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CITY OF BEVERLY HILLS

Municipal Gallery
455 North Rexford Drive
Beverly Hills, CA 90210

In-person / Telephonic / Video Conference Meeting

CLIMATE ACTION AND ADAPTATION PLAN COMMUNITY ADVISORY COMMITTEE

AGENDA

Wednesday, April 27, 2022
2:00 p.m.

Pursuant to Government Code Section 54953, members of the Beverly Hills Climate Action and Adaptation Plan Community Advisory Committee and staff may participate in this meeting in-person or via a teleconference. In the interest of maintaining appropriate social distancing, members of the public can participate in the meeting by using the link or phone numbers below.

Anyone who participates at the meeting and/or enters the Municipal Gallery is subject to having their image and/or voice displayed. These recordings will remain publicly accessible in perpetuity.

How to Submit a Public Comment:

Audio/oral: 1 (346) 248-7799 US or 1 (833) 548-0276 US Toll-free

Email: bhcaap@beverlyhills.org

Video: <https://beverlyhills-org.zoom.us/my/climate> (passcode: 90210)

To watch video live: <https://www.beverlyhills.org/live>

In-Person: Submit a Speaker Card to the Recording Secretary

It is recommended that written public comments be submitted to the Climate Action and Adaptation Plan Community Advisory Committee Recording Secretary by 11:30 AM on the meeting date. Public comments will also be taken during the meeting when the topic is being reviewed by the Climate Action and Adaptation Plan Community Advisory Committee. Written comments should identify the Agenda Item number or topic in the subject line of the email.

In order to be read at the meeting, written comments will be allowed with a maximum of 350 words, which corresponds to approximately three (3) minutes of speaking time. If a comment is received after the agenda item is heard, it will not be a part of the record.

The Committee may act on any item listed on the agenda.

OPEN MEETING

ROLL CALL

COMMUNICATIONS FROM THE AUDIENCE

Comment: Members of the public will be given the opportunity to directly address the Committee regarding any items not on the Agenda that are within the subject matter jurisdiction of the Committee. By State law, the Committee may not discuss or vote on items, not on the Agenda.

1. APPROVAL OF FEBRUARY 23, 2022 HIGHLIGHTS

2. A RESOLUTION OF THE CLIMATE ACTION AND ADAPTATION PLAN COMMUNITY ADVISORY COMMITTEE OF THE CITY OF BEVERLY HILLS CONTINUING TO AUTHORIZE PUBLIC MEETINGS TO BE HELD VIA TELECONFERENCING PURSUANT TO GOVERNMENT CODE SECTION 54953(E) AND MAKING FINDINGS AND DETERMINATIONS REGARDING THE SAME

Comment: Recent legislation was adopted allowing Climate Action and Adaptation Community Advisory Committee to continue virtual meetings during the COVID-19 declared emergency subject to certain conditions and the proposed resolution implements the necessary requirements.

3. UPDATE ON GREEN HOUSE GAS (GHG) MEASURES AND PRIORITIZATION

Comment: This item is for information and discussion. During the discussion, staff is asking the committee's input whether to prioritize the measures to reach the goal of carbon neutrality or should the committee recommend an implementation approach prior to prioritizing the reduction measures.

4. CITY OF BEVERLY HILLS CLIMATE CHANGE VULNERABILITY ASSESSMENT

Comment: The item is for information and discussion regarding the Climate Change Vulnerability Assessment. The discussion and comments will help formulate a robust resilience plan for the Climate Action and Adaptation Plan (CAAP).

5. COMMUNITY ENGAGEMENT EVENT UPDATES

Comment: This item is for information and discussion.

6. TRANSIT SERVICE STUDY UPDATE

Comment: This item is for information and discussion.

7. INFORMATION REGARDING CITY'S SOLID WASTE COLLECTION SYSTEM

Comment: This item is for information only.

8. CHAIR'S REPORT

9. DIRECTOR'S REPORT

ADJOURNMENT

If there are any questions about this agenda, please contact Melissa Gomez at 310-288-2864 or mgomez@beverlyhills.org.

Item 1



CITY OF BEVERLY HILLS

455 North Rexford Drive
Beverly Hills, CA 90210
Video Teleconference

The Beverly Hills Climate Action and Adaptation Plan (CAAP) Community Advisory Committee

MEETING HIGHLIGHTS

Wednesday, February 23, 2022

2:00 PM

MEETING CALLED TO ORDER

Date / Time: February 23, 2022, / 2:00 PM

IN ATTENDANCE:

CAAP Community Advisory Committee members Myra Lurie, Alissa Roston, Sharon Ignarro, Wendy Nystrom, Sharona Nazarian, Erica Felsenthal, Lee Hilborne, Myra Demeter, Peter Ostroff, Sandra Aronberg, Linda Newmark, Rene Jones, and Susan Kimura.

City Staff: Director of Public Works Shana Epstein, Environmental Compliance and Sustainability Program Manager Josette Descalzo, Senior Management Analyst Melissa Gomez, Utilities General Manager Robert Welch, CivicSpark Fellow Tory Brewster

COMMUNICATIONS FROM THE AUDIENCE

Members of the public were allowed to directly address the Committee on any item listed on the agenda.

Speakers: None

1) APPROVAL OF JANUARY 26, 2022, HIGHLIGHTS

Motion: MOVED by Sharon Ignarro, SECONDED by Sharona Nazarian to approve the Resolution as presented (13/0).

AYES: All members of the Committee verbally approved the Resolution.

ABSTAIN: None

NOES: None

CARRIED

2) A RESOLUTION OF THE CLIMATE ACTION AND ADAPTATION PLAN COMMUNITY ADVISORY COMMITTEE OF THE CITY OF BEVERLY HILLS AUTHORIZING PUBLIC MEETINGS TO BE HELD VIA TELECONFERENCING PURSUANT TO GOVERNMENT



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CODE SECTION 54953(E) AND MAKING FINDINGS AND DETERMINATIONS REGARDING THE SAME

Motion: MOVED by Erica Felsenthal, SECONDED by Lee Hilborne to approve the Resolution as presented (13/0).

AYES: All members of the Committee verbally approved the Resolution.

ABSTAIN: None

NOES: None

CARRIED

3) CLIMATE ACTION AND ADAPTATION PLAN ("CAAP") STATUS

Josette Descalzo, Sustainability Program Manager, provided a status update on the CAAP.

CAAP Status

The transportation, building, energy, and waste sectors will be the main focus for lowering GHG emissions in the City. After staff briefs the CAC on the adaptation portion of the CAAP, the CAC will be able to review and comment on the first draft measures of the CAAP.

4) CLIMATE ACTION AND ADAPTATION PLAN MILESTONES AND TIMELINE

Josette Descalzo, Sustainability Program Manager, reviewed the timeline for the CAAP process.

Milestones and Timeline

Staff provided a timeline to finish the CAAP project by 2023. City staff and consultants will complete a technical analysis and bring the analysis to the CAC for discussion and review. After the CAC discusses and reviews the analysis, staff and consultants will start writing sections of the CAAP. Additionally, staff will begin the community outreach and education process with a community workshop and presentation.

CAC Comments

- The City will promote the CAAP during the farmers market Earth Day Event.

5) CHAIRS REPORT

Co-Chair Wendy Nystrom highlighted some of the takeaways from Ad-Hoc committees.

Buildings Ad-Hoc Highlights

The Buildings Ad-Hoc policy framework notes were summarized. The CAC discussed the pros and cons of incentives and mandates regarding building retrofits and remodels.



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Additionally, the CAC discussed resources the City could provide to encourage energy efficiency for remodels.

Water and Solid Waste Ad-Hoc Highlights

The water and solid waste ad-hoc meeting notes were summarized. The CAC discussed the need for community outreach regarding water conservation. The CAC discussed increasing community awareness of sustainability and local sustainability initiatives with local schools and newspapers.

6) DIRECTORS REPORT

Shana Epstein, Director of Public Works, informed members of the Committee about relevant items that will be introduced to various commissions.

ADJOURNMENT

Date / Time:

February 23, 2022/ 3:07 PM

Item 2



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Josette Descalzo, Environmental Compliance and Sustainability Programs Manager

DATE: April 27, 2022

SUBJECT: A Resolution of The Climate Action and Adaptation Plan Community Advisory Committee of the City of Beverly Hills Authorizing Public Meetings to be held via Teleconferencing Pursuant to Government Code Section 54953(e) and Making Findings and Determinations Regarding the Same

ATTACHMENT: 1. Resolution

RECOMMENDATION

Staff and the City Attorney's office recommend that the Climate Action and Adaptation Plan Community Advisory Committee adopt a resolution making the following findings so that meetings of the Climate Action and Adaptation Plan Community Advisory Committee will be subject to the special Brown Act requirements for teleconference meetings: (1) the Climate Action and Adaptation Plan Community Advisory Committee has reconsidered the circumstances of the COVID-19 state of emergency; (2) the state of emergency continues to directly impact the ability of the members to meet safely in person; and (3) state or local officials continue to impose or recommend measures to promote social distancing.

INTRODUCTION

Governor Newsom recently signed new legislation (AB 361) allowing the Climate Action and Adaptation Plan Community Advisory Committee to continue virtual meetings during the COVID-19 declared emergency subject to certain conditions. These special requirements give the City greater flexibility to conduct teleconference meetings when there is a declared state of emergency and either social distancing is mandated or recommended, or an in-person meeting would present imminent risks to the health and safety of attendees.

BACKGROUND

On March 4, 2020, Governor Newsom proclaimed a state of emergency to exist in California due to the spread of COVID-19. The Governor subsequently issued numerous executive orders suspending or modifying state laws to facilitate the response to the emergency. Among other things, these executive orders superseded certain Brown Act requirements and established special rules to give local public agencies greater flexibility to conduct teleconference meetings. Those special rules expired on September 30, 2021.

On September 16, 2021, in anticipation of then-imminent expiration of his special rules for teleconference meetings, the Governor signed AB 361. In key part, this bill amends the Brown Act to establish special requirements for teleconference meetings if a legislative body of a local public agency holds a meeting during a proclaimed state of emergency and either state or local officials have imposed or recommended measures to promote social distancing, or the body determines, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

AB 361 builds upon Executive Order (“EO”) N-29-20, issued by the Governor on March 17, 2020, which relaxed the teleconferencing requirements of the Brown Act to facilitate virtual meetings during the COVID-19 declared emergency. EO N-29-20’s provisions concerning public meetings applied through September 30, 2021.

AB 361 authorizes local agencies to continue meeting remotely without following the Brown Act’s standard teleconferencing provisions if the meeting is held during a state of emergency proclaimed by the Governor and either of the following applies: (1) state or local officials have imposed or recommended measures to promote social distancing; or (2) the agency has already determined or is determining whether, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

EO N-29-20 required legislative bodies to make remote public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body, and to make reasonable efforts to adhere as closely as reasonably possible to the provisions of the Brown Act. AB 361 adds new procedures and clarifies the requirements for conducting remote meetings as follows:

- **Public Comment Opportunities in Real Time:** A legislative body that meets remotely pursuant to AB 361 must allow members of the public to access the meeting via a call-in option or an internet-based service option, and the agenda for the remote meeting must provide an opportunity for members of the public to directly address the body in real time. Although the agency may still ask for public comments to be submitted in advance, the agency cannot require public comments to be submitted in advance of the meeting. If an agency does not provide a timed public comment period, but takes public comment separately on each agenda item, it must allow a reasonable amount of time per agenda item to allow members of the public the opportunity to provide public comment, including time to “be recognized for the purpose of providing public comment.”
- **No Action During Disruptions:** In the event of a disruption that prevents the local agency from broadcasting the remote meeting, or in the event of a disruption within the local agency’s control that prevents members of the public from offering public comments using the call-in option or internet-based service option, AB 361 prohibits the legislative body from taking any further action on items appearing on the meeting agenda until public access to the meeting via the call-in or internet-based options is restored.
- **Periodic Findings:** To continue meeting remotely pursuant to AB 361, an agency must make periodic findings that: (1) the body has reconsidered the circumstances of the declared emergency; and (2) the emergency impacts the ability of the body’s members

to meet safely in person, or state or local officials continue to impose or recommend measures to promote social distancing. These findings should be made not later than 30 days after teleconferencing for the first time pursuant to AB 361, and every 30 days thereafter.

DISCUSSION

To continue to hold meetings under these special teleconferencing requirements, the Climate Action and Adaptation Plan Community Advisory Committee needs to make two findings pursuant to Government Code Section 54953(e)(3). First, there must be a declared state of emergency and the Climate Action and Adaptation Plan Community Advisory Committee must find that it has reconsidered the circumstances of such emergency. Second, the Climate Action and Adaptation Plan Community Advisory Committee must find that such emergency continues to directly impact the ability of the Climate Action and Adaptation Plan Community Advisory Committee members to meet in person. Alternatively, for the second finding, the Climate Action and Adaptation Plan Community Advisory Committee must find that state or local officials continue to impose or recommend social distancing measures. These findings must be made within 30 days after the Climate Action and Adaptation Plan Community Advisory Committee teleconferences for the first time under AB 361 and every 30 days thereafter.

The declared emergency is still in effect. Furthermore, the State of California and the County of Los Angeles have recommended measures to promote social distancing. The Centers for Disease Control and Prevention continue to advise that COVID-19 spreads more easily indoors than outdoors and that people are more likely to be exposed to COVID-19 when they are closer than 6 feet apart from others for longer periods of time. Additionally, the Los Angeles County Department of Public Health still encourages people at risk for severe illness or death from COVID-19 to take protective measures such as social distancing and, for those not yet fully vaccinated, to physically distance from others whose vaccination status is unknown. The County Health Department also continues to recommend that employers take steps to support physical distancing.

Please note that AB 361 applies to all legislative bodies. Therefore, Commissions and standing committees will need to also comply with the requirements of AB 361.

FISCAL IMPACT

The proposed resolution allowing the Climate Action and Adaptation Plan Community Advisory Committee greater flexibility to conduct teleconference meetings is unlikely to cause a greater fiscal impact to the City.

Attachment 1

RESOLUTION NO. _____

RESOLUTION OF THE CLIMATE ACTION AND ADAPTATION PLAN COMMUNITY ADVISORY COMMITTEE OF THE CITY OF BEVERLY HILLS CONTINUING TO AUTHORIZE PUBLIC MEETINGS TO BE HELD VIA TELECONFERENCING PURSUANT TO GOVERNMENT CODE SECTION 54953(e) AND MAKING FINDINGS AND DETERMINATIONS REGARDING THE SAME

WHEREAS, the Climate Action and Adaptation Plan Community Advisory Committee is committed to public access and participation in its meetings while balancing the need to conduct public meetings in a manner that reduces the likelihood of exposure to COVID-19 and to support physical distancing during the COVID-19 pandemic; and

WHEREAS, all meetings of the Climate Action and Adaptation Plan Community Advisory Committee are open and public, as required by the Ralph M. Brown Act (Cal. Gov. Code Sections 54950 – 54963), so that any member of the public may attend, participate, and watch the Climate Action and Adaptation Plan Community Advisory Committee conduct its business; and

WHEREAS, pursuant to Assembly Bill 361, signed by Governor Newsom and effective on September 16, 2021, legislative bodies of local agencies may hold public meetings via teleconferencing pursuant to Government Code Section 54953(e), without complying with the requirements of Government Code Section 54953(b)(3), if the legislative body complies with certain enumerated requirements in any of the following circumstances:

1. The legislative body holds a meeting during a proclaimed state of emergency, and state or local officials have imposed or recommended measures to promote social distancing.

2. The legislative body holds a meeting during a proclaimed state of emergency for the purpose of determining, by majority vote, whether as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.
3. The legislative body holds a meeting during a proclaimed state of emergency and has determined, by majority vote, that, as a result of the emergency, meeting in person would present imminent risks to the health or safety of attendees.

WHEREAS, on March 4, 2020, Governor Newsom declared a State of Emergency in response to the COVID-19 pandemic (the “Emergency”); and

WHEREAS, the Centers for Disease Control and Prevention continue to advise that COVID-19 spreads more easily indoors than outdoors and that people are more likely to be exposed to COVID-19 when they are closer than 6 feet apart from others for longer periods of time; and

WHEREAS, the Los Angeles County “Responding together at Work and in the Community Order (8.23.21)” provides that all individuals and businesses are strongly encouraged to follow the Los Angeles County Public Health Department Best Practices. The Los Angeles County Public Health Department “Best Practices to Prevent COVID-19 Guidance for Businesses and Employers”, updated on September 13, 2021, recommend that employers take steps to reduce crowding indoors and to support physical distancing between employees and customers; and

WHEREAS, the unique characteristics of public governmental buildings is another reason for continuing teleconferenced meetings, including the increased mixing associated with bringing people together from across several communities, the need to enable those who are

immunocompromised or unvaccinated to be able to safely continue to fully participate in public meetings and the challenge of achieving compliance with safety requirements and recommendations in such settings; and

WHEREAS, the Beverly Hills City Council has adopted a resolution that continues to recommend steps to reduce crowding indoors and to support physical distancing at City meetings to protect the health and safety of meeting attendees; and

WHEREAS, due to the ongoing COVID-19 pandemic and the need to promote social distancing to reduce the likelihood of exposure to COVID-19, the Climate Action and Adaptation Plan Community Advisory Committee intends to continue holding public meetings via teleconferencing pursuant to Government Code Section 54953(e).

NOW, THEREFORE, the Climate Action and Adaptation Plan Community Advisory Committee of the City of Beverly Hills resolves as follows:

Section 1. The Recitals provided above are true and correct and are hereby incorporated by reference.

Section 2. The Climate Action and Adaptation Plan Community Advisory Committee hereby determines that, as a result of the Emergency, meeting in person presents imminent risks to the health or safety of attendees particularly those with underlying health conditions.

Section 3. The Climate Action and Adaptation Plan Community Advisory Committee shall continue to conduct its meetings pursuant to Government Code Section 54953(e).

Section 4. Staff is hereby authorized and directed to continue to take all actions necessary to carry out the intent and purpose of this Resolution including, conducting open and

public meetings in accordance with Government Code Section 54953(e) and other applicable provisions of the Brown Act.

Section 5. The Climate Action and Adaptation Plan Community Advisory Committee has reconsidered the circumstances of the state of emergency and finds that: (i) the state of emergency continues to directly impact the ability of the members to meet safely in person, particularly those with underlying health conditions, and (ii) state or local officials continue to impose or recommend measures to promote social distancing.

Section 6. The Secretary of the Climate Action and Adaptation Plan Community Advisory Committee shall certify to the adoption of this Resolution and shall cause this Resolution and her certification to be entered in the Book of Resolution of the Climate Action and Adaptation Plan Community Advisory Committee of this City.

Adopted: _____

Wendy Nystrom
Co-Chair of the Climate Action and
Adaptation Plan Community Advisory
Committee of the City of Beverly Hills,
California

Peter Ostroff
Co-Chair of the Climate Action and
Adaptation Plan Community Advisory
Committee of the City of Beverly Hills,
California

Item 3



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Josette Descalzo, Environmental Compliance and Sustainability Programs Manager
Robert Welch P.E., Utilities General Manager
Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Draft Greenhouse Gas Emissions (GHG) Reduction Measures

ATTACHMENTS: 1. Draft GHG Emissions Reduction Measures List
2. Presentation

RECOMMENDATION

This item is for information and discussion. During the discussion, staff is asking the committee's input whether to prioritize the measures to reach the goal of carbon neutrality or should the committee recommend an implementation approach prior to prioritizing the reduction measures.

INTRODUCTION

The Community Advisory Committee (CAC) formed Ad-hoc committees to help formulate reduction measures for the CAAP. Staff and consultant team were tasked to expand in detail a list of GHG reduction measures that would fit the needs of the community towards its carbon neutrality goal by 2045. The following report provides a detailed synopsis of those Ad-hoc discussions on how these measures are intended to build upon each other until full implementation. The report is also intended to foster discussion in refining and prioritizing these measures in the CAC before they are presented to various commissions, community events and City Council for adoption.

DISCUSSION

Reduction Approach

Beverly Hills can work to achieve carbon neutrality by 2045 by building upon the progress the City has already made and adopting new emissions reduction strategies and actions. Together, these strategies and actions: (1) provide a framework for reaching carbon neutrality; (2) make Beverly Hills more resilient to future climate impacts; and (3) have important social and economic benefits, such as bolstering the local economy, increasing community green spaces, and improving public health. The reduction approach is outlined below.

- Step 1. Foundational focus on expanding access to carbon free electricity by adopting CPA 100% Green Power Tier as the default tier for electricity supply in the City or SCE equivalent. Clean energy is key to reducing emissions from both buildings and transportation and meeting the City's long-term goals.
- Step 2. Significantly reduce emissions from energy use by making buildings more energy efficient while electrifying appliances and infrastructure. At the same time, reduce transportation emissions by expanding electric vehicle adoption and shifting away from single occupancy vehicles.
- Step 3. Take advantage of the City's access to carbon free electricity and experience all the co-benefits associated with it by phasing out natural gas building systems and fossil fuel-based transportation. This transition will include electrifying new and existing buildings and transitioning to electric vehicles.
- Step 4. Expand towards zero waste (increase diversion of waste away from the landfill) and sustainable consumption programs. These programs divert organic waste from landfills, where it produces potent methane emissions, and helps community members to buy and consume less generally, which reduces upstream emissions from material production and consumption.
- Step 5. Throughout this process, pursue local carbon sequestration projects, including expanding local tree planting programs, like the Urban Forest Management Plan (UFMP) and adopting nature-based solutions that protect and restore natural systems and capture and store carbon. Carbon sequestration is vital in reaching carbon neutrality and can help Beverly Hills close any gaps left by other initiatives.

Draft Mitigation Measures

Attachment 1 lists the draft mitigation measures in the sectors of clean energy, new and existing buildings, transportation, solid waste, and water and ecosystems. This list was developed by including input from city staff, CAC members, and best practices in the field. Each draft measure includes the applicability (municipal or citywide), implementation level, estimated timeline for implementation, GHG reduction potential and estimated cost. These fields provide additional detail and are intended to assist the stakeholders (CAC members, members of the community, etc.) in prioritizing GHG measures for implementation.

The consultant team has identified foundational items in each sector that will need to be initiated first in order to set the community up for the future implementation of additional mitigation measures. The foundational items allow for the compounding of GHG emissions reductions within its sector and related sectors. The foundational items in each sector are discussed below.

Clean Energy

CE 2.1 Achieve at least 90% participation . in CPA 100% Green Power tier or SCE equivalent.

Sustaining a high participation in Clean Power Alliance (CPA), SCE equivalent, or other carbon neutral electricity source is the foundational strategy to reduce energy related emissions through building improvements covered in the buildings sector. Residential and nonresidential energy use, including electricity and natural gas, account for 45% of Beverly Hills's greenhouse gas emissions. These emissions are mainly driven by the burning of fossil fuel natural gas, which accounts for 21% of emissions. Clean grid electricity from CPA, SCE or other third party energy

source and the installation of distributed energy resources (DERs) such as local solar projects, is a keystone effort being led by the State to help achieve its climate goals. Senate Bill 100's renewable portfolio standard will require that supplied energy not only be 100% carbon-free by 2045 but also 100% generated from renewable sources like wind, solar, and local biogas. Additionally, having access to clean electricity makes supporting the transition to electric vehicles across Beverly Hills more beneficial.

Buildings

Buildings are the primary users of energy within the city and the main vehicle to reduce energy-related emissions, which account for 45% of communitywide emissions. The foundational items in this sector include:

BNC 2.2 Adopt an electric-preferred or all-electric reach code.

New construction is governed by the California Building Code and must meet the California Green Building Standards (CALGreen), which includes requirements for energy performance. The building code is updated every three years to reflect industry best practices and increase the sustainability of new construction. However, to avoid developing GHG-emitting buildings and infrastructure with useful lives beyond the City's emissions reduction goals, Beverly Hills can adopt an all-electric or electric-preferred reach code for new residential and nonresidential construction. Paired with clean electricity, this strategy will reduce emissions from new construction. Additionally, the State is moving toward all-electric new construction by 2030. It can also often be cheaper to build all electric than a mixed fuel building as a result of not having to run natural gas plumbing and infrastructure.

BE 2.2 Adopt a phased in electrification plan for existing buildings that promotes, and as-needed, requires the retrofit of existing buildings to all electric.

Most building-related emissions are attributable to the existing building stock, which is much less efficient than new construction due to being built when building energy standards were nonexistent. Decarbonizing existing buildings through electrification is critical to meeting emissions reduction goals. Electrification removes natural gas systems from buildings and uses electric alternatives to take advantage of the cleaner electricity provided by CPA. Although this measure has a high cost of implementation for individuals it has a high GHG reduction potential. Electric alternatives are available for all typical building systems and appliances and the market continues to expand with additional offerings. SCE and CPA are also beginning to offer rebates and other financial incentives for electrification. Additionally, this measure generates many co-benefits including healthier indoor air quality, reduced energy use and lower utility bills, and more resilient building systems.

Transportation

TL 1.1 Prioritize, fund, and implement the Complete Streets Plan.

Transportation is the largest contributor to community emissions accounting for 46% of total emissions. Reducing vehicle miles traveled (VMT) by single-occupancy vehicles (SOVs) through transportation demand policies and programs is foundational to reducing transportation related emissions in Beverly Hills. Implementing the Complete Streets Plan will create safer, more accessible networks for biking and walking across the city. It will also help to reduce traffic, air pollution, and noise. As a priority strategy for the State to reduce GHG emissions, many funding opportunities such as grants are available to the City for implementation.

Solid Waste

- SW 1.1 Establish pathways and enforcement mechanisms for compliance with SB 1383 organics and food waste diversion.*

Solid waste emissions account for 4% of Beverly Hill's community emissions. The State adopted Senate Bill 1383, the Short-Lived Climate Pollutants Act, that requires jurisdictions to divert 75% of food waste from landfills by 2025, and jurisdictions must also recover food waste that can be repurposed. This goal can be achieved by creating and implementing mandatory organics recycling throughout the city and providing robust community outreach and technical assistance. Moreover, organics recycling can provide useful byproducts including compost and biogas, which can further reduce emissions and provide economic benefits.

Water and Ecosystems

- WW 1.1 Adopt CALGreen Tier 1 or 2 water efficiency requirements for new construction and alternations or additions of 50% the size of the original building.*
- WW 1.4 Modify MWELo to require all landscape projects to obtain a landscape permit, decrease the size threshold to capture all landscape renovations, add prescriptive irrigation, plant lists, or water budget requirements.*
- WW 2.3 Limit the use of potable water for irrigation and explore alternative sources for irrigation including greywater reuse.*

Water is a critical resource in Southern California and Beverly Hills. Regional water supplies are already being adversely affected by climate change induced drought and decreased snowpack. Beverly Hills water plans to meet approximately 25% of the city's demand with locally pumped groundwater, the rest coming from Metropolitan Water District. Reducing water use through passive conservation measures – fixture and appliance upgrades, low-water use landscaping, and utilizing non-potable water supplies, saves water and reduces emissions without significant behavior change.

GHG Reduction Analysis

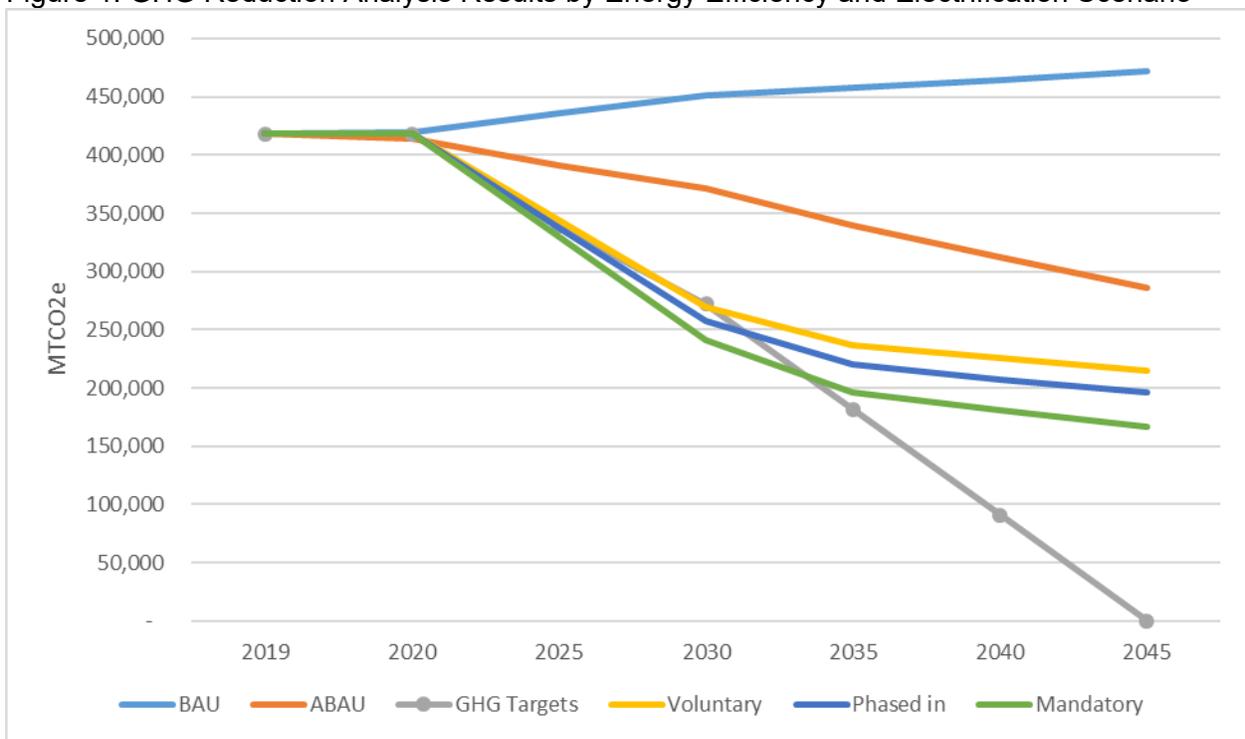
The consultant modeled three different building energy efficiency and electrification scenarios with differing levels of measure implementation. The analysis included all quantifiable measures in the draft mitigation measures list from each sector, Table 1 presents more information about the assumptions of each scenario below.

1. Voluntary: energy and water building measures are incentivized, not required, and an electric-preferred reach code for new construction is implemented by 2025 ; priority Complete Streets Plan projects are implemented; and compliance with SB 1383 is achieved.
2. Phased in: energy and water building measures and all-electric reach code are phased in, going from incentivized and voluntary until 2035 to mandatory thereafter; priority Complete Streets Plan projects are implemented; and compliance with SB 1383 is achieved.
3. Mandatory: energy and water building measures are mandatory by 2030 or as quickly as feasible and incentivized with an all-electric reach code; priority and additional Complete Streets Plan projects are implemented; and compliance with SB 1383 is achieved.

Table 1. GHG Reduction Analysis Results by Scenario (2030 and 2045)

Scenario	Participation Assumptions	2030 GHG Reduction	2045 GHG Reduction
Voluntary	Voluntary + electric preferred reach code <ul style="list-style-type: none"> • 28% - 46% buildings • 18% - 43% EV households • 4% additional mode shift (19% non-SOV) 	-41%	-53%
Phased in	Phased in building and energy measures <ul style="list-style-type: none"> • 28% - 60%% buildings • 18% - 43% EV households • 4% additional mode shift (19% non-SOV) 	-43%	-57%
Mandatory	Mandatory building and energy measures <ul style="list-style-type: none"> • 48% - 86% buildings • 18% - 43% EV households • 6.5% additional mode shift (21.5% non-SOV) 	-47%	-63%

Figure 1. GHG Reduction Analysis Results by Energy Efficiency and Electrification Scenario



The results presented in Table 1 and Figure 1 indicate that although the City can meet the requirements of SB 32 under all scenarios, the mandatory implementation scenario helps the community reduce the most emissions by 2045. The GHG reductions achieved in 2030 don't differ significantly across the scenarios as a result of when measures are implemented and requirements become mandatory. For example, the voluntary scenario assumes a lower participation rate each year than the mandatory scenario. The phased-in scenario assumes a

voluntary participation rate until 2035 when requirements shift to mandatory and the participation rate increases.

Table 2 outlines the GHG reductions of each strategy in 2030 for each scenario. The highlighted strategies are the most impactful in terms of GHG reductions. strategies with the greatest reduction potential include sustaining high participation in CPA 100% Green Power or other carbon neutral sources, existing building electrification and energy efficiency programs, as well as supporting EV adoption and implementing the Complete Streets Plan.

Table 2. 2030 GHG Reductions by Strategy

Strategy	Sector	Voluntary 2030 GHG Reductions (MTCO ₂ e)	Phased-In 2030 GHG Reductions (MTCO ₂ e)	Mandatory 2030 GHG Reductions (MTCO ₂ e)
Increase participation in CPA or other 100% green energy source	Clean energy	65,721	68,177	72,049
Local solar installations	Clean Energy	880	1,223	1,757
Electric-preferred or all-electric reach code	New buildings	643	643	1,157
Existing building electrification	Existing buildings	12,513	17,369	25,025
Existing building energy efficiency programs	Existing buildings	5,593	6,069	10,410
EV adoption and equipment electrification	Transportation	8,505	8,505	8,505
Mode Shift (Complete Streets Plan, transit)	Transportation	3,271	7,139	7,149
Comply with SB 1383	Solid Waste	2,562	2,562	2,562
Reduce outdoor and indoor water use	Water and wastewater	237	251	280
Tree planting	Carbon sequestration	<100	<100	<100
Estimated Total Reduction*		99,960	112,240	128,930

*Estimated totals may not add due to rounding

Based on this preliminary analysis, the City and community will need to proactively take local climate action to reduce and offset greenhouse gas emissions to achieve GHG reduction targets. Implementing the draft GHG mitigation measures can achieve the SB 32 goal of a 40% reduction in mass emissions by 2030 and put the City on the path toward carbon neutrality by 2045.

The ability to achieve carbon neutrality by 2045 depends on the City and community taking additional climate action, as well as the State enacting additional climate legislation and making continued investments in clean energy infrastructure and regional transit. With time, markets will continue to shift making greener alternatives more affordable.

Additional actions that the City can take to further reduce emissions are mainly related to transportation mode shift. These strategies include creating and implementing transportation demand management programs (TDM) and shifting from abundant to constrained parking pricing and management. According to State models, running a local shuttle can decrease transportation related emissions by up to 4.6%. Further analysis is required to determine the local GHG reduction potential associated with a shuttle in Beverly Hills. Furthermore, the City

will need to update its CAAP within the next 10 years in order to reflect any new legislation, advances in technology, and modify mitigation measures based on what has been effective in the community.

CONCLUSION

The draft GHG measures and reduction analysis provides a foundational understanding on how the community can be on the path to achieve its carbon neutrality goals. Based on the analysis, the most reductions can be accomplished with the mandatory approach followed by phased-in and voluntary. A voluntary approach has been fairly ineffective in reaching carbon neutrality goals as seen in studies. A phased-in approach allows the City of Beverly Hills (municipal) to establish and create programs to support the reductions but consequently extend the timeline to reach the same reductions projected for mandatory. A mandatory only approach (policy) is effective and yet requires substantial resources to implement throughout the community. The GHG reduction analysis indicates which measures are the most impactful in reducing GHG emissions and additional information included in the measures list can create a more complete picture about measure implementation. Although all draft measures in the CAAP will need to be implemented in order to achieve the SB 32 target and be on the pathway to carbon neutrality, the analysis and report are intended to foster a discussion around which scenario the City should pursue, which measures the City should prioritize implementing first and at what level, and what support the City can provide to individuals to help implement CAAP actions.

Attachment 1

Beverly Hills CAAP Draft Measures

Updated: 4/21/22

Clean Energy													
Outcome	Measure	Applicability	Implementation Actions	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes	
Alternative energy sources	CE 1.1	Explore opportunities for community scale solar and other renewable energy sources.	Municipal 1. Conduct a community-wide renewable energy generation analysis to identify locations in the City where renewable energy generation can be installed 2. Assess the feasible locations identified in the communitywide renewable energy generation analysis under CEQA 3. Partner with CPA to identify funding for installation of renewable energy generation at feasible locations			Supportive	Public Works	Yes, include other renewables		\$	-		
	CE 1.2	Streamline permitting process for solar, battery, and EV charging installations.	1. Review current permitting procedures 2. Determine eligibility criteria for systems that qualify for expedited permitting and provide permitting checklist 3. explore the potential to allow for digital signatures and online permit application submittals 4. Shorten the inspection process to one inspection for qualifying systems			Supportive	Community Development		Low-hanging fruit	\$	-	high priority	
	CE 1.3	Explore opportunities and partnerships to design new city facilities to be carbon neutral and utilize innovative fuel sources such as hydrogen or RNG.	Municipal 1. Partner with CPA and SCE to identify funding for installation of renewable energy generation and storage at feasible locations 2. Partner with SoCalGas to explore the feasibility of utilizing RNG in municipal facilities			Supportive	Public Works	Yes		\$\$	-	maybe remove? Budget and political concerns?	
Carbon-Free Electricity	CE 2.1	Achieve at least 90% participation in CPA 100% Green Power tier or SCE equivalent.	1. Identify barriers for large users and/or sectors to participate at the 100% Green Power Tier or SCE equivalent 2. Partner with CPA to develop and conduct a robust awareness and education campaign to boost enrollment			Medium	Public Works		Foundational item	\$	\$		
Buildings - New Construction + Remodels													
Outcome	Measure	Applicability	Implementation Actions	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes	
Energy Efficiency	BNC 1.1	Provide educational information or technical assistance on passive solar design.	Residential and nonresidential new construction	Voluntary		Low	Community Development	Yes					
	BNC 1.2	Adopt CALGreen Tier 1 or 2 energy efficiency requirements.	Residential and nonresidential new construction	Mandatory		Medium	Community Development	Yes, want all options for new construction and remodels		\$			
	BNC 1.3	Require alterations or additions at least 50% the size of the original building to comply with Tier 1 or 2 CALGreen energy requirements.	Residential and nonresidential remodels	Mandatory		Medium	Community Development	Yes, want all options for new construction and remodels		\$	\$		
Electrification	BNC 2.1	Carbon neutral new development - all electric construction, 100% RE electricity	Residential and nonresidential remodels	Phased: voluntary until 2035, mandatory after			Community Development			\$	\$	DAs if not CEQA qualified	
	BNC 2.2	Adopt an electric-preferred or all-electric reach code.	Residential and nonresidential new construction	Mandatory	1-3 years	Medium	Community Development	Yes, want all options for new construction and remodels	Foundational item	\$	-		
Buildings - Existing													
Outcome	Measure	Applicability	Implementation Actions	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes	
Energy Efficiency	BE 1.1	Adopt energy and water benchmarking ordinance for commercial buildings over a specified sf.	Nonresidential existing buildings	Phased: voluntary until 2035, mandatory after		Low	Community Development / Public Works			\$	\$		
	BE 1.2	Encourage residential properties older than 10 years to provide an energy audit or EPA Home Energy Score at time of sale or rental agreement.	Residential existing buildings	Voluntary		Supportive	Public Works		Low-hanging fruit				
	BE 1.3	Work with CPA, SCE, SCG, and SoCal REN to promote and implement efficiency incentives and programs.	Residential and nonresidential existing buildings	Voluntary		Low	Public Works		Low-hanging fruit				
	BE 1.4	Explore pricing mechanisms and tools, such as the Utility Users Tax (UUT) and tiered pricing, to reduce natural gas use.					Supportive	Public Works	Yes		\$		
	BE 1.5	Explore developing City-funded energy efficiency and electrification incentive programs.					Supportive	Public Works	Yes		\$		
	BE 2.1	Explore partnerships and opportunities to retrofit existing gas infrastructure to accommodate low emissions alternatives including RNG and hydrogen.	Residential and nonresidential existing buildings	Voluntary		Supportive	Public Works	Yes		\$			

Electrification	BE 2.2	Adopt a phased in electrification plan for existing buildings that promotes, and as-needed, requires the retrofit of existing buildings to all electric.	Residential and nonresidential existing buildings	<ol style="list-style-type: none"> Engage with stakeholders including City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the requirements Draft and adopt plan including phasing timeline of requirements Conduct CEQA analysis Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification Promote the cost and environmental benefits of electrification to builders, property owners, and contractors on the City website and at the City permit counters Work with SoCalGas to identify opportunities for natural gas infrastructure pruning to reduce the chance of stranded assets, provide potential funding, and establish an efficient transition to carbon neutral buildings 	Phased: voluntary until 2035, mandatory after		High	Community Development and Public Works		Foundational item	\$	\$\$	
	BE 2.3	Adopt Burnout Ordinance: require gas appliances (stove, clothes dryer, water heater) to be replaced with an electric alternative when they fail or reach the end of their useful life.	Residential and nonresidential existing buildings	<ol style="list-style-type: none"> Engage with stakeholders including City staff and officials, and external stakeholders, such as local developers regarding the purpose and impact of the requirements Draft and adopt ordinance Conduct CEQA analysis Develop a tracking process to track natural gas and electric appliance/system installations Provide technical resources, including hosting workforce development trainings for installers and building owners/operators to discuss benefits and technical requirements of electrification Provide education around cooking with electric appliances, including demonstrations from chefs and/or local restaurants 	Phased: voluntary until 2035, mandatory after		Medium	Community Development and Public Works		\$	\$\$		
	BE 2.4	Develop a decarbonization plan for City facilities that aligns with the CIP process.	Municipal	<ol style="list-style-type: none"> Conduct an energy audit of all City facilities Identify energy efficiency upgrades to be installed Identify potential for DERs at City facilities Align improvements timeline with CIP process including utility available incentive programs Draft and adopt plan 			Low	Public Works	Yes, want to see the City lead	Foundational item	\$\$		grants, funding available

Transportation + Land Use

Outcome	Measure	Applicability	Implementation Action	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes
Mode Shift	TL 1.1	Prioritize, fund, and implement the Complete Streets Plan.	<ol style="list-style-type: none"> Implement all policy recommendations included in the Complete Streets Plan to improve pedestrian and bicycle networks and increase transit ridership based on the established timeframes. Align implementation with CIP funding cycles Identify grant funding opportunities for Complete Street Policy implementation 			Low	Public Works		Foundational item	\$\$	-	
	TL 1.2	Partner with Metro to increase transit (bus and train) ridership in Beverly Hills.				Low	Public Works			\$	-	
	TL 1.3	Partner with rideshare companies to provide subscription based residential transportation service.				Low	Public Works	City		\$	-	
	TL 1.4	Assess the feasibility of a local city operated shuttle/bus service.				Supportive	Public Works	Yes		\$	-	
EV Adoption	TL 2.1	Adopt EV reach code for multi-family residential and nonresidential uses requiring EV chargers to be installed at time of construction.	<ol style="list-style-type: none"> Engage stakeholders including developers, architects, affordable housing advocates regarding the purpose and impact of the reach code Establish the number of EV Ready and EV Charger installed required spaces for different uses Draft and adopt ordinance Submit the adopted ordinance to the California Building Standards Commission (CBCS) 	Mandatory		Low	Community Development			\$	\$\$	
	TL 2.2	Develop a Transportation Electrification Plan that identifies areas of the City to prioritize EV infrastructure installation.	<ol style="list-style-type: none"> Identify locations throughout the City for publicly available EV infrastructure, including curbside charging installations Investigate opportunities to help fund additional EV charging infrastructure by leveraging public/private partnerships and ensuring the City is charging for EV infrastructure use at City-owned facilities. Adopt an electric and alternative fueled vehicles and equipment purchasing policy for light-duty vehicles for all City departments Draft and adopt plan 			Low	Public Works		Low-hanging fruit	\$\$	-	

Solid Waste

Outcome	Measure	Applicability	Implementation Action	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes
	SW 1.1	Establish pathways and enforcement mechanisms for compliance with SB 1383 organics and food waste diversion.	Partner with waste hauler to: <ol style="list-style-type: none"> Provide for organic waste collection from mixed waste containers are transported to a high diversion organic waste processing facility Provide quarterly route reviews to identify prohibited contaminants potentially found in containers that are collected along route. Clearly label all new containers indicating which materials are accepted in each container, and by January 1, 2025 place or replace labels on all containers. 	Mandatory		Medium	Public Works	City	Foundational item	\$\$		
	SW 1.2	Partner with the City's waste hauler to develop and implement a robust public engagement program and provide commercial and multifamily technical assistance.	Partner with waste hauler to: <ol style="list-style-type: none"> Identify contaminated waste generators in need of technical assistance Develop and distribute educational materials and in-person assistance 	Mandatory		Supportive	Public Works	Yes, want to see targeted outreach		\$	\$	

Increased diversion from landfill	SW 1.3	Expand the City's single use bag ban to include single use plastic and polystyrene packaging materials.		1. Engage stakeholders including restaurants, businesses, local shipping/delivery companies, and the Chamber of commerce on the impact, alternative products, and benefits of the ordinance 2. Draft and adopt ordinance 3. Establish monitoring and enforcement process as necessary			Low	Public Works	Yes		\$	\$		
	SW 1.4	Explore the feasibility of requiring 85% of C&D debris be recycled.	New construction	1. Research local disposal facility diversion rates to determine potential for additional diversion 2. If possible, draft and adopt ordinance 3. Submit the adopted ordinance to the California Building Standards Commission (CBSC)	Mandatory		Low	Community Development, Public Works			\$	\$		
	SW 1.5	Adopt a municipal sustainable purchasing policy that includes a focus on the diversification of vendors.	Municipal			Mandatory		Low	Public Works		Low-hanging fruit	\$	-	
Upstream waste reduction	SW 2.1	Explore modifications to the building code that would require certain products to be locally sourced and/or contain a percentage of recycled content.	New construction				Mandatory		Supportive	Community Development	Yes			
	SW 2.2	Advocate at the appropriate governmental level for goods and services to disclose lifecycle climate impacts.							Supportive	Public Works				
	SW 2.3	Advocate for more robust extended producer responsibility policies statewide.							Supportive	Public Works				

Water + Ecosystems

Outcome	Measure	Applicability	Implementation Action	Implementation Level	Timeline	GHG Reduction Potential	Responsible City Department	CAC Suggestion	Low-hanging fruit/Foundational	Cost to city	Cost to individual	Notes		
Reduced water use	WW 1.1	Adopt CALGreen Tier 1 or 2 water efficiency requirements for new construction and alternations or additions of 50% the size of the original building.	Residential and nonresidential new construction and remodels	1. Develop and draft an ordinance modifying the building code to make Tier 1 or 2 requirements mandatory 2. Conduct public hearings, public notices, and formally adopt the ordinance 3. Submit the adopted ordinance to the California Building Standards Commission (CBSC)	Mandatory		Low	Community Development, Public Works	Yes, want to explore passive conservation strategies	Foundational item	\$	\$		
	WW 1.2	Require dual drainage plumbing and dual water supply plumbing in residential dwellings.	Residential new construction		Mandatory		Supportive	Community Development		-	\$			
	WW 1.3	Explore strategies to encourage water neutral new development.	Residential and nonresidential new construction	1. Research existing water neutrality ordinances and incentives 2. Engage stakeholders including developers, architects, and property owners regarding the purpose and impact of the requirements	Voluntary			Supportive	Community Development, Public Works	City	\$	\$		
	WW 1.4	Modify MWEL0 to require all landscape projects to obtain a landscape permit, decrease the size threshold to capture all landscape renovations, add prescriptive irrigation, plant lists, or water budget requirements.	Residential and nonresidential new construction					Community Development, Public Works	Yes, want to explore passive conservation strategies	Low-hanging fruit, foundational item	\$	\$		
	WW 1.5	Promote State efficiency incentives and programs.		1. Implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems	Voluntary			Low	Public Works	Yes	Low-hanging fruit	-	\$	
	WW 1.6	Create a streamlined permit process for laundry-to-landscape greywater systems.		1. Review current permitting procedures 2. Partner with Greywater Action or similar organization to determine eligibility criteria for systems that qualify for expedited permitting and provide permitting checklist 3. explore the potential to allow for digital signatures and online permit application submittals 4. Shorten the inspection process to one inspection for qualifying systems	Voluntary			Supportive	Community Development		Low-hanging fruit	-	-	
	WW 1.7	Conduct a cost-of-service study to explore how volumetric charges on water and wastewater reduce consumption.						Supportive	Public Works	City	\$	-		
Ecosystems	WW 2.1	Implement the Urban Forest Management Plan.	Municipal	1. Implement all policy recommendations included in the Urban Forest Management Plan to improve the health, resilience, and services of the urban forest. 2. Align implementation and maintenance with CIP funding cycles 3. Identify grant funding opportunities for Urban Forestry implementation			Low	Public Works	City	\$	-			
	WW 2.2	Explore expanding the Shallow Groundwater Ordinance to include single family residential properties.	New construction, remodels, existing buildings	1. Engage stakeholders including developers, architects, and property owners regarding the purpose and impact of the requirements	Mandatory		Medium	Public Works	City	\$	\$			
	WW 2.3	Limit the use of potable water for irrigation and explore alternative sources for irrigation including greywater reuse.	New construction, remodels, existing buildings	1. Study the feasibility of expanding recycled water supplies and use requirements for large irrigation users 2. Implement a public education campaign that highlights water conservation practices and promotes and provides demonstrations of graywater and rainwater systems	Phased: voluntary until 2035, mandatory after			Medium	Community Development, Public Works		Foundational item	\$	\$	

Attachment 2



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**CLIMATE ACTION &
ADAPTATION PLAN**

City of Beverly Hills

CLIMATE ACTION + ADAPTATION PLAN

CLIMATE ACTION COMMITTEE | April 27, 2022

Agenda

- GHG Mitigation Measures
- GHG Reduction Analysis Results
- Discussion

Mitigation Measures



Mitigation Sectors

Clean Energy

New + Existing
Buildings

Transportation

Solid Waste

Water +
Ecosystems

Municipal
Operations



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Clean Energy

- ★ ■ Sustain high level of participation in CPA 100% Green Power or SCE equivalent
- Explore opportunities for community scale renewable energy projects
- Streamline permitting for solar, battery, and EV charging installations
- Explore opportunities for carbon neutral municipal facilities utilizing innovative fuel sources (e.g. hydrogen, RNG)

★ Foundational item



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New Buildings

- Provide educational information or technical assistance on passive solar design
- Adopt CALGreen Tier 1 or 2 energy efficiency requirements
- Require alternations or additions at least 50% the size of the original building to comply with Tier 1 or 2 CALGreen energy requirements

Or

- ★ ■ Adopt an electric-preferred or all-electric reach code

★ Foundational item



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Existing Buildings

Electrification

- ★ ■ Develop an Existing Building Electrification Plan to promote and, as needed, require the retrofit of existing buildings
- Explore partnerships and opportunities to retrofit existing gas infrastructure to accommodate low emissions alternatives including RNG and hydrogen.
- Develop a decarbonization plan for City facilities that aligns with the CIP process

★ Foundational item

Energy Efficiency

- Work with CPA, SCE, SCG, and SoCal REN to promote and implement efficiency incentives and programs
- Encourage residential properties older than 10 years to provide an energy audit or EPA Home Energy Score at time of sale or rental agreement
- Adopt energy and water benchmarking ordinance for commercial buildings
- Explore pricing mechanisms and tools, such as the Utility Users Tax (UUT) and tiered pricing, to reduce natural gas use
- Explore developing City-funded energy efficiency and electrification incentive programs



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Transportation

Mode Shift

- ★ ■ Prioritize, fund, and implement the Complete Streets Plan
- Partner with Metro to increase transit (bus and train) ridership in Beverly Hills
- Partner with rideshare companies to provide subscription based residential transportation service
- Assess the feasibility of a local city operated shuttle/bus service

★ Foundational item

EV Adoption

- Adopt EV reach code for multi-family residential and nonresidential uses requiring EV chargers to be installed at time of construction
- Develop a Transportation Electrification Plan that identifies areas of the City to prioritize EV infrastructure installation.



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Solid Waste

Waste Diversion

- ★
 - Comply with SB 1383
 - Partner with the City's waste hauler to develop and implement a robust public engagement program and provide commercial and multifamily technical assistance
 - Expand the City's single use bag ban to include single use plastic and polystyrene packaging materials
 - Explore the feasibility of requiring 85% of C&D debris be recycled
 - Adopt a municipal sustainable purchasing policy that includes a focus on the diversification of vendor

★ Foundational item

Upstream Waste Reduction

- Explore modifications to the building code that would require certain products to be locally sourced and/or contain a percentage of recycled content
- Advocate at the appropriate governmental level for:
 - goods and services to disclose lifecycle climate impacts
 - extended producer responsibility policies statewide



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ADAPTATION PLAN

Water + Ecosystems

Water Use

- ★ ■ Adopt CALGreen Tier 1 or 2 water efficiency requirements for new construction and remodels
- Require dual drainage plumbing and dual water supply plumbing in residential dwellings
- Explore strategies to encourage water neutral new development
- Create a streamlined permit process for laundry-to-landscape greywater systems
- ★ ■ Modify MWELO
- Promote State efficiency incentives and programs

★ Foundational item

Ecosystems

- Implement the Urban Forest Management Plan
- ★ ■ Limit the use of potable water for irrigation and explore alternative sources for irrigation including greywater reuse



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GHG Reduction Analysis



GHG Reduction Scenarios

1 Voluntary

- Shows the GHG reduction potential of voluntary and incentivized climate strategies
- Achieves SB 32 target
- Doesn't achieve carbon neutrality by 2045

2 Phased-In

- Shows the GHG reduction potential of phasing mitigation measures from voluntary to mandatory after 2035
- Achieves SB 32 target
- Doesn't achieve carbon neutrality by 2045

3 Mandatory

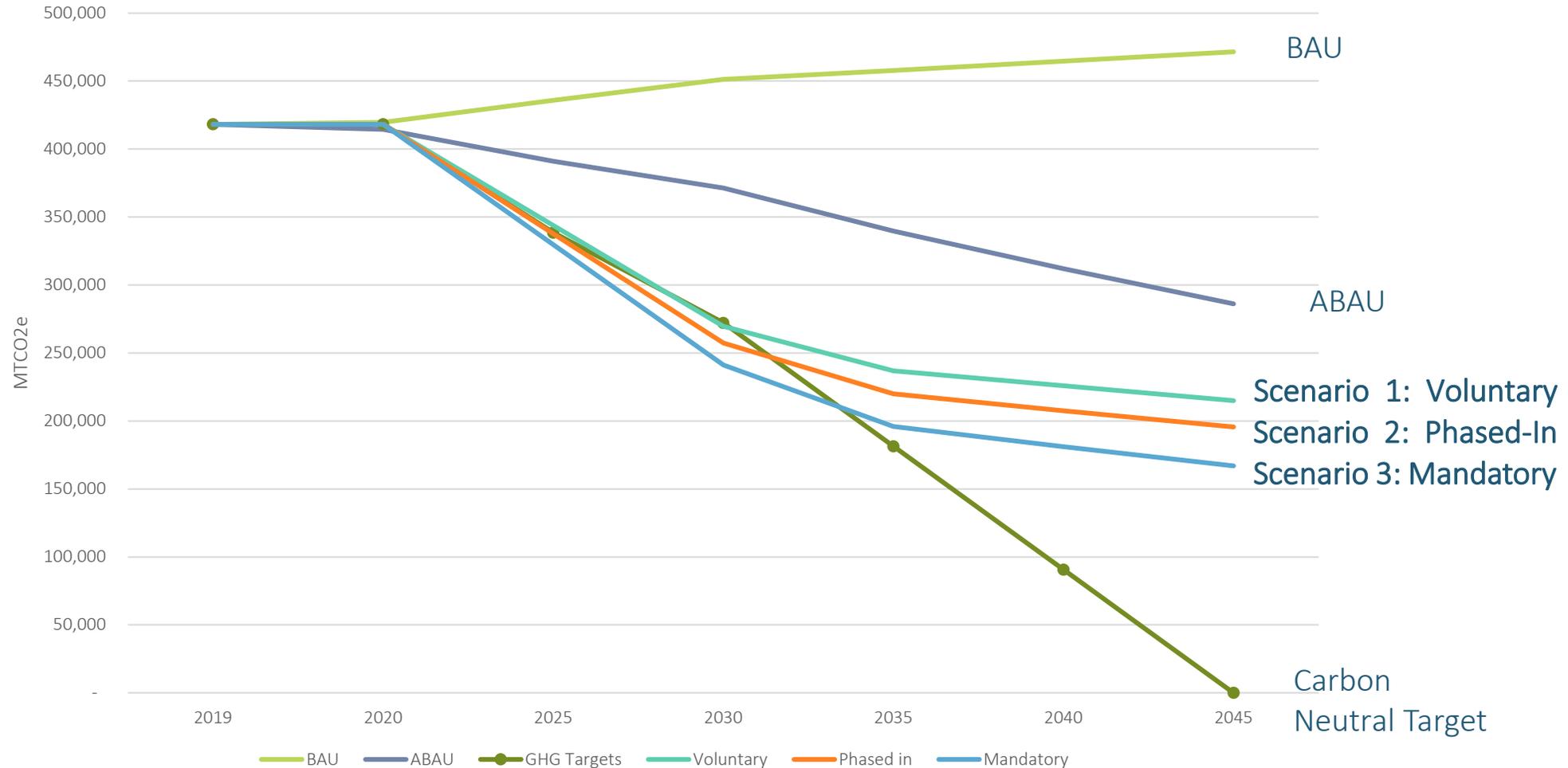
- Shows the GHG reduction potential of requiring mitigation measures to be implemented by the City and community
- Mitigation measures are required policies with increased investment from the City
- Achieves SB 32 target
- Doesn't achieve carbon neutrality by 2045



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GHG Reduction Analysis Results



BAU – Business as Usual Scenario
 ABAU - Adjusted Business as Usual Scenario



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GHG Reduction Analysis Results

Scenario	Participation Assumptions	2030 GHG Reduction	2045 GHG Reduction
Voluntary	Voluntary + electric preferred reach code <ul style="list-style-type: none"> • 28% - 46% buildings • 18% - 43% EV households • 4% additional mode shift (19% non-SOV) 	-40%	-53%
Phased in	Phased in building and energy measures <ul style="list-style-type: none"> • 28% - 60%% buildings • 18% - 43% EV households • 4% additional mode shift (19% non-SOV) 	-43%	-57%
Mandatory	Mandatory building and energy measures <ul style="list-style-type: none"> • 48% - 86% buildings • 18% - 43% EV households • 6.5% additional mode shift (21.5% non-SOV) 	-47%	-63%



GHG Reduction Analysis Results

Strategy	Sector	Voluntary 2030 GHG Reductions (MTCO ₂ e)	Phased-In 2030 GHG Reductions (MTCO ₂ e)	Mandatory 2030 GHG Reductions (MTCO ₂ e)
High participation in 100% RE electricity	Clean energy	65,721	68,177	72,049
Local solar installations	Clean Energy	880	1,223	1,757
Electric-preferred or all-electric reach code	New buildings	643	643	1,157
Existing building electrification	Existing buildings	12,513	17,369	25,025
Existing building energy efficiency programs	Existing buildings	5,593	6,069	10,410
EV adoption and equipment electrification	Transportation	8,505	8,505	8,505
Mode Shift (Complete Streets Plan, transit)	Transportation	3,271	7,139	7,149
Comply with SB 1383	Solid Waste	2,562	2,562	2,562
Reduce outdoor and indoor water use	Water and wastewater	237	251	280
Tree planting	Carbon sequestration	<100	<100	<100
Estimated Total Reductions		99,960	112,240	128,930



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Discussion

1. Which scenario pathway should the City pursue?
2. What sectors or measures should the City prioritize?
3. What support will the community need to achieve carbon neutrality by 2045?



Thank you!

Questions?

Email: BHCAAP@beverlyhills.org



Item 4



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Josette Descalzo, Environmental Compliance and Sustainability Programs Manager
Shana Epstein, Director of Public Works
Robert Welch P.E., Utilities General Manager

DATE: April 22, 2022

SUBJECT: City of Beverly Hills Climate Change Vulnerability Assessment

ATTACHMENT: 1. Draft Climate Change Vulnerability Assessment Report
2. Presentation

RECOMMENDATION

The item is for information and discussion regarding the Climate Change Vulnerability Assessment. The discussion and comments will help formulate a robust resilience plan for the Climate Action and Adaptation Plan (CAAP).

DISCUSSION

The City of Beverly Hills Climate Change Vulnerability Assessment evaluates how climate change may impact vulnerable community members and critical facilities and services in Beverly Hills. Climate change models indicate that Beverly Hills is expected to experience the following impacts by the end of the century:

- **Increasing temperatures.** Average maximum temperatures in Beverly Hills are expected to rise between 4.2° Fahrenheit (F) and 7.1°F.
- **More frequent extreme heat days.** An extreme heat day in Beverly Hills occurs when temperatures exceed 92.2°F. The annual number of extreme heat days is projected to increase by 8 to 15 days.
- **Increased storm frequency and precipitation intensity.** Most areas in the Los Angeles region are expected to see an increase in the wettest day of the year, with some locations experiencing up to 30 percent increases in volume (inches of rain per day).
- **Extended drought.** Global climate models project significantly drier soils in the future over the Southwest and the West (including California), with more than an 80% chance of a multidecadal drought under certain modeled scenarios.
- **More frequent and damaging wildfires.** Though uncertainties exist in quantifying future changes of burned area in the region, projections indicate that the annual area burned in the Los Angeles region may increase by over 5000 acres.

These changes in climate conditions will adversely impact residents and businesses and critical facilities and services in Beverly Hills. The City of Beverly Hills Climate Change Vulnerability Assessment describes the impacts climate change is expected to have on the following community members, facilities, and services:

Populations		<ul style="list-style-type: none"> Households below poverty Unemployed Low-income Low educational attainment People who are aged 65 and older Aged 17 or younger People with a disability Single-parent households Minority status Linguistically isolated Multi-unit structures Mobile homes Crowded housing conditions Households with no vehicle Group quarters Renter occupied housing units
<hr/>		
Transportation Assets		<ul style="list-style-type: none"> Roadway Network Public Transportation
<hr/>		
Critical Infrastructure		<ul style="list-style-type: none"> Electrical Utility Lines/Energy Delivery Natural Gas Transmission Pipelines Communication Networks Wastewater Conveyance and Treatment Water Conveyance and Supply Stormwater Infrastructure Parks and Recreation Facilities Schools High Occupancy Structures Community Facilities and Government Buildings
<hr/>		

KEY IMPACTS

Climate change is expected to impact public health, essential services, critical infrastructure, and the transportation system. Understanding local climate risks and impacts allows communities to prepare for the future and increase their resilience.

Impacts of Extreme Heat on Vulnerable Populations

Increased frequency and length of extreme heat days will result in increased public health risks, particularly to vulnerable populations, through heat-impacted diseases and air quality degradation. The relationship between adverse health impacts (heat stress) and high temperatures are well documented for older adults (over 65 years old), children, individuals with cardiovascular disease, and people with chronic respiratory illnesses.

Households with lower socioeconomic status are more at risk of heat stress and/or high temperature mortality because lower income households may not have air conditioning in their dwellings, or if they do, they may not be able to afford running it. Additionally, individuals without a high school diploma are more likely to work in outdoor occupations where they are more exposed to high temperatures.

Impacts of Variable Precipitation on Vulnerable Populations, Transportation Systems, and Critical Facilities

Drought will increase water use, potentially leading to price hikes with substantial impacts on low-income families. Drought may lead to less water available for the community, especially water used for landscaping. This could directly impact irrigated park facilities and lead to increased wildfire risk north of Sunset.

More frequent and intense precipitation can overwhelm stormwater infrastructure and cause backups that lead to localized flooding or greater runoff of contaminants into local waterways. Flooding can cause streets in Beverly Hills to deteriorate. Flooding (and landslides caused by heavy precipitation events) can also damage or close roads, isolating parts of the city. Buses and bus service may be impacted by flooded roads in the event of a high precipitation event. Emergency response systems could be affected by flooding through restricted access to and from emergency response facilities. More frequent and intense storms could trigger landslides, impacting critical facilities and residential homes.

Impacts of More Frequent and Damaging Wildfires on Critical Facilities, Essential Services, Transportation Systems, and Vulnerable Populations

Major facilities and governmental buildings potentially impacted by wildfires include Fire Station 2 and water reservoirs. Public safety services will likely be strained during wildfire events. Personnel that work in the field may face increased health risk during air quality emergencies.

In addition to direct impacts of wildfires on residences and businesses, wildfires could result in closure or the inability to travel on roads during wildfire events, which can isolate areas of the city and create severe health and safety risks.

Beverly Hills may be susceptible to communication network outages during a wildfire due to safety power shut offs and wildfire-caused power outages.

Wildfire smoke pollutes the air with fine particulate matter that may trigger severe cardiovascular events for people with underlying cardiovascular disease. Older adults, children, and people with chronic lung diseases may experience adverse effects from wildfire smoke. Low-income households and minority and linguistically isolated populations may be more at risk of adverse effects from wildfire smoke.

KEY GAPS IN POLICIES AND PROGRAMS

The City has policies and programs in place to prepare for climate related hazards. However, as climate change impacts continue to advance more can be done to increase the community's resilience to climate change. Included below is a summary of policy and program gaps that the CAC can consider addressing with new CAAP resilience measures.

Increased Temperatures and More Frequent Extreme Heat Days

Although the City is active in preparing for increased temperature and extreme heat, gaps in programs and policies remain. Some of the key, but not limited to, gaps include:

- Developing a response plan for heat emergencies.
- Adding hazard mitigation and resilience criteria to its existing Capital Improvement Plans such as reducing heat island effect and expanding green infrastructure and more tree cover.
- Evaluating the adequacy of the City's existing cooling center, Roxbury Community Center, to meet community needs during extreme heat events.
- Employing design parameters for public facilities and roadways that account for increased temperatures (not just based upon historical averages).
- Maintaining the ability of the City to provide essential services as extreme weather events become more prevalent.
- Identifying incentive programs and rebates that can reduce the costs associated with home resilience upgrades to address increased temperature, potential for power outages, and worsening air quality.
- Providing education and outreach that specifically address the dangers of heat and wildfire for older adults, people with disabilities and underlying conditions, and children.

Increased Storm Frequency and Precipitation Intensity

The City has minimized the risk of large scale flooding with the implementation of the Holly Hills Mitigation Storm Drain Project. However, there is still potential for more localized flooding should heavy rains overwhelm the stormwater system. There is also the risk of landslides. Gaps in programs and policies include:

- The need to update storm drain facilities.
- Employing design parameters for public facilities and roadways that account for increased frequency and severity of storms (not just based upon historical averages).
- Coordinating with transit providers to ensure minimal disruption to bus and train service during wildfires events.
- Installing landslide monitoring equipment and exploring landslide defenses, especially in areas at risk of landslides post-heavy rain events.

Extended Drought

The City is actively engaged in reducing water demand, improving water efficiencies, and preparing for emergency water supply conditions. However, the City should establish more aggressive water use reduction goals for residents. Water use reduction goals should include requirements and/or incentives to change to water-wise landscaping that is less reliant on irrigation.

More Frequent and Damaging Wildfires

The City proactively engages in reducing wildfire risk through outreach and engagement with businesses and residents north of Sunset where wildfire risk is most likely to occur. Gaps in programs and policies to address wildfire risk include:

- Targeting vulnerable populations for emergency preparedness and establishing protocols specific to vulnerable populations during emergencies.

- Accelerating home hardening retrofits north of Sunset through incentives, financial assistance programs, and code standards.
- Implementing recommendations in the 2021 Beverly Hills Wildfire Assessment Report.
- Upgrading City-owned facilities north of Sunset as necessary to withstand power outages and potential wildfires
- Coordinating with transit providers to ensure minimal disruption to bus and train service during wildfires events.
- Broadening participation in the SCE Automated System and Community Emergency Response Team (CERT) trainings.

CONCLUSION

The Climate Change Vulnerability Assessment identifies the community members, transportation assets and critical infrastructure assets most vulnerable to climate change hazards. Although the City has policies and programs in place to prepare for climate related hazards, specific gaps remain as summarized in this staff report and the Climate Change Vulnerability Assessment. The summary of needed policies and programs is not intended to be an exhaustive list. Staff would like the CACs feedback if the Draft Vulnerability Assessment report substantially covered the city's preparedness on the effects of climate change and identify the gaps and recommended actions to improve the city's resilience. These are specifically related to city-owned infrastructure and programs and services related to the effects of climate change. If the CAC feels there are additional items to be added, it would be good to identify and share them with staff and the consulting team. This iterative process is intended to create a robust resilience strategy for the community and in essence maintain the quality of life in Beverly Hills.

Attachment 1



Beverly Hills Climate Action and Adaptation Plan

Draft Climate Change Vulnerability Assessment

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DRAFT

Introduction

Purpose

This report, the City of Beverly Hills Climate Change Vulnerability Assessment, evaluates how climate change may impact vulnerable community members and critical facilities and services in Beverly Hills. Beverly Hills is expected to experience increasing temperatures and extreme heat events, variable precipitation events including increased storm frequency and precipitation intensity and extended drought conditions, and more frequent and damaging wildfires. These climate change related hazards will adversely impact community members and critical facilities and services. The City has policies and programs already in place to prepare for some of these climate related hazards; however, as climate change impacts continue to advance more can be done to increase the community's resilience to climate change.

This climate change vulnerability assessment examines the susceptibility of the City's population, transportation, and critical infrastructure to harm from climate related hazards, and the community's ability to adapt to the changing risks pertaining to climate hazards.

This climate vulnerability assessment is prepared as part of the City of Beverly Hills Climate Action and Adaptation Plan. The Climate Action and Adaptation Plan establishes specific actions the City will take to achieve multiple community goals such as providing cleaner energy, reducing air pollution, supporting local economic development,

How Does Climate Change Work?

Climate change is driven by the human contribution of certain gases like carbon dioxide and methane into the atmosphere.¹ These gases, commonly known as greenhouse gases or GHGs, absorb and re-emit heat that has been discharged from the Earth's surface. This works to trap heat near the earth's surface, increasing the natural greenhouse effect.² Greenhouse gases from human activities have been collecting in the atmosphere since the 1800's and are warming the climate more and more every year.³ This rise in average temperatures across the globe affects ocean water levels, temperature, and chemistry; precipitation patterns and water supply; severity and frequency of wildfires; and prevalence of extreme heat events.⁴

What is Vulnerability?

The Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report defines vulnerability as "the propensity or predisposition to be adversely affected."⁵ It adds that vulnerability "encompasses various concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt."

¹ EPA. 2021. Causes of Climate Change. <https://www.epa.gov/climatechange-science/causes-climate-change#4foot>.

² IPCC. (2021). Climate change 2021: The physical science basis. Working Group I contribution to the sixth assessment report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu & B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom, p. SPM-5.

³ The National Aeronautics and Space Administration (NASA). 2022. Scientific Consensus: Earth's Climate is Warming. Available <<https://climate.nasa.gov/scientific-consensus/>>. Accessed February 2, 2022.

⁴ The National Aeronautics and Space Administration (NASA). 2022. The Effects of Climate Change. Available: <<https://climate.nasa.gov/effects/>>. Accessed February 2, 2022.

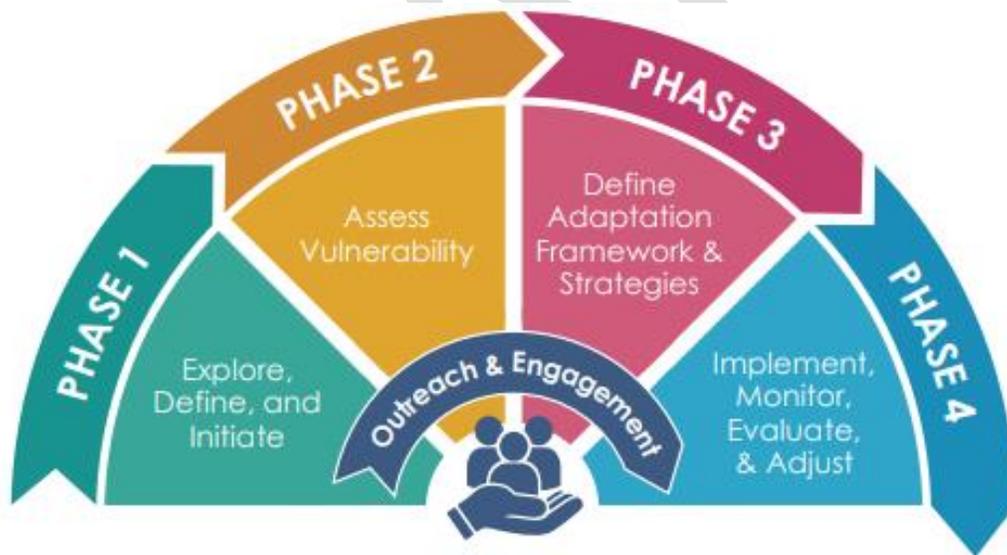
⁵ IPCC, The Intergovernmental Panel on Climate Change Sixth Assessment Report. 2021. <https://www.ipcc.ch/report/ar6/wg1/#FullReport>

improving public health and quality of life, and increasing resilience to climate change. Understanding the vulnerabilities that the community may face due to climate change provides a foundation to define adaptation actions for the Climate Action and Adaptation Plan and other planning efforts in Beverly Hills and the region.

The City of Beverly Hill is also in the process of complying with Senate Bill (SB) 379 which requires all cities and counties in California to update the Safety Element chapter of the General Plan to include climate adaptation and resilience strategies and an implementation plan informed by a climate change vulnerability assessment.⁶ Consistent with SB 379, the City prepared a Climate Vulnerability Assessment (February 2022) which is scheduled to be adopted by the Beverly Hills City Council in summer 2022. This report aligns with the findings of the Climate Vulnerability Assessment prepared in support of the City’s Safety Element Update.

Approach

The City of Beverly Hills Climate Change Vulnerability Assessment follows the vulnerability assessment process recommended by the California Governor’s Office of Emergency Services, as documented in the 2020 California Adaptation Planning Guide (Cal APG). The adaptation planning process outlined by the Cal APG consists of four phases, illustrated in the graphic below, with Phase 2 detailing the vulnerability assessment process.⁷



Graphic: 2020 California Adaptation Planning Guide

The City of Beverly Hills Climate Change Vulnerability Assessment is prepared consistent with Phase 2 of the Cal APG, and is composed of the following four parts:

1. **Community Sensitivities.** Beverly Hills populations and assets most at risk to climate change.
2. **Anticipated Impacts.** The nature and degree to which different aspects of the community will be affected by changes in temperature and precipitation, and wildfire.

⁶ SB-379. Senate Bill No. 379 Chapter 608 Land use: general plan: safety element. https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB379

⁷ CalOES. California Adaptation Planning Guide. 2020. <https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf>

3. **Adaptive Capacity.** Beverly Hills’s ability to cope with extreme events, to make changes, or to transform to a greater extent, including the ability to moderate potential damages and to take advantage of opportunities.
4. **Vulnerability.** The overall risk of potential impacts to different aspects of the community, given their adaptive capacity.

Stakeholder Engagement

The stakeholder engagement process for developing the City of Beverly Hills Climate Change Vulnerability Assessment included asset manager interviews, Advisory Committee meetings, and community meetings as detailed below.

Asset Manager Interviews

Interviews were conducted with the following asset managers to inform the development of the City of Beverly Hills Climate Change Vulnerability Assessment:

- City of Beverly Hills Office of Emergency Management
- City of Beverly Hills Police Department
- City of Beverly Hills Fire Department
- City of Beverly Hills Community Services
- City of Beverly Hills Public Works Department
- Southern California Gas Company (SoCalGas)
- Southern California Edison (SCE)

The interviews identified information related to past climate impacts, potential impacts climate change could have on managed assets, and policies and programs in place that seek to increase Beverly Hill’s ability to cope with climate change.

Advisory Committee

The City of Beverly Hills convened a Climate Action and Adaptation Plan Community Advisory Committee (CAC) to provide dedicated community member to participation in the development of the Climate Action and Adaptation Plan. The CAC was appointed by the City of Beverly Hill’s City Council and consists of 10 members of the City’s various appointed commissions and 5 community members. The CAC provided input on the City of Beverly Hills Climate Change Vulnerability Assessment in April 2022. (placeholder to add more input once CAC has conducted their review).

Community Events

The City of Beverly Hills held several community events to solicit input on the Climate Action and Adaptation Plan process. Community events and the input received from the public related to climate hazards included:

- Earth Day -
- Movie Night -

(placeholder to add more input after events)

Relevant Plans and Tools

The City of Beverly Hills Climate Change Vulnerability Assessment builds on a variety of climate research, plans and tools. Key plans and tools include:

- **California’s Fourth Climate Change Assessment, Los Angeles Region Summary Report.** This report presents an overview of climate science, specific strategies to adapt to climate impacts, and key research gaps needed to spur additional progress on safeguarding the Los Angeles Region from climate change.
- **Southern California Adaptation Planning Guide.** This guide was prepared by the Southern California Association of Governments (SCAG) and outlines a general process of adaptation planning in alignment with the Cal APG. It identifies case studies and best practice examples from SCAG member jurisdictions to illustrate each phase in the adaptation planning process. It also references and provides guidance on the use of data and tools that have been specifically developed for adaptation planning in the SCAG region.
- **Los Angeles Climate Change Vulnerability Assessment (CVA).** The LA County CVA assess how people and infrastructure in Los Angeles County, including incorporated cities, may be vulnerable to the changing climate. The CVA evaluates potential changes in the frequency and severity of extreme heat, wildfire, extreme precipitation and inland flooding, coastal flooding, and drought and identifies populations and areas that are highly vulnerable. It also examines how physical infrastructure and facilities could experience damage from climate change. It also evaluates how infrastructural systems rely on one another and how harms to one type of infrastructure can affect other facilities, related services, and the people who rely on those services. It also conducts a social vulnerability assessment by examining the level of risk across communities and populations and identifies groups and places that are highly vulnerable to climate hazards.
- **City of Beverly Hills Local Hazard Mitigation Plan 2017-2022.** The Local Hazard Mitigation Plan provides a list of activities that may assist the City in reducing risk and preventing loss from future events. It also includes information that can assist City Departments, residents, public and private sector organizations, and others in participating in planning for disasters. It promotes public policy and programs designed to protect the public, critical facilities, infrastructure, private and public property, and the environment from natural and human-made hazards.
- **City of Beverly Hills Safety Element Update (Draft).** The City of Beverly Hills Safety Element establishes goals and policies to increase emergency preparedness and reduce risk and impacts associated with natural and human-made hazards. As part of the update to the Safety Element, a climate change vulnerability assessment was prepared that evaluates ten climate-related effects and hazards applicable to the City of Beverly Hills: air quality, precipitation changes, flooding, severe rainstorms, extreme weather, Santa Ana winds, landslides, extreme heat days, cooling degree days and wildfire.
- **Cal Adapt.** Cal-Adapt is an online tool that provides modeled projections of how climate change might affect Beverly Hills. The Local Climate Change Snapshot tool in Cal-Adapt shows climate projections for temperature, precipitation, and wildfire.
- **Center for Disease Control/ATSDR Social Vulnerability Index (SVI).** This tool quantifies the social vulnerability of populations at risk to natural disasters and public health threats at the census tract level, based on four themes of social factors: Socioeconomic status, Household Composition and Disability, Minority Status and Language, and Housing and Transportation.

Community Sensitivities

Communities will be affected by climate change to varying degrees depending on how sensitive the communities are to impacts and the severity of the impacts. While all people, facilities, and services in a community will experience climate change, some may be more affected than others. For example, individuals living with disabilities may be more at-risk to heat illness during an extreme heat event. Sensitivity to climate hazards can be influenced by several factors. The following section identifies specific groups and types of built and natural assets that are sensitive to climate hazards and the specific underlying factors that are associated with their sensitivity.

Community sensitivities are grouped under the following community asset categories:



Populations

The vulnerability of Beverly Hills' population is analyzed using the Center for Disease Control/ATSDR Social Vulnerability Index (SVI).⁸ The SVI was developed to rank census tracts based on 15 variables (e.g., poverty, lack of vehicle access, crowded living conditions), and groups the variables into the following four themes:

1. Socioeconomic status
2. Household composition and disability
3. Minority status and language
4. Housing and transportation

The SVI then generates maps (included below) with rankings based on each of the four themes, as well as a map that provides an overall social vulnerability score based on the 15 variables.

Overall Social Vulnerability Index Score

The City's population has low social vulnerability based on all 15 variables in the SVI. Of the seven census tracts in Beverly Hills, a majority have a total SVI score below the 25th percentile statewide.⁹ This indicates that the population in these tracts has a lower SVI score than 75% of the tracts in the state.¹⁰ The two census tracts directly north of Wilshire Blvd (Tracts 7008.01 and 7008.02) have higher scores but are still below the state average, in the 43rd and 31st percentiles respectively (See Figure 1).

⁸ The most recent version of the CDC/ATSDR SVI Index is from 2018. It does not reflect 2020 Decennial Census data.

⁹ Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2018 Database California.

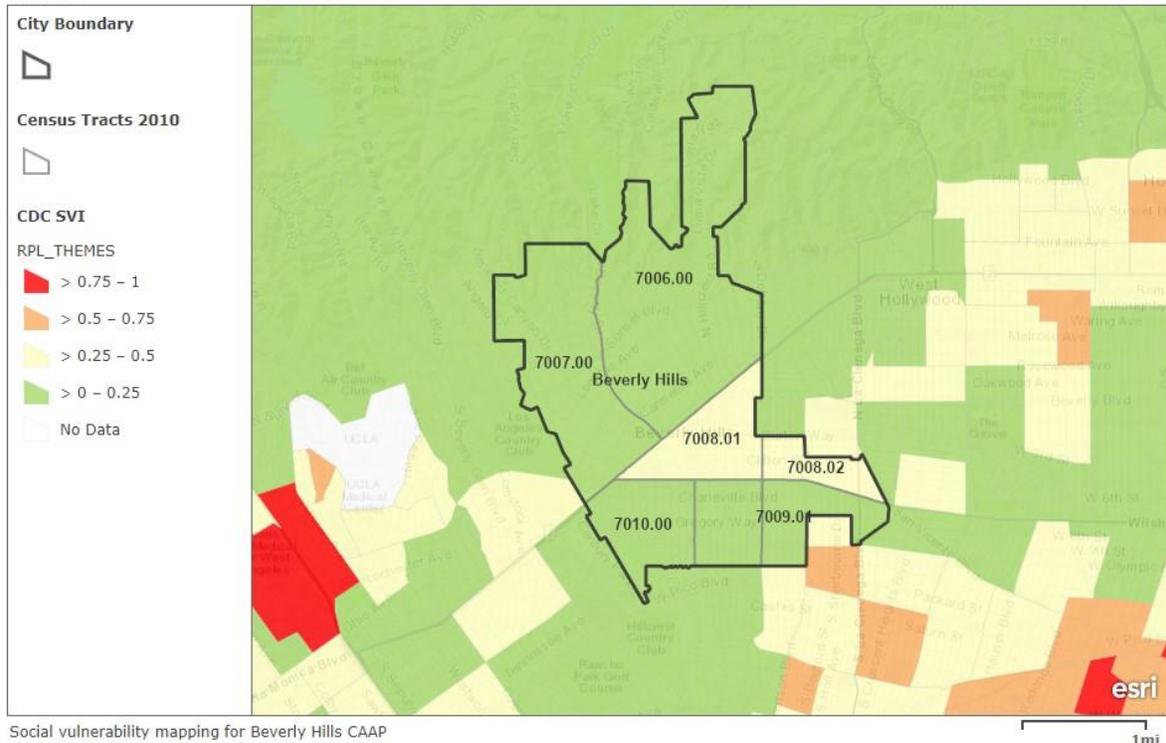
https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. Accessed on 10/14/21.

¹⁰ Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. 2022. CDC SVI 2018 Documentation. P. 4. Available:

https://www.atsdr.cdc.gov/placeandhealth/svi/documentation/pdf/SVI2018Documentation_01192022_1.pdf

These scores indicate that all the census tracts in Beverly Hills are less vulnerable to climate change impacts than other communities in California. This means that the population of Beverly Hills have a high capacity to prepare for, respond to, and recover from climate change impacts.

Figure 1 Beverly Hills Overall Social Vulnerability Index Score



Social vulnerability mapping for Beverly Hills CAAP

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, NGA, EPA, USDA

Socioeconomic Status

Overall, the population of Beverly Hills has low social vulnerability related to socioeconomic factors. Indicators in this theme are households below poverty, unemployment, income, and educational attainment (indicated by no high school diploma). Of the seven census tracts in the city, five are below the 25th percentile statewide (See Figure 2).¹¹ In fact, census tract 7007.00 is in the 4th percentile, meaning it is one of the most socioeconomically advantaged tracts in the state. Census tracts 7008.01 and 7008.02 have the highest scores in the City but are still below the statewide average (35th and 34th percentile respectively).

According to the American Community Survey (ACS) 2015-2019 5-year estimates, the median income in Beverly Hills is \$108,166.¹² Only 8.3% of the population was below the federal poverty level¹³ and only 6% of the civilian labor force aged 16 years or older are unemployed.¹⁴ Although only a small proportion of Beverly Hills is below the poverty line, the City should direct resources,

¹¹ Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2018 Database California. https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. Accessed on 10/14/21.

¹² US Census Bureau. ACS 15-19 5-Year Estimates: Table A14006

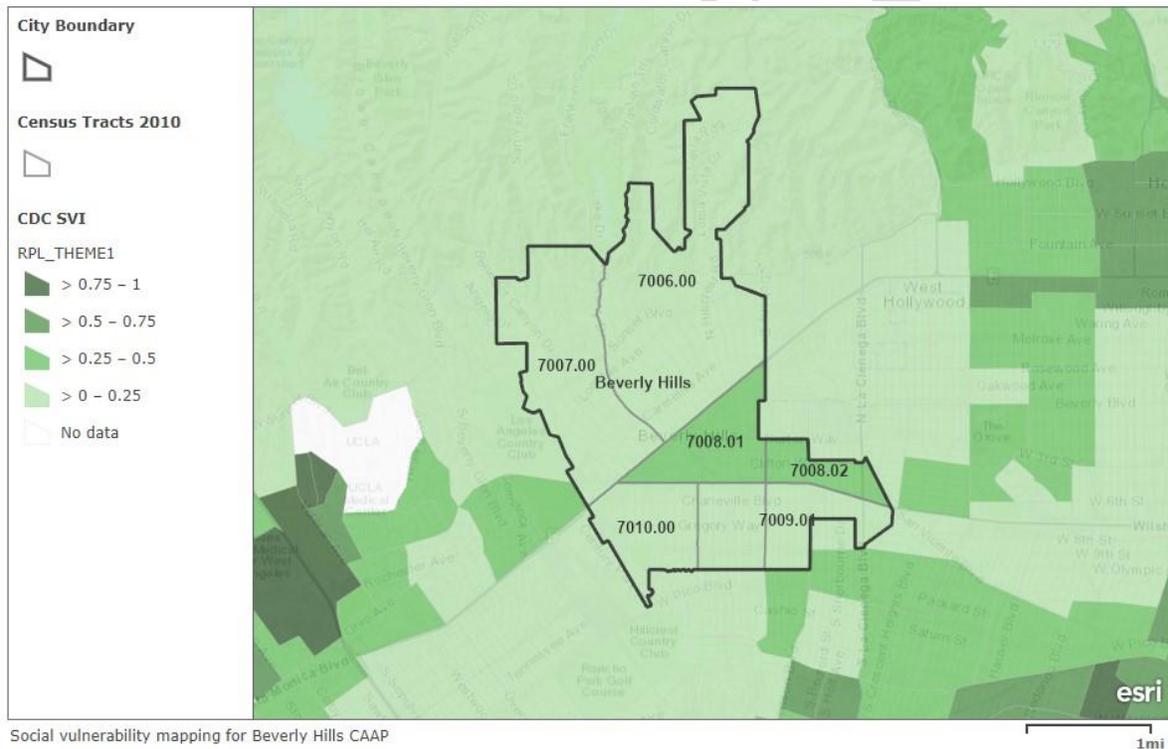
¹³ US Census Bureau. ACS 15-19 5-Year Estimates: Table S1701

¹⁴ US Census Bureau. ACS 15-19 5-Year Estimates: Table A17005

both financial and technical, to those communities in order to help them adapt to the impacts of climate change.

The most straightforward way socioeconomic status affects disaster is related to income or assets. Households with lower incomes may not have the funds to prepare their home for climate change hazards, or the ability to recover if their home gets damaged. Lower income and unemployed populations are also less likely to have access to healthcare, leading to a higher incidence of chronic conditions (such as heart and pulmonary conditions) which put them more at risk of health effects from heat and wildfire. As indicated by the high median income, low poverty rate, and low unemployment in Beverly Hills, there are not many households that will experience these challenges.

Figure 2 Beverly Hills Socioeconomic Status Score



Household Composition and Disability

Household composition and disability is the SVI theme where the Beverly Hills population is most impacted. This theme accounts for people who are aged 65 and older, aged 17 or younger, older than age 5 with a disability, and single-parent households. Census tracts 7006.00 ranks in the 71st percentile and 7008.01 ranks in the 53rd percentile for this category (See Figure 3).¹⁵ According to

¹⁵ Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2018 Database California. https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. Accessed on 10/14/21.

ACS 2015-2019 5-year estimates, 21.4% of the Beverly Hills population is 65 years and older,¹⁶ while 20.3% are under 18 years old.¹⁷ Approximately 8.7% of the population is disabled.¹⁸

Older adults, children, and people with a disability are physiologically and socially more vulnerable to extreme events or climate stressors. For example, older adults and people with a disability may have reduced mobility, communication abilities, and/or mental functioning which could make it difficult to evacuate (for example in a wildfire, flood, or landslide) or understand and/or carry out preparedness measures in their homes. They may also depend on medical devices which could be impacted during preventative power shut offs or climate hazard events. Furthermore, older adults are more likely to have chronic illnesses (such as heart and pulmonary conditions) that increase the risk of heat illness and medical problems from wildfire smoke.

Children, particularly younger ones, are socially vulnerable because they do not have the resources or knowledge to cope with climate change hazards. They are typically dependent on their parents or other adults to keep them safe and healthy. Physical characteristics (such as the fact that they are still growing, their smaller size, the way they regulate body temperature) also put them more at risk of health effects from heat and wildfire.¹⁹

The CDC SVI includes single-parent households as a Household Composition variable because they are typically more socially vulnerable than two-parent households. The first reason is that they typically have lower socioeconomic status, however, the results of the SVI socioeconomic analysis (Figure 2) indicate that is not relevant in Beverly Hills. The second reason is because one parent has all the responsibility of their family in a disaster situation.²⁰ This applies regardless of the household's income.

¹⁶ US Census Bureau. ACS 15-19 5-Year Estimates: Table A01001

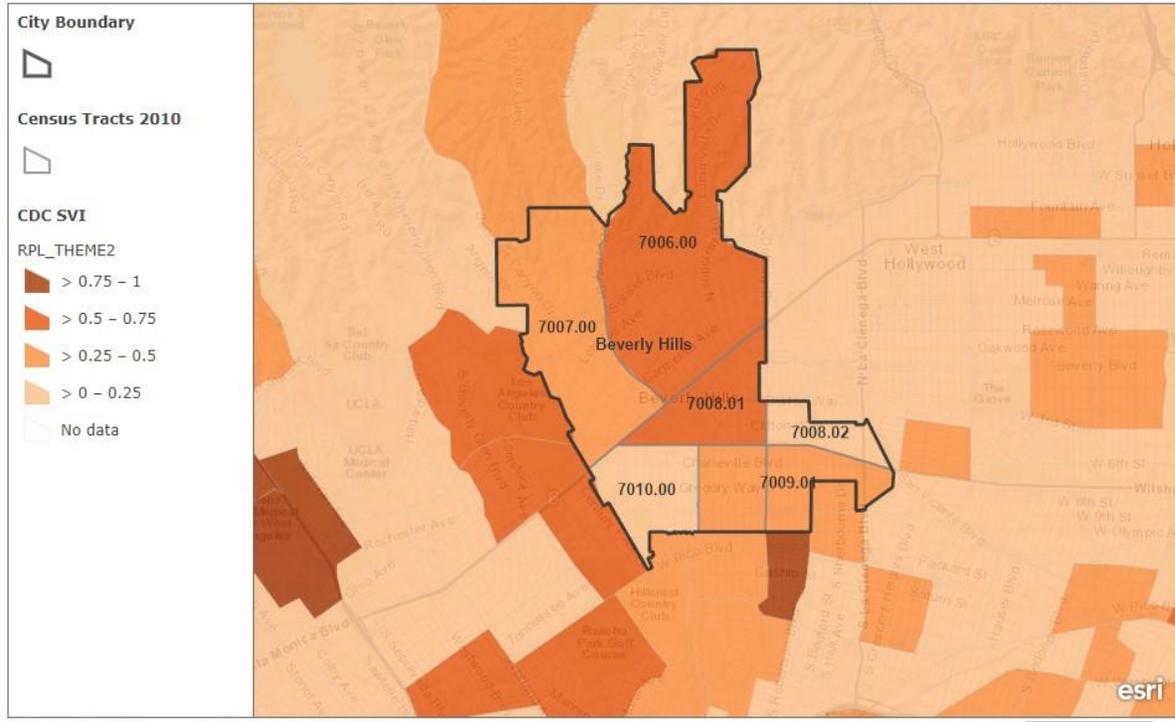
¹⁷ Ibid.

¹⁸ US Census Bureau. ACS 15-19 5-Year Estimates: Table S1810

¹⁹ Kenney WL, Craighead DH, Alexander LM. 2014. Heat waves, aging, and human cardiovascular health. *Med Sci Sports Exerc.* 46(10): 1891-1899.

²⁰ Flanagan et al. 2011. A Social Vulnerability Index for Disaster Management. Available: https://www.atsdr.cdc.gov/placeandhealth/svi/img/pdf/Flanagan_2011_SVIforDisasterManagement-508.pdf

Figure 3 Beverly Hills Household Composition and Disability Score



Social vulnerability mapping for Beverly Hills CAAP

County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, NGA, EPA, USDA

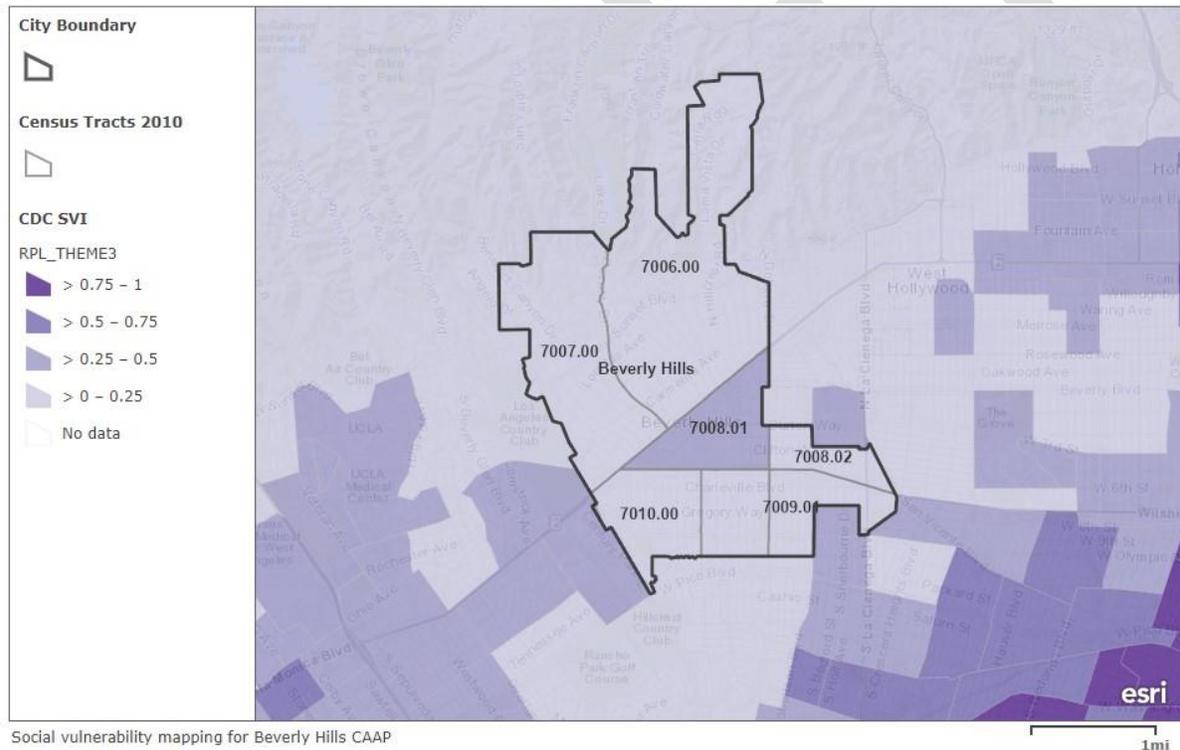
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Minority Status and Language

The population of Beverly Hills has low social vulnerability in this category, which accounts for minority status and linguistic isolation (those who speak English less than well). According to ACS 2015-2019 5-year estimates, 32.2% of the Beverly Hills population identifies as a race other than Non-Hispanic or Latino White Alone.²¹ However, six of the seven census tracts in the city rank below the 25th percentile statewide (see Figure 4). The highest scoring tract in the city is 7008.01, which is in the 47th percentile. Although there is a sizable minority population in Beverly Hills, only a small proportion of that population faces linguistic challenges or isolation.

Historic and current day social and economic marginalization makes populations of color more vulnerable to the impacts of climate change. Of course, race and ethnicity are connected to all three of the other SVI categories. Populations who are not proficient in English may have limited access to information and resources. Because of a lack of culturally relevant content, they may not fully understand climate hazards, preparedness actions, or emergency communications. However, this is not particularly relevant in Beverly Hills, as evident in the low SVI scores.

Figure 4 Beverly Hills Minority Status and Language Score



Housing and Transportation

The Housing and Transportation SVI theme accounts for multi-unit structures, mobile homes, crowding, households with no vehicle, and group quarters. Census tracts 7006.00, 7007.00, 7009.01, and 7010.00 rank below the 25th percentile statewide. Census tracts 7008.01, 7008.02, and 7009.02

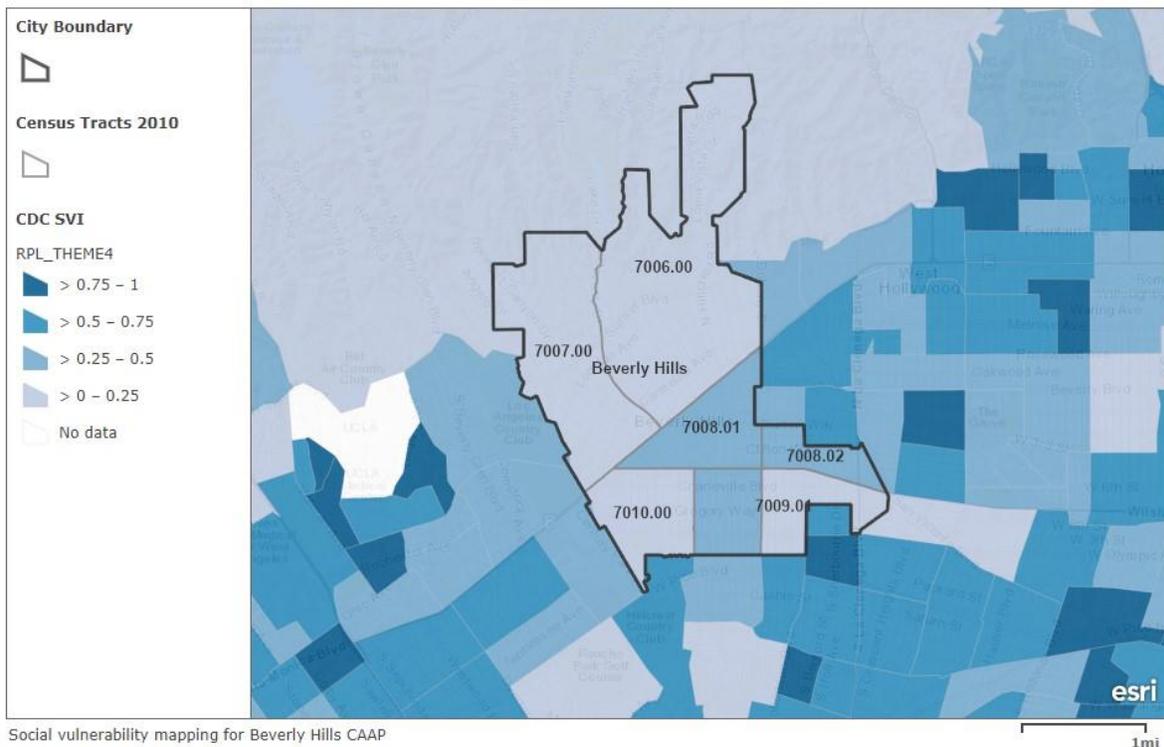
²¹ US Census Bureau. ACS 15-19 5-Year Estimates: Table A04001

are closer to the state average (with scores in the 47th, 46th, and 33rd percentile respectively) (see Figure 5).

According to ACS 15-19 5-year estimates, only 8.2% of housing units citywide have no vehicle.²² Not having access to a vehicle in areas that lack nearby, reliable, frequent and convenient transportation alternatives can make evacuation more difficult, but this does not appear to be a major issue in Beverly Hills. Also, though it is not included as a metric in the SVI, 58.5% of the city's housing units are renter occupied.²³ Renters do not have as much agency as homeowners to make changes to their homes to help them be more resilient, such as installing a cool roof or solar backup power.

Homes that are well-constructed are better at protecting inhabitants from climate stressors and extreme events. For example, having better insulation and air conditioning reduces the effects of extreme heat. Or a stick-built home is likely to sustain less damage from a flood than a mobile home. Overall, Beverly Hills is not vulnerable in relation to housing and transportation. Housing quality is connected to socioeconomic status and race and ethnicity, which are SVI categories where Beverly Hills scores well compared to the state. However, the three census tracts with higher scores may still reflect historic real estate discrimination. Census tracts 7008.01, 7008.02, and 7009.02 align with areas ranked C “Definitely Declining” or Industrial by historic redlining maps.²⁴

Figure 5 Beverly Hills Housing and Transportation Score



²² US Census Bureau. ACS 15-19 5-Year Estimates: Table A10030

²³ US Census Bureau. ACS 15-19 5-Year Estimates: Table A10060

²⁴ Robert K. Nelson, LaDale Winling, Richard Marciano, Nathan Connolly, et al., “Mapping Inequality,” American Panorama, ed. Robert K. Nelson and Edward L. Ayers, accessed March 15, 2022, <https://dsl.richmond.edu/panorama/redlining/#loc=14/34.08/-118.402&city=los-angeles-ca>

Transportation Assets

The following are assets critical to the movement of goods and people into and out of Beverly Hills. When transportation assets are impacted by climate-change related impact (e.g., flooding, wildfire), portions of the city may not be able to evacuate in a timely manner. Emergency responders may not be able to provide essential services. Community members who are reliant on public transportation may be unable to evacuate if public transportation assets are impacted. Impacts to transportation assets can also disrupt the ability for workers to access their jobs, which can disrupt the operation of essential services.

Roadway network

Access roads provide entry to and exit from communities and neighborhoods. Disruption to access roads can effectively prevent large numbers of people from evacuating in a timely fashion and limit access for emergency responders. Designated disaster routes in Beverly Hills include Santa Monica Boulevard, North Beverly Boulevard, and Olympic Boulevard.²⁵ Disaster routes are routes pre-identified for use by emergency personnel, not to move affected population out of an impacted area. Designated evacuation routes for use by Beverly Hills residents affected by wildfire events include Sunset Boulevard, Benedict Canyon Drive, San Ysidro Drive, Lexington Road, North Beverly Hills Drive, Coldwater Canyon Drive, Schuyler Road, Doheny Road, Loma Vista Drive, Carla Ridge, and North Hillcrest Road.²⁶

Public Transportation

The Los Angeles County Metropolitan Transportation Authority (Metro) provides several local and rapid bus lines through the City of Beverly Hills. The Purple Line Extension, a heavy rail subway corridor, is under construction and will include transit stations at Wilshire/La Cienega and Wilshire/Rodeo in 2024 and 2025 respectively. These stations will enable Beverly Hills residents to connect to Downtown Los Angeles, Westside cities, and various regional transportation hubs.²⁷

²⁵ Los Angeles County Public Works. 2008. Disaster Route Maps. Available <<http://dpw.lacounty.gov/dsg/disasterroutes/map/beverly%20hills.pdf>>. Accessed October 18, 2021.

²⁶ City of Beverly Hills. 2020. Wild Fire Evacuation Routes. Available <<https://gis.beverlyhills.org/GISDocs/PublicMaps/WildFireEvacuationRoutes.pdf>>. Accessed October 18, 2021.

²⁷ Los Angeles County Metropolitan Transportation. 2021. Purple (D Line) Extension Transit Project. Available: <https://www.metro.net/projects/westside/?gclid=EAlalQobChMlIwezmkY_h8wIVowh9Ch3SLQm5EAAYASAAEgLyefD_BwE>. Accessed October 18, 2021.

Critical Infrastructure

The following are infrastructure assets and services identified as critical in the City of Beverly Hills Local Hazard Mitigation Plan 2017-2022. Critical infrastructure includes power, water, and wastewater utilities, transportation facilities and services, government and community facilities and services, and high occupancy structures. Critical infrastructure is of particular concern because it plays a role in providing essential services to the Beverly Hills community and are necessary to preserve the general welfare and quality of life. They also serve to fulfill important public safety, emergency response, and disaster recovery functions.

Electrical Utility Lines/Energy Delivery

Southern California Edison (SCE) delivers and transmits electricity to the City. The City has both underground and overhead electrical utility lines. The majority of underground electrical utility lines are located north of Sunset Boulevard, in the Very High Fire Hazard Severity Zone. Electrical lines are susceptible to wildfire impacts, which can cause short to long-term disconnection from electricity and limit the city and community from operating critical infrastructure and equipment.

Natural Gas Transmission Pipelines

Natural gas pipelines operated by SoCalGas carry large volumes of natural gas between communities. There are high-pressure distribution lines in the City.²⁸ Natural gas pipelines are located underground and are only at-risk of rupture in the case of a landslide event. Most natural gas pipelines in the city are located south of Santa Monica Boulevard and outside landslide hazard zones; however, there are some north of the city that may be impacted by landslides. Should natural gas pipelines leak or explode, for example due to an earthquake, impacts could involve property damage and hazardous materials spill.

Communication Networks

The City of Beverly Hills contains higher averages of households with a computer, and broadband internet subscriptions than the national average, and higher than average senior populations with computer access. Broadband internet is provided by 9 different residential services with approximately 91 to 100 percent coverage of all households accounted for within the city boundaries.^{29,30} Internet failure and subsequently communication network failure could occur under a power outage-related incident.³¹

Wastewater Conveyance and Treatment

The City of Beverly Hills is responsible for the wastewater conveyance system within city limits. Wastewater is treated at the City of Los Angeles Hyperion Treatment Plant, which is located outside

²⁸ Southern California Gas Company. 2016. Gas Transmission Pipeline Interactive Map – Los Angeles. Available <<https://socialgas.maps.arcgis.com/apps/webappviewer/index.html?id=c85ced1227af4c8aae9b19d677969335>>. Accessed October 18, 2021.

²⁹ United States Census American Community Survey (ACS). 2019. Why We Ask Questions About... Computer and Internet Use, Beverly Hills. Available: <<https://www.census.gov/acs/www/about/why-we-ask-each-question/computer/>>. Accessed October 22, 2021.

³⁰ Broadbandnow. 2021. Internet Providers in Beverley Hills California. Available: <<https://broadbandnow.com/California/Beverly-Hills>>. Accessed October 22, 2021

³¹ PG&E. N.d. How outages occur in hot weather. Available : <https://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/electric/howhotweatheroutages/how_outages_occur_in_hot_weather.pdf>. Accessed October 22, 2021.

Beverly Hills.³² Flooding may disrupt or damage wastewater infrastructure with associated service and business interruptions and potential releases of untreated wastewater.

Water Conveyance and supply

The City of Beverly Hills provides domestic drinking water to parts of West Hollywood and all Beverly Hills residents as part of City services. Beverly Hills imports approximately 90 percent of its drinking water from MWD. The remaining 10 percent is produced locally from six municipal wells and are treated in the City's reverse osmosis water treatment plant. One additional well site will be in the La Brea Subarea of the Central Groundwater Basin in 2022. These new sites will supply 20 to 25 percent of the City's water demand after conservation, providing limited alternatives to water supplies from MWD.³³

Stormwater Infrastructure

The City of Beverly Hills owns and operates a stormwater collection system. Catch basin cleaning is based on year-round inspection. The inspection and maintenance workflow system has prevented the buildup of leaves and sediments in City-owned catch basins. Urban and storm water runoff flows to a regional system owned and operated by the Los Angeles County Department of Public Works Flood Control District.³⁴ More frequent and intense precipitation can overwhelm stormwater infrastructure and cause backups that lead to localized flooding and greater runoff of contaminants into local waterways.

Parks and Recreation Facilities

Beverly Hills has approximately 77 acres of developed parkland and close to 100 acres of open space area. Additional recreational resources include community centers, clubhouses, the Greystone Mansion, the Beverly Hills Farmers' Market, school district field sites, and private recreational facilities, including the Beverly Hills Tennis Club, numerous health clubs and spas, and nearby golf courses.³⁵ Parks and recreation facilities could be impacted by changes in temperature, extended drought conditions, floods, and wildfires. Degraded air quality from regional wildfires could impact outdoor recreation.

Schools

Educational facilities include schools affiliated with the Beverly Hills Unified School District, including four elementary schools, one high school and one adult school, along with numerous private schools.³⁶

³² City of Beverly Hills. 2017 Sewer System Management Plan. Available: <http://www.beverlyhills.org/cbhfiles/storage/files/7659162331303053045/2017-11-14_FinalCityofBeverlyHillsSSMP2017.pdf>. Accessed October 22, 2021.

³³ City of Beverly Hills. 2020 Urban Water Management Plan. Available <https://www.beverlyhills.org/cbhfiles/storage/files/1228820328661696592/BeverlyHillsFINAL2020UWMP_July_2021.pdf> Accessed October 22, 2021

³⁴ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

³⁵ City of Beverly Hills. 2010. General Plan Open Space Element. Available <https://www.beverlyhills.org/cbhfiles/storage/files/filebank/10282--5_OpenSpace%2001122010.pdf>. Accessed October 18, 2021.

³⁶ City of Beverly Hills. N.d. General Plan Update Technical Background Report Land Use and Urban Form. Available <<https://www.beverlyhills.org/cbhfiles/storage/files/filebank/2569--GP-TBR-Chp-2-1.pdf>>. Accessed October 18, 2021.

High Occupancy Structures

High occupancy structures, including hotels, office, and residential buildings, are essential to the well-being of Beverly Hills. After a disaster, hotels in the City may be a critical asset in allowing residents to remain within the city. Beverly Hills is home to 5 large hotels having occupancies of more than 500 persons per day, 35 high-rise buildings, and a densely populated retail and commercial district.³⁷

Community Facilities and Government Buildings

Community and government facilities, such as libraries, government buildings, and community centers, are public properties and are important to the residents as well as the operation of the City. Notable community facilities and government buildings of Beverly Hills include libraries, and public safety facilities such as the fire and police departments. These facilities could be impacted by power outages induced by extreme weather or damaged by wildfires or landslides.

³⁷ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

Anticipated Impacts

Climate change is projected to continue affecting Beverly Hills and the greater Los Angeles County region in the form of increasing average temperatures and extreme heat days, altered precipitation patterns, and greater wildfire risk. These impacts are expected to influence health and prosperity through decreased water availability, increased frequency and intensity of storms, extended drought conditions, and decreased air quality due to regional wildfires. Climate risks and impacts vary depending on location. Understanding local climate risks and impacts allows communities to prepare for the future and increase their resilience. Beverly Hill's projected climate change impacts are based on information gathered from Cal-Adapt, the Los Angeles Summary Report of California's Fourth Climate Change Assessment, the City's Local Hazard Mitigation Plan, and concerns raised by asset managers in Beverly Hills.

Cal-Adapt provides modeled projections of how climate change might affect Beverly Hills. The Local Climate Change Snapshot tool in Cal-Adapt shows climate projections for temperature, precipitation, and wildfire. It is based on IPCC, which has established several future GHG emissions scenarios and associated global warming scenarios. Two of these GHG scenarios are commonly used to compare possible futures and have been selected for this assessment:

- The Representative Concentration Pathway (RCP) 4.5 represents a "medium emissions" scenario in which GHG emissions peak around 2040 and then decline at the end of the century. This scenario assumes global agreement and implementation of aggressive GHG reduction strategies.
- RCP 8.5 represents a "high emissions" scenario in which emissions continue to rise throughout the 21st century.

Increased Temperature

Average Minimum and Maximum Temperature

Since 1901, average temperatures across the country have increased, with eight of the top ten warmest years on record having occurred over the past 30 years.³⁸ Average trends are increasing at both the local scale and the global scale.

Compared to the modeled historical 30-year average (1961-1990), average maximum temperatures in Beverly Hills are expected to rise between 4.2° Fahrenheit (F) and 7.1°F by the end of the century, depending on the emissions scenario. In addition, average minimum temperatures in the City are expected to rise between 4.1°F and 7.0°F by the end of the century. The projected warming of average minimum and maximum temperatures, as well as more frequent temperature extremes, may have a variety of effects on the Beverly Hills community.

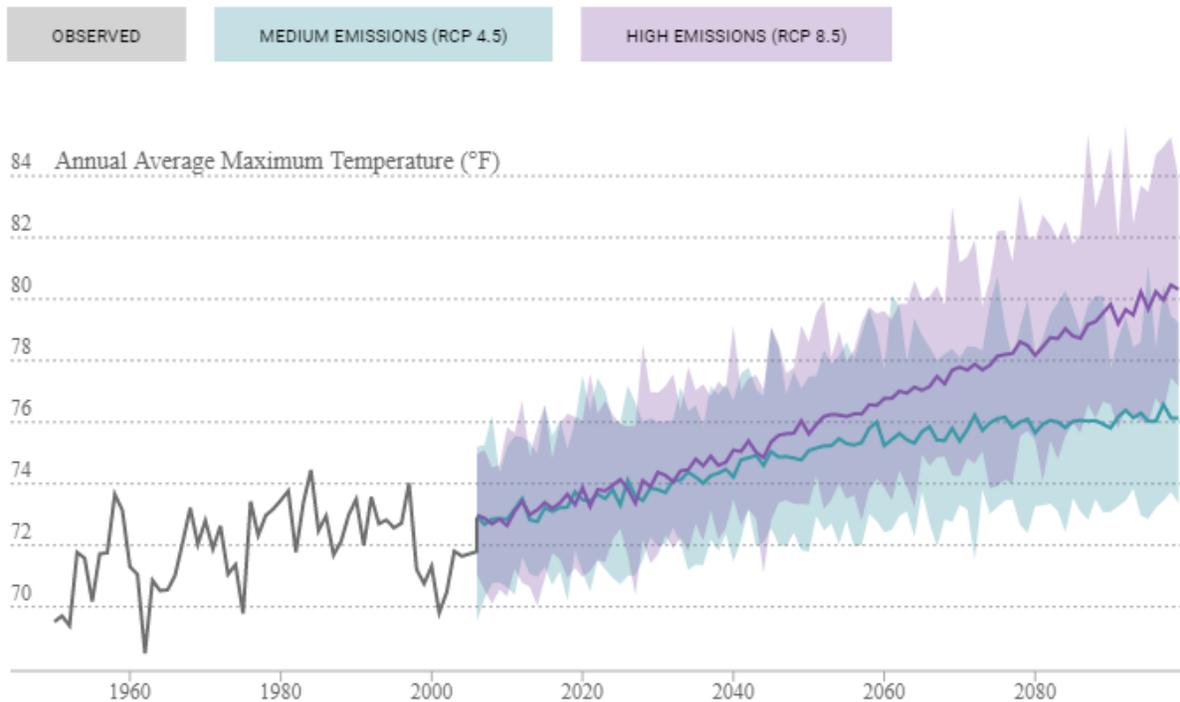
- Water and energy prices are likely to increase due to greater demand for both.
- Increased demand for water and energy will put additional stress on supplies and could lead to disruption in service.
- Local public health may be negatively impacted, due to increases in heat-related illnesses, with a disproportionate impact on vulnerable populations.

³⁸ United States Environmental Protection Agency (EPA). 2021. Climate Change Indicators: Weather and Climate

- Increased frequency in damage to roadway systems resulting in higher maintenance costs
- Endangered species and ecosystem functions in the region may be impaired due to the change in average temperatures.

Figure 6 shows average maximum temperatures in Beverly Hills based on the RCP 4.5 (medium emissions) and RCP 8.5 (high emissions) emissions scenario. The purple line shows high emissions scenario (RCP 8.5), the blue line shows the medium emissions scenario (RCP 4.5), and the grey line illustrates the current trend (observed). The shaded areas indicate the range for the emissions scenario. For example, the blue shaded area represents the range of data for the medium emissions scenario (RCP 4.5).

Figure 6 Historical and Projected Maximum Temperatures in Beverly Hills



Extreme Heat Events

Beverly Hills is projected to experience more extreme heat conditions. An extreme heat day in Beverly Hills occurs when temperatures exceed 92.2°F. Compared to the modeled historical 30-year average (1961-1990), the annual number of extreme heat days is projected to increase by 8 to 15 days by the end of the century depending on the emissions scenario.

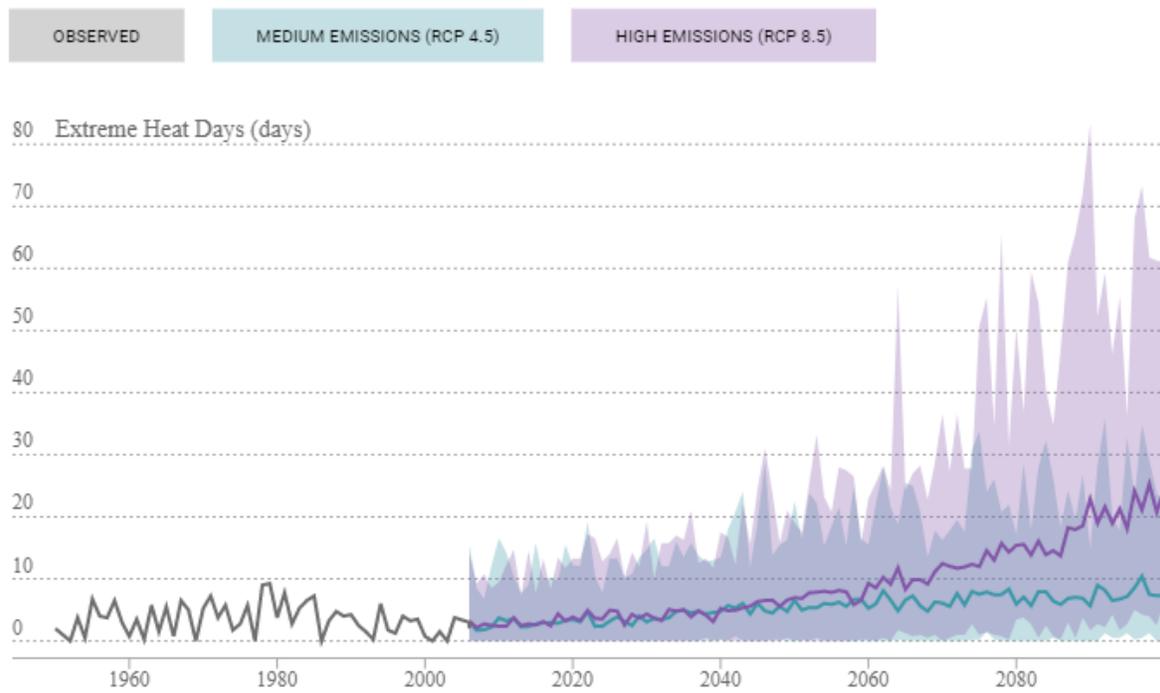
From 1961 to 1990, the modeled historical average number of days in the longest heat wave was 2.2 days. By the end of century, the high emissions scenario projects the average number of days in the longest heat wave to be 6.2.

Increased frequency and length of extreme heat days will result in increased public health risks, particularly to vulnerable populations like older adults and individuals with physical disabilities, through heat-impacted diseases, air quality degradation, and increased vector-borne illnesses. Figure 7 shows the number of extreme heat days in Beverly Hills for the medium and high emissions scenarios.

Impact of Recent Extreme Heat Events on City Services

Based on interviews with the City of Beverly Hills Fire Department, Public Works Department, and Community Services, increased temperature and extreme heat already have impacted Beverly Hills. Extreme heat impacts are most noticeable during the month of August when the Fire Department observes a notable increase in heat related illness. High heat has also caused waste hauling trucks to over-heat. Outdoor programming at school facilities, which are primarily asphalt and black-top, lack adequate shade areas and more resources are needed to ensure that campers and staff have adequate water supplies during extreme heat events. The City has received complaints about children getting dehydrated and exhausted from the heat during summer recreation programs, which has led to cancellations. In addition, high heat days have increased recreational building cooling costs. Moreover, there has been a shift in participation of community programming, with aquatic and indoor programs filling up more than outdoor programs.³⁹

Figure 7 Number of Extreme Heat Days in Beverly Hills



Impacts from Increased Temperature

Table 1 summarizes the potential impacts that increased temperature and extreme heat events might have on Beverly Hills’s population, transportation, and critical infrastructure assets.

³⁹ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

Table 1 Potential Impacts from Increased Temperature

Sensitivity Type	Sensitivity	Potential Impacts
	Populations with Vulnerable Household Characteristics and Disability	The relationship between adverse health impacts (heat stress) and high temperatures are well documented for older adults (over 65 years old), and children. Older individuals may experience cardiac strain due to heat exposure, while children have less ability to naturally cool their bodies. ^{40,41}
	Individuals with Cardiovascular Disease	Like the health impacts to older adults, individuals with cardiovascular disease may experience cardiac strain due to heat exposure. One measure of cardiovascular disease prevalence is that there are 138.6 cardiovascular disease deaths per 100,000 people in Beverly Hills. ⁴²
	Individuals with Respiratory Disease	Higher temperatures are linked to respiratory problems, in part because they cause a buildup of air pollutants. ⁴³ This puts people with chronic respiratory illnesses at risk of adverse health impacts. One measure of respiratory disease prevalence is that there are 18.86 ER visits per 10,000 people in Beverly Hills.
	Populations with Lower Socioeconomic Status	Households with lower socioeconomic status are more at risk of heat stress and/or high temperature mortality. Having access to air conditioning contributes to people's ability to withstand high temperatures. Lower income households may not have air conditioning in their dwellings, or if they do, they may not be able to afford running it. Additionally, individuals without a high school diploma are more likely to work in outdoor occupations where they are more exposed to high temperatures.
	Roadway Network	An increase in temperatures can cause pavement to soften and expand. Impacts on the road network would include an increase in rutting and potholes and can place stress on bridge joints, increasing maintenance costs. ⁴⁴ Extreme heat can also limit construction activities.
	Public Transportation	High temperatures can cause rail tracks to expand and buckle which can cause accidents or slowing or suspending of rail traffic. While waiting for these delays and malfunctions to be resolved, riders could experience reduced air quality and heat related health impacts. Los Angeles Metro ranked vulnerability to extreme heat higher than any other climate hazard. ⁴⁵

⁴⁰ Kenney WL, Craighead DH, Alexander LM. 2014. Heat waves, aging, and human cardiovascular health. *Med Sci Sports Exerc.* 46(10): 1891-1899.

⁴¹ Natural Disasters and Severe Weather. 2017. Centers for Disease Control and Prevention, National Center for Environmental Health. https://www.cdc.gov/disasters/extremeheat/heat_guide.html

⁴² Los Angeles County Department of Public Health. 2018. City and Community Health Profiles: Beverly Hills. Available: <http://publichealth.lacounty.gov/ohae/docs/cchp/pdf/2018/BeverlyHills.pdf>

⁴³ Centers for Disease Control and Prevention. N.d. Extreme Heat can Impact our Health in Many Ways. Available: https://www.cdc.gov/climateandhealth/pubs/EXTREME-HEAT-Final_508.pdf

⁴⁴ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

⁴⁵ Los Angeles County of Metropolitan Transportation. 2019. Metro Climate Action and Adaptation Plan 2019. Available: https://media.metro.net/projects_studies/sustainability/images/Climate_Action_Plan.pdf#page=35. Accessed October 22, 2021.

Sensitivity Type	Sensitivity	Potential Impacts
	Electrical Utility Lines	Indirect impacts to electrical utility lines could occur from increased use of the system from running air conditioners, leading to power outages in the City. Long periods of intense heat may result in increased use of electricity for home cooling purposes that could tax the overall electrical system and result in electricity restrictions or blackouts. Energy prices are likely to increase, due to greater demand for air conditioning in the region and could put additional stress on energy supply. However, because more than 65% of residents in Beverly Hills already have air conditioners ⁴⁶ , the grid is not likely to be taxed by increases in cooling. ⁴⁷ SCE takes into consideration the need for air conditioning use over multiple consecutive days and nights during heat waves. Because SCE is required to purchase electricity based on heat wave projections, the risk of air conditioners over-burdening the grid is low. ⁴⁸
	Natural Gas Transmissions	Minimal impacts expected, given that natural gas transmission lines are underground.
	Communication Network	Communication networks may be adversely impacted by increased temperatures, necessitating the need for backup power and/or a backup plan for communication networks should they fail during an extreme heat event. Internet failure and subsequently communication network failure could occur under a power outage-related incident. ⁴⁹ Temperature alone is not expected to impact communication networks.
	Wastewater Conveyance and Treatment	Water conveyance systems are generally underground and treatment systems are generally insulated or unaffected by heat. Thus, minimal impacts expected.
	Water Conveyance and Supply	High temperatures would contribute to a reduced water supply through longer periods of increased demand, evaporation and could result in decreased potable water supply for the city. Increased temperature can also cause degradation of water quality, which may force the City to flush it out of the system, causing more water wasting. The City is implementing new technology to maintain water quality and only flush out the system as a last resort. As mentioned, increased temperatures may increase the number of unexpected power outages in the City affecting the water treatment and distribution system. Therefore, the City will use its diesel-powered generators more often which can emit GHG emissions in the surrounding areas and impact local air quality. ⁵⁰ The City is looking into energy storage at critical facilities to increase redundancy.
	Stormwater Infrastructure	Increased temperatures may increase the growth of vectors in the storm drain system. It can also deteriorate surface structures like catch basins.
	Park and Recreation Facilities	Increased temperatures can cause vegetation stress and algal blooms in ponds. Indirect impacts could include increased watering and related

⁴⁶ The California Healthy Places Index (HPI). N.d. Air Conditioning. Available: < <https://map.healthyplacesindex.org/>>. Accessed March 8, 2022.

⁴⁷ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

⁴⁸ Ibid

⁴⁹ PG&E. N.d. How outages occur in hot weather. Available : <https://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/electric/howhotweatheroutages/how_outages_occur_in_hot_weather.pdf>. Accessed October 22, 2021.

⁵⁰ Ibid.

Sensitivity Type	Sensitivity	Potential Impacts
		costs. Increased temperatures could also impact summer recreation and community programming resulting in economic loss for the City. ⁵¹
	Schools	Increased temperatures are likely to result in minimal direct impact to schools. An indirect impact is increase cooling costs to operate buildings with air conditioning.
	High Occupancy Structures	Increased temperature is likely to result in minimal impact to high occupancy structures. Heat could increase cooling costs for high occupancy structures.
	Community Facilities and Government Buildings	Increased temperatures are likely to result in minimal impact. Indirect impacts could be an increase in cooling costs.

Variable Precipitation

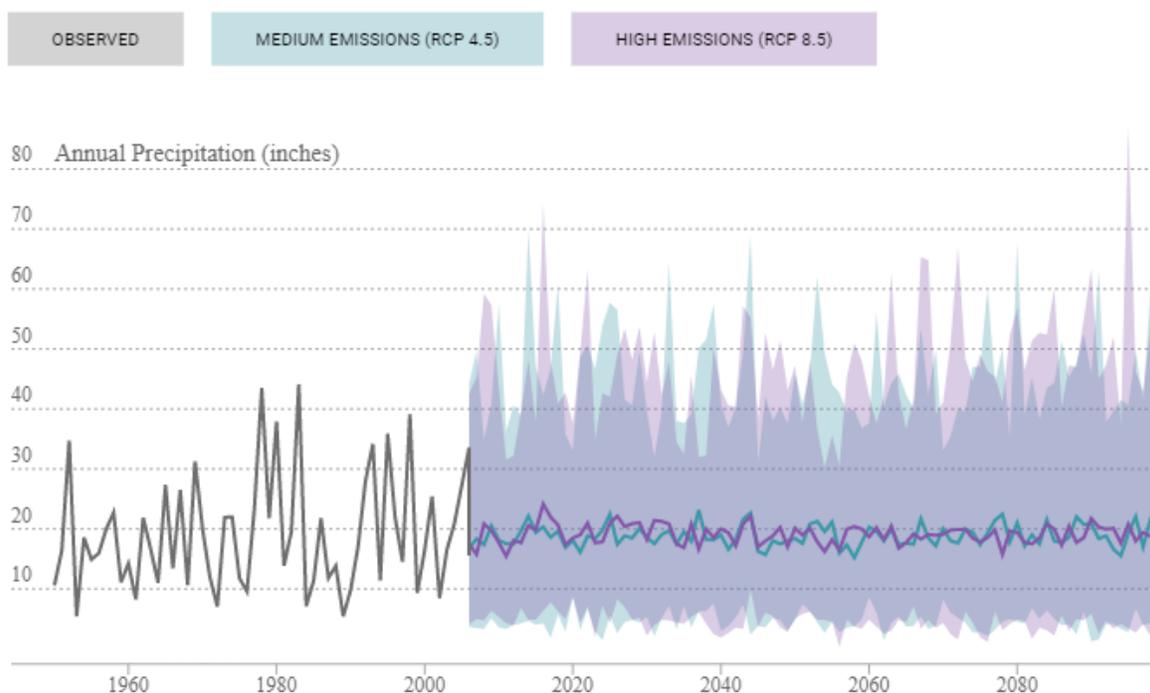
A warming climate is likely to influence the frequency and intensity of storms. Both increased temperatures and altered precipitation patterns can lead to altered seasons and intense rainstorms in Beverly Hills. By the end of the century, most areas in the Los Angeles region are expected to see an increase in the wettest day of the year, with some locations experiencing up to 30 percent increases under RCP 8.5.⁵²

Projections show that Beverly Hills may experience an increase of 0 to 0.2 inches of annual average precipitation between 2070 and 2099 compared to the modeled historical data from 1960-1990. Overall, the projections show no clear or consistent trends during the next century. However, even small changes in average precipitation can lead to significant impacts on the water supply and storm flooding. Figure 8 shows annual projected precipitation in Beverly Hills.

⁵¹ Ibid.

⁵² Ibid.

Figure 8 Annual Projected Precipitation in Beverly Hills



Drought

Droughts occur when there is a period of unusually persistent dry weather with below-average rainfall. Drought severity depends upon the degree of moisture deficiency, the duration, and the size of the affected area. Drought is a regional and state-wide hazard and will impact the area in and surrounding Beverly Hills.⁵³

Southern California is prone to periods of extremely dry conditions. The region recently experienced an exceptional drought during 2011-2015, with climate change contributing to historically warm temperatures, dry soils, precipitation deficits, and low snowpack.⁵⁴ Climate change is projected to increase the probability that low precipitation years will coincide with above-average temperature years.⁵⁵ This increases the likelihood of drought due to decreased supply of moisture and increased atmospheric demand for moisture as evaporation from bare soils and evapotranspiration from plants increase. Global climate models project significantly drier soils in the future over the Southwest and the West (including California), with more than an 80% chance of a multidecadal drought during 2050-2099 under the high emissions scenario.⁵⁶

City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

⁵³ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

⁵⁴ Hall, Alex, Neil Berg, Katharine Reich. (University of California, Los Angeles). 2018. Los Angeles Summary Report. California's Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-007. Available: <https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf>. Accessed October 19, 2021.

⁵⁵ Ibid.

⁵⁶ Ibid.

In addition to evidence of increased drought severity, there is evidence for occasional wet years. Because precipitation is projected to be variable, some years will be less drought-prone than others due to more frequent and possibly stronger storms. However, even with more frequent intense storms, California’s water systems are not currently designed to capture and store runoff from projected storms which then implies that more water could be lost to the ocean and increase the possibility of drought.⁵⁸

Heavy Precipitation Events

Increased temperatures and altered precipitation patterns can lead to altered seasons and intense and heavy rainstorms in Beverly Hills. California’s Fourth Climate Change Assessment projects more extreme precipitation events will occur throughout the Los Angeles region. Climate change may cause low-lying areas throughout Beverly Hills to experience more frequent flooding and increase the extent of 100-year floods. However, since the implementation of the Holly Hills Mitigation Storm Drain Project, flooding risk has been reduced in the city. Due to Beverly Hills’ proximity to mountainous terrain and geographical layout, the city may be impacted by flood events in the future.⁵⁹ Heavy precipitation events, especially those followed by wildfires, may increase landslides in areas of the city that are already susceptible to landslides. Critical infrastructure potentially impacted by landslides are listed in Table 2 and mapped in Figure 9.

Historical Flood Events

Based on the FEMA Flood Insurance Rate Map panels and Flood Insurance Study report for Los Angeles County (effective September 2008), Beverly Hills is in an “area of minimal flood hazard.” However, flooding events have historically impacted the city. These impacts have occurred predominantly in the southeastern and northeastern sectors of the city, contiguous with cities of Los Angeles and West Hollywood, respectively. In February 1978 a significant flooding event occurred in the northeastern area the City. This flooding event caused significant impacts with an explosion of a natural gas service line, loss of business, and flooding of numerous multi-family residential and commercial properties with subterranean parking. Similar, but less severe flooding events occurred in 1980, 1992, and 1993. Since 1993, no major flooding has occurred in the City, largely due to mitigation efforts. In the winter of 2010, Southern California experienced major storms with no flooding occurrences in the City.⁵⁷

⁵⁷ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

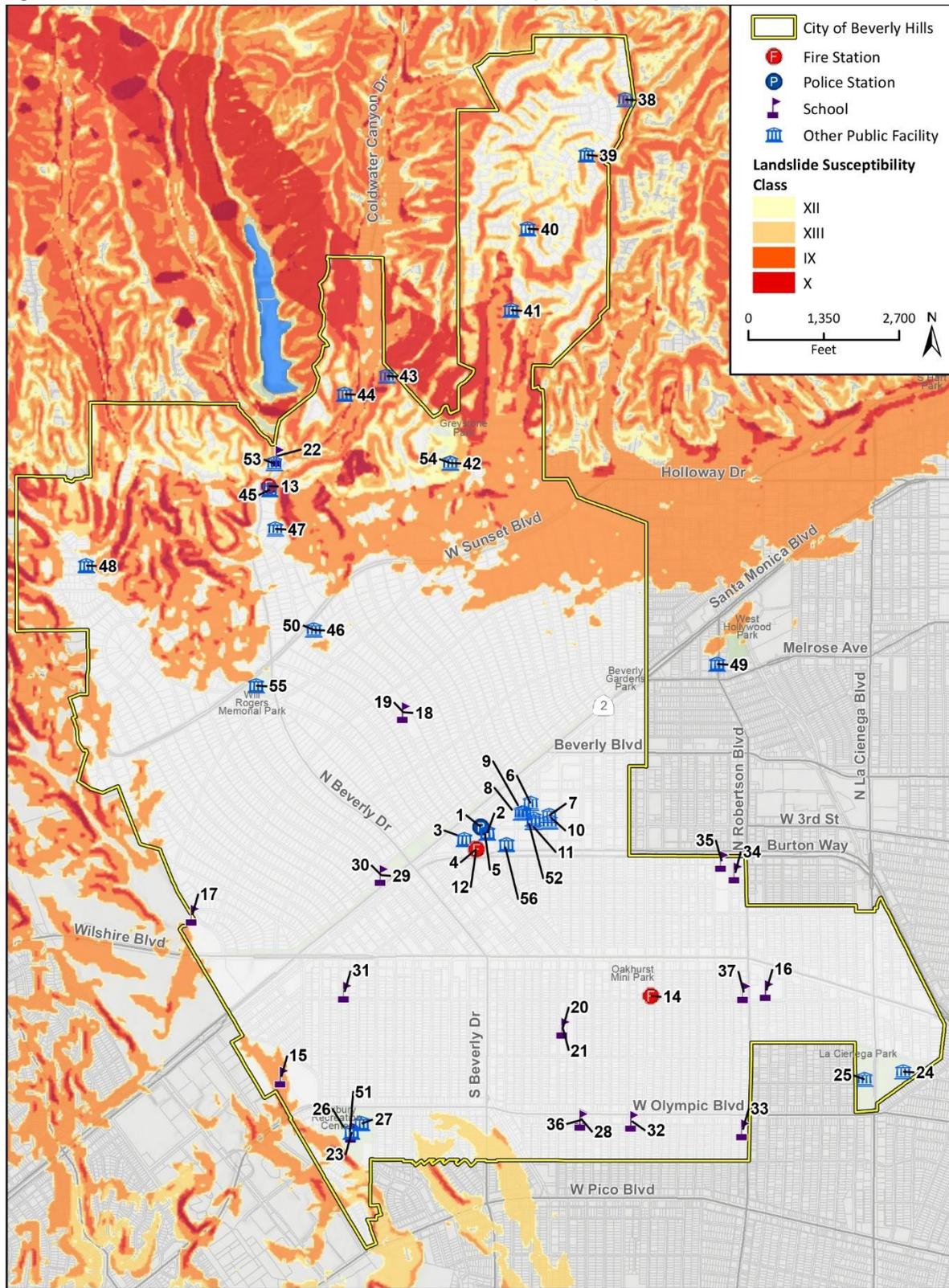
⁵⁸ Ibid.

⁵⁹ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

Table 2 Critical Infrastructure in Landslide Susceptibility Areas

Map Object ID (See Figure 9)	Facility	Address
13	Fire Station No. 2	1100 Coldwater Canyon Dr
15	Beverly Hills High School & District Office	241 Moreno Dr
17	El Rodeo School	605 Whittier Dr
22	Coldwater Preschool at Coldwater Park	1100 N Beverly Dr
38	Reservoir No.7 & Radio Towers	Not publicly available
39	Reservoir No.6	Not publicly available
40	Reservoir No.5	Not publicly available
41	Reservoir No.4B	Not publicly available
42	Greystone Reservoir (Pump Station)	Not publicly available
43	Reservoir No.4A-9398 Readcrest	Not publicly available
44	Reservoir No.3A-Loma Vista	Not publicly available
45	Coldwater Reservoir	Not publicly available
47	Woodland Reservoir (Booster Station No.2)	Not publicly available
53	Coldwater Canyon Park	1100 Coldwater Canyon Dr
54	Greystone Park	905 Loma Vista Dr
55	Will Rogers Park	9650 Sunset Blvd

Figure 9 Critical Infrastructure in Landslide Susceptibility Areas



Basemap provided by Esri and its licensors © 2021.

Impacts from Change in Precipitation Patterns

Table 3 summarizes potential impacts of drought and heavy precipitation events on Beverly Hills’s populations, transportation, and critical infrastructure assets.

Table 3 Potential Impacts from Changes in Precipitation

Sensitivity Type	Sensitivity	Potential Impacts
	Populations with Lower Socioeconomic Status	Lower income individuals may not be able to take on additional expenses such as repeated home repair or flood proofing that could be required due to extreme precipitation. ⁶⁰ Additionally, lower educational attainment (indicated by no high school diploma) can result in insufficient understanding of preparedness information for flooding risks. ⁶¹
	Minority and Linguistically Isolated Populations	During flooding events, individuals from these groups may have limited access to information and resources because of language or cultural differences. ⁶²
	Roadway Network	Flooding can cause streets in Beverly Hills to deteriorate faster, causing potholes and rutting in high traffic areas. ⁶³ Flooding (and landslides caused by heavy precipitation events) can also damage or close roads, isolating parts of the City. Although there could be localized flooding from storms, the City’s mitigation projects have reduced flood risk. ⁶⁴
	Public Transportation	Buses and bus service may be impacted by flooded roads in the event of a high precipitation event.
	Electrical Utility Lines	Electrical utility lines in the Very High Fire Hazard Severity Zones are underground, and therefore less susceptible to climate impacts such as stronger storms. However, both above and below-ground electrical utility lines north of West Sunset Boulevard may be at risk to potential landslide susceptibility, potentially disrupting service. There is some concern over private trees on the border of West Hollywood and Los Angeles and in alleys with above-ground electrical lines due to stronger storms or stress from drought. ⁶⁵
	Natural Gas Transmissions	High Pressure Distribution Lines lie right on the border of city limits and may be impacted by landslides, caused by heavy precipitation. Though not expected, major landslides could cause underground utilities to be disrupted and/or ruptured. ⁶⁶
	Communication Network	Increased precipitation may impact communication network infrastructure if power is lost, however, given that the electrical lines in the Very High Fire Hazard Severity Zone are underground, minimal impacts are expected. Using a 2.4 gigahertz (GHz) frequency (industry

⁶⁰ United States Environmental Protection Agency (EPA). 2021. Climate Change and Social Vulnerability in the United States.

⁶¹ Ibid.

⁶² Gamble JL, Balbus J, Berger M, Bouye K, Campbell V, Chief K, Conlon K, Crimmins A, Flanagan B, Gonzalez-Maddux C, Hallisey S, Hutchins S, Jantarasami L, Khoury S, Kiefer M, Kolling J, Lynn K, Manangan A, McDonald M, Morello-Frosch R, Redsteer MH, Sheffield P, Thigpen Tart K, Watson J, Whyte KP, and Wolkin AF. 2016. Ch. 9: Populations of Concern. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 247–286. <http://dx.doi.org/10.7930/J0Q81B0T>

⁶³ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Ibid.

Sensitivity Type	Sensitivity	Potential Impacts
		standard) or greater for wireless networks should yield a minimal to no impact from precipitation increases. ⁶⁷
Wastewater Conveyance & Treatment		Flooding may disrupt or damage wastewater infrastructure with associated service and business interruptions and potential releases of untreated wastewater. ⁶⁸
Water Conveyance and Supply		<p>Typically, drought leads to increased water use which under certain circumstances could lead to increased price hikes which would disproportionately impact low-income families.⁶⁹ Drought may lead to less water available for a community, especially water used for landscaping.</p> <p>The City obtains water supply from Metropolitan Water District (MWD) and local groundwater. Approximately 90 percent of the City's water comes from MWD. Currently, MWD has the capacity to feed the entire Beverly Hills system. To reduce reliance on MWD, the City has three emergency connections that can store 43 million gallons (seven days without disruption). In addition, the City is drilling in the La Brea subarea for more groundwater supply which will be available Summer 2022. This will give the City a total of seven wells. The City is also looking for two additional wells over the next five years to increase redundancy. Supply from these wells could serve up to 33 percent of City demand.</p>
Stormwater Infrastructure		<p>The implementation of the Holly Hills mitigation project reduced flood risk in the city. However, intense flooding and landslides may disrupt or damage water supply infrastructure, impacting service.</p> <p>According to information gathered from the asset manager interviews, Beverly Hills's storm drain facilities need updating due to the age and development after the stormwater system has been installed.⁷⁰ More frequent and intense precipitation can overwhelm stormwater infrastructure and cause backups that lead to localized flooding or greater runoff of contaminants into local waterways.⁷¹</p>
Parks and Recreation Facilities		Drought could impact irrigation and may indirectly increase wildfire risk. ⁷² In addition, heavy precipitation events could flood recreation facilities, impacting service.
Schools		Beverly Hills High School and District Office and the Coldwater Preschool at Coldwater Park, and some residential buildings are at risk of landslides.
High Occupancy Structures		The Beverly Hills Hotel is susceptible to landslides. Heavy precipitation could also deter visitors, resulting in economic losses to hotels and the City due to loss in tourism revenue.

⁶⁷ Emerson Process Management. 2010. Impact of Weather on Smart Wireless Networks. Available: <<https://www.emerson.com/documents/automation/white-paper-impact-of-weather-on-smart-wireless-networks-en-42650.pdf>>. Accessed October 22, 2021.

⁶⁸ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

⁶⁹ Public Policy Institute of California (PPIC). 2017. Why Drought Makes Water Rates Rise. Available: <<https://www.ppic.org/blog/drought-makes-water-rates-rise/#:~:text=Droughts%20also%20drive%20up%20costs,repairing%20leaks%20to%20cut%20waste.>>. Accessed April 21, 2022.

⁷⁰ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews and in reference to the Integrated Water Resources Master Plan (IWRMP).

⁷¹ United States Environmental Protection Agency (EPA). 2021. Climate Adaptation and Stormwater Runoff. Available: <<https://www.epa.gov/arc-x/climate-adaptation-and-stormwater-runoff>>. Accessed November 3, 2021.

⁷² City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

Sensitivity Type	Sensitivity	Potential Impacts
	Community Facilities and Government Buildings	Major facilities and governmental buildings impacted by landslides include Beverly Hills Fire Department Station #2. Emergency response systems could be affected by flooding through restricted access to and from emergency response facilities, such as the fire station.

Wildfire

Climate change can affect multiple elements of the wildfire system, including fire behavior, ignitions, fire management, and vegetation fuels. Hot, dry spells create the highest fire risk, and increased temperatures may intensify wildfire danger by warming and drying vegetation. As a result, the California Department of Forestry and Fire Protection (CAL FIRE) has identified Very High Fire Hazard Severity Zones (VHFHSZ) in Beverly Hills. The VHFHSZs includes the area north of West Sunset Boulevard. Critical infrastructure potentially impacted by wildfires in the VHFHSZ are listed in Figure 4 and mapped on Figure 10.

Though uncertainties exist in quantifying future changes of burned area in the region, projections indicate that the annual area burned in the Los Angeles Region may increase over 5,000 acres by mid-century. However, slightly lower increases in acres burned are projected by the end of the century, as continued warming (even with moderate precipitation increases) could lead to overall fuel declines necessary for wildfire.⁷⁵

Recent Wildfire Events

Based on interviews with the City of Beverly Hills Fire Department and Community Services, wildfire events have impacted Beverly Hills. In 2007/2008, the Beverly Fire started in Los Angeles and traveled into Beverly Hills. The fire resulted in roadway closures along major arterials, affecting both workers and travelers. Historically, large-scale evacuation in response to wildfire risk in the City has not occurred. Beverly Hills has not experienced recent power safety shut offs associated with wildfires. The City works closely with SCE and SoCalGas to mitigate the potential for power shut offs.⁷³

Though Beverly Hills has not suffered infrastructure damage from historical fires, fires in surrounding jurisdictions have impacted outdoor programming events due to adverse air quality, including farmers markets and outdoor summer camps.⁷⁴

⁷³ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

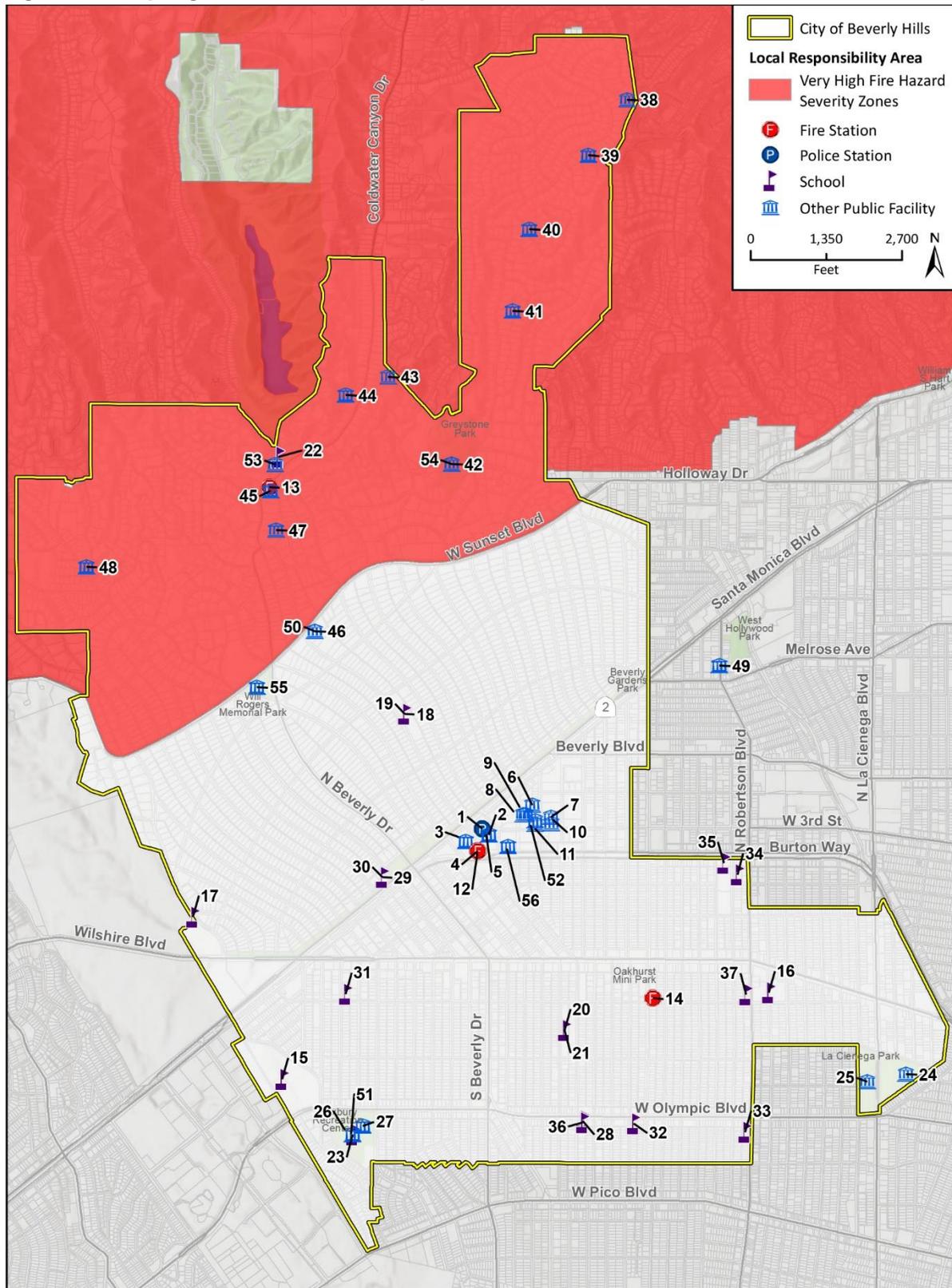
⁷⁴ Ibid.

⁷⁵ Hall, Alex, Neil Berg, Katharine Reich. (University of California, Los Angeles). 2018. Los Angeles Summary Report. California’s Fourth Climate Change Assessment. Publication number: SUM-CCCA4-2018-007. Available: <https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCCA4-2018-007%20LosAngeles_ADA.pdf>. Accessed October 19, 2021.

Table 4 Critical Infrastructure in the Very High Fire Hazard Severity Zone

Map Object ID (See Figure 10)	Facility	Address
13	Fire Station No. 2	1100 Coldwater Canyon Dr
22	Coldwater Preschool at Coldwater Park	1100 N Beverly Dr
38	Reservoir No.7 & Radio Towers	Not publicly available
39	Reservoir No.6	Not publicly available
40	Reservoir No.5	Not publicly available
41	Reservoir No.4B	Not publicly available
42	Greystone Reservoir (Pump Station)	Not publicly available
43	Reservoir No.4A-9398 Readcrest	Not publicly available
44	Reservoir No.3A-Loma Vista	Not publicly available
45	Coldwater Reservoir	Not publicly available
47	Woodland Reservoir (Booster Station No.2)	Not publicly available
48	Green Acres Pump Station	Not publicly available
53	Coldwater Canyon Park	1100 Coldwater Canyon Dr
54	Greystone Park	905 Loma Vista Dr

Figure 10 Very High Fire Hazard Severity Zones



Basemap provided by Esri and its licensors © 2021.

Fig. 2 Fire Hazard Risk

Impacts from Increased Wildfire Risk

Table 5 summarizes the potential impacts of increasing wildfire risk on Beverly Hills’s populations, transportation, and critical infrastructure assets.

Table 5 Summary of Potential Impacts from Wildfire

Sensitivity Type	Sensitivity	Impact Summary
	Populations with Lower Socioeconomic Status	Lower socioeconomic status is correlated with less access to healthcare, which can mean higher rates of underlying health conditions which make them at risk of adverse effects from wildfire smoke. ⁷⁶ These households may also live in lower quality housing that lack the proper air filtration or insulation that can prevent exposure. Lastly, individuals with lower socioeconomic status are more likely to work in an outdoor occupation where they may be exposed to high concentrations of wildfire smoke. ⁷⁷
	Populations with Vulnerable Household Characteristics and Disability	Older adults tend to have a higher prevalence of lung and heart conditions which make them more likely to experience adverse health impacts from wildfire smoke. Children are also more at risk of lung problems related to smoke because their lungs are still developing and other physiological factors. ⁷⁸
	Individuals with Cardiovascular Disease	Wildfire smoke pollutes the air with fine particulate matter that may trigger severe cardiovascular events for people with underlying cardiovascular disease. ⁷⁹
	Individuals with Respiratory Disease	Wildfire smoke pollutes the air with fine particulate matter that may lead to breathing difficulties and trigger symptoms for people with chronic lung diseases including asthma and chronic obstructive pulmonary disease. ⁸⁰
	Minority and Linguistically Isolated Populations	During a wildfire, individuals from these groups may have limited access to information and resources related to evacuation because of language or cultural differences. ⁸¹ Minority and linguistically isolated populations may also not have access to information and resources about how to prepare their family and/or property for wildfire, or how to access programs that can help them do so.
	Roadway Network	Wildfires result in closure or the inability to travel on roads during wildfire events, which can isolate areas of the city and create severe health and safety risks. In addition, wildfires in neighboring jurisdictions can increase traffic in the city. Potential road closures and evacuation routes are major concern for the city. Coldwater Canyon Drive and Benedict Canyon Drive are major commuter-ways and closing these streets can have ripple effects and delay moving resources when responding to a fire. ⁸²
	Public Transportation	Increased wildfires are likely to result in minimal direct impact because all transit stops lie outside the VHFHSZ. However, wildfires in the surrounding

⁷⁶ US Environmental Protection Agency (EPA). 2021. Which Populations Experience Greater Risks of Adverse Health Impacts Resulting from Wildfire Smoke Exposure? Available: <https://www.epa.gov/wildfire-smoke-course/which-populations-experience-greater-risks-adverse-health-effects-resulting>

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Gamble JL, Balbus J, Berger M, Bouye K, Campbell V, Chief K, Conlon K, Crimmins A, Flanagan B, Gonzalez-Maddux C, Hallisey S, Hutchins S, Jantarasami L, Khoury S, Kiefer M, Kolling J, Lynn K, Manangan A, McDonald M, Morello-Frosch R, Redsteer MH, Sheffield P, Thigpen Tart K, Watson J, Whyte KP, and Wolkin AF. 2016. Ch. 9: Populations of Concern. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 247–286. <http://dx.doi.org/10.7930/J0Q81B0T>

⁸² Descalzo, Joseette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

Sensitivity Type	Sensitivity	Impact Summary
		area could cause increased traffic and reduce transit service. In addition, smoke from wildfires could impact transit-related employees, and potentially reduce service.
	Electrical Utility Lines	Electrical utility lines in the Very High Fire Hazard Severity Zone are underground, and therefore less susceptible to climate impacts such as wildfire. However, electrical system transformers may be vulnerable in hillside areas due to vegetation located near lines. ⁸³
	Natural Gas Transmissions	Minimal impacts expected, given that natural gas transmission lines are underground.
	Communication Network	Wildfires can create regional power outages either in anticipation or during such an event. Communication networks are required to have backup plans in place so residents may access 9-1-1 and 2-1-1 emergency related services across California. With the ever-changing landscape of wildfire externalities Beverly Hills may be susceptible to communication network outages during a wildfire due to safety power shut offs and wildfire-caused power outages. ⁸⁴
	Wastewater Conveyance and Treatment	Wastewater infrastructure may be damaged or destroyed by fire. ⁸⁵
	Water Conveyance and Supply	Water supply to most areas of the City is very good, The Beverly Hills Fire Department has contingency plans to supply water to the City in case a catastrophic failure occurs in the water supply pumping system. ⁸⁶ Personnel that work in the field may face increased health risk during air quality emergencies.
	Stormwater Infrastructure	Minimal impact for wildfires. Storm conveyance system can be impacted by wildfire debris during firefighting activities and cleanup.
	Parks and Recreation Facilities	Parks in the City, especially those in the VHFHSZ including Coldwater Canyon Park and Greystone Mansion and Gardens, are at risk of increased wildfires caused by climate change. Wildfires in the area could impact events held at Greystone Mansion and Gardens, and programming, such as the pre-school program, at Coldwater Canyon Park, leading to economic loss. ⁸⁷
	Schools	The Coldwater Preschool at Coldwater Park lies in the VHFHSZ. This school in may experience direct infrastructure damage from wildfire, and schools in the entire city could experience indirect impacts associated with wildfire smoke from fires in and surrounding the city.
	High Occupancy Structures	Hotels and other high-occupancy buildings, such as residential buildings, in the VHFHSZ may be impacted by wildfire. Hotels throughout the city could be impacted indirectly by wildfires in the region if tourists are deterred from visiting. ⁸⁸
	Community Facilities and Government Buildings	Major facilities and governmental buildings potentially impacted by wildfires include Fire Station 2 and water reservoirs. ⁸⁹ Public safety services will likely be strained during wildfire events. Coordinating agencies will likely be

⁸³ Ibid.

⁸⁴ California Public Utilities Commission. 2020. CPUC Requires Wireless Companies to Better Serve Customers in Emergencies: <<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M343/K979/343979403.PDF>>. Accessed October 22, 2021.

⁸⁵ Ibid.

⁸⁶ City of Beverly Hills. 2017. Local Hazard Mitigation Plan 2017-2022. Available: <<https://www.beverlyhills.org/cbhfiles/storage/files/308161150947855524/BeverlyHillsFinalLHMAP5.29.pdf>>. Accessed October 18, 2021.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Ibid.

Sensitivity Type	Sensitivity	Impact Summary
		similarly strained as fire seasons grow longer, and the intensity and extent of fires increases with climate change. Personnel that work in the field may face increased health risk during air quality emergencies.

DRAFT

Adaptive Capacity

Adaptive capacity is the ability to adjust to the consequences of climate change. This section summarizes the ways in which the City currently manages for the negative impacts of climate change. Types of adaptive capacity include adjustments in behavior, resources, and technologies. Beverly Hills has actively taken steps to increase the City’s adaptive capacity. These include varying programs, plans and policies and are listed in Table 6, Table 7, Table 8, Table 9, and Table 10 below.

Increased Temperature

Table 6 lists programs, plans, and policies that help increase the community’s resilience to increased temperature and extreme heat.

Table 6 Programs, Plans, and Policies to Manage Increased Temperature Impacts

Existing and Planned Programs, Plans, and Policies	Objectives
SCE 2020 Transmission Maintenance and Compliance Review (TMCR) Report	This SCE report covers the years 2022 -2024 and organizes investments into six categories: “Compliance,” “Infrastructure Replacement,” “Wildfire Management,” “Work Performed by Operating Agent,” “Operations Support,” and “Physical/Cyber Security.” It identifies transmission maintenance and compliance projects to maintain the safe and reliable operation of its electrical grid.
Beverly Hills Office of Emergency Management (OEM), National Weather Service, and LA County Partnership	This program is in place to plan and prepare for climate impacts and extreme/adverse weather events. Beverly Hills OEM is responsible for disseminating information to key staff from all City departments so that mitigation measures can be put in place ahead of adverse weather events. City departments successfully execute a variety of mitigation measures (securing infrastructure, clearing storm drains, rearranging outdoor programming as necessary, etc.) when this information is shared. These measures will continue to be effective when adequate lead time is given, and projected impacts are able to be anticipated. However, with climate change, it is likely that local jurisdictions and communities will experience climate impacts never seen before.
City-led Outreach	The City conducts outreach through social media platforms, Nixle alert, Reverse 911 via text, call, and email, and press releases. The City can reach over 6,000 people through the reverse 911.
City-led Outreach to homeless population	Beverly Hills reaches out to the homeless population 5 mornings per week throughout the city including the commercial areas and public parks. They offer services and facilitate moving homeless individuals to available shelters which are located outside the City.
Beverly Hills Park Master Plan for La Cienega	This plan will provide additional recreation space for programs and seeks to augment indoor capacity in anticipation of increased temperatures.
Southern California Edison (SCE) Automated System	SCE regularly communicates with customers in the City during power outages and identifies when power will be restored.
Southern California Edison (SCE) Medical Baseline Program	SCE works with individuals with medical need for electricity (for oxygen, dialysis, etc.) to develop contingency plans. SCE regular conducts marketing for medical needs for electricity. It is aimed at customers in high fire risk areas, low-income customers eligible for free battery back-up (whole home battery), solar incentives, and others.

Existing and Planned Programs, Plans, and Policies	Objectives
Southern California Gas Company (SoCalGas) Partnering with Bloom Energy Servers	SoCalGas has been exploring fuel cells (renewable gas or hydrogen) connected to the gas grid to provide redundancy if the electricity grid is down.
Southern California Gas Company (SoCalGas) Programs	These programs include low-income and bill assistance program, climate adaptation and resiliency planning program to fund local government climate change efforts.

Asset managers identified staffing, facility, and community preparedness constraints associated with increasing adaptive capacity for increased temperatures, as described below.

- Need to increase enrollment in the SCE Automated System.
- Need to investigate offsite clean energy fueling stations for waste hauling in case of disruptions.
- Cooling centers were prepared to be opened in the summers of 2020 and 2021; however, because no community members requested use of the facilities, they were not opened for use during high heat days in 2020 and 2021.
- Community Services Department staff indicated that the City has staffing capacity issues within the Community Service and Parks and Recreation divisions.

Variable Precipitation

Table 7 lists programs, plans, and policies that help increase the community's resilience to flooding from more frequent and intense storms as well as extended drought.

Table 7 Programs, Plans, and Policies to Manage Precipitation Impacts

Existing and Planned Programs, Plans, and Policies	Objective
California Energy Commission (CEC) Report on Natural Gas System and adaptation	This report evaluates scenarios that achieve an 80 percent reduction in California's greenhouse gas emissions by 2050 from 1990 levels, focusing on the implications of achieving these climate goals for gas customers and the gas system
Beverly Hills excessive water use policy	The City is exploring instituting this policy which would limit water use during drought conditions
Moving infrastructure out of easements at risk of landslides	The City intends to move watermains out of hillsides and pipelines out to the public right of way
Integrated Water Resources Master Plan (IWRMP)	This is a comprehensive medium term plan to improve the reliability of water, wastewater and stormwater systems. It also recommends expanding the City's water resources to include non-potable source (stormwater and shallow groundwater) for non-potable use like irrigation.

Existing and Planned Programs, Plans, and Policies	Objective
Beverly Hill’s Reducing Losses in High Risk Flood Hazard Areas: A Guidebook for Local Officials - 1987	This guidebook offers actions that communities can take to reduce flood losses. It also offers a table with sources for floodplain mapping assistance for the various types of flooding hazards. There is information on various types of flood hazards with regard to existing mitigation efforts and options for action (policy and programs, mapping, regulatory, non-regulatory). Types of flooding which are covered include alluvial fan, areas behind levees, areas below unsafe reservoirs, coastal flooding, flash floods, fluctuating lake level floods, ground failure triggered by earthquakes, ice jam flooding, and mudslides.
Separate meters for irrigation	Incentivizes people to use less water and provides the City with the ability during water shortage to shut off irrigation without affecting potable water supply
Southern California Gas Company (SoCalGas) partnership with CPUC	Work with CPUC is ongoing to explore and address risks to natural gas infrastructure from stronger storms and landslides.
Beverly Hills water emergency ordinance	Ordinance established stricter rules and enforcement on water use during drought conditions.
Beverly Hill’s Urban Water Master Plan Update - 2013	The City’s Urban Water Master Plan (UWMP) and related capital improvement programs assess water supply and demand and includes programs to monitor the City’s water reservoirs and drought conditions.

Asset managers identified issues with current programming and barriers to further increasing resilience. These issues and barriers are listed below.

- Stormwater systems in Beverly Hills are older and need to be updated.
- Water per capita remains significantly higher when compared to other cities, despite having met the MWD goal to reduce water use by 20%.
- Brush clearing can create a landslide risk in some areas. The City is prioritizing wildfire mitigation over landslide mitigation.

Wildfire

Table 8 lists programs, plans, and policies that help increase the community’s resilience to wildfire impacts.

Table 8 Programs, Plans, and Policies to Manage Wildfire Impacts

Existing and Planned Programs, Plans, and Policies	Objective
Beverly Hills Wildfire Assessment Report - 2021	This Report address the collective actions taken by the City of Beverly Hills to address their wildfire vulnerabilities. It provides a comprehensive overview to identify gaps from these efforts, while building consensus and initiating actions on how to move forward based on the most appropriate and effective steps possible. The focused goal is to help the City of Beverly Hills, and its citizens, be better prepared when – not if – a wildfire threatens this community. The report includes a GIS tool called FlameMapper, which is dedicated to understanding wildfire behavior, prediction, and structure vulnerabilities. Maps created with FlameMapper will help identify more precisely where the highest risks exist, and how the City may choose to prioritize their efforts. It also looks at potential vulnerabilities of Beverly Hills. The Wildfire Assessment Report examines key topics related to fire safety including public trees, private landscaping, education, evacuation challenges, smoke impacts and structure resiliency.

Existing and Planned Programs, Plans, and Policies	Objective
Beverly Hills Building and Fire Code Updates	Regular updates to the City's building and fire codes occur every three years, or when the State updates the California building and fire codes, to reflect the highest and best available standards for wildfire resistant design and performance of buildings and to conform to State requirements.
Beverly Hills Evacuation Routes – 2013	A plan adopted in 2013 that established Citywide evacuation routes during a disaster and strategies to educate the public about emergency access
Beverly Hills Fire Department Access – 9-2-2 Amendments to the Fire Code	The City's code establishes standards for private and public access drives and roadways to preserve and maintain Fire Department access to properties.
Beverly Hills Firewise Community Board	The Firewise Community Board evaluates and implements recommendations made by the Firewise Communities Program.
Beverly Hills Firewise/Waterwise Mitigation Demonstration Garden – 2013	A demonstration garden that educates the community on what type of plants are both Firewise and Waterwise.
Beverly Hills full-time Fire Inspector for Evacuation Routes	The City employs a full-time inspector that helps to mitigate risk associated with wildfire and protecting evacuation routes. ⁹⁰
Beverly Hills New Development Impacts - 2015	The City reviewed and revised the Zoning Code to limit uses and establish development standards for developments in landslide areas.
Beverly Hills Updated City Code – 2014	City codes were updated to reflect recommendations set forth by the Firewise assessment and Joint Wildland Interface Task Force.
Beverly Hills Vegetation Management Public Education	Beverly Hills distributes public education materials to residents regarding vegetation management around their homes.
Beverly Hills Wood Roof Public Education	Beverly Hills actively educates residents on the potential fire hazard regarding wood roofs.

Asset managers identified issues with current programming and barriers to further increasing resilience. These issues and barriers are listed below.

- Though power lines in the Very High Fire Hazard Severity Zone have been moved underground, there may be some lines South of Sunset Boulevard that are on private property and may be more difficult to underground. Accessing funding to implement wildfire mitigation strategies can be a challenge.

Multiple Climate Hazards

Table 9 lists programs, plans, and policies that help increase the community's resilience to multiple climate hazards.

Table 9 Programs, Plans, and Policies to Manage Multiple Climate Hazard Impacts

Existing and Planned Programs, Plans, and Policies	Objectives
City of Beverly Hills Local Hazard Mitigation Action Plan 2017-2022	Provides a list of activities that may assist the City in reducing risk and preventing loss from future events. It also includes information that can assist City Departments, residents, public and private sector organizations, and others in participating in planning for disasters. It promotes public policy and

⁹⁰ Descalzo, Josette (Environmental Compliance and Sustainability Programs Manager), et al. July 21 and July 28, 2021. Asset Manager Interviews.

Existing and Planned Programs, Plans, and Policies	Objectives
	programs designed to protect the public, critical facilities, infrastructure, private and public property, and the environment from natural and human-made hazards. See Table 10 below for specific LHMP mitigation strategies.
City of Beverly Hills General Plan 2021-2029 Housing Element Update (Draft)	The Housing Element establishes a strategy to facilitate the provision of an adequate supply of safe, affordable housing for all community members, regardless of income, and inclusive of those with special housing needs. There are several goals and policies that will support the community’s capacity to better withstand the impacts associated with climate change, including policies that seek to improve housing affordability, provide services to the unhoused, upgrade existing housing stock, and promote green building practices. There are also policies to take action in combating patterns of segregation and fostering inclusive communities.
Urban Forest Management Plan for the City of Beverly Hill (2022)	The Urban Forest Management Plan focuses on creating a climate resilient Beverly Hills through tree canopy. The plan includes analysis of climate-related threats to the urban forest including drought and extreme heat, excessive flooding, and pests and pathogens. The plan also includes goals, strategies, and objectives to increase resilience of the urban forest.
Community Emergency Response Team (CERT) Program	Offered to residents of Beverly Hills to improve emergency preparedness. Beverly Hills is looking at ways to make this program more cost effective
Block by Block Program	Program to provide safety and hospitality ambassador services to the City.
Commissioner Emergency Training	Program to conduct disaster preparedness for all City Commissioners in order to have commissioners prepared to assist City during a hazard event.
Emergency Management Exercises	Program to conduct periodic emergency management exercises with City personnel and surrounding jurisdictions.
Hazardous Materials Awareness	Program to conduct outreach to all City residents on how to properly store and secure hazardous materials to avoid spillage and breakage during a hazard event.
Inter-jurisdictional Coordination	The City continues to coordinate with and support the Los Angeles County Certified Unified Program Agency (CUPA), the Los Angeles County Fire Department, and their Health & Hazardous Materials Division (HHMD) in carrying out inspections, emergency response, enforcement, and site mitigation oversight of hazardous materials and waste.
Joint Effort in Emergency Disaster Management	Program to ensure that emergency disaster management is the mutual responsibility of all City Departments and a variety of stakeholders, including the Citizen Corp Program, Beverly Hills Unified School District private schools, local residents, and the business community
Medical Facility Identification	Program to identify all possible medical facilities in the City that are capable of providing medical services, such as triage, during a large hazard event.

Table 10 lists the mitigation strategies identified in the City’s LHMP. These strategies, if implemented, improve the community’s resilience to climate change hazards. Existing adaptation-related strategies from the LHMP will be referenced in the Climate Action and Adaptation Plan and new policies and actions will be developed, as necessary, based on gaps identified in this Vulnerability Assessment.

Table 10 Climate Change-related Mitigation Strategies from the Local Hazard Mitigation Plan

Hazard	Mitigation Strategy
Flood	Stormwater Physical Protection. Design and construct a flood barrier around the Police Station, Library, and parking structure to prevent water from entering these areas to provide physical protection against storm water exposure.
Flood	Improve FERP (Flood Emergency Response Plan). Add the following components to FERP – A reliable flood warning method, a person who has the authority to activate the plan, a clear list of responsibilities for the key leaders, documented de-energization and shutdown procedures, actions to reduce the damage by using available resources and staff, and a recovery and cleanup plan.
Multi-Hazard	Disaster Ready. Give City businesses the tools they need to prepare themselves to be self-sufficient in the event of a disaster. Participating businesses are encouraged to spread the word of this program to their surrounding neighbors. Businesses will be recognized for their efforts.
Flood	Update Flood Damage Prevention Ordinance. Update flood construction provisions in Beverly Hills Municipal Code to coordinate with updated FEMA maps for the City.
Flood	Greystone Reservoir, Reservoir 4A and LADWP water transition pipeline inundation and water pipe maps. Hire a consultant to develop and update the Greystone Reservoir and Reservoir 4A and develop LADWP maps and inundation maps. Mapping has been updated for Greystone.
Multi-Hazard	Evacuation Route. Develop and educate residents on a Citywide evacuation route during a disaster.
Drought	Water conservation project. Increase water conservation campaign exposure throughout the City. Implement innovative water saving devices and programs, such as irrigation meters and volumetric wastewater pricing, for residents and businesses.
Drought	Rehabilitation of Cabrillo Reservoir. Determine the feasibility of rehabilitating the site for an additional reservoir for firefighting and water storage resilience. The City is currently looking into alternative sites for water storage resiliency.
Drought	Green Streets and Water Efficient Landscape on Burton Way Median. The project consists of constructing green street function on the median to collect urban runoff during a storm event to prevent pollutants from entering the storm drain system. The project will also utilize captured urban runoff for site irrigation.
Drought	La Cienega Park and Frank Fenton Field Stormwater Retention. The project has a potential to capture 24.0 acre-feet of urban runoff from a large drainage area from the cities of West Hollywood, Los Angeles, and Beverly Hills. The purpose of the project is to collect urban runoff during a storm event to prevent pollutants from entering the storm drain system. The water collected will be discharged to the sewer system and eventually be an additional source for recycled water for the region.
Drought	Shallow Groundwater Wells. Increase the City's water supply. Develop and construct two shallow groundwater wells. The City is looking into two shallow wells at La Cienega Park.
Multi-Hazard	Building and Fire Code Updates. Continue to update the City's building and fire codes once every three years, or whenever the State updates the highest and best available standards for seismic design and performance of buildings and to conform to State requirements. Review and update existing city codes to reflect recommendations set forth by the FireWise assessment and joint Wild land Interface Task Force.
Fire	Vegetation Management Public Education. Develop public education materials to the residents regarding vegetation management around their homes.
Multi-Hazard	Inter-jurisdictional Coordination. Continue to coordinate with and support the Los Angeles County Certified Unified Program Agency (CUPA), the Los Angeles County Fire Department, and their Health (Hazardous Materials Division) in carrying out inspections, emergency response, enforcement, and site mitigation oversight of hazardous materials and waste.
Fire	Wood Roof Public Education DVD. Educate residents on the potential fire hazard regarding wood roofs.
Utility Failure	Water Storage and Distribution. Develop a plan for water storage preparation and water distribution during infrastructure failure.

Vulnerability Overview

Vulnerability to climate change is based on the combination of exposure to future climate hazards, the sensitivity of the community and assets to climate hazards, and the capacity of the community and assets to adapt. This section provides a qualitative analysis of vulnerability for community members, infrastructure, disaster preparedness and response, and coordination in Beverly Hills. The City has already implemented infrastructure improvements to increase resilience (e.g., undergrounding utility lines in the Very High Fire Hazard Severity Zones), adopted disaster preparedness and response plans, adopted an Urban Forest Management Plan, and regularly engages with local, regional, and state stakeholders to increase resilience. However, there are significant gaps in policies and programs, particularly related to maintaining the useability of public facilities in the face of more extreme climate risks, accelerating home retrofits to harden against wildfire risk, preparing populations most vulnerable to extreme heat and poor air quality, reducing per capita water use, monitoring the risk of landslides, and more effective tracking and monitoring of resilience efforts. These findings, along with input from Beverly Hills residents and businesses, will be used to inform measure development for inclusion in the Climate Action and Adaptation Plan.

Populations

Overall, Beverly Hills residents have low social vulnerability to the impacts of climate change. This means they should be able to prepare for, respond to, and recover from climate shocks and stressors relatively well compared to other communities in California. However, there are small portions of the population with increased vulnerability due to their socioeconomic status, physical and household characteristics, minority and language status, and housing and transportation characteristics. The City should ensure that low-income households, older adults, people with disabilities, children, and renters are prioritized in resilience-related programs and in education and outreach.

Identify incentive programs and rebates that can reduce the costs associated with home resilience upgrades. Home improvements to improve water and energy efficiency, such as replacing gas-powered appliances and installing solar panels, require an initial investment which can be burdensome to low-income households. The City should incorporate financial support to low-income households in new programs and building requirements.

Consider resilience actions that apply to renters. Data described in the SVI analysis indicate that over half of the population in the City are renters. Renters have less agency to make changes in their dwelling that could increase their resiliency, such as installing double-pane windows to better insulate their homes during extreme heat events. Additionally, households who rent tend to have lower incomes. The City should consider portable interventions (like portable air conditioners, air filters, and batteries) and community facilities where people can take refuge.

Provide education and outreach that specifically address the dangers of heat and wildfire for older adults, people with disabilities and underlying conditions, and children. Extreme heat and bad air quality are more dangerous for people who are physiologically frailer. They are more at risk of experiencing heat illness from the strain on cardiac and pulmonary systems. The City should provide targeted outreach and education about heat illness symptoms and prevention at places that

serve these populations (senior centers, religious institutions, schools, daycares, etc.). The City should consider partnering with public health experts and community-based organizations on preparing and disseminating materials and engaging in targeted outreach.

Infrastructure

As a result of climate change, City facilities and services will become exposed to a greater number of extreme heat events, extreme weather events (flooding), and wildfire (including air quality impacts). Increases in wildfire risk are the predominant vulnerability for the City to address. However, because wildfire risk is linked to other climate change factors, including increased temperatures, drought patterns, and extreme weather, a comprehensive strategy will be needed to address climate change but also protect the public and the essential services from the air quality, weather, and heat hazards it is expected to experience in the coming decades.

The City has numerous existing adaptive capacities, including mitigation strategies from the LHMP and Urban Forest Management Plan, to continue and build from to manage climate change moving forward. It should focus its attention on resilience investments that address multiple forms of climate risks.

Maintain the useability of public facilities as temperatures increase and air quality emergencies become more prevalent. Climate change will drive the need for more energy and water efficient facilities. More robust temperature and air quality control may become necessary to protect the health of facility employees and visitors. These additional requirements will need to be incorporated into future facility retrofits and designs. The City should also conduct a feasibility study to investigate the potential offsite clean energy fueling stations for waste haulers to reduce disruptions during extreme heat events. In addition, setting more aggressive water use reduction goals for residents and encouraging or requiring separate irrigation meters that could be shut off during a water shortage could increase the community's resilience to drought.

Maintain the integrity of public facilities as extreme weather events become more prevalent. Severe weather will become more extreme because of climate change. Public facilities may be expected to withstand conditions beyond their original design parameters. For example, pavement binders may degrade more quickly or fail because of increased temperatures and stormwater infrastructure may be overwhelmed by more extreme precipitation events. Bus service could be disrupted because of flooded roadways. As a result, it will be necessary for the City to employ design parameters that account for climate change (not just based upon historical averages). Structural changes may also be required to protect facilities from more extreme and dynamic wildfire risk. In addition, the City should consider installing landslide monitoring equipment and exploring landslide defenses, especially in areas where brush has been cleared to reduce wildfire risk. Coordination with transit providers to ensure minimal disruption to bus and train service because of localized flooding, wildfires, or damaged infrastructure from extreme heat will be necessary.

Maintain the ability of the City to provide essential services as extreme weather events become more prevalent. In most cases, the City can incorporate resilience strategies into existing plans and procedures to protect its services against hotter temperatures, more extreme weather, drought, and wildfire. This could include adding hazard mitigation and resilience criteria to its existing Capital Improvement Plans. The City should also consider increased investments in resilient alternatives to traditional infrastructure solutions such as green infrastructure, non-permeable pavements, and

more tree cover. The City should include climate projections in design criteria so that new structures and infrastructure are built for future conditions rather than historical ones.

Disaster Preparedness and Response

The City can expect to experience a greater number of disasters because of climate change. Potential types of disasters to prepare for include extreme heat emergencies, air quality emergencies associated with wildfire smoke, wildfire, flooding, and extreme weather. Increases in wildfire risk and extreme heat emergencies will be the predominant vulnerability for the City to address because of its potential severity and increase in probability of occurrence.

The City has significant existing capacity in the form of existing policies, measures, and programs in the form of drought contingency planning, fire protection, and coordination with neighboring jurisdictions (e.g., in the Wildfire Assessment Report which include mitigation strategies). The City has also hired a full-time inspector to help mitigate wildfire risk and protect evacuation routes. The City also has in place several planning documents that outline protocols, procedures, and operations for effective emergency response to a variety of hazards. However, more attention can be provided for heat and air quality emergencies.

Improve community preparedness for wildfire events. The City can continue to support public safety by providing clear messaging and guidance for evacuation planning, including how to sign up for the SCE Automated System, prepare structures and community members for the threat of increased wildfires, and how to prepare for potential loss of communication networks during an emergency. Increased membership in the Community Emergency Response Team (CERT) trainings, which can prepare neighborhoods for disaster scenarios, should continue to be encouraged.

Facilitate advanced planning and mobilization for evacuating vulnerable groups. Some households and individuals may require special assistance under evacuation orders. The City should continue to work with community-based organizations, hospitals, assisted living residences, other facilities that support people with limited mobility and those who may be socially isolated on evacuation planning. Evacuation procedures for all vulnerable residents (not just those currently participating in the Emergency Evacuation Assistance Registry Program) should be revised, reviewed, and retrained on a regular basis.

Improve preparedness for extreme heat emergencies. The probability of an extreme heat event that impacts the City is expected to increase because of climate change. The City should develop a response plan for heat emergencies and put in place contingencies should one occur. This plan should consider extreme heat events in conjunction with potential pandemic impacts or other compounding scenarios, such as poor air quality.

Coordination

The City already engages in a significant amount of coordination with local, regional, and state stakeholder. Given resource constraints, improved resilience for the City and its residents will require continued coordination with existing stakeholders in a focused and efficient way.

Regularly monitor and evaluate the implementation of resilience strategies. Given the anticipated influence of climate change on the City's hazard risk, it will be important for the City to remain organized, understand what is working and where to prioritize resources. More effective activity tracking will enable the City to allocate resources, demonstrate progress, and be more accountable

to its citizens. One option would be to create a new City staff position and integrate the implementation of the Climate Action and Adaptation Plan into the workplan for existing City commissions.

Collaborate with utility providers to secure resources that improve community resilience.

Collaborate with utility providers like SCE to secure outside funding for resilience efforts. For example, SCE provides grant funding opportunities for public safety and emergency preparedness that focus on programs addressing wildfire risk, emergency preparedness, and electrical safety. The City should continue to focus on assessing resilience of critical facilities, such as the water treatment plant, and build in redundancies, like renewable energy sources.

Conclusion

This Climate Change Vulnerability Assessment identifies the community members, transportation assets and critical infrastructure assets most at risk to climate change hazards. Although climate change is one of the more pressing challenges Beverly Hills faces, it presents an opportunity to address multiple community goals, including improving the local economy, public health, quality of life, and the delivery of essential services. Specific actions the City of Beverly Hills will take to better prepare for the effects of climate change are provided in the Climate Action and Adaptation Plan.

Attachment 2



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**CLIMATE ACTION &
ADAPTATION PLAN**

City of Beverly Hills

CLIMATE ACTION + ADAPTATION PLAN

CLIMATE ACTION COMMITTEE | OCTOBER 19, 2021

Vulnerability Assessment



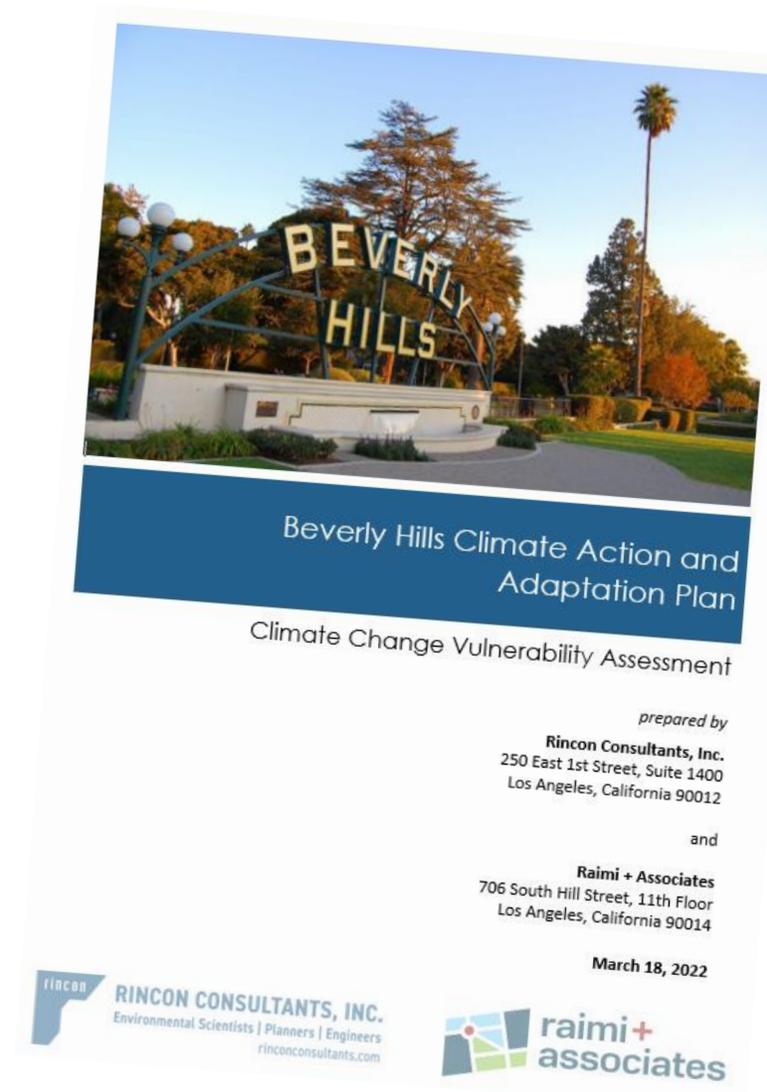
Agenda

- Vulnerability Assessment
- Discussion

Climate Vulnerability Assessment

The City of Beverly Hills Climate Change Vulnerability Assessment evaluates how climate change may impact vulnerable community members, and critical facilities and services in Beverly Hills.

The purpose of the assessment is to inform the development of adaptation and resilience measures for the CAAP



Potentially Vulnerable Community Assets

The Climate Change Vulnerability Assessment describes the impacts climate change is expected to have on the following:

- Vulnerable Populations
- Transportation Assets
- Critical Infrastructure



Populations Studied in Report

Vulnerable Populations

- Populations
- Households below poverty
- Unemployed
- Low-income
- Low educational attainment
- People who are aged 65 and older
- Aged 17 or younger
- People with a disability
- Single-parent households
- Minority status
- Linguistically isolated
- Multi-unit structures
- Mobile homes
- Crowded housing conditions
- Households with no vehicle
- Group quarters
- Renter occupied housing units



Transportation Assets Studied in Report

Transportation Assets

- Roadway Network
- Public Transportation



Critical Infrastructure Assets Studied in Report

Critical Infrastructure Assets

- Electrical Utility Lines
- Natural Gas Transmissions
- Communication Network
- Wastewater Conveyance and Treatment
- Water Conveyance and Supply
- Stormwater Infrastructure
- Parks and Recreation Facilities
- Schools
- High Occupancy Structures (Hotels, Businesses, Hospitals, Urgent Care Centers, etc.)
- Community Facilities and Government Buildings (Libraries, Government Buildings, and Community Centers)



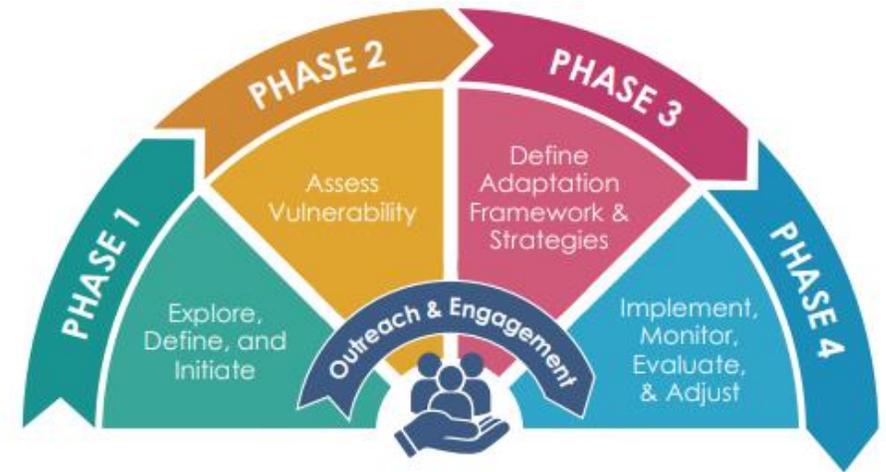
Methodology

Interviews were conducted with the following asset managers:

- City of Beverly Hills Office of Emergency Management
- City of Beverly Hills Police Department
- City of Beverly Hills Fire Department
- City of Beverly Hills Community Services
- City of Beverly Hills Public Works Department
- Southern California Gas Company (SoCalGas)
- Southern California Edison (SCE)

The following guidance documents, plans, and tools were used:

- 2020 California Adaptation Planning Guide
- Southern California Adaptation Planning Guide
- Los Angeles Climate Change Vulnerability Assessment
- City of Beverly Hills Local Hazard Mitigation Plan 2017-2022
- City of Beverly Hills Safety Element Update (Draft)
- Cal Adapt
- Center for Disease Control/ATSDR Social Vulnerability Index (SVI)
- Published studies



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EMISSIONS

CLIMATE ACTION &
ADAPTATION PLAN

Potential Climate Hazards

- Average maximum temperatures are expected to rise by 4.2°F to 7.1°F
- Annual extreme heat days expected to increased by 8 to 15 days
- Increased number of warm nights
- Increased storm frequency and precipitation intensity
- More than an 80% chance of a multidecadal drought
- Increased frequency and damaging wildfires, with annual area burned increasing by over 5000 acres in the Los Angeles region



City's Existing Policies Related to Climate Hazards

- Implemented infrastructure improvements to increase resilience (undergrounding utility lines in the Very High Fire Hazard Severity Zones)
- Adopted disaster preparedness and response plans
- Adopted an Urban Forest Management Plan
- Regularly engages with local, regional, and state stakeholders to increase resilience
- Adopted an Integrated Water Resources Master Plan to expand the City's water resources
- Employs a full-time fire inspector assigned to the area north of Sunset
- Outreach to homeless populations 5 days a week



City's Policy Gaps on Climate Hazards

- Maintaining the useability of public facilities in the face of more extreme climate risks
- Accelerating home retrofits to harden against wildfire risk
- Preparing populations most vulnerable to extreme heat and poor air quality
- Reducing per capita water use
- Monitoring the risk of landslides
- More effective tracking and monitoring of resilience efforts



Discussion

1. Are there community members, critical facilities, or services that were not evaluated in the report that should be included?
2. Does the report adequately characterize the types of impacts that will be experienced by community members, critical facilities, or services?
3. Have you or your community experienced impacts from extreme weather events, wildfires, or degraded air quality?
4. Do you anticipate that the City is adequately prepared for climate change?
5. Do you think that Beverly Hills residents and businesses are adequately prepared for climate change?
6. Are there gaps in City policies and programs that are not already identified in the report that should be added?
7. Which new policies and programs should the City prioritize in implementing?



Thank you!

Questions?

Email: BHCAAP@beverlyhills.org



Item 5



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Josette Descalzo, Environmental Compliance and Sustainability Programs Manager
Robert Welch P.E., Utilities General Manager
Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Community Engagement Event Updates

RECOMMENDATION

This item is for information and discussion.

DISCUSSION

Earth Day Booth

In preparation for the Climate Action and Adaptation Plan (CAAP) Earth Day Booth at the Farmer's Market on April 24, staff prepared social media posts that were posted on social media and provided to the CAC members for sharing. This information was also advertised at all commissions, either through the members of the CAC or through their respective secretaries during meetings.

At the time of this draft, there is a plan to have up to four (4) volunteer CAC members participate in the CAAP booth along with Staff and a Consultant team member. At the booth, the volunteers will utilize activity boards to engage the community regarding Climate Change. There will be opportunities to introduce the public to Climate Change, City's efforts in the preparation of a CAAP and how to get involved in the process. The community will have an opportunity to provide input on those mitigation and adaptation measures they see as important to address in the CAAP. This input will then be incorporated into the CAAP.

Community Meeting

As part of the process for the development of the CAAP, it is necessary for Staff and Consultant team to engage with the community through a public community meeting. At the first CAAP community meeting, Staff is planning to present the GHG Emissions and Forecast. Staff is planning for this event to be virtual as we anticipate a larger amount of participants than in an in-person event. The date of interest for this event is May 25, 2022 and we are planning for the evening as the next CAC meeting would be May 25, 2022 at 2pm.

Summer Movie Night

As part of an effort to increase participation and awareness about the CAAP, Staff has been working with CAC members in the preparation of a Summer Movie Night at Roxbury Park Community Center.

Staff has been working with Community Services staff, to determine the best available dates in July. Currently they are looking at:

- Tuesday July 12
- Wednesday, July 13
- Tuesday, July 19
- Wednesday, July 20

Community Services staff explained that they already have events scheduled the last week of July. It is also recommended that Mondays, Thursdays and Fridays be avoided for summer night activities due to lack of attendance based on competing activities.

The movie can be screened outdoor or indoor at Roxbury Park Community Center. Some concerns for an outdoor movie night in July are:

- Sunset or “dark hour” is around 8:00 to 8:15 PM. Therefore, the movie night is going to start later in the evening.
- Sound from the movie may disturb the neighbors around the park especially at night. So events typically must conclude by 10:00 PM.

Given the concerns, staff is proposing the movie be screened indoor at the multi-purpose room. There is superior audio/visual available and the room can hold up to 180 people. Any booths for community engagement will be placed in the lobby area outside the multi-purpose room. A food truck can also be accommodated outdoors.

Staff plans to advertise for the movie night and is developing materials for social media posts, e-newsletter from Community Service and Public Works. We plan to advertise in May and June. Staff will continue to work with the CAC Community Engagement Ad-hoc to finalize the details for this event.

NEXT STEPS

Staff will work with the CAC Community Engagement Ad-hoc to finalize the details for the Community Meeting on May 25 and the Summer Movie Night in July.

Item 6



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Josette Descalzo, Environmental Compliance and Sustainability Programs Manager
Robert Welch P.E., Utilities General Manager
Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Transit Service Study Update

ATTACHMENTS: 1. Traffic and Parking Commission April 7, 2022 – Transit Service Study

RECOMMENDATION

This item is for information and discussion.

DISCUSSION

On April 7, 2022, the Traffic and Parking Commission received a report that provided an overview of the scope of work and schedule for transit service planning for a potential City shuttle service. Attached to this report is a copy of the commission report for reference. CAC members from the Traffic and Parking Commission will provide an update as needed.

Attachment 1



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Traffic and Parking Commission

FROM: Daren Grilley, Assistant Director/City Engineer

DATE: April 7, 2022

SUBJECT: Transit Service Study

ATTACHMENTS:

1. January 26, 2022, Public Works Bureau Memorandum re: Beverly Hills Senior Transit Service
2. February 18, 2020, City Council Staff Report: Microtransit
3. October 17, 2018, City Council and Traffic and Parking Commission Liaison Committee Memorandum: Trolley School Bus Service
4. Sample Fixed-Route Transit Operating Costs

RECOMMENDATION

This report is to provide an overview of the scope of work and schedule for transit service planning for potential City shuttle service.

DISCUSSION

Current Specialized Transit Programs

The City does not currently provide a regular transit service for the general public, however, the City does operate dial-a-ride transport for resident seniors and disabled persons, as well as the City-owned trolleys for special event charters and shuttle service between the Third Street tour bus zone and Two Rodeo. These services are operated under a joint contract with the City of West Hollywood, with each program operating independently and restricted to residents of each respective city.

Exploring General Public Transit Service

The adopted Complete Streets Plan¹ recommends that the City explore a shuttle system, which would connect the future Purple Line subway stations to the Beverly Hills business district. In addition, the Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC) has also identified a shuttle system as a way to help the City reduce greenhouse gas emissions. A memo summarizing the City's current transit services was provided to the CAC in January 2022, and is attached here for reference (Attachment 1).

In anticipation of the opening of the Metro subway stations along Wilshire Boulevard, the current work plan for staff and the Traffic and Parking Commission (TPC) includes exploring shuttle

¹ *Beverly Hills Complete Streets Plan, Chapter 6 Taking Transit in Beverly Hills, pg. 54-57.*

service options for residents, employees and visitors between the future subway stations, major Metro bus stop connections and the business district.

At their March 15, 2022, Study Session, the City Council directed staff to begin developing a transit service plan with the Traffic and Parking Commission as the advisory body. TPC Chair Ignarro also serves on the CAC and will act as the “bridge” between the two groups.

New Transit Service Considerations

Creating a new public transit service such as this requires research, significant public outreach and thoughtful planning to ensure that the service is successful in meeting the needs of the community.

Fundamental first steps include:

- Gather stakeholder and public input
- Understand transit needs in the community
- Analyze existing transit services to identify gaps/unmet needs
- Identify the goals and objectives of new transit service

The above considerations are used to inform the critical transit service planning considerations that follow:

- Type of system(s)
 - Fixed route
 - Flex route (like fixed, with ability to deviate)
 - Demand-response/microtransit
 - Student transportation
- Service area
- Route design
- Stop location and spacing
- Operating hours
- Performance standards (service frequency, safety issues, stop amenities, etc.)
- ADA compliance, including paratransit
- Vehicle types and passenger capacity
- Vehicle fuel options
- Operator (City forces or contract)
- Financial needs
- Funding sources (federal and state programs, fares, City general funds)
- Service deployment (pilot service, phased deployment, etc.)

Previous Research

Staff has previously explored microtransit and autonomous technology options for general public transportation (Attachment 2), researched previous requests for school transportation service (Attachment 3), and shuttles to transport seniors to City facilities and circulators to connect the business district to hotels. Attachment 4 provides a summary of services and operating costs for fixed route transit in six Southern California cities that are somewhat comparable to Beverly Hills.

Next Steps

Over the past two weeks, staff has interviewed four well-qualified consulting firms with notable experience with transit service planning and operations. The objective is to, by the first week of

April, enter into an agreement with the most qualified firm that will assist the City in obtaining public and stakeholder input and analyzing transit needs within a short time frame. At the April 7 meeting, staff will report to the Commission on the scope of work and tentative schedule for these tasks.

FISCAL IMPACT

Funding for professional services are included in the approved budget for CIP 00100, *Complete Streets* and procurement will be in accordance with the City Purchasing Policy.

Attachment 1



MEMORANDUM
CITY OF BEVERLY HILLS
PUBLIC WORKS BUREAU

TO: Robert Welch, Utilities General Manager
Josette Descalzo, Environmental Compliance and Sustainability Programs Manager

FROM: Daren Grilley, City Engineer/Public Works Assistant Director
Martha Eros, Transportation Planner

DATE: January 26, 2022

SUBJECT: Beverly Hills Senior Transit Service

RECOMMENDATION

This report provides a brief summary of the Beverly Hills senior dial-a-ride program as requested by the Climate Action Community Advisory Committee (CAC). This report is for information only.

BACKGROUND

The Beverly Hills senior transit programs provide residents 62 years of age and older and disabled residents of any age with free or subsidized transportation services. The existing senior programs include free dial-a-ride (DAR) transportation and subsidized Metro 30-day bus passes to residents. Both senior transit programs are funded with Proposition-A Local Return funds.

Dial-a-Ride (DAR)

The Beverly Hills DAR program offers free curb-to-curb, shared-ride transportation for medical, non-medical and recreational trips within the city limits, including civic centers, commercial and residential locations, and dedicated shuttles to Roxbury Park and area supermarkets. The DAR program operates Monday through Friday from 9 a.m. to 4 p.m., and advance reservations may be scheduled weekdays by calling the Dispatch Center at (310) 275-2791 between 7 a.m. to 7 p.m. (www.beverlyhills.org/seniortransit).

In addition to operating within the city limits for medical and non-medical appointments, the Beverly Hills DAR transports residents to local medical centers for appointments: Cedars Sinai Medical Center, UCLA Medical Center, Kaiser Permanente Cadillac, Century City Medical Plaza, and most medical offices adjacent to the City boundaries.

The Beverly Hills DAR fleet is housed offsite at the contractor's facility and has transitioned from a gasoline fuel fleet to an alternative fuel fleet:

- Three 20-passenger shuttles, ADA compliant; provided by contractor, model year 2019, propane fuel
- Two four-passenger vans, ADA compliant; provided by contractor, model year 2019, propane fuel

Metro Bus Pass Senior Discount Program

In addition to the DAR transit services, the City offers Beverly Hills seniors and disabled persons discounted 30-day Metro bus passes to supplement countywide transit needs that cannot be accommodated by the DAR system.

DISCUSSION

The current contract with MV Transportation (MVT) to operate, maintain and administer the senior transit program is in effect through November 2025. The transit contract includes language for the provision of “alternative fuel” vehicles to replace the 2009 transit fleet. Transportation Planning and Fleet Services staff collaborated with MVT to select vehicle types for the senior transit program.

Both CNG and propane fuel sources are significantly cleaner than gasoline or diesel, with electric and hydrogen platforms being the only zero emission vehicles. Electric shuttle vans are available but hydrogen vehicles (and fueling stations) are relatively scarce.

Transit colleagues serving on the Metro Local Transit Systems Subcommittee have shared mixed feedback regarding the performance of electric transit vehicles, including shuttles. Transportation staff will continue to research the zero emission vehicle types, but at this time City staff recommends waiting for the electric vehicle market to develop a reliable EV transit shuttle bus as staff plans for future shuttle service to connect to the two Metro Purple Line subway stations on Wilshire Boulevard.

The Transportation Planning team is currently exploring options for shuttle services to transport residents and employees to the future subway stations and major Metro bus stop connections. If a larger citywide transit system is contemplated, a Needs Assessment study would be required to evaluate current conditions, determine objectives and prioritize goals. A financial assessment and fund source is also needed prior to launching a new program.

In addition to determining the type of service, whether a fixed-route on designated streets or an on-demand service similar to micro-transit or dial-a-ride format, decisions on contracting the service(s) to a transit company or establishing a new city-operated service will drive implementation and operation plans for a new transit system in the City. Staff estimates a minimum two-year development and implementation process.

Attachment 2



STAFF REPORT

Meeting Date: February 18, 2020
To: Honorable Mayor & City Council
From: Aaron Kunz, Deputy Director of Transportation
Martha Eros, Transportation Planner
Subject: Request by Mayor Mirisch for City Council Discussion of a Microtransit Program Similar to the City of West Sacramento
Attachments: 1. Via Programs Summary Table

INTRODUCTION

This report outlines a request by Mayor Mirisch to evaluate the City of West Sacramento's Via corner-to-corner on-demand microtransit program and the potential feasibility for a similar program in the City of Beverly Hills. Staff seeks City Council direction and comments.

DISCUSSION

A number of municipalities and transit authorities have implemented microtransit¹ programs to provide first last-mile transit trips, to reduce single occupant vehicle trips, and to increase transit ridership. Via offers local shared on-demand transportation utilizing the transportation network company (TNC) model, similar to the *UberPool* and *Lyft Shared*.

City of West Sacramento Via On-Demand Rideshare Program

In 2017, the City of West Sacramento launched efforts to develop a transit program to address a decline in fixed-route bus ridership in the City. The goals of the pilot program were to encourage alternative modes of transportation, provide connections to primary fixed routes, and improve mobility for residents in underserved neighborhoods. Following a formal request for proposal (RFP) process, the City of West Sacramento selected *NoMad Transit LLC*, a wholly owned subsidiary of *Via Transportation, Inc.* (Via), to operate a pilot microtransit program.

¹ Microtransit: Information technology-enabled (i.e., mobile app, gps) private multi-passenger transportation services that serve passengers using dynamically generated routes, and may expect passengers to make their way to and from common pick-up or drop-off points. Vehicles can range from standard vehicles, large SUVs, vans to shuttle buses. Because they provide transit-like service but on a smaller, more flexible scale, these new services have been referred to as microtransit. (Source: Federal Transit Administration Definitions)

The City of West Sacramento continues to fund and operate the West Sacramento Dial-A-Ride curb-to-curb service for senior residents that are 62 years of age and older.

In May 2018, the City of West Sacramento launched the Via On-Demand Rideshare (ODR) pilot program. Via deployed a fleet of seven six-passenger Mercedes Benz Metris vans (six standard vehicles and one wheelchair accessible vehicle) to provide shared rides for passengers traveling in the same direction within the City of West Sacramento boundaries. The ODR program is a corner-to-corner service wherein a passenger walks to a nearby corner (approximately 200-500 feet) from the ride request origin, and then is dropped off within a block or two of the requested destination.

Following the one-year pilot period in May 2019, the West Sacramento City Council extended its contract with Via to continue operation of the ODR program through June 30, 2020. The contract included an expansion of service hours and increase in the fleet size to eleven Metris vans (e.g., nine standard and two wheelchair accessible vehicles).

Program Cost

The annual budget for the first year of operations was \$749,000, which included \$61,000 for performance evaluation study conducted by UC Berkeley. The operating budget for the second year increased to \$1,905,000 due to expanded operating hours.

The overall average ODR program cost per ride is approximately \$9.57. The City of West Sacramento estimated fare revenue would cover approximately 20% of the ODR program for Fiscal Year 2019/2020.

The ODR pilot program was funded by a combination of Sacramento Area Council of Governments Transportation Demand Management Innovation Grant and State Transportation Development Act (TDA) funds for the first year. The contract extension through June 2020 is funded with TDA funds.

Vehicles and Drivers

The ODR vehicle fleet are subleased from a third-party vehicle leaser contracted by Via. Via is a Transportation Network Company (TNC), similar to Uber and Lyft, where the vehicles are driven by independent contractors registered in the Via system. Drivers may register to drive the ODR program vehicles, and shifts are assigned on a first-come-first-served basis. Initially, the TNC driver pool included drivers from many jurisdictions. With the contract extension, the City requested Via to recruit more local or resident drivers familiar with city streets.

How to Ride

Rides are booked using the Via smartphone app or by calling a customer service team over the phone. Wait times vary depending on nearby driver availability, but on average a Via van typically arrives in 10 to 15 minutes of the request. The ODR program is available to anyone 18 years or older. Youths aged 13 to 18 are permitted to set up an account and book rides with their parent or guardian's consent, and minors under the age of 13 must be accompanied by an adult.

Service Hours

Initially, the ODR program service ran from 7 a.m. to 10 p.m. weekdays, and 9 a.m. to 10 p.m. on Saturdays. The service was expanded to run from 6 a.m. to 11 p.m. on weekdays, 9 a.m. to 11 p.m. on Saturdays, and 8 a.m. to 8 p.m. on Sundays.

Fares

Standard general public fares are \$3.50 one-way within the City boundaries. The City of West Sacramento subsidizes 50% of the fare for qualifying senior and disabled riders, thus reducing the senior fare to \$1.75 each trip. The program offers a \$15 weekly pass for the general public allowing passengers to ride up to 4 times a day, every day of the week (during normal operating hours).

Ridership

In February 2019, the City of West Sacramento released a summary of the ODR pilot program 6-month (May to December 2018) user survey findings². According to the survey, “people under the age of 21 appear to be the most frequent users, followed by older adults (50+)” with high school students “regularly using the service to commute to school, work and social or recreational activities.” The report concluded that “community members of all ages greatly enjoy using the On-Demand Rideshare service and are very satisfied with its addition to the City’s transportation network.”

According to an April 17, 2019 West Sacramento City Council agenda report, ODR program ridership “significantly exceeded expectations” with approximately 396 average daily riders. Peak demand occurred between 2 p.m. to 5 p.m., leading to the extension of the program service.

Similar Programs

City of Cupertino:

On June 18, 2019, the City of Cupertino City Council approved an 18-month on-demand shuttle pilot program with Via which launched on October 29, 2019. Via provided 10 new Mercedes Metris vans that are equipped with a bike rack and are ADA accessible. The program base one-way fare is \$3.50, and the reduced rate one-way fare for seniors, students and low-income residents is \$1.75. The City offers ride passes that allow up to four rides per day; weekly passes cost \$17 and monthly passes cost \$60.

The City did not undergo a formal competitive bidding procedure, and entered into direct contract negotiations with Via as the “only known vendor providing a turn-key community shuttle solution, where transit vehicles, operations, on-demand technology, staffing, planning, fuel, and customer service are included and managed by one company.”³ The City budgeted a not-to-exceed cost of \$1.75 million for the 18-month on-demand shuttle pilot program.

Los Angeles County Metropolitan Transportation Authority (Metro):

In January 2019, Metro launched a one-year pilot microtransit program with Via for shared transit to and from Metro transit hubs in three areas of the county – North Hollywood, El Monte, and Artesia. Drivers register with Via and use their personal vehicles to pick up/drop off passengers at the transit centers. As of February 1, 2020, Metro is running an extended promotion where all rides in the program are free. Once the promotion is over, a base fare of \$1.75 per trip will be charged to riders that input their TAP card number during account registration prior to requesting a ride. Riders that do not provide a TAP

² West Sacramento’s On-Demand Rideshare Pilot: A Summary of 6-Month User Survey Findings (2019, February). Retrieved from: <https://www.cityofwestsacramento.org/home/showdocument?id=8637>

³ City of Cupertino June 18, 2019 City Council Staff Report. Retrieved from: <https://www.cupertino.org/home/showdocument?id=24577>

card number during account registration will be charged the base fare of \$1.75 plus a \$2 fee. Customers registered with Metro's Low-Income Fare is Easy (LIFE) program can ride for free.

Metro budgeted approximately \$2.5 million for the pilot program. The program is funded in part by a \$1.35 million grant from the Federal Transit Administration.

Existing Beverly Hills Transit Programs

The City of Beverly Hills currently offers two senior transit programs under a joint contract with the City of West Hollywood. Each program operates independently and are restricted to residents of each respective city. The Beverly Hills Senior Dial-A-Ride and Beverly Hills Senior On-Demand Transportation programs are funded using Proposition-A Local Return transportation funds. Beverly Hills receives Proposition-A Incentive funds as a result of combining services with West Hollywood.

Beverly Hills Senior and Disabled Dial-A-Ride Program:

The Beverly Hills Senior and Disabled Dial-A-Ride (BHDAR) program, which is currently operated by MV Public Transportation, Inc., provides Beverly Hills residents 62 years of age and older and disabled residents of any age (referred to as "participants") with free shared transportation services for medical and personal needs. The BHDAR program offers shared curb-to-curb transportation and group shuttle service to Roxbury Park and area supermarkets. In March 2020, staff plans to launch the *Helping Hands Door-to-Door Shuttle* pilot program which provides rides with an onboard attendant to assist participants that do not have a caregiver or require extra help.

The BHDAR program provided an average of 800 monthly participant trips during Fiscal Year 2019. The cost per passenger for the BHDAR program is approximately \$29. MV Transportation launched a custom mobile application that allows participants to schedule a ride via mobile app and receive ride updates/notifications.

Beverly Hills On-Demand Transportation Program:

The City launched the Beverly Hills Senior and Disabled On-Demand Transportation (BHODT) Program on January 1, 2019 to complement the City's BHDAR program. The BHODT program is operated by Ambiance Transportation, LLC., and provides subsidized trips to senior and disabled residents on short notice, during weekend and evening hours, or to destinations outside the Beverly Hills city limits (within 10 miles of the City boundaries). Qualifying residents may receive \$24 worth of fare media at a cost of \$6. Residents undergoing dialysis, chemotherapy or radiation treatment, and those with AIDS or Alzheimer's disease may receive two additional subsidy increments per month (i.e., \$48 or \$72 worth of fare media for \$12 or \$18, respectively).

As of November 30, 2019, approximately 2,434 BHODT trips were completed (221 average monthly trips), the majority of which were fulfilled by Lyft service. On average, approximately 12% of the trips were requested via online/mobile app; the rest were requested via the Ambiance call center. The program has approximately 113 active members. The cost per passenger for the BHODT program is approximately \$22.

Meeting Date: February 18, 2020

FISCAL IMPACT

There is no fiscal impact at this time. However, there is a potential fiscal impact depending on the direction given by City Council to reduce or expand existing programs, or add new programs.

RECOMMENDATION

Staff seeks City Council direction and comments.



Susan Healy Keene

Approved By

Via Rideshare Programs in Various Jurisdictions Summary Table

	West Sacramento	Los Angeles County Metro	Cupertino
Program	One-year pilot launched in May 2018; extended contract with Via through June 30, 2020.	One-year pilot; launched January 2019	18-month pilot program; launches October 29, 2019
Vehicles	7 Mercedes Metris vans during pilot program; added 4 vans to fleet	Via drivers' personal vehicles	10 Mercedes Metris vans
Hours of Operation	Monday-Friday: 6am-11pm Saturday: 9am-11pm Sunday: 8am-8pm	Monday-Friday: 6am-8pm	Monday-Friday: 6am-8pm Saturday: 9am-5pm
Service	Corner to corner within West Sacramento	Corner to corner within North Hollywood, El Monte and Artesia; to/from Metro stations only	Corner to corner within Cupertino
Riders	<ul style="list-style-type: none"> • General public • 13-17 years of age may ride with parental/guardian consent. • Minors under 13 must be accompanied by an adult 	<ul style="list-style-type: none"> • General public • 14-18 years of age may ride with parental consent • Minors under 13 must be accompanied by an adult 	<ul style="list-style-type: none"> • General public • 14-18 years of age may ride with parental consent • Minors under 13 must be accompanied by an adult
Fares	Standard: \$3.50 one-way Senior/disabled: \$1.75 one-way Weekly passes (4 rides per day): <ul style="list-style-type: none"> • Standard: \$15 • Senior/disabled: \$7.50 	<ul style="list-style-type: none"> • Free ride promotion offered currently • After promotion, \$1.75 one-way with TAP card registration • Extra \$2 fee without TAP card • Free for customers registered in <i>Low-Income Fare is Easy</i> (LIFE) program 	Standard: \$3.50 one-way Senior/student/low-income: \$1.75 one-way Ride passes (4 rides per day): <ul style="list-style-type: none"> • Weekly: \$17 • Monthly: \$60
Program Cost	<ul style="list-style-type: none"> • \$749,000 first year budget (included \$61,000 UC Berkeley performance evaluation study) • \$1,905,000 budgeted for second year of operations 	<ul style="list-style-type: none"> • \$2.5 million budgeted for pilot program • Funded in part by \$1.35 million grant from Federal Transit Administration 	<ul style="list-style-type: none"> • \$1.75 million budgeted for pilot program

Attachment 3



MEMORANDUM
CITY OF BEVERLY HILLS

TO: City Council and Traffic and Parking Commission Liaison Committee
FROM: Aaron Kunz, Deputy Director of Transportation
Martha Eros, Transportation Planner
DATE: October 17, 2018
SUBJECT: Trolley School Bus Service

This report provides a preliminary evaluation of using the Beverly Hills trolley vehicles for school transport services. Staff seeks City Council and Traffic and Parking Commission Liaison Committee (Liaison Committee) comments and direction.

Background

In 2017/2018, the Beverly Hills School District reached out to City officials for options on utilizing the Beverly Hills transit fleet for school bus service to the high school. Vice-Mayor Mirisch suggested optimizing the use of the existing trolley(s) to transport students to Beverly Hills High School (BHHS) via a fixed route along Charleville Boulevard and/or Gregory Way.

Subsequently, Transportation Planning staff researched alternatives for utilizing the City's trolleys for school bus service during morning and afternoon peak hours, based on school start/end times. Based on peak hour traffic, approximately one or two round trips can be accommodated between BHHS and South Le Doux Road (or the west side of the City), depending on the number of vehicles placed into service. Operating both trolleys may not be practical since there is no contingency vehicle to provide back-up for maintenance or repairs when a vehicle is damaged.

The City's transit fleet includes five paratransit shuttles earmarked for senior dial-a-ride appointments and two trolley vehicles. The trolleys are currently providing circulation service between the Third Street Tour Bus Zone and Two Rodeo in the business triangle.

Trolleys are not considered paratransit vehicles and cannot be used for school transit service unless it is a fixed route with designated stops *open to the general public*. The trolleys would require a School Public Activity Bus (SPAB) license, a Class A or Class B license for transporting students, and California Highway Patrol (CHP) inspections comparable to a traditional school bus. A minimum of 6-hours of revenue service is estimated for morning (6am to 9am) and afternoon (2pm to 5pm) service, with approximately 5-hours of "dead" time between service hours. Potential challenges included delayed traffic during peak hours on Charleville Boulevard and/or Gregory Way due to required "bus stops" and unknown persons riding with students.

Successful school transit are typically incorporated into a general public circulator, such as a DASH shuttle that serves the general public throughout the day. This type of general public circulator typically has a very high cost per passenger and a strong transit base. Using the trolley for school service can typically provide a single trip before and after school, and each of those trips would require paying a three hour minimum for the driver, plus travel time to and from the MV Transportation vehicle/maintenance yard.

Operating Cost

Essentially, one trolley (total capacity 26 passengers) would be placed into service for approximately one round trip in the morning and one round trip in the afternoon.

Based on a minimum of six hours of weekday morning and afternoon service during the August to May/June school year, following are cost estimates for a general public fixed route circulator on Charleville Boulevard and/or Gregory Way:

Service parameters:

- Monday-Friday, morning: 6 a.m. to 9 a.m. (3 hours)
- Monday-Friday, afternoon: 2 p.m. to 5 p.m. (3 hours)
- Deadhead/stand down: 9 a.m. to 2 p.m. (5 hours)

Projected number of school days (August to May/June):	210	
Less 3 weeks for holidays/vacation schedule:	<u>(15)</u>	
Net number of school days:	195	
6 revenue hours x number of days (6 x 195):	<u>1,170</u>	
FY 18/19 trolley rate (hourly):	\$ 53.70	
Estimated cost per trolley:	\$ 62,829	(2 trolleys: \$125,658)
Administration cost:	<u>\$ 27,100</u>	
Total Operations:	\$ 89,929	(2 trolleys: \$152,758)
Training and certification per drivers:	<u>\$ 4,398</u>	
• \$1,466 per driver	\$ 94,327	(2 trolleys: \$157,156)
• Minimum 3 drivers		

Conclusion

Staff seeks City Council & Traffic & Parking Commission Liaison Committee comments and direction.

**Excerpt from October 17, 2018 City Council/Traffic and Parking Commission
Liaison Committee Special Meeting Highlights**

The Committee suggested that staff move forward with the current plan to present the item to the City Council at the November 6, 2018 Study Session meeting, followed by the award of contract at the November 20, 2018 City Council Formal Meeting.

3) TROLLEY SCHOOL BUS SERVICE

Transportation Planner Martha Eros introduced the background information for a request from Vice Mayor Mirisch that staff research the possibility of operating the City Trolley as a school bus service for high school transit. A fixed route was proposed along Charleville Boulevard and/or Gregory Way. Staff noted that the Trolley would require general public access/boarding, designated stops, and would require licenses and inspections similar to school buses. The estimated operating cost of one Trolley is calculated to be \$94,327, and \$157,156 for two Trolleys.

Topics and questions voiced by the group included the following:

- Need for one or two Trolleys; one trolley maximum in order to have a back-up vehicle
- Safety concerns of having a fixed school bus route open to the general public
- Role of School District in providing school bus service

Traffic and Parking Commission Chair Nooshin Meshkaty inquired into other options the School District can consider, such as Uber Pool for students; it was noted that passengers must be 18 years of age or older to ride Uber or Lyft. The Committee suggested that staff not move forward with the proposal.

ADJOURNMENT

Date / Time: October 17, 2018 / 6:41 PM

Attachment 4

**EXAMPLE FIXED-ROUTE TRANSIT OPERATING COSTS
FISCAL YEAR 2019-20**

City	Service Area Sq/Mile	Population	Routes	Fleet Size	Operated By	Annual Boardings	Cost per Service Hour	Fare	Farebox Revenue	Operating Costs
South Gate	8	99,578	2	5	Contractor	131,383	65.72	0.50	\$ 29,480	\$ 735,521
Alhambra	8	83,089	2	8	Contractor	322,217	56.72	0.25	\$ 55,278	\$ 1,940,099
Redondo Beach	13	67,233	3	10	Contractor	278,595	96.16	1.00	\$ 234,563	\$ 3,113,905
Arcadia	11	56,364	3	6	Contractor	41,709	75.21	0.50	\$ 5,337	\$ 1,122,467
West Hollywood	2	36,854	2	4	Contractor	106,206	72.37	-	\$ -	\$ 1,054,891
Laguna Beach	9	23,190	3	25	City	639,141	100.92	-	\$ -	\$ 3,277,395
Average							\$ 77.85	\$ 0.38	\$ 54,110	\$ 1,874,046

Item 7



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Colonel James Burnley, Solid Waste Manager
Robert Welch P.E., Utilities General Manager
Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Information Regarding City's Solid Waste Collection System

ATTACHMENTS 1. January 27, 2004 – Item E-2 Agenda Report

RECOMMENDATION

This report is for information only.

INTRODUCTION

After the tours at City's Hauler and Disposal contractor Athens, Chair Ostroff requested information on the City's current waste collection processing and the pros and cons between a two-stream collection from a three-stream collection system.

DISCUSSION

The City of Beverly Hills Solid Waste Collection System is as follows:

Single Family Residential Collection

The residential collection service is collected in a two-stream collection system. The black/grey or blue container is for all your common household trash and recyclables (plastics, metal, glass, and paper). The blue containers in the residential areas are a remnant of the three-stream collection system the City once had in 2003, prior to switching to a two-stream collection system. Once the blue containers need replacement, the blue containers are replaced with black mixed waste containers. This material is collected and processed at a material recovery facility to recover and process for repurposing. The green container is for all organic materials such as tree-trimmings, plants, wood, food, and food-soil paper. This material represents the other stream of the collection system. The organics are either processed for compost or renewable fuels. From these two waste streams, two residual piles are created one for compost and the other one for landfill disposal.

Multi-family Collection

The multi-family collection service is collected in a two-stream collection system. The City staff services approximately 80% of the multi-family properties with plastic containers, and Athens

Service services roughly 20% of the multi-family properties collected with metal bins. Eight (8) multi-family properties serviced by Athens have a separate blue metal recycle bin for recyclables including a grey mixed waste bin. The multi-family properties serviced by curbside have organic waste containers and represent 10% of the total multi-family properties. The organics collection program will be rolled out to multi-family properties starting in July 2022.

Commercial Collection

The commercial collection service is collected in a two-stream collection system, mixed waste with some businesses with organic waste and some with a separate blue recycle bin for source-separated recyclables depending on the business space availability. The commercial businesses consist of retail stores, restaurants, hotels, medical offices, and schools. All of the material is processed for recyclables, and the organics are processed for compost and fuel.

Roll-off and Temporary Bin Collection

The roll-off and temporary bin collection services are available for residential and commercial properties. This service is provided for the temporary construction projects and represents most of the construction and demolition waste (C&D) stream. This material is processed and repurposed for products and fuel.

In 2004, the City Council approved the City's franchise agreement with Crown Disposal for mixed waste processing, see attachment 1.

In 2010, the City Council approved a renegotiated City's franchise agreement with Crown Disposal to continue with mixed waste processing. The report can be found in the following link, https://beverlyhills.granicus.com/MetaViewer.php?view_id=49&clip_id=2147&meta_id=121545.

In 2019, the City Council approved a new City's franchise agreement with Athens Services. The franchise includes mixed waste processing with a minimum annual diversion rate requirement for commercial at 60% and residential at 25%. The report can be found in the following link, https://beverlyhills.granicus.com/MetaViewer.php?view_id=49&clip_id=6872&meta_id=416267.

Two-Stream vs. Three-Stream System

In 2004, the City switched from a three stream collection system to a two stream collection system which consists of residents placing trash and recycling in one bin (mixed waste) and green waste in a separate bin. For commercial properties, mixed waste is collected in one bin but for those properties with available space, customers could request a separate recycling blue bin for recyclables only. Temporary construction project bins are processed as construction and demolition waste (C&D) and recycled for higher diversion. In 2009, the City implemented a food waste bin route for food established businesses that generated majority organic waste such as restaurants and hotels, which enhanced the City's diversion rate.

Pros and Cons

The City gained a benefit in the two stream system being a higher diversion rate. Since material is not directly transported to the landfill, but rather processed at the material recovery facility (MRF) the hauler/processor benefits by diverting as much material as possible from the landfill for repurpose products.

Prior to switching from a three-stream collection system to a two-stream system in 2003, the City's hauler combined-collected diversion rate for commercial and residential was 38% percent in 2003. In 2004, the City's hauler combined collected diversion rate increased to 45%. In 2021, the City's hauler combined collected diversion for commercial and residential was 52% a 14%

increase from the three-stream system. Under the current franchise agreement the City's hauler (Athens Services) diversion requirement is 60% for commercial, 25% for residential and 65% for construction and demolition waste.

A three-stream collection system presents challenges particularly in the commercial and multi-family areas. Most of these areas have insufficient space to accommodate the additional containers under a three-stream collection system. In the two-stream collection system, there is already the challenge of finding space for the green waste bin needed for organic waste as required to comply with SB 1383.

Other benefits for the City's current two-stream collection system is that it reduces the number of miles and collection passes the vehicles need to make for collection. This ultimately benefits the City by increasing the life of our streets and alleys, reduces the number of collection vehicles needed, and minimizes cost and staff time for operation and maintenance.

When Athens was asked what could the City do to increase diversion rates, the following recommendations were shared:

- Focus on educating and outreach to community and schools regarding the City's recycling and organics programs; and
- Encourage the community to buy recycled content and reduce purchasing single-use products. Ultimately, modification to purchasing habits that focus on minimizing the carbon footprint on the products purchased, will have positive impacts to reducing our GHG emissions.

Attachment 1



**CITY OF BEVERLY HILLS
CITY COUNCIL
AGENDA STATEMENT**

ITEM NO: E-2
MEETING DATE: 01/27/04
PAGE 1 OF 3

**TITLE: RESOLUTION OF THE COUNCIL OF THE CITY OF BEVERLY HILLS APPROVING A FRANCHISE AGREEMENT BETWEEN THE CITY OF BEVERLY HILLS AND CROWN DISPOSAL COMPANY, INC., FOR COMMERCIAL SOLID WASTE COLLECTION SERVICES, AND

ISSUE A PURCHASE ORDER IN THE AMOUNT OF \$859,500 FOR THIS SERVICE.**

SUBMITTING DEPARTMENT: Public Works

ATTACHMENTS: Resolution, Franchise Agreement, Consultant Report.

BOARD/COMMISSION/COMMITTEE RECOMMENDATION: The Public Works Commission recommends approval of a franchise agreement with Crown Disposal Company, Inc. for Commercial Solid Waste Collection Services.

STAFF RECOMMENDATION: Concurs with the recommendation of the Public Works Commission to approve a franchise agreement with Crown Disposal Company, Inc. for Commercial Solid Waste Collection Services and recommends authorization of a purchase order for the remainder of FY2003-2004.

INTRODUCTION

On December 11, 2003 the Public Works Commission considered proposals for the provision of Commercial Solid Waste Services to the City of Beverly Hills. The proposals presented differed in cost and substance, but most importantly in collection and disposal strategies. One collection/diversion/disposal strategy, as proposed by Waste Management, Inc. offered a conventional collection/diversion/disposal process similar to existing commercial service. The other proposal by Crown Disposal Company, Inc. offered a collection/diversion/disposal method that processes all commercial waste through a recovery facility. The two proposers represented the lowest cost proposals for each collection/diversion/disposal strategy.

Attached is an evaluation of the proposals prepared by the City's solid waste consultant, Hilton, Farnkopf & Hobson (HF&H).

BACKGROUND

The Request for Proposals (RFP) requested the proposers to offer options for the disposal of commercial solid waste, recognizing the challenges of meeting the 50% waste diversion requirements of SB939. These options required varying degrees (0% and 100%) of mixed waste processing to meet diversion goals. Of the six proposals received for commercial solid waste services, Waste Management offered the low proposal for the 0% mixed waste processing option and Crown Disposal offered the low proposal for the 100% mixed waste processing option. Both proposals met all RFP requirements.

The projected first year cost difference between the Waste Management proposal (\$2,917,000) and the Crown proposal (\$3,318,000) is \$401,000. The City's current total commercial waste diversion rate is 40%. With 40% diversion of the commercial waste stream the City achieves the overall 50% diversion mandate. Estimated diversion rates based on waste characterization analysis for Waste Management are 41% compared to 50% for Crown Disposal.

The Public Works Commission recommended Crown Disposal Co., Inc. as the exclusive provider of Commercial Solid Waste Collection Services to the City Council by a 4-1 vote. The majority of the Commission expressed the view that the strategic recycling and diversion goals of the City are best met through the 100% Mixed Waste Processing method proposed by Crown Disposal albeit at the higher cost. The dissenting view expressed a concern that mixed waste processing sends the wrong message to the community because it provides no incentive for customers to reduce waste or increase recycling behavior.

NOTIFICATION

The Public Works Commission desired input and comment from commercial solid waste customers and other interested parties as they considered the proposals. Accordingly, public notice of the December 11, 2003

commission meeting was mailed to the Beverly Hills Chamber of Commerce, Beverly Hills Unified School District, the General Plan Environmental Sustainability Topic Committee, and multi-family residential bin service landlords. The Meeting was also noticed on the City's web site.

FINANCIAL ANALYSIS

The projected first year cost of the Crown Disposal Co., Inc. is \$3,318,000 which represent the low responsive proposal for the 100% Mixed Waste Processing Option defined in the Requests for Proposal. A tabulation of all proposals is provided in the attached Consultant's report. A Purchase Order for the remainder of FY 2003/2004 is requested in the amount of \$859,500. Funds appropriated in the FY 2003/2004 Public Works Sanitation Division Budget are available for this purpose.

RECOMMENDATION

The Public Works Commission recommends approval of a franchise agreement with Crown Disposal Company, Inc. for Commercial Solid Waste Collection Services. It is also recommended the City Council authorize a purchase order in the amount of \$859,500 to Crown disposal Co., Inc. for the remainder of FY 2003-2004.



CITY MANAGER APPROVAL

01/27/04 Adopted. Contingent upon review of the City Atty re objection filed by American Waste.

Res #04-R-11565 AG #14-04

Item 8



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Chair's Report

The CAC Co-chairs may provide as needed updates.

Item 9



CITY OF BEVERLY HILLS
PUBLIC WORKS DEPARTMENT
MEMORANDUM

TO: Climate Action and Adaptation Plan (CAAP) Community Advisory Committee (CAC)

FROM: Shana Epstein, Director of Public Works

DATE: April 27, 2022

SUBJECT: Director's Report

The following items will be presented:

1. Upcoming City Council and Commission Agenda Items of Interest:
 - a. Public Works Commission:
 - i. Single-Use Plastic and Styrofoam Introduction – April 14, 2022
 - ii. Organic Waste Update – May 12, 2022
 - b. City Council: Clean Power Alliance Power Ready MOU – May 10, 2022
2. Upcoming Events
 - a. Public Works Day – May 22, 2022