CITY OF MENLO PARK

SPECIAL MEETING MINUTES

Date: 12/11/2019
Time: 6:00 p.m.
City Hall
701 Laurel St., Menlo Park, CA 94025

A. Call to Order

Chair Price called the meeting to order at 6:10 p.m.

B. Roll Call

Present: Gaillard, Kabat, London (arrived at 6:23) Martin, Payne, Price
Absent: Turley
Staff: City Arborist Christian Bonner, Sustainability Specialist Joanna Chen, Senior Project Manager Morad Fakhrai, and Sustainability Manager Rebecca Lucky

C. Regular Business

C1. Approve the October 16, 2019 Environmental Quality Commission meeting minutes

ACTION: Motion and second (Gaillard/Payne) to approve minutes, passed 6-0-1 (Turley absent).

C2. Issue determination on appeal of staff's approval of one heritage tree removal permit at 614 Laurel Avenue

Christian Bonner, City Arborist, made the presentation (Attachment).

Permit applicant Fe Manusco made a presentation (Attachment).

Appellant Judy Rocchiomade a presentation (Attachment).

- Raymond Warren spoke in support of the tree removal.
- Sheldon Kay spoke in support of the tree removal.
- Ken Bayne spoke in support of the tree removal.
- Thomas D. Jackson provided written communication before the meeting supporting tree removal (Attachment).

ACTION: Motion and second (Price/Gaillard) to deny appeal, and uphold staff's decision to allow removal of the tree, passed 6-0-1 (Turley absent).

C3. Review and advise on design concepts for Willow Road and U.S. 101 interchange landscape project to the City Council

Morad Fakhrai, Senior Project Manager, made the presentation (Attachment).

- Scott Marshall from Canopy spoke in opposition of using redwood trees as replacements for the

project and supported designing groves instead of rows of trees, the use of larger tree plantings, and Option A.

ACTION: Motion and second (Gaillard/Payne) to recommend Option A, and in addition, plant appropriate trees and vegetation that is low maintenance, can adapt to climate change, use groves not rows of trees, plant a feature native large oak appropriate for Menlo Park's microclimate, plant larger trees to maximum extent possible, and seek out public/private partnerships to upsize trees if needed, passed 6-0-1 (Turley absent).

C4. Review and discuss climate action plan memorandum from the Climate action plan Subcommittee

Climate Action Plan subcommittee made the presentation (Attachment).

- Evan Goldin requested support or collaboration on e-scooter/bike sharing program in town, and recommended more transportation oriented developments, safe green infrastructure, and a phasing out of minimum parking requirements.

D. Reports and Announcements

D1. Commission reports and announcements

None.

D2. Staff update and announcements- implementation of recently approved policies and cancellation of January meeting

None.

D3. Future agenda items

- Update on tree replacements from 1000 El Camino Real appeal.
  - To be provided during annual arborist update late 2020.

H. Adjournment

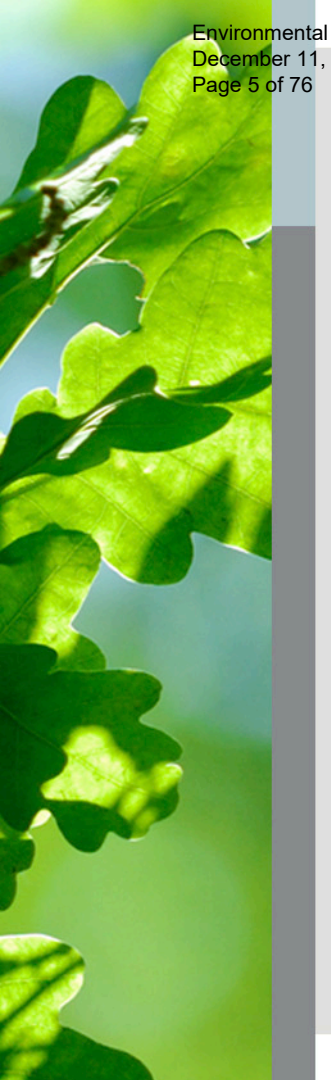
Chair Price adjourned the meeting at 10 p.m.

Rebecca Lucky, Sustainability Manager

HERITAGE TREE APPEAL

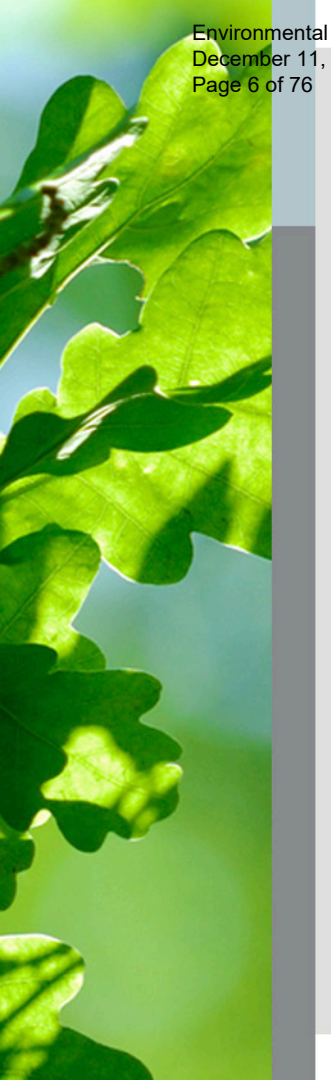
Christian Bonner and Joanna Chen

HERITAGE TREE ORDINANCE



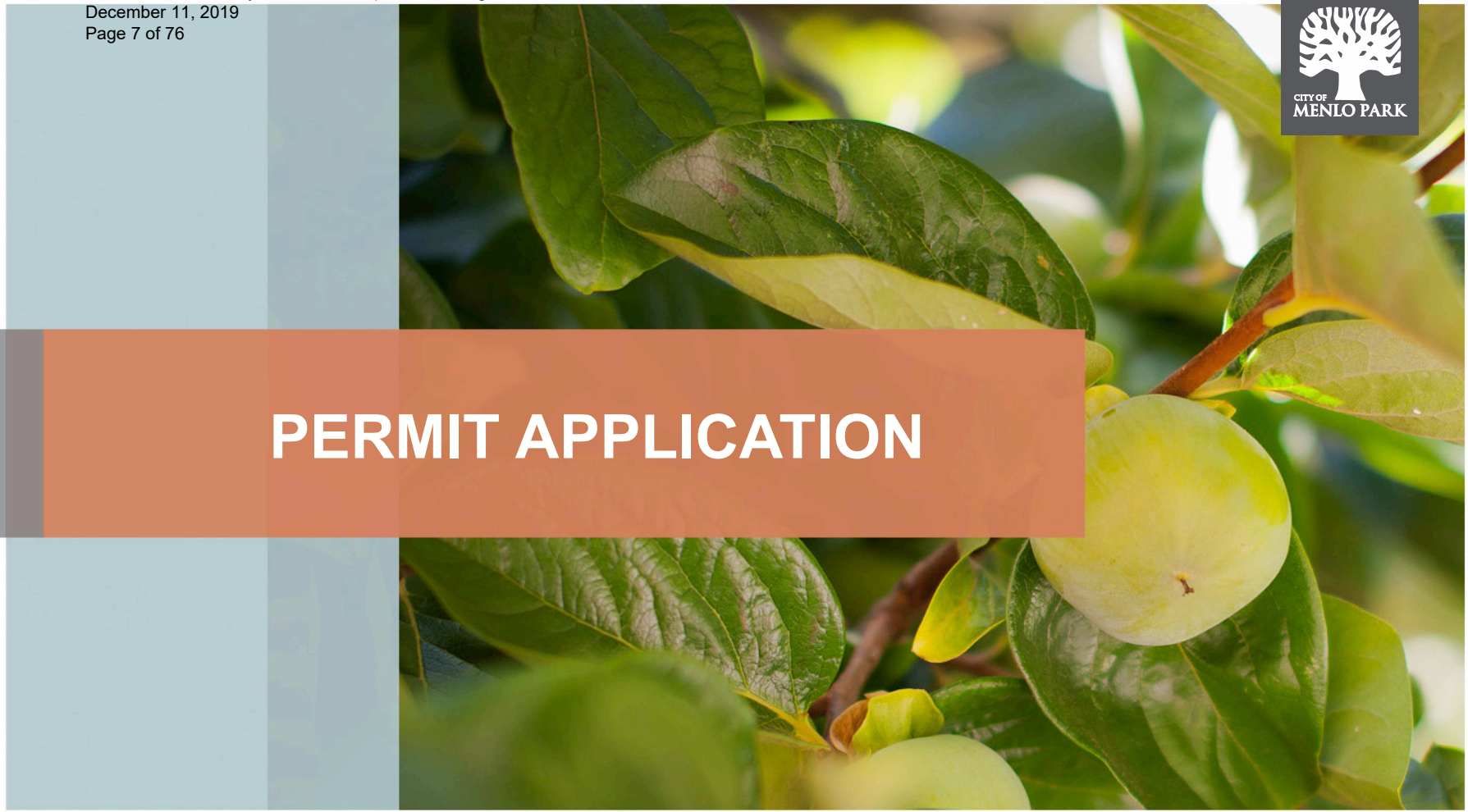
PURPOSE

- To ensure large population of healthy trees are protected for extended period of time
  - Protect numerous oak, bay and other trees in the City
  - Preserve the trees for the health and welfare of the community
  - Prevent erosion of topsoil and sedimentation in waterways
  - Provide shade and wildlife habitat
  - Reduce air pollutants
  - Decrease wind velocities and noise



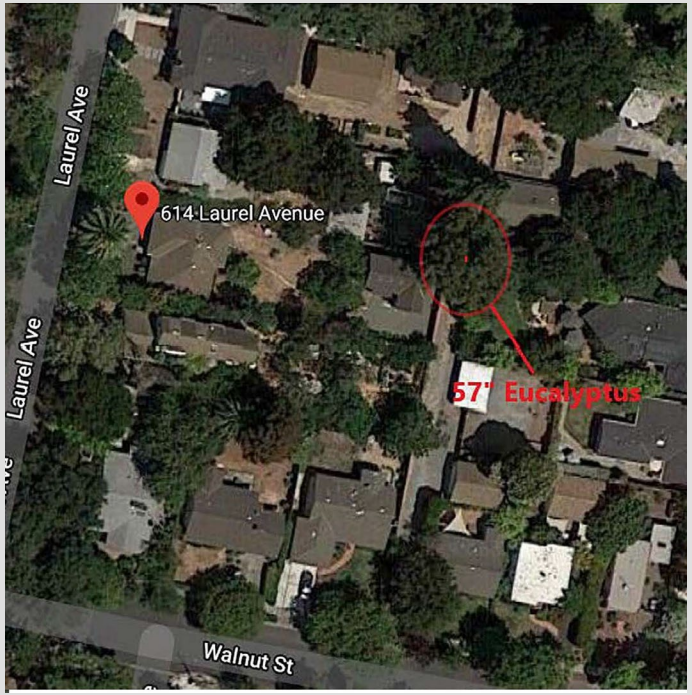
NEW ORDINANCE

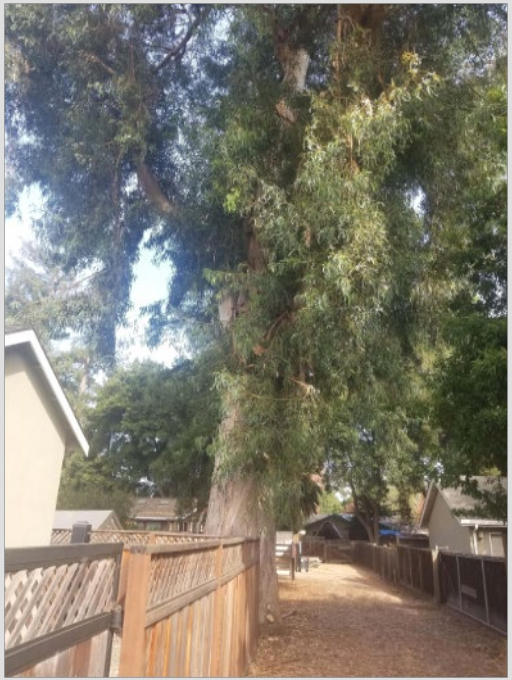
- New heritage tree ordinance approved by City Council on November 19, 2019
  - Will be effective on July 1, 2020
- Current ordinance is still in effect
  - Permit applicant or any community member may appeal the decision of the City Arborist



PERMIT APPLICATION

BLUE GUM EUCALYPTUS





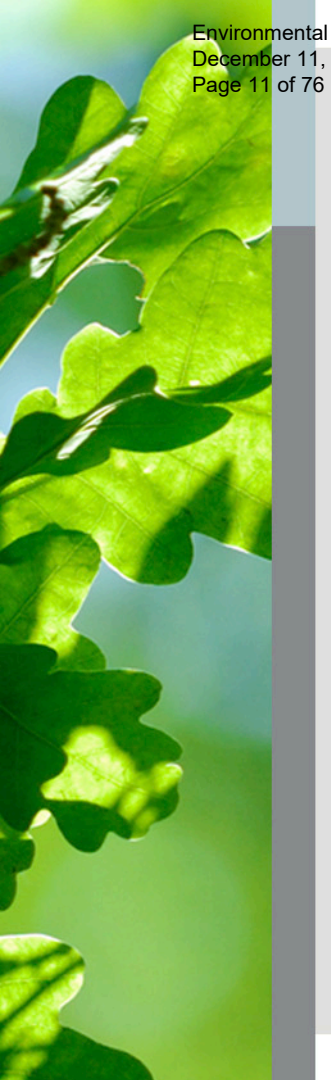
- 85 to 90 feet tall
- 57.1 inches in diameter
- Tree crown protected from wind loading
- ~ 75% of foliage is healthy
- 70 – 80 years old

REMOVAL REASONS

- Recently had a limb fail
  - ~8 to 9 inches in diameter
  - Damaged neighbor's fence

- To prevent additional limb failures
- To minimize risk of damaging neighbors' properties
- To preserve the health and welfare of the community

ANALYSIS



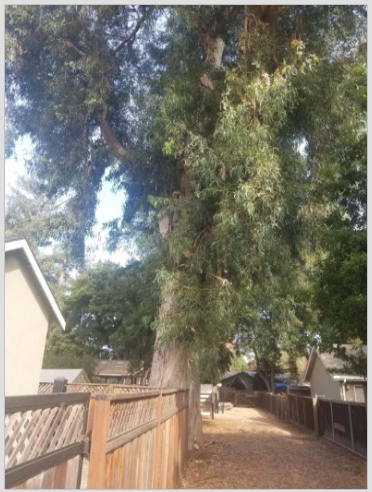
DECISION MAKING CRITERIA

1. The condition of the tree or trees with respect to disease, danger of falling, proximity to existing or proposed structures and interference with utility services;
2. The necessity to remove the tree or trees in order to construct proposed improvements to the property;
3. The topography of the land and the effect of the removal of the tree on erosion, soil retention and diversion or increased flow of surface waters;
4. The long-term value of the species under consideration, particularly lifespan and growth rate;
5. The ecological value of the tree or group of trees, such as food, nesting, habitat, protection and shade for wildlife or other plant species;
6. The number, size, species, age distribution and location of existing trees in the area and the effect the removal would have upon shade, privacy impact and scenic beauty;
7. The number of trees the particular parcel can adequately support according to good arboricultural practices;
8. The availability of reasonable and feasible alternatives that would allow for the preservation of the tree(s).

CRITERIA 1 AND 4

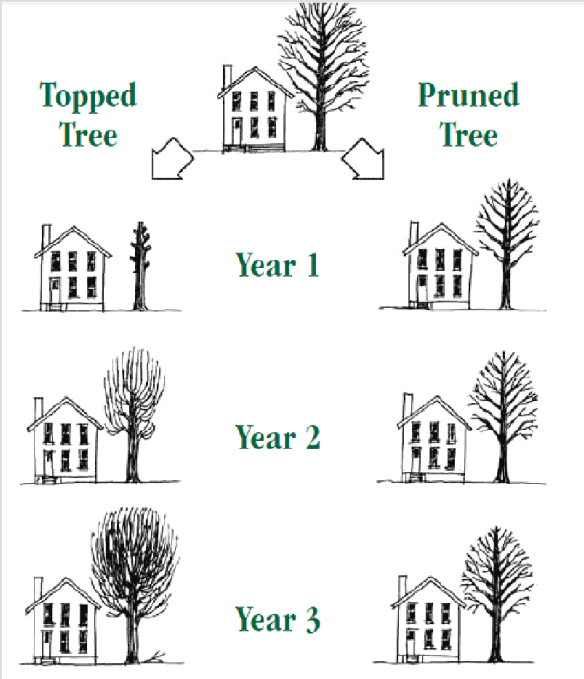
1. Related to disease, damage of failing, proximity to existing or proposed structures

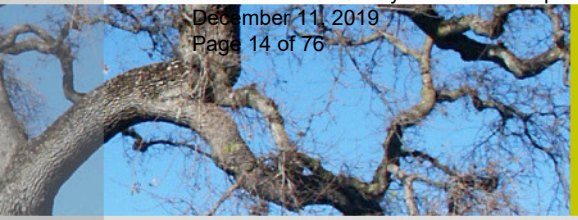
4. Long term value of species



CRITERIA 8

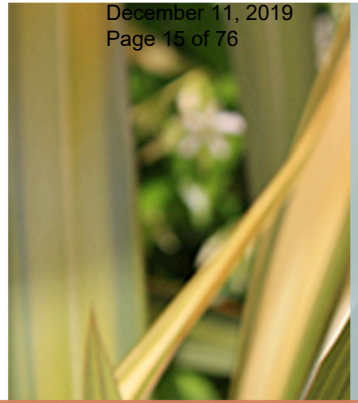
- Reasonable and feasible alternatives to consider mitigation measures
  - Aggressive pruning to reduce crown, limb end weight, and thin suckers and sprouts
    - Exceed pruning of more than 25% of living foliage
    - Can starve tree from food, decrease vigor, increase likelihood of pest and disease infection, and increase the rate of disease spread



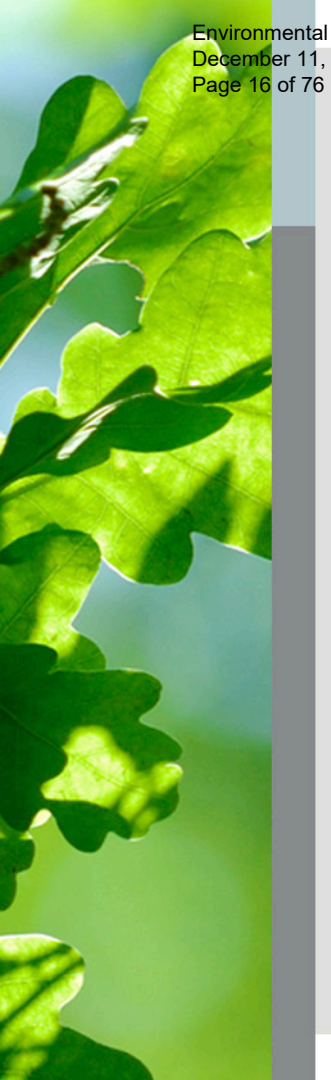


STAFF RECOMMENDATION

- To deny the appeal and uphold staff's decision to approve the heritage tree removal permit based on these findings:
  - Tree is in fair health with confirmed brown rot infection
  - Tree structure is poor with previous topping cuts
    - Weakly attached suckers and sprouts throughout canopy; no less than three major lateral limbs have weak attachments to the tree trunk
  - Risk rating is high;
    - Alternatives to removal would require aggressive pruning inconsistent with industry best management practices.



THANK YOU



NEW ORDINANCE APPEAL PROCESS

- Criteria 1 – 4 related to death, risk rating, tree health, and species
  - May only be appealed by permit applicant within 15 days
  - Appeal to City Manager or designee for final decision

- Criteria 5 – 6 related to development and utility inference
  - May be appealed by applicant or any person within 15 days
  - Additional 15 days to review project with 1-5 reasonable feasible alternatives
  - Appeal to EQC
  - For development appeals: appellants have 15 days to appeal EQC's decision to Planning Commission
  - For utility inference: appellants have 15 days to appeal EQC's decision to City Council

Occupancy rates		
Target	**Description**	**Occupancy rate**
ADU	Target present at all times day and night.	Constant
Occupants inside ADU	Target present for most of the day	Frequent
367 Central Ave. garage	Target present at all times day and night	Constant
Occupants inside garage	Target is present infrequently or irregularly	Occasional
Vehicular traffic alley way and occupants	Target is present infrequently or irregularly	Occasional
Vehicular parking in adjacent yards	Target present for most of the day	Frequent
Pedestrians and occupants of yard at subject address, neighboring yards and alley way	Target is present infrequently or irregularly	Occasional

Consequences of failure (Negligible, minor, significant, severe)		
Target	**Description**	**Consequences of failure**
ADU	Target present at all times day and night.	Significant
Occupants inside ADU	Target present for most of the day	Significant
367 Central Ave. garage	Target present at all times day and night	Significant
Occupants inside garage	Target is present infrequently or irregularly	Significant
Vehicular traffic alley way and occupants	Target is present infrequently or irregularly	Significant
Vehicular parking in adjacent yards	Target present for most of the day	Significant
Pedestrians and occupants of yard at subject address, neighboring yards and alley way	Target is present infrequently or irregularly	Severe

RISK RATING

- Overall risk rating: High

Likelihood of failure and impact	Consequences of failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

CRITERIA 1 AND 4 – HIGH RISK

Criteria	Analysis
1 – related to disease, danger of falling, proximity to existing or proposed structures	• Tree next to accessory dwelling unit (ADU) • Base of tree infected with western sulphur fungus • Previously topped with numerous large water sprouts • Limbs have weak attachments at the union to the tree's trunk
4 – long term value of the species	

Trees

Are more important than you think

Why Keep big healthy trees alive?

- Because we can and if we do they will sequester carbon for years to come.
- There are many trees dying due to drought and at the same time increased temperatures, that we have no control over.
- So trees that are healthy but could use a little thinning should be thinned and kept healthy as long as possible for the sake of our climate.

Eucalyptus tree behind house in the alley.

As seen from in front of Fe's house on Laurel Ave.

- This tree is large and has nearly a 100% live crown ratio.

10 December 2019

Environmental Quality Commission
City of Menlo Park, California

Commissioners,

I support the removal of the tree at the rear of the home at 614 Laurel Avenue. I agree with the arborist that this tree is a hazard to people and property. I and my rental tenant pass by this tree every day.

Thank you for your consideration.

Thomas D. Jackson
622 Laurel Avenue, Menlo Park, CA

pbinspector@sbcglobal.net

10 December 2019

Environmental Quality Commission
City of Menlo Park, California

Commissioners,

I support the removal of the tree at the rear of the home at 614 Laurel Avenue. I agree with the arborist that this tree is a hazard to people and property of this neighborhood.

Thank you,

Katherine Strehl
625 Laurel Avenue, Menlo Park, CA

ENVIRONMENTAL QUALITY COMMISSION MEETING

CITY OF MENLO PARK

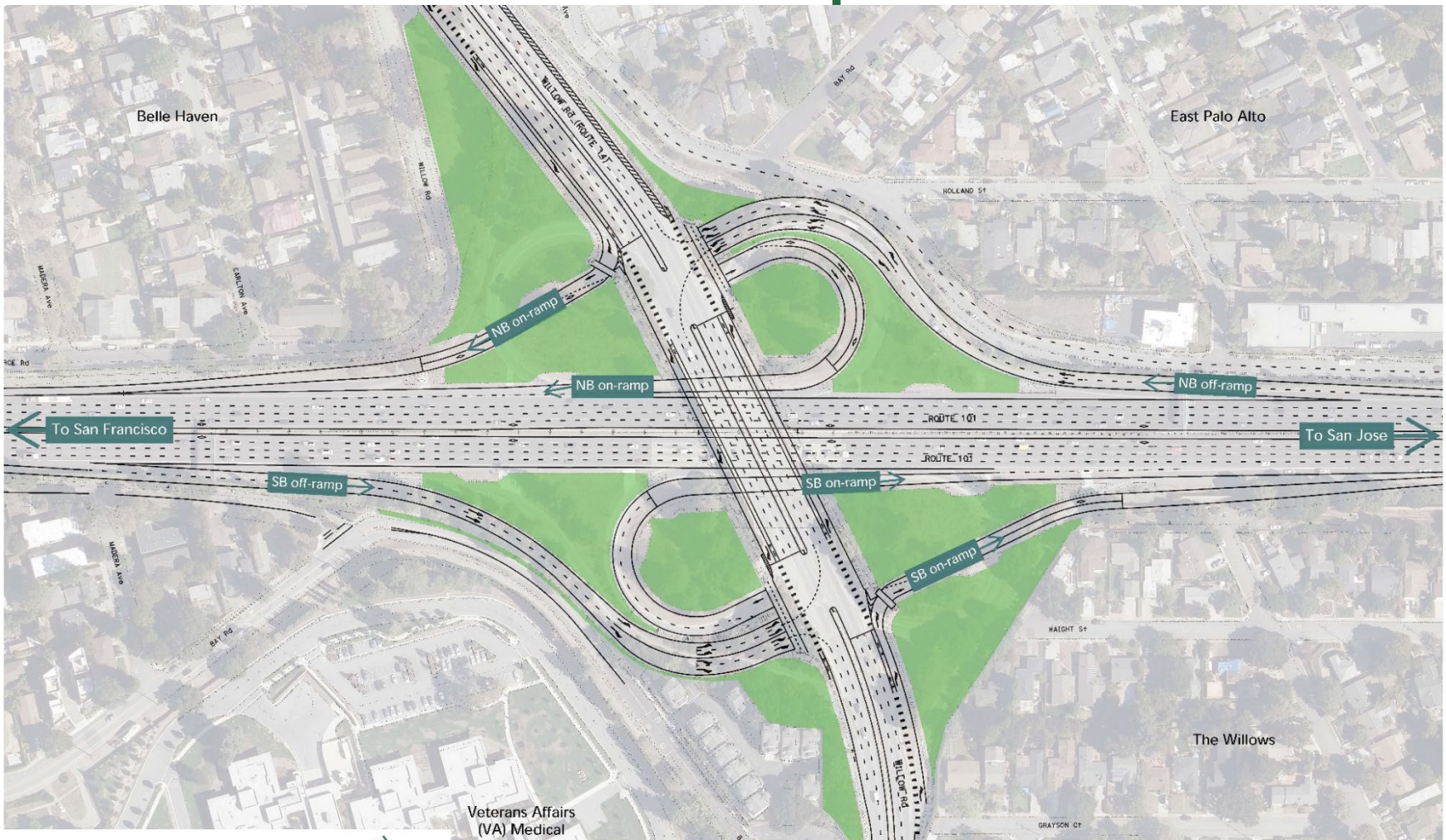
CALA

Willow Road /Highway 101 Interchange Landscaping

December 11, 2019

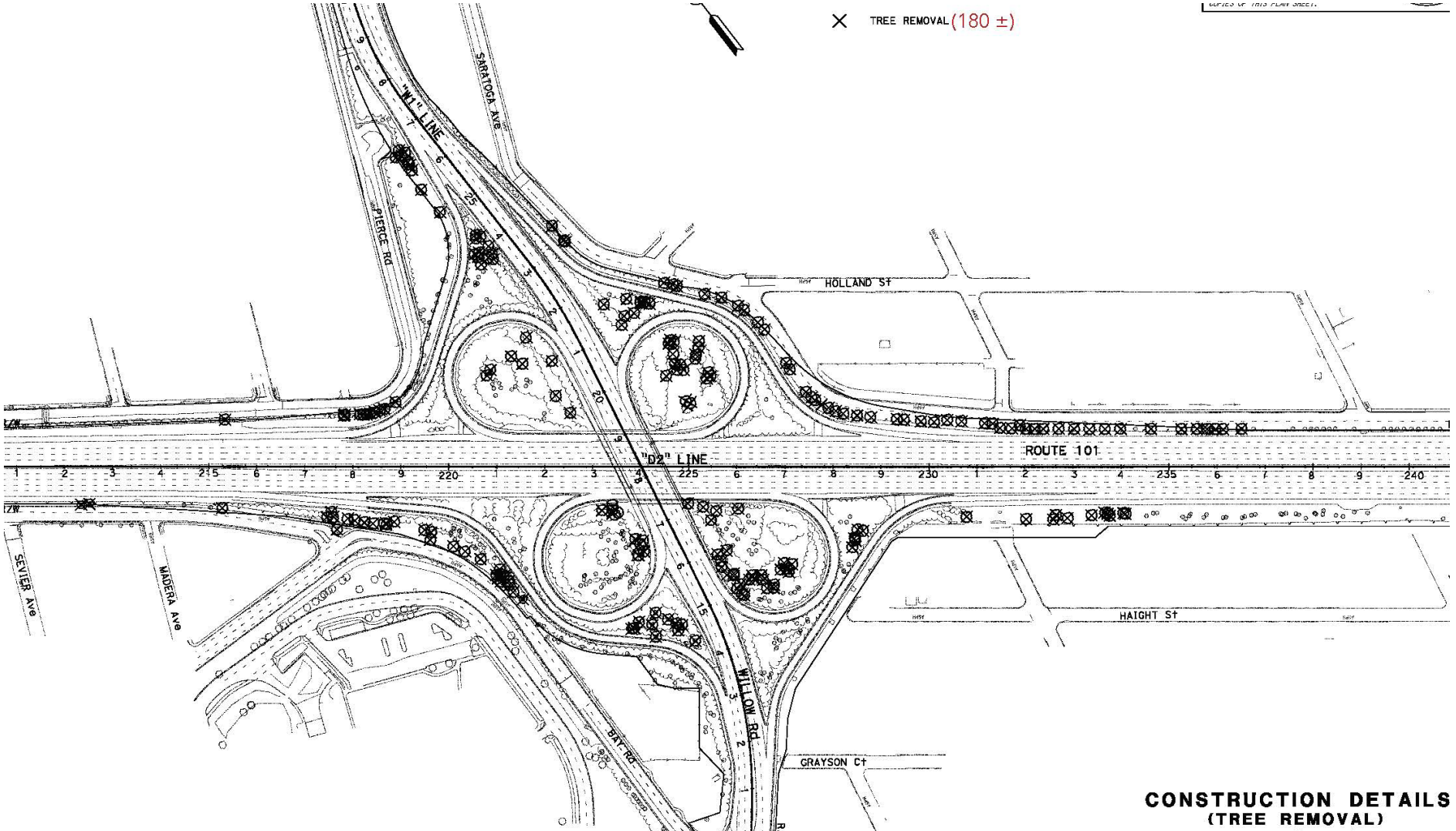
Background

- Interchange construction recently completed
- Current focus on landscape

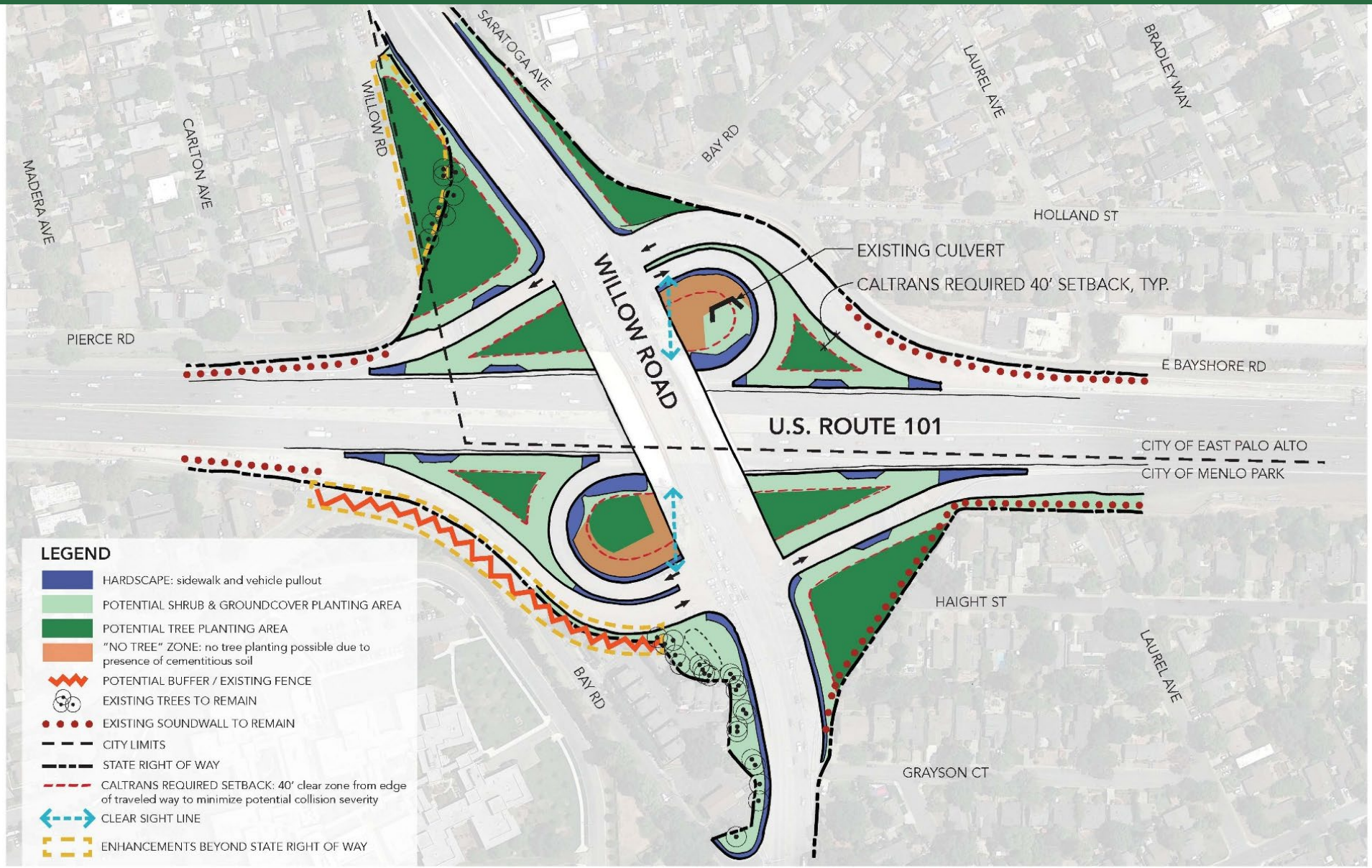


Background

Construction resulted in removal of trees



Opportunities and Constraints



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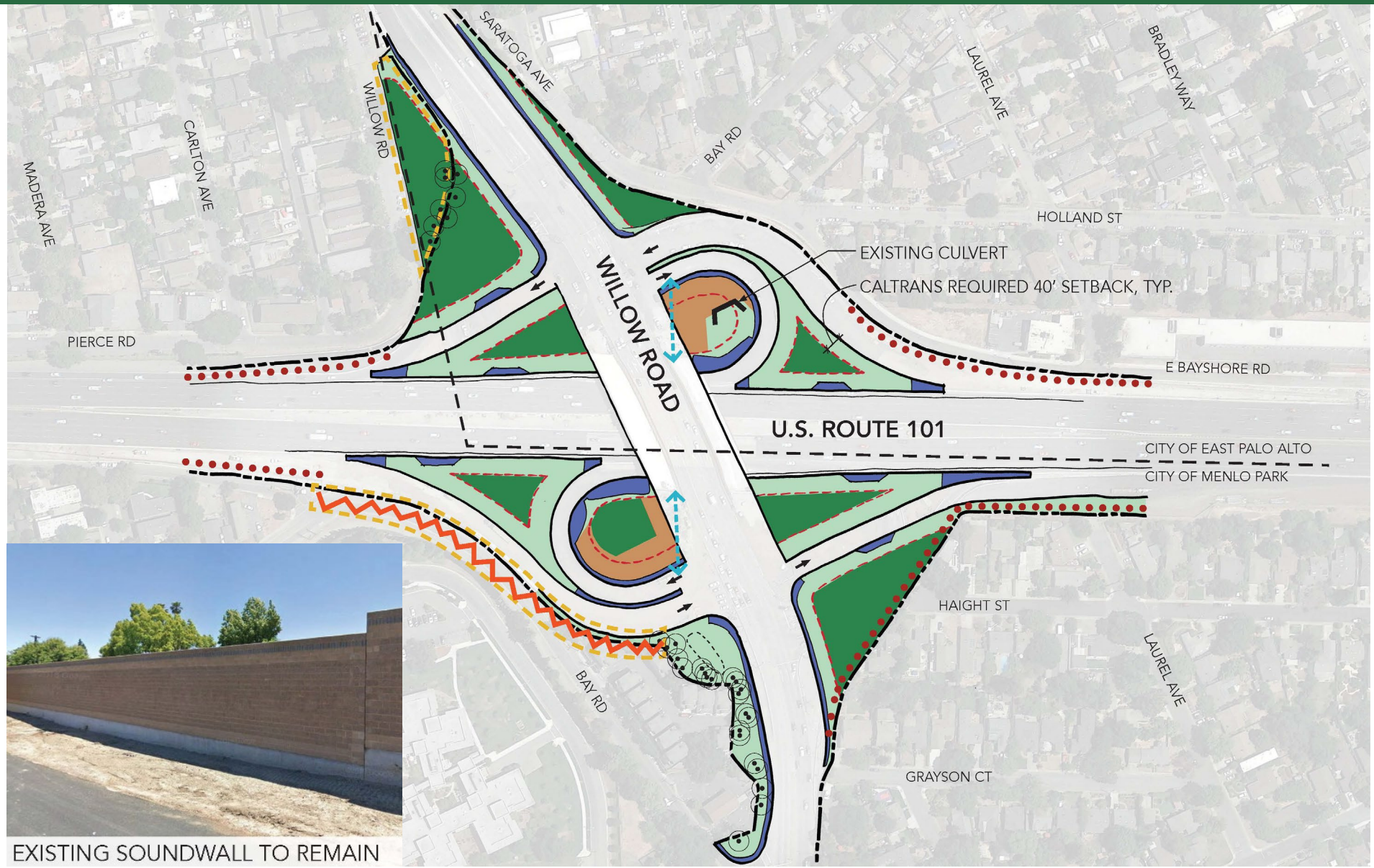

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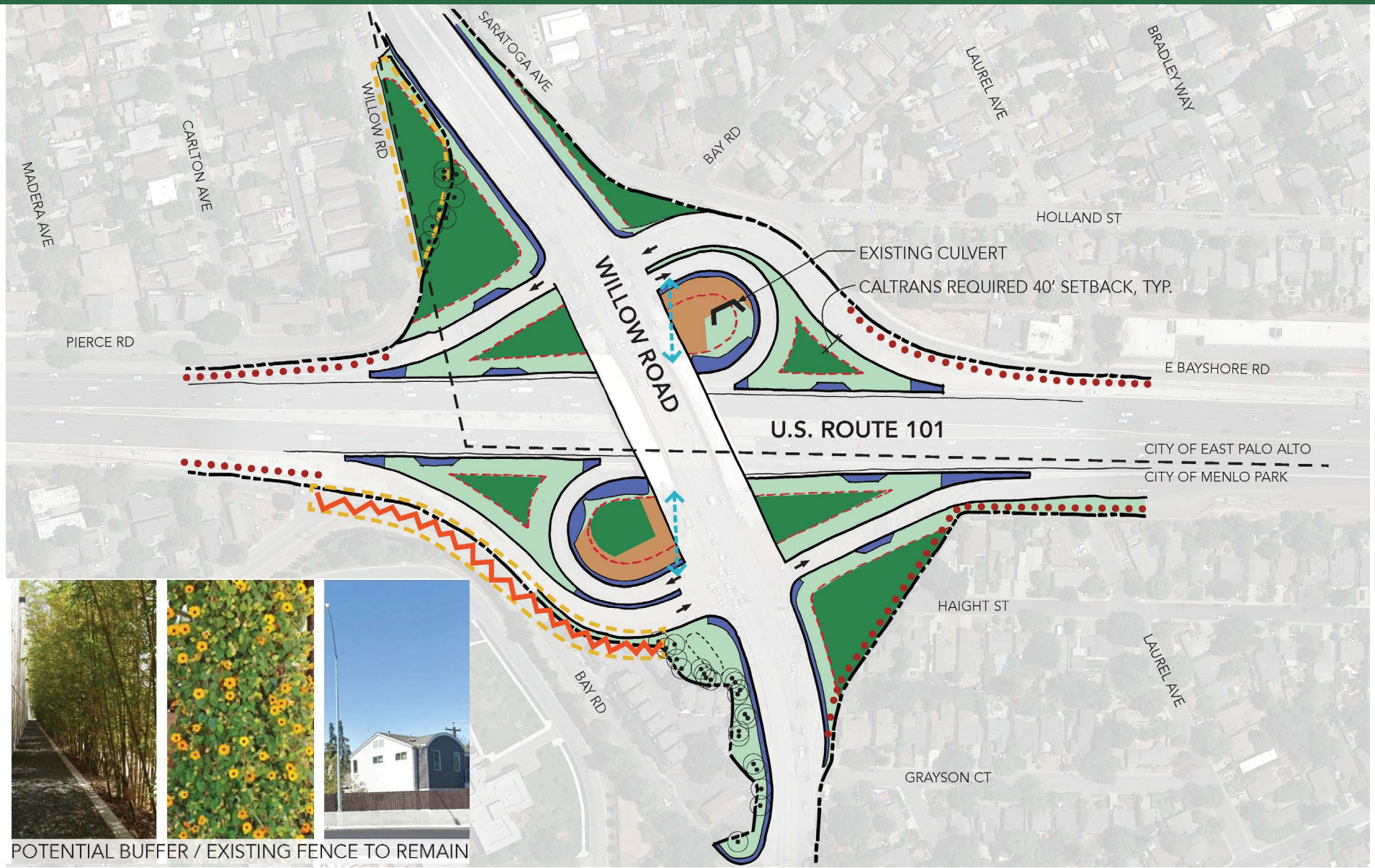
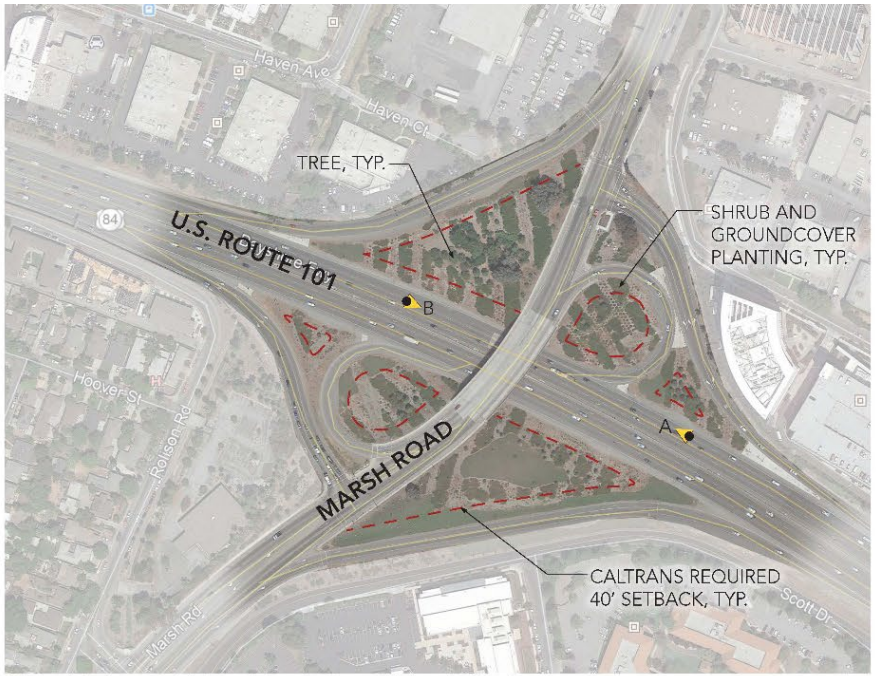


Opportunities

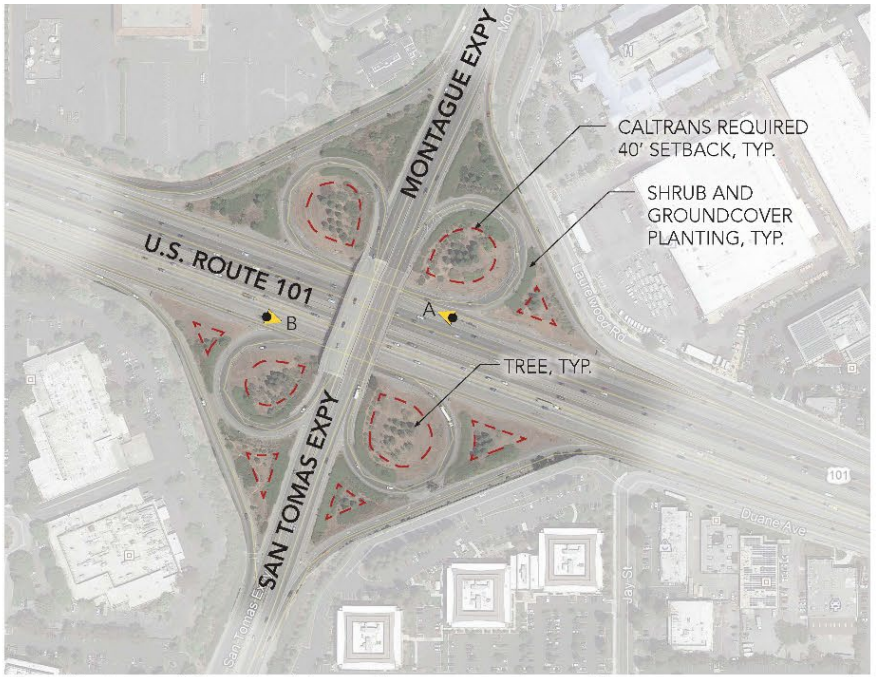
Caltrans Standard Landscapes



Plan- Highway 101 at Marsh Road, Menlo Park

View A

View B



Plan- Highway 101 at San Tomas Expressway, Santa Clara

View A

View B

Concept Plan A

LEGEND

- EXISTING HARDSCAPE
- TURF
- POTENTIAL SHRUB & GROUNDCOVER PLANTING AREA
- TREE PLANTING, CANOPY (30')
- TREE PLANTING, ACCENT (20')
- "NO TREE" ZONE
- POTENTIAL BUFFER / EXISTING FENCE
- EXISTING TREES TO REMAIN
- EXISTING SOUNDWALL TO REMAIN
- CITY LIMITS
- STATE RIGHT OF WAY
- CALTRANS REQUIRED 40' SETBACK
- ENHANCEMENTS BEYOND STATE RIGHT OF WAY

0' 40' 80' 160'

FOREST-INSPIRED (MATURE SIZE)

NATIVE OAKS

CURVILINEAR FORMS

Concept Plan B

LEGEND

- HARDSCAPE
- TURF
- DECORATIVE GRAVEL SURFACE
- POTENTIAL SHRUB & GROUNDCOVER PLANTING AREA
- TREE PLANTING, CANOPY (30')
- TREE PLANTING, ACCENT (20')
- "NO TREE" ZONE
- POTENTIAL BUFFER / EXISTING FENCE
- EXISTING TREES TO REMAIN
- EXISTING SOUNDWALL TO REMAIN
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0' 40' 80' 160'

RAIL INSPIRED

LINEAR FORMS

DECORATIVE GRAVEL STRIPS

Thematic Motifs

RAILROAD INSPIRED

- inspired by the historic Menlo Park Railroad Station, where the Menlo Park Caltrain station continues to operate today
- the interchange is halfway between Caltrain and Dumbarton rail lines
- use of linear forms in both the hardscape and landscape

CIVIC INSPIRED

- inspired by the brick and stone aesthetic on civic buildings in Menlo Park
- use of brick or stone veneer

FOREST INSPIRED

- inspired by the parks and preserves west of Menlo Park
- plant massings of large evergreen trees where setbacks allow

OAK TREE INSPIRED

- inspired by the City of Menlo Park logo
- plant oaks and other native large canopy trees

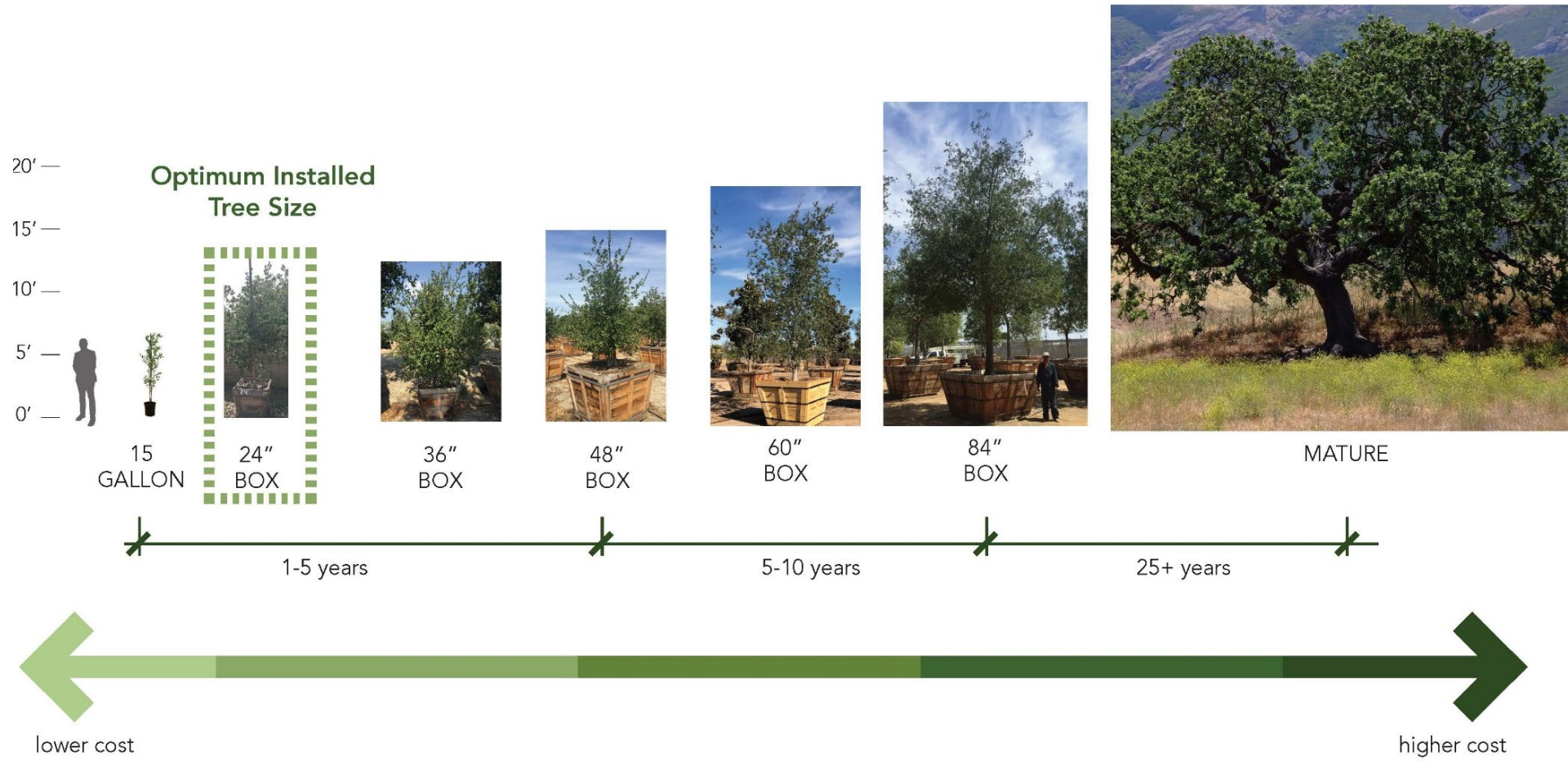
BAYFRONT INSPIRED

- inspired by Bedwell Bayfront Park
- plant grasses in massings to resemble marsh grasses
- use of curvilinear landscape forms

ALLIED ARTS GUILD INSPIRED

- inspired by the Allied Arts Guild
- tile-roofed gateway element with stucco facade
- plant roses as accent shrubs

Tree Growth Considerations



Community Input

- Prioritize tree replacement and environmental sustainability
  - Plant for stormwater treatment, weed suppression, and carbon sequestration
  - Plant to screen adjacent homes
  - Maximize tree count and density of native planting
  - Support "forest" type concept
- Redwoods are the preferred tree species
  - Replaces what was taken out
  - California native
  - 'Fits the bill' (screening, sustainability, massing, grand)

Community Input

- Consider working with non-profit organizations and utilizing grant funding

- Preserve pathway connection from Saratoga Avenue; consider addition of stair for direct access

- Emphasize usable amenities over aesthetics at mini park

Redwood Tree Alternatives

- Redwoods
  - Need very specific climate
  - High water use
- Cedars
  - Similar to redwoods
  - Evergreen, conifer, shape
- Benefits to Use of Cedars
  - Lower water use
  - Less particular about growing environment
  - Species diversity

Atlas Cedar

Coast Live Oak

Deodar Cedar

Bald Cypress

Next Steps

September 26, 2019 – Community Meeting

December 11, 2019 – EQC Meeting

Winter – Prepare Preferred Conceptual Plan

Winter – City Council Meeting

Recommendation

Staff recommends the Commission to review and advise to the City Council Concept Plan A, "forest-inspired" option, with a focus to maximize number of trees planted, for Willow Rd/U.S. 101 Interchange.

Open Discussion

Q&A

UPDATE: CLIMATE ACTION

Menlo Park Environmental Quality Commission

December 11, 2019

AGENDA

- Review of CAP targets and strategies
- Financial impact of climate change
  - 3 approaches w/ cost estimates
  - Executing the CAP
  - Timing

NEXT STEPS

- [x] Request that the City Council place climate action on their 2020 work plan

- [x] Present greenhouse gas reduction targets to City Council for approval

- [x] Complete a greenhouse gas inventory for Menlo Park

- Budget for additional staff resources in 2020

- Meet with key staff and commissions in the City to brief them on the climate action plan and gather their input

- Estimate costs associated with each key strategy proposed above

- [x] Decide on a community engagement strategy

EMISSIONS TARGETS

Last night Menlo Park's City Council expressed support for achieving carbon neutrality by 2030:

- **90%** reduction in GHG emissions by **2030**
- **10%** of GHG sequestered though direct carbon removal

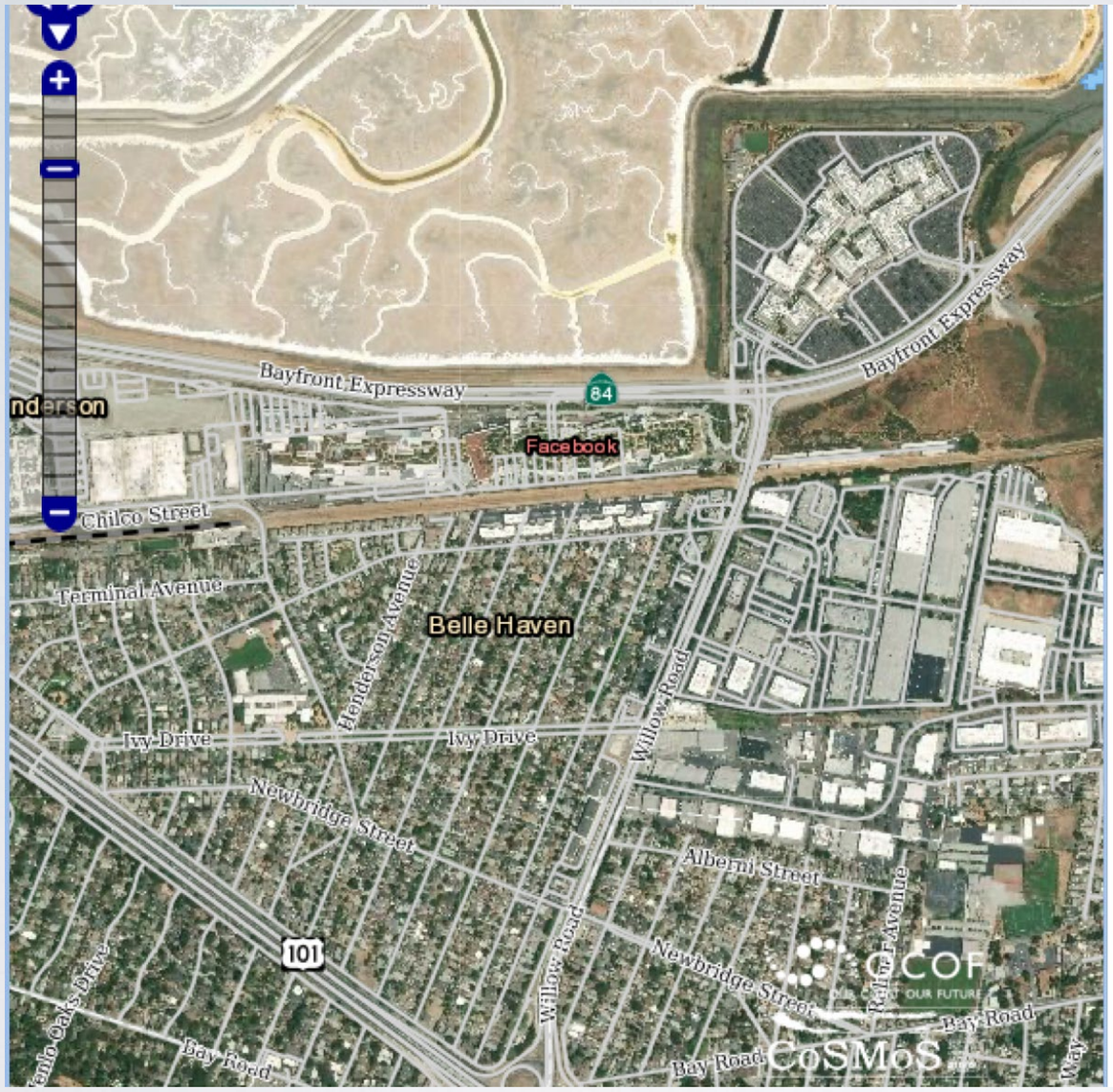
PROPOSED STRATEGIES

1. 100% carbon-free electricity
2. Completely electrify existing buildings
3. Reduce vehicle miles traveled (VMT)
4. Electrify vehicles, reduce gasoline sales & increase EV infrastructure
5. Reduce carbon emissions from construction
6. Electrify all municipal buildings and fleet vehicles
7. Reduce emissions from waste through Zero Waste Plan and catalyze a circular economy
8. Avoid installing new appliances/structures that will be abandoned due to climate change
9. Sequester residual carbon emissions though direct carbon sinks
10. Prepare the City for climate change through adaptation measures

HOW TO BUDGET FOR CAP?

- Estimate losses associated with inaction
- Estimate cost of adaptation
- Estimate cost of mitigation

SEA LEVEL RISE IMPACT



TODAY

Source: http://data.pointblue.org/apps/ocof/cms/index.php?page=flood-map

YEAR: 2060-2100

the Bay is projected to rise 3.3 feet

REGIONAL MOBILITY WILL SUFFER

Source: http://data.pointblue.org/apps/ocof/cms/index.php?page=flood-map

YEAR: 2060-2100

route 101 projected to be under water

OPTION #1: DO NOTHING

The following will be affected by inundation in Menlo Park:

- $1.288 billion in real estate
- 2,800 residents
- 2874 acres
- 574 residential parcels

*The baseline scenario shows a 1% annual chance flood at mean higher high water; the mid-level scenario shows a 1% annual chance flood plus 3.3 feet of sea lev rise; and the high-end scenario shows a 1% chance annual flood plus 6.6 feet of sea level rise.

GENERAL INFORMATION					
LAND USE, POPULATION, AND PARCELS	TOTAL	EROSION SCENARIO	BASELINE SCENARIO	MID-LEVEL SCENARIO	HIGH-END SCENARIO
Land Area (acres)	5,757	0	2,006	2,874	3,037
Population	29,500	0	<100	2,800	4,300
Population in Vulnerable Communities[1]	7,000	0	<100	2,800	4,300
Urban Land (acres)	3,388	0	41	703	851
Agricultural Land (acres)	0	0	0	0	0
Industrial Land (acres)	1,648	0	1,586	1,642	1,646
Natural Land (acres)	721	0	379	528	540
Residential Parcels[2]	--	0	0	574	856
Commercial Parcels[2]	--	0	20	139	152
Other Parcels[2]	--	0	51	103	113
Parcels with No Data Available[2]	--	0	19	29	30
Assessed Value of All Parcels at Risk ($ in Millions)	$12,228	$0	$182	$1,288	$1,621

[1]Individuals with characteristics that make them more vulnerable to flooding and other natural disasters; measured at the census block level.
[2]Parcel counts were only inventoried in the hazard zone.

SEA LEVEL RISE VULNERABILITY ASSESSMENT | 1

Source: County of San Mateo Sea Level Rise Vulnerability Assessment, March 2018, p. 139

OPTION #2: BUILD LEVEES

- Could cost Menlo Park $3 billion

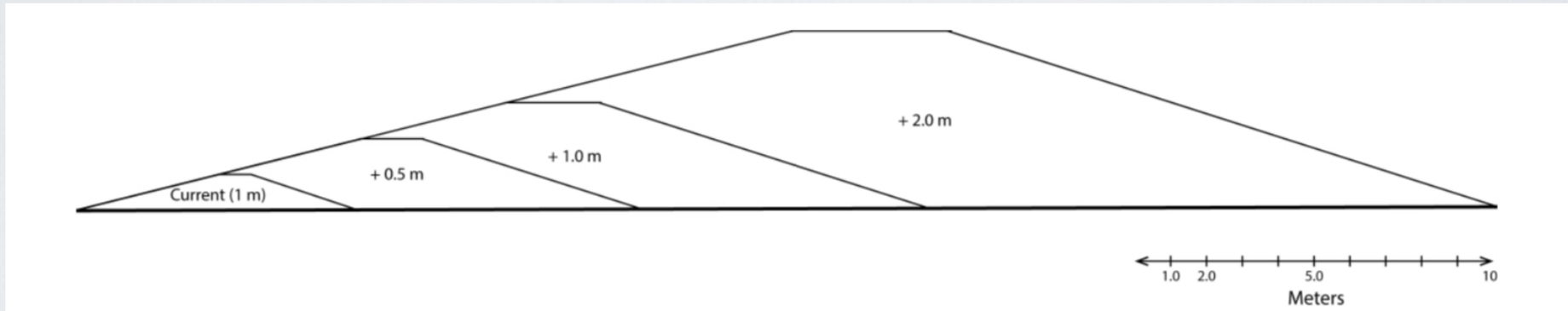


Figure 2. Cross-section of a levee depicted under different sea level rise scenarios.

Table 5. Estimated costs for raising coastal protective infrastructure to meet future sea level rise scenarios for the three designated potential shorelines in billions of USD$.

Sea Level Rise Scenario	Shoreline A (Saltwater)			Shoreline B (Salt/Fresh)			Shoreline C (Freshwater)		
	Range Low	Typical	Range High	Range Low	Typical	Range High	Range Low	Typical	Range High
0.5 m	$24	$39	$53	$25	$38	$51	$43	$63	$83
1.0 m	$33	$51	$70	$37	$57	$77	$69	$103	$137
1.5 m	$81	$126	$172	$95	$148	$200	$157	$240	$323
2.0 m	$116	$182	$248	$136	$212	$287	$217	$335	$453

Source: “Choosing a Future Shoreline for San Francisco Bay: Strategic Coastal Adaptation Insights from Cost Estimation,” The Journal of Marine Science and Engineering, p. 12.

OPTION #3: MITIGATE W/ CAP

- Very rough estimates suggest a cost of ~$20,00 per household to fully electrify home and transportation:

- $5,000 premium for 2 electric cars

- $2,000 for EV home charger

- $8,000 premium for heat pump space heater

- $2,000 premium for heat pump HW heater

- $3,000 for induction stove

- Total for 12,000 households = $240 million

- A bargain, compared to “Do nothing” or “Sea walls/levees” approaches

EXECUTING A CAP

- Clear leadership of: residents, employers, City commissions and City staff
- Unprecedented levels of coordination among City Departments, facilitated by outstanding project management tools and skills
- A way for City staff who are leading climate action to shed or de-prioritize activities that are not directly supporting climate change mitigation
- High levels of focus and communication by City staff
- Commitment to bold climate goals by 100% of City staff, from City Manager across the entire organization
- Training and new hiring criteria for all City employees, requiring climate action awareness and commitment to the City's bold goals
- Creativity, risk taking and problem solving from all City employees directed toward climate change mitigation
- Organizational agility and the ability by staff to quickly respond to new opportunities and rapidly changing external circumstances
- A new mechanism for City Council to frequently review and, if necessary, reset City staff's climate action priorities, an activity that currently takes one full year
- The ability for City Staff to forge partnerships with other organizations, cities and businesses whose goals are complimentary

TIMING

- Every day the City delays implementation of the CAP, residents purchase an estimated:

  - 9 cars

  - 2 gas furnaces

  - 3 gas hot water heaters

- $300,000 of equipment that put our climate goals at risk and may need to be replaced before the end of it's useful life

- This is a waste of resident resources

APPENDIX

POTENTIAL OBSTACLES

- Cost
- Resistance to change
- Pressure from entrenched interests
- Opposition from a vocal minority
- Limited staff resources and time

CO-BENEFITS

- Traffic congestion will be reduced through VMT reduction
- Outdoor air quality will improve
- Residents' health could improve through active transportation
- Indoor air quality will be improved
- Risk of gas pipeline explosions will be eliminated
- Public costs of gas pipeline maintenance will be eliminated
- Local jobs and economy will be boosted by work to

MORE CO-BENEFITS

- More EV charging at employer sites will match power demand to solar electricity supply, reducing strain on grid and reducing GHG emissions
- Reducing waste will extend the life of the City's landfill, saving money
- Resiliency measures will provide peace of mind to residents during power blackouts
- Residents will receive peace of mind, knowing City officials have a plan for addressing climate change
- More pedestrian and bike paths will increase the City's village feel, steering it away from urban sprawl
- Local reforestation project with partner like POST could provide residents with more opportunities to enjoy nature

POSSIBLE CAP COMPONENTS

1. GHG inventory
2. GHG reduction targets
3. Proposed strategies
4. Proposed projects with completion dates
5. Proposed timeline for implementation
6. Proposed budget
7. Proposed measures of success

NEXT STEPS

- Present draft of climate action plan to city staff by January 10th (?)
- Organize meetings between City leaders and key stakeholders, e.g., Peninsula Clean Energy, to assess degree of alignment and interest in collaborating on key strategies
- Begin implementation of critical CAP strategies, as soon as high-level framework is approved by City Council
- Come up with a plan for proactively informing property owners in Belle Haven that their property is at risk
- Meet with POST to explore the possibility of investing in carbon sinks (e.g., new forest) on nearby land that they own

NEXT STEPS

- Create an FAQ on the economics and carbon reduction potential of electrifying home space and water heating and post on the City's website

- Create an FAQ with key facts to counter misinformation about Reach Codes and CAP, disseminate to City Council and others who may get questions

- Create a plan for answering residents' questions about Reach Codes and other climate change mitigation measures on social media

- Launch informal community education with high impact appearances by respected academics and experts in electrification?

- Decide whether to include water issues and adaptation measures in our CAP

NEXT STEPS

- Lay groundwork by meeting informally with various stakeholders:
  - Relevant city commissions: Complete Streets, Transportation Master Plan, Planning
  - Relevant city staff
  - Employers in the city, e.g. re: options for daytime EV charging for employees
  - Local organizations: Rotary Club, PTAs, Sierra Club, churches
  - Community college leaders
  - Heat pump manufacturers and installers, re: cost reduction roadmaps
  - Electric appliance manufacturers and installers: induction cooktops, heat pump water heaters, EV chargers, etc.

COMMUNITY ENGAGEMENT

- Different models:

  - Traditional process: engage community once plan is finalized

  - Start by creating a CAP Advisory board, which includes community stakeholders

  - Engage community early for brainstorming + later for reactions

COLLABORATION WITH OTHERS

- Many potential collaborators:
  - Peninsula Clean Energy
  - San Mateo County
  - Community colleges
  - Facebook and other employers
  - Equipment manufacturers and installers
  - Other cities

OTHER CITIES' CAPS

- What can we learn?

  - Many different formats

  - Becoming more readable for average citizens

  - Level of detail varies

  - More recent CAPs much bolder

  - Low hanging fruit now gone, next actions require more $

  - Some include: water conservation, adaptation measures

OTHER CITIES' CAPS

- Good examples:
  - Santa Monica
  - Vancouver
  - San Jose

ACTIONS

A NEW MODEL OF MOBILITY	Carbon Reduction Potential	Cost to City	Community Benefits	Lead	Partners	Status or Timeframe
SM1: Adopt a New Mobility Strategy Develop and adopt policies to govern local mobility services, designate underutilized street space, adapt to technology innovations, implement pricing strategies and foster regional integration.	●○○○	$		MD		Near Term
SM2: Expand & Diversify Mobility Services & Devices Diversify Breeze fleet to include electric bicycles and offer options for people with different access and functional needs. Partner with operators of dockless devices to expand mobility options that are safe, convenient and affordable, and provide options for people with different needs. Improve shared-mobility services through open marketplace opportunities, permitting systems, dedicated infrastructure and payment platforms that integrate multimodal planning.	●○○○	$		MD	Business	Near Term
SM3: Expand Mobility Infrastructure Develop strategies and projects to use curb space as mobility hubs that can serve mobility-service providers. Integrate smart-sensing and smart-charging technologies to monitor, inform and enable activities, like congestion pricing. Create tools to maximize street capacity and efficiency for people.	●●●○	$$$		MD	Business	Near to M Term
SM4: Implement Parking Policies & Pricing Continue to actively review and adjust parking prices citywide as market rates change, and revisit parking management and construction policies to encourage sharing existing resources. Analyze financial impacts and develop alternatives to decreased revenue from parking fees.	●●●○	$		MD		Near Term
SM5: Sustainable Goods Movement & Delivery Services						

Example: Santa Monica

GOAL AND TARGETS	INDICATOR	BASELINE	2018	CHANGE FROM BASELINE	IMPROVED OVER BASELINE	2020 TARGET
CLIMATE AND RENEWABLES						
Target: Reduce community-based greenhouse gas emissions by 33% from 2007 levels by 2020.	Total tonnes of community CO_2e emissions from Vancouver	2,765,000 tCO_2e (2007)	2,440,000 tCO_2e	-12%	Yes	1,865,000 tCO_2e
GREEN BUILDINGS						
Target 1: Require all buildings constructed from 2020 onward to be carbon neutral in operations.	Kilograms of CO_2e per square metre of newly built floor area	20.7 $kgCO_2e/m^2$ (2007)	11.8 $kgCO_2e/m^2$ (2017)	-43%	Yes	carbon neutral
Target 2: Reduce energy use and GHG emissions in existing buildings by 20% over 2007 levels.	Total tonnes of CO_2e from all community buildings	1,585,000 tCO_2e (2007)	1,415,000 tCO_2e	-11%	Yes	1,270,000 tCO_2e
GREEN TRANSPORTATION						
Target 1: Make the majority of trips (over 50%) by foot, bicycle and public transit.	Per cent mode share by walk, bike and transit	40%[1]	53% of trips	+13%	Yes	50% of trips
Target 2: Reduce average distance driven per resident by 20% from 2007 levels.	Total vehicle km driven per person	5,950 km (2007)	3,690 km	-38%	Yes	4,760 km
ZERO WASTE						
Target: Reduce total solid waste going to the landfill or incinerator by 50% from 2008 levels.	Annual solid waste disposed to landfill or incinerator from Vancouver[2]	480,000 tonnes (2008)	347,000 tonnes (2017)	-28%	Yes	240,000 tonnes
ACCESS TO NATURE						
Target 1: Ensure that every person lives within a five-minute walk of a park, greenway or other green space.[3]	Per cent of city's land base within a five-minute walk to a green space	92.6% (2010)	92.7%	+0.1%	Yes	95%
Target 2: Plant 150,000 additional trees.	Total number of additional trees planted	-- (2010)	122,000 trees	+122,000	Yes	150,000 trees
Target 3: Restore or enhance 25 hectares of natural areas between 2010 and 2020.	Total hectares of natural areas restored or enhanced	-- (2010)	27 hectares	+26	Yes	25 hectares
Target 4: Increase canopy cover to 22% by 2050.	Per cent of city's land area covered by tree-leaf canopies	18% (2013)	Survey results available in 2020	--	--	22% (2050)
CLEAN WATER						
Target 1: Meet or beat the most stringent of British Columbian, Canadian and appropriate international drinking water quality standards and guidelines.	Total number of instances of not meeting drinking water quality standards	0 instances (2006)	0 instances	0	Yes	0 instances
Target 2: Reduce per-capita water consumption by 33% from 2006 levels.	Total water consumption per capita	583 L/person/day (2006)	456 L/person/day	-22%	Yes	390 L/person/day
LOCAL FOOD						
Target: Increase city-wide and neighbourhood food assets by a minimum of 50% over 2010 levels.	Total number of neighbourhood food assets[4] in Vancouver	3,344 food assets (2010)	4,960 food assets	+49%	Yes	5,016 food assets
CLEAN AIR						
Target: Meet or beat the most stringent air quality guidelines from Metro Vancouver, BC, Canada, and the World Health Organization.	Total number of instances of not meeting of air quality standards for ozone, particulate matter (PM2.5), nitrogen dioxide and sulphur dioxide from both the Kits and Downtown stations combined[5]	27 instances (2008)	227 instances	+200	No	0 instances

Example: Vancouver

Low-Carbon Growth Milestones

INDICATORS	CARBON REDUCTIONS	ZNE HOMES	ALL-ELECTRIC HOMES	HOUSEHOLD ENERGY USE
METRICS	Emissions reduction from this strategy	Number of ZNE homes	Percentage of homes that are all-electric	Household energy use (gas and electricity)
PROGRESS MILESTONES	Thousands of tons of carbon reduced per year	Number of ZNE homes	Percentage of homes that are all-electric	Household energy consumption (kWhe and kWhth)
TODAY	–	<100	0%	14,988
2030	389	37,975	47%	10,626
2040	663	71,800	95%	6,547
2050	701	90,650	100%	5,704

Example: San Jose

APPROVED 5-YEAR CAPITAL IMPROVEMENT PROGRAM BUDGETS

CLIMATE ACTION & ADAPTATION SECTOR	SUB-SECTOR	FY 16/18	FY 18/20	TOTAL
Zero Net Carbon Buildings	Municipal Energy	$11,033,075	$108,663,560	$119,696,635
Sustainable Mobility	Bike & Pedestrian Improvements	$15,541,828	$31,131,412	$47,583,240
	Roadway & Transit Improvements	$1,552,247	-	$1,552,247
	Affordable Housing	$10,507,954	-	$10,507,954
	Low Emission Buses	$21,116,000	$432,837,726	$53,953,726
	Electric Vehicles	$186,690	$3,127,300	$3,313,990
Low Carbon Food & Ecosystems	Urban Forest	$2,330,000	$2,250,000	$4,580,000
Water Self-Sufficiency	Local Water Production	$70,858,500	$65,318,436	$136,176,936
Coastal Flooding Preparedness	Pier Hardening	$2,124,000	$3,835,000	$5,959,000
	TOTAL	**$135,160,294**	**$248,163,434**	**$383,323,728**

Example: Santa Monica, population ~100,000 people

CAP BUDGETS

- Survey of other cities' CAPs reveals that financial commitments have <u>significantly</u> increased in the last 1-2 years, as cities face the dire reality of scientists predictions

- Attitude is: "Low hanging fruit" projects are done...now the hard work begins

EXCELLENT RESOURCES

- GHG Data: https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions

- Rocky Mountain Institute: https://rmi.org/insight/the-carbon-free-city-handbook/

- Center for Climate and Energy Solutions: https://www.c2es.org/document/mayors-leading-the-way-on-climate-2018/