future generations. The Project would contribute to attaining the goal of reducing car dependency by providing convenient, safe, and affordable transportation systems, including public transit, which would reduce the number of miles people travel in private vehicles.

Actions related to trees are included in three of the 12 goals presented within OurCounty, including targets to increase urban tree canopy, increasing the number of native trees on public properties, and improving pedestrian health and safety through reducing urban heat and stormwater runoff with installation of street trees as part of a “living streets” approach. Short term, direct actions in OurCounty include development of a Community Forestry Management Plan (CFMP) that would strengthen protection of native tree species and provide guidelines for planting new trees in the County excluding those that are naturally forested (such as state or federal forests). The CFMP, called *Room to Grow*, was adopted in late summer 2024. The CFMP details future actions that would affect tree mitigation from the Project within unincorporated County land. The plan calls for an update to the County Oak Tree Ordinance within the next one to five years and development of an Oak Woodlands Ordinance based on the Los Angeles County General Plan (discussed previously). While OurCounty and the CFMP provide goals and targets for trees within unincorporated County land, they do not protect trees or specify measures to quantify impacts and therefore are not included in mitigation number calculations for the Project.

Los Angeles County Oak Tree Ordinance

The Los Angeles County Oak Tree Ordinance 22.408.120 (hereafter referred to as County Oak Tree Ordinance) applies to unincorporated areas of the County and recognizes oak trees as significant historical, aesthetic, and ecological resources. The goal of the ordinance is to create favorable conditions for the preservation and propagation of this unique and threatened heritage plant. Under the ordinance, “a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus” (LA County, 2024) within 200 feet of proposed construction. To qualify as protected under this ordinance, single stem oaks must have a diameter at breast height (DBH) measuring 8 inches or more (DBH is defined as the tree diameter measured at 4.5 feet above natural grade). Oaks with multiple trunks must have a combined DBH of the two largest trunks totaling 12 inches or more. Trees meeting these criteria are protected under the County Oak Tree Ordinance; a permit from the Director of Public Works is required prior to any modifications to the tree (LA County, 2024). The ordinance defines heritage oak trees as those that are 36 inches or more in diameter at DBH or any oak tree that has significant historical or cultural importance regardless of DBH (Ordinance 22.56.2090). Replacement of affected oak trees requires two replacement trees for every tree lost, installed either on- or off-site. Alternatively the ordinance allows for payment of an in-lieu fee, which would be subject to evaluation through CEQA. The ordinance does not provide a replacement ratio for heritage oak trees. Replacement trees must be maintained for at least seven years. Any oak trees that were planted, grown, or held for sale by a licensed nursey are considered exempt from the County Oak Tree Ordinance jurisdiction (LA County, 2024).

Los Angeles County Oak Woodlands Conservation Management Plan

Within unincorporated lands of Los Angeles County, the County Oak Tree Ordinance (discussed in the previous section) protects individual oak trees, while additional protections are provided to groups of

oak trees through the *Los Angeles County Oak Woodlands Conservation Management Plan* (hereafter referred to as the County Plan)¹ (LA County Planning, 2011). The County Plan applies to contiguous groups of two or more native trees of the genus *Quercus* (including scrub oaks) that have at least a 5-inch DBH. To qualify as an oak woodland, the County Plan uses the California Department Fish and Wildlife Code (Section 1361) definition, which defines an oak woodland as “an oak stand with greater than 10 percent canopy cover or that may have historically supported greater than 10 percent canopy cover” (LA County Planning, 2011). Canopy cover is calculated in the County Plan as follows:

1. *The canopy of each oak tree is expanded to ten times the current extent (or estimated historical extent when dead limbs are present);*
2. *In locations where expanded canopies overlap, the oak stand is considered to have 10 percent or greater relative cover and therefore qualifies as an oak woodland.*

One or more oaks along a street or in a parking lot on unincorporated Los Angeles County land without other associated oak woodland species do not qualify as a woodland regardless of canopy cover. These trees are protected by the County Oak Tree Ordinance discussed previously.

The County Plan requires no net loss of oak woodlands within Los Angeles County. A permit and mitigation are required for any action with the potential to impact oak woodlands since they would be considered a significant impact. When impacts to oak woodlands are unavoidable, one of the following mitigation measures must be implemented:

- Acquire oak woodland habitat comparable to the habitat that was impacted. The recommended replacement ratio for off-site mitigation is two acres of protected oak woodland for every acre impacted.
- Restore degraded oak woodlands on-site when circumstances at the site allow for long-term sustainability. When not feasible, off-site restoration should be prioritized by purchasing oak woodland habitat or conducting replacement planting.
- Contributing to Los Angeles County’s Oak Forests Special Fund at a rate based on the estimated value of oak woodland to be lost.
- Follow other mitigation measures developed by the County.

City of Los Angeles General Plan

The City of Los Angeles intends to preserve natural resources, manage outdoor recreation, and maintain open space. Chapter 6 of the *City of Los Angeles General Plan*, “Open Space and Conservation,” describes the goals and policies to address issues faced by the City related to these elements (DCP, 2001). One goal set by the plan is applicable to the Project:

- GOAL 6A - An integrated citywide/regional public and private open space system that serves and is accessible by the City's population and is unthreatened by encroachment from other land uses.

Policies identified to accomplish Goal 6A that the Project would consider on land within the City of Los Angeles include:

- Coordinate city operations and development policies for the protection and conservation of open space resources by preserving habitat linkages, where feasible, to provide wildlife corridors and to protect natural animal ranges.

¹ Joseph Decruyenaere, email message to Marie Solis, Robert Glaser, Jose De La Rosa and William Chen. February 27, 2024.

- Reassess the environmental importance of the County of Los Angeles designated Significant Ecological Areas (SEAs) that occur within the City of Los Angeles and evaluate the appropriateness of the inclusion of other areas that may exhibit equivalent environmental value.
- Conserve and manage the undeveloped portions of the city's watersheds, where feasible, as open spaces which protect, conserve, and enhance natural resources.
- Provide for an on-site evaluation of sites located outside of targeted growth areas, as specified in amendments to the community plans, for the identification of sensitive habitats, sensitive species, and an analysis of wildlife movement, with specific emphasis on the evaluation of areas identified on the Biological Resource Maps contained in the Framework Element's Technical Background Report and Environmental Impact Report.
- Encourage an increase of open space where opportunities exist throughout the city to protect wild areas such as the Sepulveda Basin and Chatsworth Reservoir.

City of Los Angeles Protected Tree and Shrub Ordinance

Protected trees under the City of Los Angeles' Native Tree Protection Ordinance (Ordinance No. 177404 Protected Tree Relocation and Replacement) (City of LA Ordinance) (DCP, 2006) include the following species (Section 17.02 of the Los Angeles Municipal Code):

- Any tree in the oak genus indigenous to California including valley oak (*Quercus lobata*) and California live oak (*Q. agrifolia*), excluding scrub oak (*Q. berberidifolia*)
- Southern California black walnut (*Juglans californica*)
- Western sycamore (*Platanus racemosa*)
- California bay (*Umbellularia californica*)

The Native Tree Protection Ordinance was amended by Ordinance No. 186873 in December 2020 to include the following two shrub species (DCP, 2020):

- Mexican elderberry (*Sambucus mexicana*)²
- Toyon (*Heteromeles arbutifolia*).

This ordinance protects individual trees and shrubs within city limits, including on properties owned by private landowners, UCLA, and California Department of Transportation (Caltrans)³. To be considered protected, trees and shrubs must measure 4 inches DBH for a single stem plant or cumulative for all trunks in a multi-stem specimen. This ordinance excludes any tree or shrub grown or held for sale by a licensed nursery, or trees or shrubs planted or grown as part of a planting program.

Under this ordinance, the Board of Public Works must issue a permit before any protected trees or shrubs are damaged, relocated, or removed. This includes pruning, which must comply with the pruning standards set forth by the Western Chapter of the International Society of Arboriculture to avoid adversely affecting the health of any tree.

Issuance of a permit under this ordinance requires a Tree Report to be submitted by a Tree Expert, defined as a person with at least four years of experience in the business of transplanting, moving,

² Synonymous with scientific names *Sambucus caerulea* Raf. and *S. nigra* L. *caerulea* (Raf.) Bolli and common name 'blue elderberry'. For purposes of this assessment, naming convention follows the Santa Monica Mountain National Recreation Area's Vegetation Classification system (NPS, 2006).

³ Teresa Estrada, City of Los Angeles Urban Forestry Division representative. Phone call with Chris Hargreaves. July 19, 2024.

caring for, and maintaining trees. Additionally, this Tree Expert must have qualifications that meet one of the following requirements:

- A certified arborist with the International Society of Arboriculture who holds a valid California license as an agricultural pest control advisor;
- A certified arborist with the International Society of Arboriculture who is a licensed landscape architect; or,
- A registered consulting arborist with the American Society of Consulting Arborists.

A Tree Expert Tree Report is required for stand-alone removal permits from the Department of Public Works, Urban Forestry Department and shall require additional data collection within the preferred alternative's Ground Disturbance Area after landowner access is granted and an assessment of indirect impacts is performed. The Tree Report must include field survey methods and details of each protected tree or shrub including species, height, diameter, canopy spread, physical condition, and location of each. When removal/replacement is required for more than two protected trees or shrubs, the permit must be considered at a Board of Public Works public hearing. If a protected tree or shrub must be removed, a permit for protected tree/shrub removal must be obtained from the Los Angeles Board of Public Works in accordance with the City of Los Angeles's Native Tree Protection Ordinance. Per the ordinance, the tree/shrub removal permit may require replanting of native trees or shrubs of the protected species within the Project vicinity or at another location within the City of Los Angeles as mitigation. This ordinance requires providing four replacement trees/shrubs for every tree/shrub impacted. Replacement of any protected tree must also be a protected tree species defined by the ordinance; the same is true for protected shrubs. The size of each replacement tree shall be a 15-gallon or larger individual, measuring one inch or more in diameter one foot above the base, and not less than 7 feet in height as measured from the base. The size and number of replacement trees shall approximate the value of the tree being replaced (DCP, 2020). If replacement trees or shrubs of the size and species are not available, a permit may require a larger number of replacement trees or shrubs.

City of Los Angeles Street Tree Policy

The City of Los Angeles Department of Public Works, Bureau of Street Services, Urban Forestry Division manages removal, replacement, and maintenance of street trees and landscaped median islands within the City of Los Angeles boundaries through enforcement of the City of Los Angeles Street Tree Policy (City of LA Policy) (City of Los Angeles, 1980). Street trees are those of any species occurring in the public right-of-way (ROW); trees on private property are not covered by this policy. Trees on city streets within UCLA that were planted and maintained by the City are covered by this policy, while trees planted and maintained by UCLA within the campus are not. A permit from Urban Forestry Division is required for removal of a street tree. Under the City of Los Angeles Municipal Code Section 62.170, the permittee may be required to plant a replacement tree within 40 days of the permit issuance as a condition of the permit; selection of species will be coordinated with the Urban Forestry Division on a case-by-case basis. Replacement of removed street trees is mitigated at a 2:1 replacement to removal ratio. Replacement trees will be preferably installed on-site but species and location of replacement will be determined by a city-selected investigator. Maintenance of replacement trees, including watering, pruning, general care, and replacement of trees as needed, will be required for 5 years after installation. While per the City of Los Angeles Municipal Code Section 62.177 allows for a payment of in-lieu fees when the required replacement trees cannot be feasibly planted on-site, the in-lieu fee must be evaluated by CEQA to adequately satisfy mitigation for removed street trees.

Metro Tree Policy

Per the Metro Tree Policy (Metro, 2022), Metro assumes responsibility to protect trees impacted by their construction projects, which includes a sustainable tree replacement and establishment program for unavoidable tree removals. Prior to the start of construction, Metro will prepare a tree protection plan identifying tree protection zones for all trees within Metro property lines that are designated for retention. The Metro Tree Policy is applicable to trees impacted by construction that are not already protected by any other ordinance or the City of LA Policy, such as tree species on private property that are not protected. To the degree feasible, Metro will plan and design new construction or additions so that well-established trees are preserved. Well-established trees will be protected from long- and short-term construction-related damage, such as direct damage from equipment and root loss caused by soil compaction. Metro will prepare a mitigation plan for any damaged or removed trees in consultation with a Certified Arborist.

Street trees removed by Metro will be replaced with 36-inch standard box trees at a minimum ratio of two replacement trees for every tree impacted, at or near the location of removal. Removal of heritage trees and protected trees (as designated by pertinent local ordinances) will be avoided whenever possible but, when unavoidable, each impacted tree will be replaced by four trees of the same variety. In addition, in the event a tree must be impacted (i.e., trimmed, pruned, or removed), Metro will coordinate with the applicable entities as needed. Metro will also hold responsibility for a 3-year establishment period for replacement trees located within Metro property lines or Metro's ROW, as well as those associated with LA Metro capital projects that are installed outside of Metro property and ROW. During the establishment period, a certified arborist will assist in tree maintenance through regular inspections and recommend actions needed to retain or recover a tree's health. For long-term maintenance, Metro will hold responsibility for trees located within Metro property lines or ROWs.

City of Santa Monica General Plan

The City of Santa Monica incorporates citizens' goals and an evaluation of the city's natural resources into "The Conservation Element" of the General Plan (City of Santa Monica, 1975), which describes the goals and policies to address issues faced by the City of Santa Monica related to conservation. Three goals set by the plan are applicable to the Project when on land owned by City of Santa Monica, including the following:

- Preservation of the ecological balance and natural resources of the city and conservation of the energies and materials without serious interference with community needs.
- An atmosphere free of air pollution.
- A community whose appearance is in harmony with itself and setting.

City of Santa Monica Tree Code

The City of Santa Monica's Municipal Code (Chapter 7.40.110, Tree Code Permit Requirements) (City of Santa Monica, 2012) states that no person shall remove, cut, trim, prune, plant, injure, or interfere with any tree, shrub, or plant upon any street, sidewalk, parkway, alley, or other public property without having first obtained a City permit authorizing such work. Trees located within the City of Santa Monica (within city boundaries or on parcels owned by the City of Santa Monica) are under the jurisdiction of the City of Santa Monica Tree Code. The permit may be granted by the Santa Monica City Director on the condition that the owner or authorized representative bears the cost of the permitted work and the cost of replanting and maintenance of any tree, shrub, or plant.

Santa Monica Mountains National Recreation Area

The SMMNRA is under jurisdiction of the National Park Service (NPS), but is a cooperative effort that joins federal, state, and local park agencies with private preserves and landowners to protect the natural and cultural resources of the Santa Monica Mountains. Stretching for 50 miles across the northwestern boundary of the Los Angeles Basin, the California State Parks system owns 42,000 acres, the NPS controls 23,620 acres, and the rest of the recreation area is in local agency, parks, and private property conservation easements. Within the SMMNRA boundary, NPS only regulates lands that are NPS owned. However, certain activities detailed in Title 36 Code of Federal Regulations (CFR) Chapter 1, such as mineral rights, are subject to regulations imposed by NPS on all land within the national park unit land regardless of ownership. Within SMMNRA, trees within the Tree Survey Area were located on lands owned or managed by the County of Los Angeles and the Mountains Recreation and Conservation Authority (MRCA) within the Sepulveda Pass Open Space, Mission Canyon Open Space, and the MRCA Mountaingate Conservation Easement.

SMMNRA protects some of the most significant examples of terrestrial Mediterranean-type ecosystems and coastal marine environments anywhere in the world, with over 1,000 plant species providing habitat for approximately 500 mammal, bird, reptile, and amphibian species (NPF, 2021). The various parks and other conserved areas under SMMNRA protection provide scenic vistas, nature viewing, hiking, biking, and horseback riding opportunities, often through undisturbed native chaparral habitats. Multiple management plans for lands within SMMNRA may apply to the Project.

The General Management Plan for SMMNRA ensures that park managers are guided by policy, science, and public opinion to safeguard the mission of the park. Three agencies administer this plan and manage SMMNRA: the NPS, Conservation Stewardship Program (CSP), and the Santa Monica Mountains Conservancy (SMMC). The general plan includes five separate management areas; the Project is located within the “moderate intensity area,” which describes two goals that are applicable:

- Preserve natural and cultural resources of area
- Allow harmonious development with natural settings

The SMMNRA Action Plan provides a model for a climate friendly park to encourage sustainable planning. SMMNRA aims to reduce the emissions via three strategies that will apply to the Project:

- Strategy 1: Identify and implement mitigation actions that the park can independently take to reduce greenhouse gas emissions resulting from activities within and by the park;
- Strategy 2: Increase climate change education and outreach efforts; and,
- Strategy 3: Monitor progress with respect to reducing emissions and identify areas for improvement.

The Trail Management Plan was being prepared by the NPS, CSP, SMMC and the Mountains Recreation and Conservation Authority. The purpose of this plan is to establish a vision for future development and management of the SMMNRA trail network. However, the SMMNRA Trail Management Plan has been placed on indefinite hold, as the NPS has moved away from broad general plans. Therefore, this plan does not apply to the Project.

The Invasive Plant Management Plan and Environmental Assessment for Redwood National Park and SMMNRA was established as an approach for protecting natural and cultural resources from the impacts of nonnative invasive plants. The document outlines best management practices (BMPs) that will be applied to the Project within SMMNRA.

The NPS enforces Title 36 CFR and the United States Codes, Titles 16, 18 and 21. With these codes, it is prohibited to possess, destroy, injure, deface, remove, dig, or disturb plants or plant parts or products thereof from their natural state (NPS, 2023). Additionally, it is prohibited to use or possess wood gathered from within the park area except in designated areas where dead wood on the ground may be collected for use, such as for campfire fuel. All trees, regardless of species, are protected within SMMNRA. Any work completed in the SMMNRA must comply with California Environmental Quality Act and National Environmental Policy Act requirements. If applicable, mitigation requirements would be estimated in the Tree Expert's follow-up Tree Report (after the chosen alternative is selected) in coordination with relevant entities (e.g., NPS, SMMC, MRCA).

METHODS

Surveys were conducted to document existing protected trees and shrubs with potential to be directly impacted by construction for each alternative. Prior to the field component, a desktop analysis was conducted using ArcGIS to identify vegetated areas where protected trees and shrubs had potential to occur; field surveys were conducted to identify species and size.

The following terminology is used to describe the Project and associated study areas:

- A Resource Study Area (RSA) was defined for each alternative. Each RSA includes that alternative's impact footprint (which is composed of underground, surface, and aerial Project components) plus an associated 500-foot radius buffer around areas of temporary or permanent ground disturbance. An overview of the RSA for each alternative is provided in the *Sepulveda Transit Corridor Project Ecosystems and Biological Resources Technical Report* (Metro, 2025), Figures 5-9, 6-9, 7-10, 8-9, and 9-5.

The entire RSA was not inventoried for trees for this initial inventory; indirect impacts to trees will be assessed in the Tree Expert's Tree Report following selection of a preferred alternative.

- Ground Disturbance Area is one component of the RSA, which includes aboveground Project components that would require surface-disturbance activities. It is comprised of both temporary and permanent impacts, including surface impacts associated with aerial and underground components (e.g., access points, staging locations, cut-and-cover station construction, aerial alignment support structures and guideway, etc.). Impacts are anticipated from Project construction activities such as clearing, grading, excavating, drilling, and/or vegetation removal. The permanent and temporary ground disturbance areas are shown in detail in Attachment 2, Tree Map Series. Specifically, aerial, and underground components were classified as temporary or permanent ground disturbance as follows:
 - Aerial guideways and associated footings are considered permanent ground disturbance for the length of the aerial guideway.
 - Underground configurations consist of two components: surface impacts that were categorized as either permanent or temporary ground disturbance (e.g., staging locations, launch sites for the boring machine, etc.) and underground features (e.g., the tunnel, traction power station substations built into tunnel-adjacent caverns) that were excluded from the Ground Disturbance Area.
- The Tree Survey Area is composed of the Ground Disturbance Area (where direct impacts are anticipated) and an associated 10-foot buffer to account for variability in Global Positioning System accuracy and to account for tree canopy overlap with the Ground Disturbance Area. Within unincorporated Los Angeles County land, the Tree Survey Area is extended out to 200 feet from the Ground Disturbance Area for all trees in the genus *Quercus* (to be compliant with requirements of

the Los Angeles County Oak Tree Ordinance described in the *Regulatory and Policy Background* Section). Field surveys for this initial inventory assessment were completed within the Tree Survey Area; the inventory included all trees whose canopy or trunk were within the Tree Survey Area that also met the size requirements for the applicable ordinance or policy (details in *Regulatory and Policy Background*). The Tree Survey Area is shown in detail in Attachment 2, Tree Map Series.

Tree impacts associated with underground features are not anticipated due to the depth of tree root systems compared to Project tunnel depth (ranging from 20 to 500 feet below surface). Based on research by the Colorado State University Extension, tree root systems consist of large perennial roots and smaller, short-lived feeder roots that are predominantly located in the top 24 inches of soil (Sillick and Jacobi, 2013). Tree roots of landscaped trees tend to be at the shallower end of the range for rooting depth due to routine supplemental irrigation that promotes shallow rooting; trees within urban landscapes often do not generate a tap root (Gilman, 1990). Trees within the more natural, less disturbed habitat in the Santa Monica Mountains can have soil conditions that allow for root growth of 3 to 7 feet deep (Sillick and Jacobi, 2013).

Field Surveys

The survey team included Certified Arborist Chris Hargreaves (International Society of Arboriculture [ISA] Certificate No. WE-12475A) and HTA Partners biologists Vanessa Tucker, Brianna Quirarte, Aubrey Mathews, Frank Humphries, Natasha Foti, and Armando Gonzales. Protected tree and shrub field surveys were conducted in 2023 on April 10 through April 14, April 17 through 20, May 18, July 7 and on March 27, 2024. Spatial and attribute data were collected in the field using ESRI ArcGIS Field Maps mobile application (Version 23.3.0).

The tree inventory recorded protected trees and shrubs within the Tree Survey Area measuring 4-inch DBH or greater; this method encompasses those protected under potentially applicable ordinances and policies (refer to *Regulatory and Policy Background* Section). The Tree Protection Zone (TPZ) (i.e., the dripline or canopy of the tree or shrub) of all inventoried trees falls at least partially within the Tree Survey Area; individual trees or shrubs whose TPZ was not within the Tree Survey Area were not inventoried. No shrub species, other than toyon and Mexican elderberry, of any size were recorded. Trees with less than a cumulative 4-inch DBH were not included in the inventory because they did not meet required criteria of any pertinent regulations.

Inventoried trees and shrubs were mapped individually as points when possible; one point may represent multiple individuals of one species when they were immediately adjacent to each other (Attachment 1, Tree Inventory Tables). Clusters of trees were mapped as polygons when two or more specimens were in proximity, visibility was limited, and/or property access was denied (Attachment 1, Tree Inventory Tables). Data collected for each protected tree, shrub, or cluster included location, a unique identification number, scientific name, common name, and trunk DBH; tree quantity per point and cluster were recorded when applicable. Trees were not physically tagged. Tree and cluster locations with affiliated species code and identification number are displayed in Attachment 2, Tree Map Series. Quantities per point are predominantly one tree but range up to 22 trees; points for multiple trees were collected as such due to proximity, consistent species, and when access limitations prevented more precise location data. Quantity and species of trees per cluster varied; details are presented in the Tree Inventory Tables (Attachment 1) and on the Tree Map Series (Attachment 2).

Property access for this Memorandum was limited to public ROW and within the Getty Center. Where access was limited by landowners, the tree inventory was conducted from the public ROW. Survey methodology varied with access and visibility as follows:

- Locations within the public ROW were inventoried via a pedestrian survey.

- Locations inaccessible to foot traffic but visible from the public ROW were inventoried from the edge of the public ROW using binoculars.
- Locations that were both inaccessible and not visible were estimated through a desktop analysis of existing aerial imagery, including Google Earth and ArcGIS Online, to estimate number of trees. Indicators from the aerial imagery used to estimate number of trees included the following:
 - Presence of tree canopy
 - Length and width of shadow markings on the ground, with the presumption that larger shadows indicate taller vegetation likely to be a tree of adequate size to qualify for protection (4-inch DBH) and small or not visible shadows belong to lower stature vegetation such as shrubs and saplings

Desktop Analysis

For areas within the Tree Survey Area that were both inaccessible and not visible from the public ROW, vegetation mapping was used to assign species designations to estimated tree counts from aerial imagery. Estimated trees were assumed to be a City of LA Ordinance protected species and mitigated at a rate of 4 required replacement trees per removed specimen. Mapping of vegetation communities through desktop analysis was used to assist in determining potential species designations. Mapping is based on *A Manual of California Vegetation*, 2nd Edition (Sawyer et al., 2009) and is shown on Attachment 2, Tree Map Series. Details of the vegetation mapping process and full results per alternative can be found in the *Sepulveda Transit Corridor Project Ecosystems and Biological Resources Technical Report* (Section 3.3, Section 5.2.5.2, Section 6.2.5.2, Section 7.2.5.2, Section 8.2.5.2, and Section 9.2.5.2) (Metro, 2025). Desktop analysis utilized a combination of publicly available mapping (from the NPS's SMMNRA) where available (NPS, 2006) and high-quality aerial imagery elsewhere (i.e., Google Earth). Vegetation mapping is shown in Attachment 2, Tree Map Series.

Regulatory Assignments and Mitigation Number Calculations

To determine tree mitigation requirements, geographic location and landowner were evaluated per applicable jurisdiction. Applicable Ordinance or Policy of each tree is included in the detailed Tree Inventory (Attachment 1, Tree Inventory Tables).

When protection requirements for the tree ordinances, oak management plan, or tree code were not met, trees were considered to be protected through either the City of LA Policy or Metro Tree Policy. The Tree Expert's follow-up Tree Report will determine which of the two policies has jurisdiction over each tree based on landowner. Mitigation amounts and maintenance periods vary between these two policies. Details are described in Table 1. Trees that could not be identified to species were considered to be under the jurisdiction of the Metro Tree Policy.

Table 1. Details of Jurisdiction, Mitigation Ratios, and Maintenance Period for Landowners with Potential for Impacts to Trees

Jurisdiction	Landowner	Mitigation Ratio for Protected Species ^a	Maintenance Period	Additional Notes
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	City of Los Angeles including private property	4:1	3 years	Survival of continuously living replacements for maintenance period required.
Los Angeles County Oak Tree Ordinance (County Oak Tree Ordinance)	Unincorporated Los Angeles County	2:1	2 years minimum	Applicant's proposal should include future maintenance measures where required.
Los Angeles County Oak Woodland Conservation Management Plan (County Plan)	Unincorporated Los Angeles County	2:1 (by acreage)	7 years minimum	Not applicable to oak trees in paved areas with no associated oak woodland species.
City of Santa Monica Tree Code (Tree Code)	City of Santa Monica Public right-of-way	2:1 to 4:1 ^b	3 to 5 years ^b	Mitigation ratio and maintenance period at discretion of City of Santa Monica. Replacement ratio and maintenance period presented represent a preliminary estimate.
Santa Monica Mountains National Recreation Area (SMMNRA)	Many. National Parks Service acts as administrator	2:1 to 4:1 ^b	3 to 5 years ^b	Mitigation for impacts within SMMNRA is determined through coordination with appropriate entities.
Metro Tree Policy	Metro right-of-way, properties, and capital project sites	2:1	3 years	Heritage trees, as defined by local ordinance, are protected at 4:1 ^a
City of Los Angeles Street Tree Policy (City of LA Policy)	City of Los Angeles public right-of-way	2:1	5 years	Applicable to any tree or upon any street or parkway in the City, but does not apply to trees within private properties, in Caltrans right-of-way, or on UCLA campus ⁴ unless the tree was planted and maintained by the City.

Source: HTA, 2024

^aMitigation ratios are for number of replacement trees required per individual tree impacted.

^bMitigation ratio and maintenance period for trees within SMMNRA and the City of Santa Monica estimated from the range of replacement trees for the Metro Tree Policy to the City of LA Ordinance.

RESULTS

Of the six local ordinances, plans, or policies with potential to protect trees or shrubs within the Tree Survey Area, the County Plan does not have jurisdiction, since inventoried trees did not meet the requirements (i.e., there were no native oak tree stands on unincorporated Los Angeles County land

⁴ Teresa Estrada, City of Los Angeles Urban Forestry Division representative. Phone call with Chris Hargreaves. July 19, 2024.

with current or historical canopy cover greater than 10 percent). Therefore, the County Plan will not be discussed further in this Memorandum.

Alternative 1

Existing Conditions

The Tree Survey Area is associated with construction components for the entirely aerial alignment and new electric bus route including I-405 road widening, station construction, aerial guideway structural support structure installation, and ancillary facilities such as staging yards, maintenance and storage facilities (MSF), and traction power substations. The northern and southern portions are highly urbanized and dominated by non-native, ornamental trees planted within residential, commercial, and roadside ornamental landscapes.

Protected native trees and shrubs observed within Alternative 1 are distributed throughout the northern and southern portions of the Tree Survey Area; observed species include coast live oak, valley oak, western sycamore, southern California black walnut, Mexican elderberry, and toyon (Table 2). One holly oak (*Quercus ilex*) and three coast live oaks, protected under the County Oak Tree Ordinance, are located near the Veteran's Affairs Hospital site. The central portion of the Tree Survey Area is less developed with more natural vegetation. Protected tree species are found on the east and west of I-405 from Valley Vista Boulevard (south of Ventura Boulevard) to the Getty Center (Attachment 2, Tree Map Series). Based on tree locations, many protected trees within Alternative 1's Tree Survey Area are likely to have been preserved during past development projects or may have been planted during restoration or mitigation efforts by entities such as Caltrans. This initial tree inventory assessment includes trees that may have been planted in mitigation calculations. Within Alternative 1's Tree Survey Area, trees occur within private land owned by individual landowners, state lands (e.g., UCLA, Caltrans's ROW), within SMMNRA, unincorporated land of Los Angeles County, and properties owned by the City of Los Angeles.

A total of 3,282 trees and shrubs were mapped within the Tree Survey Area of Alternative 1. Of these, 246 trees are protected trees and shrubs (Table 2) falling under the jurisdiction of the City of LA Ordinance on both private and city-owned properties; four trees fall under the jurisdiction of the County Oak Tree Ordinance. An additional 98 trees are within SMMNRA. The remaining 2,934 trees are Policy-protected under the jurisdiction of the Metro Tree Policy or the City of LA Policy. Alternative 1 does not overlap with city boundaries for the City of Santa Monica, making the Tree Code not applicable. Applicable jurisdiction over each inventoried tree or shrub is detailed in Attachment 1, Tree Inventory Tables.

Mitigation amounts in Table 2 reflect the number of replacement trees required for each tree or shrub protected under applicable ordinances; details on requirements are summarized in Table 1. For trees within SMMNRA, required mitigation will be determined through coordination with appropriate parties but could include replacement trees, in lieu fees, or alternative requests at the discretion of the of the applicable entities. This report assumes that mitigation ratio and maintenance period for trees within SMMNRA is estimated from 2:1 to 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Table 2. Alternative 1: Protected Trees and Shrubs by Jurisdiction within Tree Survey Area

Jurisdiction	Scientific Name	Common Name	Quantity	Mitigation Amount (# replacement trees)
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	<i>Heteromeles arbutifolia</i>	toyon	55	220
	<i>Juglans californica</i>	southern CA black walnut	31	124
	<i>Platanus racemosa</i>	western sycamore	24	104
	<i>Quercus agrifolia</i>	coast live oak	109	436
	<i>Quercus lobata</i>	valley oak	2	8
	<i>Quercus chrysolepis</i>	canyon live oak	3	12
	<i>Sambucus Mexicana</i>	Mexican elderberry	22	88
Los Angeles County Oak Tree Ordinance ^a (County Oak Tree Ordinance)	<i>Quercus agrifolia</i>	coast live oak	3	6
	<i>Quercus ilex</i> ^a	holly oak	1	2
TOTAL			250	992
SMMNRA	Numerous native and non-native tree species ^b		98	196 to 392 ^c
Metro Tree Policy or City of Los Angeles Street Tree Policy (City of LA Policy)	Numerous native and non-native tree species ^b		2,934	5,868 plus additional for heritage trees
GRAND TOTAL			3,282	7,056 to 7,252 plus heritage trees

Source: HTA, 2024

^aLos Angeles County Oak Tree Ordinance states “any tree of the oak genus;” therefore, non-native oak species are included in this inventory and mitigation calculations.

^bFull list of SMMNRA and Policy-protected trees listed in Attachment 1, Tree Inventory Tables.

^cSMMNRA mitigation amounts would be decided through coordination with appropriate entities after a preferred alternative is selected. This report assumes a replacement ratio for trees within SMMNRA estimated between 2:1 to 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Alternative 1 includes two maintenance storage facilities in the north (MSF Base Design and MSF Design Option 1) and one electric bus MSF in the south. Trees within the MSFs are expected to be impacted and are summarized in the following section per location.

Maintenance and Storage Facility

- **MSF Base Design** - The MSF Base Design for Alternative 1 would be located at the Department of Water and Power facility east of the Van Nuys Metrolink/Amtrak Station, directly south of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor located in the northeastern corner of the RSA. This area has 32 ornamental trees expected to be impacted during the construction phase including Chinese elm (*Ulmus parvifolia*), jacaranda (*Jacaranda mimosifolia*), Canary Island pine (*Pinus canariensis*) and shamel ash (*Fraxinus uhdei*), among others. The 32 recorded trees are protected under the Metro Tree Policy.
- **MSF Design Option 1** - The MSF Design Option 1 for Alternative 1 would be located on industrial property abutting Orion Avenue, south of the LOSSAN rail corridor near the alignment’s northwestern terminus at the Van Nuys Metrolink/Amtrak Station. This area has 206 ornamental trees expected to be impacted during operation and construction of Alternative 1, including carob (*Ceratonia siliqua*), eucalyptus (*Eucalyptus sp.*), sweetgum (*Liquidambar styraciflua*), cajeput (*Melaleuca cajuputi*), jacaranda and assorted palm tree species, among others. All trees are protected by the Metro Tree Policy.

- **Electric Bus MSF** -The Electric Bus MSF for Alternative 1 would be located on developed property near the southern end of the RSA, on the northwest corner of Pico Boulevard and Cotner Avenue. This area has 15 ornamental trees expected to be impacted during construction including Brisbane box (*Lophostemon confertus*), crepe myrtle (*Lagerstroemia indica*), and queen palms trees (*Syagrus romanzoffiana*). All trees are protected by either City of LA Policy or Metro Tree Policy.

Alternative 3

Existing Conditions

The Tree Survey Area is located throughout the Alternative 3 RSA, excluding the underground tunnel segment between Wilshire Boulevard and the Getty Center. The Tree Survey Area is associated with at- or above-grade construction components for the aerial and underground guideways including I-405 road widening, station construction, aerial guideway structural support structure installation, and ancillary components such as staging yards, MSFs, and traction power substations. The northern and southern portions are highly urbanized and dominated by non-native, ornamental trees planted within residential, commercial, and roadside ornamental landscapes.

Protected trees and shrubs observed within Alternative 3 are distributed throughout the northern and southern portions of the Tree Survey Area and include coast live oak, valley oak, western sycamore, southern California black walnut, Mexican elderberry and toyon (Table 3). One holly oak and three coast live oaks, protected under the County Oak Tree Ordinance, are located near the Veteran's Affairs Hospital site. The central portion of the Tree Survey Area is less developed and contains more natural vegetation. Protected trees are found on the east and west of I-405 from Valley Vista Boulevard (south of Ventura Boulevard) to the Getty Center (Attachment 2, Tree Map Series). Based on tree locations, many protected trees within Alternative 3's Tree Survey Area are likely to have been preserved during past development projects or may have been planted during restoration or mitigation efforts by entities such as Caltrans. This initial tree inventory assessment includes trees that may have been planted in mitigation calculations. Within Alternative 3's RSA, trees occur within private land owned by individual landowners, land owned by state entities (e.g., UCLA and Caltrans' ROW), within SMMNRA, unincorporated land of Los Angeles County, and properties owned by the City of Los Angeles.

There are a total of 2,926 trees and shrubs mapped within the Tree Survey Area of Alternative 3. Of the 2,926, a total of 154 are City of LA Ordinance protected trees and shrubs (Table 3) that occur on both private and city-owned properties; four trees fall under the jurisdiction of the County Oak Tree Ordinance. An additional 98 trees are within SMMNRA. The remaining 2,670 trees are Policy-protected under the jurisdiction of the Metro Tree Policy or the City of LA Policy. Alternative 3 does not overlap with city boundaries for the City of Santa Monica, making the Tree Code not applicable. Applicable jurisdiction over each inventoried tree or shrub is detailed in Attachment 1, Tree Inventory Tables.

Mitigation amounts in Table 3 reflect the number of replacement trees required for each tree or shrub protected under applicable ordinances; details on requirements are summarized in Table 1. For trees within SMMNRA, required mitigation will be determined through coordination with appropriate parties but could include replacement trees, in lieu fees, or alternative requests at the discretion of the applicable entities. This report assumes a replacement ratio for these trees between 2:1 to 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Table 3. Alternative 3: Protected Trees and Shrubs by Jurisdiction within Tree Survey Area

Jurisdiction	Scientific Name	Common Name	Quantity	Mitigation Amount (# replacement trees)
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	<i>Heteromeles arbutifolia</i>	toyon	29	116
	<i>Juglans californica</i>	southern CA black walnut	20	80
	<i>Platanus racemosa</i>	western sycamore	24	96
	<i>Quercus agrifolia</i>	coast live oak	53	212
	<i>Quercus lobata</i>	valley oak	2	8
	<i>Quercus chrysolepis</i>	canyon live oak	3	12
	<i>Sambucus mexicana</i>	Mexican elderberry	23	92
Los Angeles County Oak Tree Ordinance (County Oak Tree Ordinance)	<i>Quercus agrifolia</i>	coast live oak	3	6
	<i>Quercus ilex</i> ^a	holly oak	1	2
TOTAL			158	624
SMMNRA	Numerous native and non-native tree species ^b		98	196 to 392 ^c
MetroTree Policy or City of Los Angeles Street Tree Policy (City of LA Policy)	Numerous native and non-native tree species ^b		2,670	5,340 plus additional for heritage trees
GRAND TOTAL			2,926	6,160 to 6,356 plus heritage trees

Source: HTA, 2024

^aLos Angeles County Oak Tree Ordinance states “any tree of the oak genus;” therefore, non-native oak species are included in this inventory and mitigation calculations.

^bFull list of SMMNRA and Policy-protected trees listed in Attachment 1, Tree Inventory Tables.

^cSMMNRA mitigation amounts would be decided through coordination with appropriate entities after a preferred alternative is selected. This report assumes a replacement ratio for trees within SMMNRA between 2:1and 4:1, based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Alternative 3 includes two maintenance storage facilities in the north (MSF Base Design and MSF Design Option 1). Trees within the MSFs are expected to be impacted and are summarized in the next section per location.

Maintenance and Storage Facility

- **MSF Base Design** - The MSF Base Design for Alternative 3 would be located at the Department of Water and Power facility east of the Van Nuys Metrolink/Amtrak Station, directly south of the LOSSAN rail corridor located in the northeastern corner of the RSA. This area has 32 ornamental trees expected to be impacted during construction including Chinese elm, jacaranda, Canary Island pine and shamel ash, among others. The 32 recorded trees are protected under either City of LA Policy or Metro Tree Policy.
- **MSF Design Option 1** - The MSF Design Option 1 for Alternative 3 would be located on industrial property abutting Orion Avenue, south of the LOSSAN rail corridor near the alignment’s northwestern terminus at the Van Nuys Metrolink/Amtrak Station. This area has 206 ornamental trees expected to be impacted during construction including carob, eucalyptus, sweetgum, cajeput, jacaranda and assorted palm tree species, among others. All trees are protected under either City of LA Policy or Metro Tree Policy.

Alternative 4

Existing Conditions

The Tree Survey Area associated with Alternative 4 is concentrated in the northern portion of the RSA since the southern portion is predominantly underground tunnel segments without Ground Disturbance Area and, therefore, no Tree Survey Area. The northern portion is composed of an aerial guideway running from the tunnel portal at Del Gado Drive (located just east of I-405 and south of Sepulveda Boulevard) north to proposed terminus at the Van Nuys Metrolink Station. Two potential off-site staging yards are also present in the north. Throughout the RSA, the Tree Survey Area is associated with at- or above-grade construction components for the aerial and underground guideways including cut-and-cover station construction, aerial guideway structural support structure installation, and ancillary components such as staging yards, potential off-site staging yards, the MSF, and at-grade traction power substations. The majority of the Tree Survey Area is highly urbanized and dominated by non-native, ornamental trees planted within residential, commercial, and roadside ornamental landscapes.

Protected tree and shrubs occurred sparsely in various locations in the northern and southern portions of the Tree Survey Area; City of LA Ordinance protected species observed included coast live oak, valley oak, canyon live oak, western sycamore, southern California black walnut, and Mexican elderberry. The central portion of the RSA is an underground tunnel between the UCLA Gateway Plaza Station and the tunnel portal at Del Gado Drive, with no associated at- or above-grade impacts and therefore no Tree Survey Area. Based on tree locations, protected trees within Alternative 4's Tree Survey Area are likely to have been preserved during past development projects or planted during restoration or mitigation efforts by entities such as Caltrans. This initial tree inventory assessment includes trees that may have been planted in the mitigation calculations. Within Alternative 4's Tree Survey Area, trees occur within private land owned by individual landowners, land owned by state entities (e.g., UCLA, Caltrans's ROW), and properties owned by the City of Santa Monica or the City of Los Angeles.

No physical access was granted to the private properties off Del Gado Drive during this survey. A binocular visual assessment from the public ROW verified coast live oak tree dominance in this area. An estimated tree count was calculated via aerial imagery; all trees were designated as coast live oaks. If Alternative 4 is selected, the Tree Expert's Tree Report will refine the quantity and species present within this area, contingent on access.

There are a total of 1,575 trees and shrubs mapped within the Tree Survey Area of Alternative 4. Of those, a total of 82 are City of LA Ordinance protected trees and shrubs (Table 4) occurring on both private and city-owned properties; 76 are on properties owned by the City of Santa Monica and consequently, are covered by the Tree Code. The remaining 1,417 trees are Policy-protected under the jurisdiction of the Metro tree Policy and the City of LA Policy. Within Alternative 4's Tree Survey Area, there was no overlap with unincorporated areas of Los Angeles County or SMMNRA, meaning the County Oak Tree Ordinance, County Plan, and SMMNRA protections are not applicable to Alternative 4. Applicable jurisdiction over each inventoried tree or shrub is detailed in Attachment 1, Tree Inventory Tables.

Mitigation amounts in Table 4 reflect the number of replacement trees required for each tree or shrub protected under applicable ordinances; details on requirements are summarized in Table 1. For trees on land owned by the City of Santa Monica, replacement and maintenance will be required as determined by the Santa Monica City Director, including specific tree species requirements. This report assumes a replacement ratio for these trees is estimated between 2:1 to 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Table 4. Alternative 4: Protected Trees and Shrubs by Jurisdiction within Tree Survey Area

Jurisdiction	Scientific Name	Common Name	Quantity	Mitigation Amount (# replacement trees)
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	<i>Juglans californica</i>	southern CA black walnut	2	8
	<i>Platanus racemosa</i>	western sycamore	11	44
	<i>Quercus agrifolia</i>	coast live oak	53	212
	<i>Quercus chrysolepis</i>	canyon live oak	13	52
	<i>Quercus lobata</i>	valley oak	1	4
	<i>Sambucus mexicana</i>	Mexican elderberry	2	8
City of Santa Monica Tree Code (Tree Code)	Numerous native and non-native tree species ^a		76	152 to 304 ^b
TOTAL			158	480 to 632
Metro Tree Policy/City of Los Angeles Street Tree Policy (City of LA Policy)	Numerous native and non-native tree species ^a		1,417	2,834 plus additional for heritage trees
GRAND TOTAL			1,575	3,314 to 3,466 plus heritage trees

Source: HTA, 2024

^aFull list of Policy-protected trees and trees under City of Santa Monica Tree Code jurisdiction in Attachment 1, Tree Inventory Tables.

^bMitigation amounts will be decided through coordination with appropriate entities after a preferred alternative is selected. This report assumes a replacement ratio for trees under City of Santa Monica jurisdiction between 2:1 and 4:1 based on the range of ratios used for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Alternative 4 includes an MSF in the north. Trees within the MSF are expected to be impacted and are summarized in the following section.

Maintenance and Storage Facility

The MSF for Alternative 4 would be located east of the Van Nuys Metrolink/Amtrak Station and south of the LOSSAN rail corridor, bounded by Hazeltine Avenue to the west and Woodman Avenue to the east. This area has 43 ornamental trees expected to be impacted during construction including Mexican fan palm, Canary Island pine, Chinese elm, and eucalyptus trees, among others. The 43 inventoried trees are Policy-protected under City of LA Policy or Metro Tree Policy.

Alternative 5

Existing Conditions

The Tree Survey Area associated with Alternative 5 is scattered throughout the north-south portion of the RSA, interspersed with underground tunnel segments. Where present, the Tree Survey Area is associated with at- or above-grade construction components for the aerial and underground guideways including cut-and-cover station construction, aerial guideway structural support structure installation, and ancillary components such as staging yards, potential off-site staging yards, the MSF, and at-grade traction power substations.

The central portion of the RSA between UCLA Gateway Plaza Station and the tunnel portal after the Sherman Way Station is an underground tunnel with no associated ground disturbance and therefore no Tree Survey Area. Once the alignment transitions to an aerial guideway running east to the northern terminus at the Van Nuys Metrolink/Amtrak Station, additional Tree Survey Area is present due to the aerial guideway and MSF construction. Throughout the RSA, the Ground Disturbance Area is highly

urbanized and dominated by non-native, ornamental trees planted within residential, commercial, and roadside ornamental landscapes. City of LA Ordinance protected tree and shrubs occurred in small numbers in various locations throughout the northern and southern portions of the Tree Survey Area; species observed included coast live oak, canyon live oak, western sycamore, and Mexican elderberry. Based on tree locations, many protected trees within Alternative 5's Tree Survey Area are likely to have been preserved during past development projects or planted during restoration or mitigation efforts by entities such as Caltrans. This initial tree inventory assessment includes trees that may have been planted in the mitigation calculations. Within Alternative 5's Tree Survey Area, trees occur within private properties owned by individual landowners, land owned by state entities (e.g., UCLA and Caltrans' ROW), and properties owned by the City of Santa Monica and the City of Los Angeles.

There are a total of 1,162 trees and shrubs mapped within the Tree Survey Area of Alternative 5. Of those, a total of 69 are City of LA Ordinance protected trees and shrubs (Table 5) on both private and city-owned properties and 76 are on properties owned by the City of Santa Monica and consequently, are covered by the Tree Code. The remaining 1,017 trees are Policy-protected under the jurisdiction of the Metro Tree Policy or the City of LA Policy. Within Alternative 5's Tree Survey Area, there is no overlap with unincorporated areas of Los Angeles County or SMMNRA, making the County Oak Tree Ordinance, County Plan, and SMMNRA protections not applicable to this Alternative. Applicable jurisdiction over each inventoried tree or shrub is detailed in Attachment 1, Tree Inventory Tables.

Mitigation amounts in Table 5 reflect the number of replacement trees required for each tree or shrub protected under applicable ordinances; details on requirements are summarized in Table 1. For trees on land owned by the City of Santa Monica, replacement and maintenance will be required as determined by the Santa Monica City Director, including specific tree species requirements. This report assumes a replacement ratio for these trees between 2:1 to 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Table 5. Alternative 5: Protected Trees and Shrubs by Jurisdiction within Tree Survey Area

Jurisdiction	Scientific Name	Common Name	Quantity	Mitigation Amount (# replacement trees)
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	<i>Platanus racemosa</i>	western sycamore	9	36
	<i>Quercus agrifolia</i>	coast live oak	43	172
	<i>Quercus chrysolepis</i>	canyon live oak	13	52
	<i>Quercus lobata</i>	valley oak	2	8
	<i>Sambucus mexicana</i>	Mexican elderberry	2	8
City of Santa Monica Tree Code (Tree Code)	Numerous native and non-native tree species ^a		76	152 to 304 ^b
TOTAL			145	428 to 580
Metro or City of Los Angeles Street Tree Policy (City of LA Policy)	Numerous native and non-native tree species ^a		1,017	2,034 plus additional for heritage trees
GRAND TOTAL			1,162	2,462 to 2,314 plus heritage trees

Source: HTA, 2024

^aFull list of Policy-protected trees and trees under City of Santa Monica Tree Code jurisdiction in Attachment 1, Tree Inventory Tables.

^bMitigation amounts will be decided through coordination with appropriate entities after a preferred alternative is selected. This report assumes a replacement ratio for trees under City of Santa Monica jurisdiction between 2:1

and 4:1 based on the range of ratios for replacement trees from the Metro Tree Policy to the City of LA Ordinance.

Alternative 5 includes an MSF in the north. Trees within the MSF are expected to be impacted and are summarized in the following section.

Maintenance and Storage Facility

The MSF for Alternative 5 would be located east of the Van Nuys Metrolink/Amtrak Station and south of the LOSSAN rail corridor, bounded by Hazeltine Avenue to the west and Woodman Avenue to the east. This area has 43 ornamental trees that are expected to be impacted during the construction phase including Mexican fan palm, Canary Island pine, Chinese elm, and eucalyptus trees, among others. The 43 recorded trees are Policy-protected under the Metro Tree Policy or the City of LA Policy.

Alternative 6

Existing Conditions

The Tree Survey Area associated with Alternative 6 is interspersed between underground tunnel segments that represent the majority of the RSA; the tunnel segments have no associated Ground Disturbance, and therefore no associated Tree Survey Area. Where present, the Tree Survey Area corresponds to surface construction components for the underground guideways including cut-and-cover station construction, the mid-mountain deep vent shaft at Stone Canyon Reservoir, temporary staging yards, the yard leading into the MSF, the MSF, and at-grade traction power substations. Aside from the vent shaft construction at Stone Canyon, all other portions of the Tree Survey Area are highly urbanized and dominated by non-native, ornamental trees planted within residential, commercial, and roadside landscapes. Protected trees and shrubs observed within the Tree Survey Area include coast live oak and Mexican elderberry, which were only observed on UCLA's campus, and California walnuts presumed to be present within Stone Canyon Reservoir. Within Alternative 6's Tree Survey Area, trees occur within private land owned by individual landowners or private entities, as well as properties owned by the City of Los Angeles.

No physical access was granted to the Stone Canyon Reservoir area during this survey, therefore trees within the property were estimated using assessment of existing aerial imagery. Based on the SMMNRA vegetation mapping, this area is predominantly California walnut woodland. Inventoried trees were designated as California walnut to correspond with the vegetation mapping. Since this species is protected under the City of LA Ordinance, which has the largest mitigation replacement ratio (4:1 per protected species specimen), this designation should ensure potentially protected trees within this inaccessible area are included in mitigation estimates. If this Alternative is selected, the Tree Expert's Tree Report will refine quantity and species data for trees present within Stone Canyon Reservoir, when access is granted.

There are a total of 938 trees and shrubs mapped within the Tree Survey Area of Alternative 6. Of the 938, a total of 329 are City of LA Ordinance protected trees and shrubs (Table 6) on both private and city-owned properties. The remaining 609 trees are Policy-protected under the jurisdiction of the Metro Tree Policy or the City of LA Policy. Within Alternative 6's Tree Survey Area, there was no overlap with unincorporated areas of Los Angeles County, City of Santa Monica, or SMMNRA, making the County Oak Tree Ordinance, County Plan, Tree Code, and SMMNRA protections not applicable to this Alternative.

Applicable jurisdiction over each inventoried tree or shrub is detailed in Attachment 1, Tree Inventory Tables.

Mitigation amounts in Table 6 reflect the number of replacement trees required for each tree or shrub protected under applicable ordinances; details on requirements are summarized in Table 1.

Table 6. Alternative 6: Protected Trees and Shrubs by Jurisdiction within Tree Survey Area

Jurisdiction	Scientific Name	Common Name	Quantity	Mitigation Amount (# replacement trees)
City of Los Angeles Protected Tree and Shrub Ordinance (City of LA Ordinance)	<i>Juglans californica</i> ^a	Southern CA black walnut ^a	314	1,256
	<i>Quercus agrifolia</i>	Coast live oak	13	52
	<i>Sambucus mexicana</i>	Mexican elderberry	2	8
TOTAL			329	1,316
Metro Tree Policy or City of Los Angeles Street Tree Policy (City of LA Policy)	Numerous native and non-native tree species ^b		609	1,218 plus additional for heritage trees
GRAND TOTAL			938	2,534 plus heritage trees

Source: HTA, 2024

^aWithin Stone Canyon Reservoir, where access was not permitted, all trees were assumed to be *Juglans californica* based on SMMNRA vegetation mapping and are therefore protected under the City of LA Protected Tree and Shrub Ordinance. Number presented is an estimate from aerial imagery interpretation; refinement of quantity and species will occur during the Tree Expert’s survey for the follow-up Tree Report.

^bFull list of Policy-protected trees jurisdiction listed in Attachment 1, Tree Inventory Tables.

Alternative 6 includes an MSF in the north. Trees within the MSF are expected to be impacted and are summarized in the following section.

Maintenance and Storage Facility

The MSF for Alternative 6 would be located east of the Van Nuys Metrolink/Amtrak Station and south of the LOSSAN rail corridor, bounded by Hazeltine Avenue to the west and Woodman Avenue to the east. This area has 36 ornamental trees that are expected to be impacted during the construction phase including Mexican fan palm, Canary Island pine and eucalyptus trees, among others. The 36 recorded trees are Policy-protected under the Metro Tree Policy or the City of LA Policy.

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