**DATE:** April 30, 2019

**TO:** Honorable Mayor and City Council

FROM: Audrey Seymour Ramberg, Assistant City

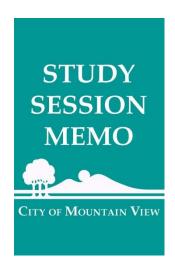
Manager/Chief Operating Officer

Steve Attinger, Environmental Sustainability

Coordinator

**VIA:** Daniel H. Rich, City Manager

TITLE: Sustainability Strategic Plan



#### **PURPOSE**

The purpose of this item is to seek Council direction on the City's new Sustainability Strategic Plan (Plan), which was developed based on an assessment of the current Environmental Sustainability Program, a review of benchmark cities and consultant expertise, and present options for how the City defines and achieves our sustainability goals. The Strategic Plan (shown in Attachment 1) describes three possible scenarios for the City's level of response to the sustainability challenges Mountain View is facing. This item also describes the approach for the development of the fourth Environmental Sustainability Action Plan (ESAP-4), which will provide an outline of specific sustainability programs and initiatives. Staff anticipates bringing ESAP-4 to the Council for approval at the end of June 2019.

#### **BACKGROUND**

In November 2009, the City adopted reduction targets for greenhouse gas (GHG) emissions below a base year of 2005. Over the past decade, the City has developed and implemented three Environmental Sustainability Action Plans (ESAPs) with over 90 actions to reduce GHG emissions and achieve other sustainability goals. The City has periodically measured its GHG progress, most recently in the preliminary 2017 community GHG inventory, presented to the Council on March 19, 2019. This inventory reported that 2017 emissions were 2.5 percent higher than the 2005 baseline and 15.7 percent above the level needed to stay on track to achieve the 2020 reduction target. While it is positive to note that the 2017 inventory marks the first time emissions have declined compared to the prior inventory, emissions will need to decline 50 percent faster in order for the City to reach its 2020 target.

In 2017, the City Council reaffirmed its commitment to sustainability and directed that a second Environmental Sustainability Task Force (ESTF-2) be created (as a successor to the 2008 Task Force that had played a critical role in establishing the City's sustainability program). ESTF-2 worked with great dedication to develop a report with 36 recommendations, which they presented to the City Council on June 26, 2018. Given the significant resources that would be needed to implement the Task Force's recommendations and the timing of the report at the end of the Fiscal Year 2018-19 Budget process, the Council directed staff to analyze the recommendations and return to the Council with a midyear budget request as appropriate. Council also approved additional staff assistance for the sustainability office and funded a consultant study to assess the existing Sustainability Program and develop a strategic plan to inform the appropriate amount and type of resources and the most effective staffing and organizational structure for the City's sustainability efforts. Another action taken at this time was to place the Sustainability Program in the City Manager's Office (CMO), reporting to the Assistant City Manager/Chief Operating Officer, to increase the level of leadership and the opportunity for greater organizationwide coordination.

In October 2018, the Intergovernmental Panel on Climate Change (IPCC), the foremost worldwide authority on climate change, issued a Special Report and its most extensive warning yet. The report explained the large difference in risks and benefits between a 1.5 degrees C and 2.0 degrees C rise in temperature and indicated that the impacts of a 1.5 degrees C temperature rise would be noticeably worse than the impacts we are currently experiencing, which include more extreme weather, rising sea levels, and diminishing Arctic sea ice. The report also asserts that government pledges made through the Paris Agreement, for 2030, will not be sufficient. Keeping temperature rise below 1.5 degrees C will require "rapid, far-reaching, and unprecedented changes in all aspects of society," including land use, energy, industry, buildings, transportation, and cities. While this will be difficult, it is possible through the action of individuals, organizations, and civil society. For more information, see Attachment 2.

#### Consultant Selection, Scope, and Process

Following a competitive Request for Proposal process, a cross-departmental review team selected Cadmus as the best qualified firm to conduct the program assessment (Attachment 3) and develop the strategic plan. The Council approved the Cadmus agreement on September 25, 2018. Staff saw great value in the consultant study as a way to clarify the policy options/direction, organizational changes, and resource commitments that would be needed to prioritize and operationalize the ESTF-2's recommended sustainability actions and accelerate the City's progress on sustainability. Another value to the consultant role was the help they could provide to begin the process of change management within the organization.

Cadmus reviewed the City's existing programs, plans, and documents, including the ESTF-2 report; met with external stakeholders, including members of the ESTF-2 steering committee and representatives of both large and small businesses in Mountain View; facilitated two large, half-day staff workshops; conducted 16 staff interviews; researched 10 benchmark cities; drew from their extensive experience; and called upon their network of sustainability partners.

The selected benchmark cities comprise a mix of jurisdictions in California and throughout the country. These cities were selected based on the following criteria: sustainability reputation; policy initiatives in key categories, including transportation, buildings, energy supply, circular economy, inclusion, and outreach; similar size to Mountain View; and similar growth to Mountain View. The selected cities were: Asheville, North Carolina; Berkeley, California; Boulder, Colorado; Cambridge, Massachusetts; Columbia, Missouri; Evanston, Illinois; Fort Collins, Colorado; Palo Alto, California; Santa Monica, California; and Somerville, Massachusetts. A detailed analysis of each benchmark city can be found in Attachment 4.

Findings of the program assessment are summarized below. Important progress has already been made in two of the areas identified in Cadmus's recommendations: development of the organization's vision for sustainability (further described later in this report), and a stronger cross-departmental team to integrate sustainability considerations into decision-making and clarify sustainability as an organizational priority. This initial progress has been accomplished through two staff workshops facilitated by the Cadmus team and several follow-up sessions facilitated by the Assistant City Manager/Chief Operating Officer. It is anticipated that such efforts will continue as a cross-departmental governance structure which is established to enable shared responsibility for the implementation of the Sustainability Strategic Plan.

#### **Program Assessment Key Points**

Cadmus found that the City of Mountain View has a mature Sustainability Program with a history of significant accomplishments related to both communitywide and municipal sustainability. According to Cadmus, standout accomplishments include the City's leadership in establishing Silicon Valley Clean Energy (SVCE), significant participation (more than 2,000 households) in Energy Upgrade MV and water conservation programs, substantial multi-modal achievements, and successful and ambitious programs in Zero Waste, recycled water, and more.

## Program Assets and Constraints

Cadmus believes the program's accomplishments are supported by a number of assets, including:

- Knowledgeable staff, both in the sustainability office and the operating departments.
- Strongly supportive internal and external stakeholders with significant desire for action, including Council adoption of sustainability as a major goal, community support from ESTF-2 and other groups, committed local businesses, and engaged City department leadership.
- Supportive planning processes, including ESAP cycles.
- A strong local economy and City fiscal condition.
- Existing and potential collaborators, including neighboring jurisdictions, businesses, and regional organizations.

Cadmus also identified a number of constraints that make progress more challenging. These include:

- Competing organizational priorities and staffing limitations.
- Rapid community growth.
- Lack of departmental reporting on and ownership of sustainability outcomes.
- Limited cross-departmental sustainability coordination.

# Program Gaps and Areas of Focus

Cadmus highlights the City's progress toward achieving its GHG emissions reduction target to be of significant concern. As noted above, the City is not on track to reduce emissions by 80 percent relative to 2005 by 2050. In the 2015 Inventory, the City was 21 percent behind its 2015 target, and with the recent 2017 Inventory, the City was 15.7 percent behind what is needed to achieve its 2020 target. Mountain View's progress, relative to the benchmark cities reviewed by Cadmus, is shown in Figure 1 below. Whereas emissions have decreased in most of the 10 cities, despite many of them also experiencing significant population and job growth, emissions in Mountain View are

higher now than in the 2005 base year. Cadmus concluded that the City needs a clear vision, innovative solutions, and strong collaborations to counteract the effects of growing residential and service populations; otherwise, it stands little chance of achieving its GHG reduction goals.

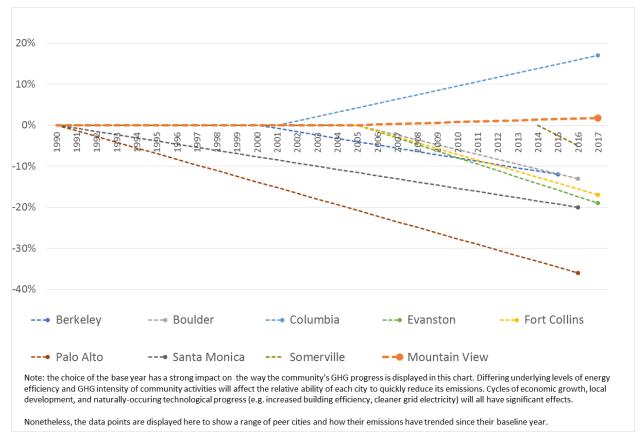


Figure 1: Benchmark City and Mountain View GHG Emissions Versus Base Year

Cadmus considered the primary sectors that contribute to community GHG emissions in Mountain View (transportation and energy), looking at both the supply side (i.e., source or technology) and the demand side (i.e., usage or behavior). Given the success of SVCE in providing a clean source of electricity, Cadmus proposes that the primary focus for sustainability strategies should be reducing the number of vehicle miles traveled, improving the efficiency of vehicles and carbon-intensity of fuels, increasing building electrification, and reducing electricity consumption.

Cadmus noted that the City has a varying degree of control and influence over the emissions from these sources, and different levers may be appropriate accordingly. Whether the solution is provided by the City, other levels of government, the private sector, or the community as a whole, Cadmus asserts that substantial progress must be

made in many of these categories, and collaborations will be paramount, particularly in addressing transportation emissions.

### <u>Cadmus Program Recommendations</u>

Given the gap between the City's GHG goals and its current trajectory, Cadmus identified several changes to the City's approach to sustainability to accelerate and broaden the program's impact. Cadmus recommends that the City:

- Articulate a shared vision for sustainability to guide the scope and priorities of a sustainability strategic plan.
- Elevate and make explicit the importance of sustainability to enable staff to treat sustainability actions as a priority. Absent purchasing verified carbon offsets, Cadmus contends that there is no clear pathway to getting on track without expanded effort.
- Identify metrics for sustainability progress that are aligned with department missions, develop a tracking plan, and set targets for each metric. Cadmus suggests that these could include Citywide mode share targets, targets for reducing vehicle miles traveled, electric vehicle (EV) adoption, etc.
- Identify and provide internal (e.g., staffing) and external (e.g., grants and technical assistance) resources necessary to accelerate progress.
- Increase cross-functional collaboration on the key sectors of transportation and heating.
- Develop a strategic transportation sustainability master plan to create a unified vision for decarbonizing the sector.
- Create capacity for learning and innovation, where ideas can be tested and successes are celebrated.
- Pursue regional collaborations to scale solutions, particularly in transportation, with strategies to address the jobs/housing imbalance and facilitate transitoriented development.

## **Strategic Plan Framework**

The Strategic Plan used the findings and recommendations from the Program Assessment to form three options for how the City could choose to move forward in its response to achieving its sustainability goals. These options include **Foundational**, **Advanced**, and **Innovative**.

The Strategic Plan is intended to describe, at a high level, what Cadmus sees as the City's choices regarding the desired impact on sustainability, the scope and ambition of the City's sustainability strategies, and the organizational approaches and resources (including a placeholder sustainability budget) needed to accomplish the desired impact and strategies. The Strategic Plan is not intended to be an ESAP, which is a more detailed project outline with specific appropriations that will be developed in accordance with the Council's direction at this Study Session and presented to the Council for review at the end of June.

Development of the Strategic Plan has been a highly collaborative and iterative process, seeking input and commitment from a cross-departmental team. The components of the Strategic Plan, which include the six **sectors** for sustainability action, four crosscutting sustainability **levers**, and ultimately three **levels** of response, are further described in the Discussion section and summarized in Attachment 5.

#### **Draft Sustainability Vision**

One of Cadmus' key findings in the Program Assessment was the need for a shared vision for the City of Mountain View's sustainability efforts. As a critical first step, City staff from across the organization engaged in a series of conversations to discuss what a sustainable Mountain View meant to them, what work they were doing toward this end, and what more they would aspire to do. These conversations were characterized by great enthusiasm, thoughtfulness, and dedication to the well-being of the Mountain View community. The draft vision that emerged from this process is stated below, along with a set of underlying values, guiding principles, and core areas of focus. As shown in this draft, City staff has a clear understanding of what has become the conventional wisdom amongst advanced sustainability practitioners as the three pillars of a sustainable society (or the "Three Es"): Environment, (Social) Equity, and Economy.

This vision is a work in progress. It is intended as a vision for the City organization, and staff expects that it will evolve as it is put into practice. Staff also recognizes the importance of a shared community vision for sustainability, to be informed by community values and be a driver of community action and accountability.

**DRAFT VISION**: The City of Mountain View works collaboratively and innovatively across departments and with residents, businesses, and governmental partners to create and sustain a connected and vibrant community that uses natural resources wisely; protects and enjoys the benefits of healthy local ecosystems; fosters sufficient economic resources and opportunities to provide a foundation for community well-being; and includes people from all life stages and backgrounds in the activity and success of the community.

#### **VALUES**

We commit to this vision because we value:

- Environmental sustainability
- Resiliency
- Adaptability
- Innovation
- Inclusivity
- Diversity
- Equity and fairness

#### **PRINCIPLES**

We inform the way we pursue our vision and values by:

- Thinking boldly
- Thinking holistically (using systems-thinking)
- Being proactive (where possible preventing rather than mitigating problems)
- Being collaborative (working together across City departments and across the region with intergovernmental, community, and privatesector partners)
- Maintaining fiscal sustainability

To achieve our sustainability vision, we are developing and implementing strategies in the following core focus areas:

- Climate change mitigation
- Climate adaptation
- Natural resource/habitat preservation/regeneration
- Waste reduction and elimination
- Circular economy
- Community building/engagement
- Transportation mobility/accessibility/safety
- Affordability (housing and transportation)
- Economic development
- Smart growth/land use planning
- Smart City technology deployment

## **Environmental Sustainability Committee Feedback**

The Council Environmental Sustainability Committee (CESC) met on April 1, 2019 to receive a presentation from staff and members of the Cadmus consulting team and provide feedback on: the sustainability Program Assessment summary; an outline of the sustainability Strategic Plan; the three proposed levels of response to climate change/sustainability; a draft vision statement; inclusion of social equity in the City's sustainability program; and staff's proposed approach to developing the ESAP-4.

Twelve (12) members of the public provided comment, summarized as follows:

- Seven members expressed support for the City choosing the Innovative level of response.
- Two members spoke about the urgency of climate change and urged Mountain View to be a leader for other communities in the Bay Area and across the country.
- Three members spoke about transportation and the need for more and safer bike lanes and improved transit.
- Two members spoke about buildings, advocating for Zero Net Carbon standards and no natural gas in new construction.
- One member advocated for strong policies that will help the City meet our emissions reduction targets.
- One member stated that climate change should be the City's number one priority and expressed concern that things move very slowly.

Committee members provided the following feedback overall:

- Support for the City being innovative in response to sustainability challenges, while also acknowledging the need to recognize staff capacity constraints and trade-offs with other essential City services and the need for more information about the strategies and costs.
- Support for staff's approach to developing ESAP-4.
- Encouragement to develop building "reach codes" and incentivizing electrification.
- Support for the inclusion of social equity in the City's sustainability program.
- An interest in using alternative carbon offsets by partnering with under-resourced cities.
- An interest in improvements to the community shuttle.

#### DISCUSSION

As described below, the Strategic Plan was designed around six **sectors**, four **levers**, and ultimately three **levels** of potential action by the City. Within each lever, the City identified up to six overarching **strategies**, each with example **actions** for the three levels. The identified actions were drawn from: the ESTF-2 recommendations; staff interviews, workshops, and strategy sessions; a limited-invitation resident and business workshop; the benchmark cities; and Cadmus' expertise. The examples provided represent the kind of actions that may be taken. Based on the City Council selecting a Foundational, Advanced, or Innovative approach to addressing climate change, and sustainability more broadly, staff will prepare a more detailed work plan and budget, with specific actions, as part of ESAP-4.

#### **Sectors for Sustainability Action**

Cadmus has identified the following six sectors as areas of sustainability action:

- Transportation
- Land use/strategic growth
- Buildings
- Parks, ecosystems, and natural habitats
- Waste
- Water

## Levers to Maximize Sustainability Impact

Building on the findings and recommendations from the Program Assessment, Cadmus identified the following four overarching levers as the primary ways in which the City can achieve improved sustainability outcomes. They span both the City's sphere of control and its spheres of influence. These levers cover the impact that City government can have by: (1) modeling sustainability in its own operations and developing the governance structures and performance tracking systems that will enable accelerated progress; (2) enabling, empowering, and motivating all members of our diverse community to adopt sustainable practices; (3) collaborating regionally to address sustainability challenges that cross City boundaries; and (4) managing land use and community growth in a sustainable way.

#### Lever 1: Integrate Sustainability Across City Government

While municipal operations only account for about 3 percent of overall community GHG emissions, Cadmus suggests that the City should consider the ripple effects that

are possible through leading by example. This lever includes both governance changes that ensure sustainability is considered in major decision-making and concrete changes to City operations. Cadmus observed in the Program Assessment that: staff needed guidance on prioritization of sustainability in their daily job functions; additional metric tracking could increase sustainability performance; additional staff resources were needed to enable higher achievement; and ongoing forums for cross-functional collaboration on sustainability were currently lacking. Implementing the strategies in Lever 1 would address these challenges.

#### Lever 2: Mobilize the Local Community in Sustainability Action

Levers 1 and 4 address the ways the City can foster sustainability through its own municipal actions, new buildings, and how it manages community growth. Lever 2 recognizes that a substantial majority of the community environmental impacts comes from the existing building stock and the activities of current residents. Therefore, Cadmus recommends that the City engage a broader group of stakeholders in the sustainability conversation toward educating, influencing, and enabling all community members to adopt more sustainable behaviors and technologies. Cities can have substantial impact through educational efforts, incentives, and market development in order to empower more action within the community.

#### Lever 3: Partner Regionally to Enhance Connectivity and Impact

Many of the environmental issues and impacts within Mountain View are regional in nature. Transportation, housing, electricity systems, water, and resilience all have strong regional dependencies. Cadmus suggests that without engaging neighboring municipalities and regional entities to align their actions with Mountain View's, success will be limited in each of these realms.

#### Lever 4: Manage Inclusive, Sustainable Community Growth

Cadmus recognizes that community growth has significant implications for environmental sustainability, social justice, economic vibrancy, and community character. Managed holistically, growth has the potential to improve opportunity, connect communities, and meet regional needs. Unmanaged growth can have detrimental impacts on important outcomes such as GHG emissions, habitat preservation, affordability and availability of housing for people of all socioeconomic statuses, traffic congestion and travel time, and sense of place and community.

Accordingly, Cadmus suggests that managing growth responsibly and innovatively requires shaping growth to align with key community priorities, including

environmental sustainability, resiliency, adaptability, inclusivity, diversity, and social equity/fairness. Lever 4 is focused on strategies that will address gaps identified in the Program Assessment, such as the decrease in affordability of living in Mountain View, the substantial increase in transportation emissions, and the need for accelerated progress in electrifying buildings.

## Levels of Response to Achieve the City's Sustainability Goals

In making the determination of the types of projects and actions that would illustrate the Foundational, Advanced, or Innovative response levels, staff considered the following criteria: (1) how technically feasible the action is; (2) the extent to which other cities have already taken this action; (3) the complexity and amount of change the action would require by residents, businesses, the City organization, and other entities; (4) the resources required for the action; and (5) a general understanding of how the action could contribute to GHG reductions and other sustainability outcomes. In criterion No. 5, it is a general understanding because we have not calculated the potential GHG savings of each strategy/action. However, we do know the largest sources of our emissions and the areas in which we need to focus, which will be further defined in ESAP-4.

It is important to note that Cadmus does not define Foundational as the most basic level of response to the challenges of climate change and other sustainability impacts. There are many jurisdictions, in fact most across the country, that do not achieve the Foundational level. Nor does the term foundational define the starting point of where the City is today. Rather it is a next step to build on the good work the City has already done. It should also be noted that Cadmus recognizes that the City has already undertaken a number of actions that are considered Advanced or Innovative.

#### Strategies by Lever

Within the framework of the above-referenced four levers, the Strategic Plan provides the following 13 strategies, each with different actions that could be taken at the Foundational, Advanced, and Innovative levels. These actions, by lever, strategy, and level, are shown both in Attachment 5 and Appendix A of Attachment 1.

#### Lever 1: Integrate Sustainability Across City Government

Strategy 1.1: Elevate the importance of sustainability and provide necessary staff and funding resources

Strategy 1.2: Adopt sustainability practices in internal facilities upgrades and operations

Strategy 1.3: Track and report on sustainability metrics across City programs and departments

Lever 2: Mobilize the Local Community in Sustainability Action

Strategy 2.1: Engage residents from across Mountain View's neighborhoods and demographic and socioeconomic groups during development of policies and programs to promote sustainability and the quality of life

Strategy 2.2: Engage small businesses, large employers, and nonprofits to determine shared priorities and collaborate on implementing sustainable actions

Strategy 2.3: Develop and implement a communications strategy that celebrates successes and acknowledges collaborators

Strategy 2.4: Develop direct outreach and education programs aimed at encouraging sustainable behaviors for residents, workers, visitors, and property owners

Strategy 2.5: Develop the buy-in to impose new sustainability requirements on owners of existing properties and businesses in the City

Strategy 2.6: Develop options that facilitate and enable sustainable behaviors and purchase decisions by the community

## Lever 3: Partner Regionally to Enhance Connectivity and Impact

Strategy 3.1: Find alignment with peer governments and establish a clear understanding of roles, responsibilities, and appropriate frameworks and metrics for tracking regional progress

Strategy 3.2: Share resources, data, information, and funding widely in support of implementing regional projects

Lever 4: Manage Inclusive, Sustainable Community Growth

Strategy 4.1: Pursue land use, planning, and transportation solutions that decrease emissions and equitably increase quality of life for all residents

Strategy 4.2: Pursue development in Mountain View in a way that aligns with the community's values of sustainability, place-making, equity, and neighborhood character

#### **Foundational Level**

At the **Foundational Level**, Cadmus suggests that the City would: continue and refine successful programs already in place; develop clear alignment on visions of sustainable growth and sustainability broadly; increase actions to mitigate the direct environmental impacts of City operations; pursue some basic opportunities to enact sustainability measures that reduce the energy use and transportation impacts of new development; put structures in place to lay the pathway for the next levels of response; and put in place policies and criteria to begin mainstreaming sustainability, including involving the sustainability office early in major decisions.

#### Outcomes may include:

- <u>Transportation</u>: no substantial improvement in congestion; personal vehicle travel grows, but at a slower rate; emissions do not substantially decrease, although improved efficiency and electrification of vehicles may offset the growth in vehicle usage to prevent emissions growth.
- <u>Land Use</u>: City of Mountain View land use principles from the 2012 General Plan are successfully applied in current and future change areas, resulting in land use that is mixed and flexible, transit-oriented, and supportive of community health, a strong economy, and great urban design.

- <u>Buildings</u>: new construction is held to very high energy performance standards, and these improvements offset the increase in emissions that would otherwise have accompanied growth in the residential and service population.
- <u>Ecosystems</u>: the City continues with its current policy to implement the Community Tree Master Plan, bringing tree canopy cover to 22.7 percent of the City; and continue looking for opportunities to implement xeriscaping (low-water-use landscaping) and natural plant cover to make the City more drought-resilient.
- <u>Waste</u>: reduction in waste per capita is offset by increase in residential and service population, making achievement of the City's zero-waste target unlikely.
- <u>Water</u>: progress continues with water leak detection, drive-by meter readings, preventative maintenance, and water reuse.

## **Advanced Level**

At the **Advanced Level**, Cadmus suggests that the City would: mainstream sustainability in City departments with a strong statement of prioritization and increased staff capacity to focus on sustainability actions; invest in strategic hires and training for change management and sustainability and resilience integration; pursue increasingly aggressive actions, tackling the most challenging sectors; invest significant effort in developing public/private partnerships and regional collaborations.

## Outcomes may include:

- <u>Transportation</u>: policies and pricing signals have a measurable impact on traffic and congestion, reducing emissions as well; significant increase in amount and quantity of "mobility as a service" options, leading residents of the most walkable and bikeable neighborhoods to own fewer cars and pick from a wide array of ondemand services that are convenient and cost-effective; increased usage of shuttles, transit, and pooled vehicles takes more cars off the road.
- <u>Land Use</u>: City of Mountain View land use principles from the 2012 General Plan shape land use communitywide, not just in change areas.
- <u>Buildings</u>: all new construction is zero net energy or offsets its emissions in another way; progress is made in electrification of heating and water heating in existing buildings as well, substantially reducing emissions.

- <u>Ecosystems</u>: increased park space provides both recreational amenities and habitat value; parks are resilient to drought.
- Waste: policies and programs ensure that waste is routinely repurposed for its highest value reuse (e.g., food donation programs cut down food waste, compost is collected and used locally to enrich local soils, packaging waste is minimized, and cost-effective recycling solutions are found).
- <u>Water</u>: expansion of water recycling through the purple pipe system or other water reuse technologies makes Mountain View more drought-resilient within the context of climate change; water efficiency keeps costs low at properties throughout the City.

## **Innovative Level**

At the **Innovative Level**, Cadmus suggests that the City would: thoroughly integrate and institutionalize sustainability and resilience as a high priority in any decision made; achieve a high level of public commitment, reporting, and accountability; pursue aggressive, adaptable, and performance-based actions across all sectors; take a lead role in establishing regionally collaborative partnerships with substantial results; and achieve very strong equity results of sustainability programs.

## Outcomes may include:

- <u>Transportation</u>: substantial improvement in congestion and transportation emissions; Mountain View is extremely walkable and bikeable, with a safe, reliable, low-cost, and comfortable transportation system providing convenient access to daily needs equitably for all residents and visitors to Mountain View. Electrification and clean fuels substantially reduce air pollution and make streets quieter and more pleasant. Over time, the reduction in single-occupant vehicles on the road is substantial enough that parking needs decrease and surface parking lots and extra lanes can be repurposed for other uses such as pocket parks, wider, more inviting sidewalks, and other amenities that enhance neighborhoods and commercial districts.
- <u>Land Use</u>: All land use and development decisions are made with broad consideration of potential resulting systems impacts inside and outside of Mountain View, applying best practices and using best available evidence.
- <u>Buildings</u>: substantial reduction in emissions and increase in renewable energy usage, energy efficiency, and self-generation of energy; district energy systems in

major-development areas of Mountain View provide economies of scale; efficient electrification contributes to a lower-cost burden of energy, particularly for disadvantaged and low-income populations.

- <u>Ecosystems</u>: increased number of City parks provide both recreational amenities and habitat value; parks are resilient to drought; and tree canopy is maximized, increasing aesthetics, and comfortable climate, and reducing energy usage and urban heat island effects; the City's sustainability approach has a strong regenerative focus and impact.
- <u>Waste</u>: Mountain View invests greater levels of effort to ensure that it achieves its zero-waste goal.
- Water: substantial expansion of water recycling makes Mountain View 100
  percent drought-resilient within the context of climate change and able to
  withstand abnormally long and severe droughts while ensuring water access for
  all; water efficiency keeps costs low at properties throughout the City.

## Resource Needs and Placeholder Budget at the Different Levels of Response

Through its review of other jurisdictions effectively pursuing sustainability strategies at each of the three levels, Cadmus identified staff and other resources that are not currently committed at the City of Mountain View. A cross-departmental team reviewed and provided feedback on the potential resource needs suggested by Cadmus, confirming the value of additional capacity in a number of areas and providing input on how such resources might best be utilized.

The majority of the identified staff and other resources relate to efforts in the Transportation sector, which as previously noted, is the most significant source of GHG emissions in Mountain View as well as being an area of opportunity for improved quality through greater mobility, access and safety, and reduced congestion and lost time. The need for additional resources was also identified in the Building sector in order to support more substantial progress toward electrification and in the Land Use Sector to manage community growth in a way that maximizes positive sustainability actions and synergy. The addition of staff and other budget allocations in these areas, would occur primarily in the Public Works and Community Development Department, following a decentralized, yet highly collaborative sustainability team across many departments.

To help coordinate shared governance and accountability and support progress throughout the organization, resource needs were also identified within the core

Sustainability Division of the City Manager's Office, reporting to the Assistant City Manager/Chief Operating Officer.

As communicated in the Fiscal Year 2019-20 Narrative Budget, the CMO has proposed the baseline structure of 3.5 full-time equivalent FTE ongoing staff to support the Sustainability Division, consisting of an Environmental Sustainability Coordinator (existing), an Analyst II (existing), an Analyst I/II (converted from a 0.5 FTE limited-term Administrative Aide position), and an Office Assistant III (who will support the Sustainability Division half-time and support Human Resources and the CMO one-quarter-time each).

The following sections outline the areas where additional resources—at each of the three levels of sustainability response – would enable the baseline sustainability office staff and existing staff dedicated to sustainability in the City's operating departments to do more and achieve higher levels of impact. In addition to providing brief descriptions of the potential positions and other resources, a rough cost estimate is given for the budget that might be needed at each level. These cost estimates are meant to communicate an order of magnitude of the size of investment needed. The estimates consist of a combination of resource needs for which there is relative clarity about the likely actions and associated costs and others where additional work is needed to translate the broad strategies of the plan document into specific actions. Staff found that it was easier to project such specifics at the Foundational Level, as this represents a variety of incremental improvements on current efforts. At the Advanced and Innovative Levels, which require a higher degree of change and movement into new areas, the actions were more speculative and the costs more difficult to estimate.

The resource needs at each level are additive. That is, to respond at the Advanced Level would require the actions and resources listed identified under both Foundational and Advanced. Similarly, at the Innovative Level, the actions and resources would include the sum of those listed in all three levels. One of these FTEs would be in the Sustainability Division, two would be in Public Works, two would be in Community Development and 0.25 would be in the Multilingual Community Outreach Program.

#### Resource Needs at the Foundational Level

The following staff roles have been identified as important to support the cross-cutting strategies and actions at the Foundational Level, which would result in an additional 5.25 FTEs above current staffing levels and the additions to the core sustainability team in the Fiscal Year 2019-20 Narrative Budget described above.

**Table 1: New Staff Roles to Support Foundational Actions** 

Title	Actions Supported	Additional Capacity Needed	Expertise/ Sector
Facility Sustainability Projects Manager (PWD)	<ul> <li>Coordinate a comprehensive energy audit process and rank projects for implementation</li> <li>Review opportunities for solar and solar hot water</li> <li>Initiate retro-commissioning for top energy consuming facilities</li> <li>Assist with implementation of sustainable operations and maintenance</li> </ul>	1 FTE	
Facilities Maintenance Worker (PWD)	Provide capacity to support the implementation of energy and water conservation measures	1 FTE	
CivicSpark or EDF Climate Corps Fellow (CMO)	Assist with short term projects as assigned	1 FTE	TBD
TDM and Parking Demand Management Analyst (CDD)	<ul> <li>Policy evaluation and analysis, including cost-benefit of stricter trip caps, additional TMA requirements, new parking policies, parking pricing in additional neighborhoods, parking spillover impacts, mode-shift incentives</li> <li>Assessing GHG impacts of proposed transportation policies</li> <li>Performance of TDM compliance analysis and enforcement</li> </ul>	1 FTE	
Deputy Building Official (CDD)	Oversee the day-to-day activities of the team of engineers, plan check staff, building inspectors, technicians, and other staff, freeing leadership capacity for strategic sustainability planning	1 FTE	
Multilingual Community Outreach Program staff (CMO)	Conduct outreach and provide translation services to support Strategy 2.1 (Engage residents across demographic and socioeconomic groups)	.25 FTE	Engagement
	TOTAL	5.25 FTE	

The estimated annual cost of the above staff positions at the Foundational Level is \$800,000. Of this amount, approximately half (\$400,000) would be for ongoing positions, the remaining half would support limited-period positions anticipated to be utilized for an extended term of approximately three years, at which point additional assessment would be needed.

In addition to the above staff positions, the following other potential areas of cost have been identified for the Foundational Level.

Table 2: Non-Staff Resources at the Foundational Level

Lever	Cost
Lever 1: Integrate	Increase in energy conservation and sustainable facilities budget (likely offset by
Sustainability and	ongoing operational savings)
Resilience Across City	Cost of accelerated replacement of gasoline-powered fleet vehicles (may be offset
Government	by fuel savings from vehicle replacement and operational efficiency strategies)
	Cost of installing EV charging at City facilities beyond any grant funding
	Cost premiums (if any) triggered by requirement to build City facilities at LEED Gold®
	Cost premiums (if any) triggered by zero waste or other operational requirements
	Identification of financial resources to set aside for the Green Revolving Fund
	Consultant services to analyze GHG emissions impacts of major transportation
	projects
Lever 2: Mobilize the	Event/program costs (e.g., for Ride and Drives, sustainability fairs, etc.)
Local Community in Sustainability and	Capital cost of active transportation system improvements
Resilience Action	Web development costs for knowledge database with SVCE
Lever 3: Partner	
Regionally to Enhance	No non-staffing costs currently expected at the Foundational level
Connectivity and Impact	
Lever 4: Manage	Lost revenue from reduced fees and development incentives (if any) for sustainable
Inclusive, Sustainable	buildings
Community Growth	Capital and operational costs associated with pilot micro-mobility projects

The other costs associated with Foundational strategies are estimated at \$1 million (not including the cost premium for LEED Gold® construction which is estimated at 1 percent to 5 percent of the construction cost and would depend on the facility being constructed or renovated. As an example, if the upcoming Aquatics Center renovation, with an estimated construction cost of \$11 million, were to be built to LEED Gold® standards, it is estimated that the cost of the project would be \$110,000 to \$550,000 higher compared to LEED Silver®. Of the total \$1 million cost estimate, approximately \$200,000 would be ongoing and the remaining would be one-time.

Taking the staff and non-staff costs together, the total rough estimate for the one-year cost at the Foundational Level is \$1.8 million, of which approximately \$600,000 would be ongoing.

#### Resource Needs at the Advanced Level

The following staff roles have been identified as important to support the cross-cutting strategies and actions at the Advanced Level, which would result in an additional 9 FTEs above the Foundational Level. Combining staff at the Foundational and

Advanced Level results in a total of 14.25 positions. Of these cumulative positions, 2 FTEs would be in the Sustainability Division, 8 would be in Public Works, 4 would be in Community Development and 0.25 would be in the Multilingual Community Outreach Program.

**Table 3: New Staff Roles to Support Advanced Actions** 

Title	Actions Supported	Additional Capacity Needed	Expertise/ Sector
Chief Sustainability and Resilience Officer (CMO)	<ul> <li>Within 1.1 – Collaborate with ACM to lead governance committee; provide expertise on equity, resilience, and sustainability; assist with the policies mainstreaming sustainability</li> <li>Within 1.2 – Oversee climate risk and resilience assessment</li> <li>Within 1.3 – Oversee ESAP process, metric development process, and strategy revision as needed</li> <li>Within 2.1 and 2.2 – design engagement processes</li> <li>Within 3.1 – Lead regional metric development conversation and strategize on what Mountain View's commitments to the process should be</li> <li>Within 3.2 – Investing substantial effort in annual summit</li> <li>Within 3.2 – Launch any Sustainability and Resilience Roundtables that may be warranted</li> <li>Within 4.1 and 4.2 – Provide information about lessons learned and innovations from peer cities and sustainability networks</li> </ul>	1 FTE	Cross- sectoral
Energy Programs Manager (CDD or CMO)	With the objective of rapidly accelerating the rate of electrification and clean technology implementation in the existing building stock and vehicle fleet, lead the following activities:  • Within 2.2 – ongoing coordination of business peer learning group  • Within 2.4 – oversee development of information resources, advise development of CBSM campaigns in the building sector  • Within 2.5 – work with consultants to design energy disclosure program design/implementation  • Within 2.6 – implement group buy campaigns, EV action plan, and other projects	1 FTE	
Senior Planner focused on TDM Program (CDD)	<ul> <li>Development of strategic policy and program initiatives</li> <li>Oversight of TDM monitoring and enforcement</li> </ul>	1 FTE	

Title	Actions Supported	Additional Capacity Needed	Expertise/ Sector
Transportation Planner (PWD)	<ul> <li>Provide additional capacity to free the Transportation         Manager and/or Assistant PW director to address the         following:         <ul> <li>Within Strategy 2.5 and 4.1 - overseeing "new                  mobility" services, managing their concessions and                  contracts, and developing public private partnerships.                  Substantial research, negotiation, evaluation, and                  ongoing management</li> <li>Within Strategy 3.2 – overseeing regional                  transportation collaborations, such as coordination                  with local cities on VTA and Caltrain engagement,                  collaborating with school district to reduce drop-off                  and pick-up trips, expanding and enhancing the                        Mountain View community shuttle, and implementing</li></ul></li></ul>	1 FTE	
Active Transportation Capital Improvements Projects Team, including a project manager, traffic engineer, and construction engineer (PWD)	<ul> <li>Increases project management and planning capacity available within the Transportation Engineering group to accelerate bike/ped improvements</li> <li>Planning for complete streets in locations not covered by the 2015 Bicycle Transportation Plan (e.g., newly developed areas), and monitoring for emerging best practices in protected, low stress active transportation infrastructure</li> </ul>	3 FTEs (3- year-term position)	
Zero Waste program staff (Analyst and Admin. Aide) (PWD)	<ul> <li>Outreach, inspection and enforcement related to state regulations for mandatory composting and recycling</li> <li>Expanded availability of composting</li> <li>Exploration of new regulations</li> <li>Participation in regional collaboration</li> </ul>	2 FTEs	2

The estimated annual cost of the above staff positions is \$1.8 million. Of this amount, approximately \$1 million would be for ongoing positions, the remaining would support limited-period positions anticipated to be utilized for an extended term of approximately three years, at which point additional assessment would be needed.

In addition to the above staff positions, the following other potential areas of cost have been identified at the Advanced Level.

Table 4: Non-Staff Resources at the Advanced Level

Lever	Cost
Lever 1: Integrate Sustainability and Resilience Across City Government	Cost premiums (if any) triggered by building electrification requirement
Lever 2: Mobilize the Local Community in	Cost share (if any) for PPPs on bringing "new mobility" to the community
Sustainability and Resilience Action	Increased capital costs of active transportation system due to implementing more projects
	Micro-grants distributed to the community
	Rebates provided by the City for constituents that invest in building electrification technologies, sustainable landscaping, electric mobility devices, or other conservation products
	On call consultation services to assist residents and small businesses with green building projects
Lever 3: Partner Regionally to Enhance Connectivity and Impact	Operational and capital funds invested (if any) in supporting regional transit collaboration (e.g., transit pass discount, software systems to manage transit signal priority, road space reallocation/reconstruction to support transit)  Cost of offering services such as a regional community shuttle  Event organization costs for the annual summit
Lever 4: Manage	Operational costs of any contributions the City makes to support the TMA's mission
Inclusive, Sustainable Community Growth	Operational costs and vehicle acquisition costs of expanding the community shuttle (to the extent these costs are not covered by private actors)  Capital funding to design and construct accelerated bike infrastructure

The other costs associated with Advanced strategies are roughly estimated at \$500,000 in ongoing costs and an undetermined need for City facility green building projects and transportation projects and programs, such as public private mobility partnerships and contributions to an expansion of the TMA.

#### Resource Needs at the Innovative Level

The following staff roles have been identified as important to support the cross-cutting strategies and actions at the Innovative Level, which would result in an additional 3 FTEs above the Advanced Level (for a total of 17.25 positions at the Innovative Level, which includes the additions at both prior levels). This cumulative total would include 4 FTEs in the Sustainability Division, 9 FTEs in Public Works, 4 in Community Development and 0.25 FTEs in the Multilingual Community Outreach Program.

**Table 5: New Staff Roles to Support Innovative Actions** 

Title	Actions Supported	Additional Capacity Needed	Expertise/ Sector
Climate Risks and Resilience Manager (CMO)	Within 1.2 - Advising departments on resilience within their sectors (transportation, water stress, flood, buildings); Overseeing analysis to update the City's Local Hazard Mitigation Plan and any other resilience planning in coordination with the County Within 2.1 - Support the CSRO by managing public engagement on resilience and equity for vulnerable populations, Within 4.2 – Advise on climate risk and resilience considerations in the context of development and redevelopment	1 FTE	
Community Campaigns Coordinator (CMO)	Within 2.2 – support the operation of the business and organization peer group Within 2.4 – primary oversight over CBSM campaigns in buildings, water, and waste in close coordination with the appropriate departments	1 FTE	
Sustainable Transportation Policy Analyst (PWD)	Conduct research on new initiatives such as curb management policies, congestion pricing, regulations on TNCs, assessing transit-oriented development impacts on travel, and more.	1 FTE	

The estimated annual cost of the above staff positions is approximately \$600,000. All of this could be considered limited-period funding for an extended term of approximately three years, at which point additional assessment would be needed.

In addition to the above staff positions, the following other potential areas of cost have been identified at the Innovative Level. The costs of these non-staff items will depend greatly on the scope of the specific actions undertaken. As these are not known at this time, a cost estimate is not provided.

Table 6: Non-Staff Resources at the Innovative Level

Lever	Cost
Lever 1: Integrate	Cost premiums (if any) triggered by requirement to build City facilities at LEED
Sustainability and	Platinum $^{ ext{@}}$ and to operate facilities at a standard equivalent to LEED Platinum $^{ ext{@}}$ for
Resilience Across City Government	Existing Buildings
Government	Cost premiums (if any) if the City uses lower embodied carbon materials in new construction
Lever 2: Mobilize the Local Community in Sustainability and	Buying down the cost of providing "new mobility" services in niches not likely to be served by the private market
Resilience Action	Cost premium (if any) for patronizing local businesses when they provide sustainable products or tools
	"Pay For Success" program payments for nonprofits and organizations hired to conduct CBSM campaigns
Lever 3: Partner Regionally to Enhance Connectivity and Impact	No additional non-staffing costs identified from example actions in this Lever at this level.
Lever 4: Manage Inclusive, Sustainable	Increased investment level in low-carbon transportation services for the community
Community Growth	Congestion pricing could provide a substantial <i>revenue source</i> that could offset costs
	of the sustainability program

## FISCAL IMPACT AND FUNDING STRATEGY

# **Summary of Resource Needs**

As identified in the Discussion section above, each response level carries different programmatic and staff funding requirements, as shown in Table 7. These are rough cost estimates to indicate the order of magnitude of funding required to pursue each response level. A more specific annual budget will be proposed as part of the ESAP-4 process.

Table 7: Estimated Staff and Funding Requirements by Response Level

	Foundational	Advanced	Innovative
Ongoing Staff	\$400,000	\$800,000	N/A
	(2.25 FTE)	(5 FTE)	
Limited-Period Staff	\$400,000	\$1,000,000	\$600,000
	(3 FTE)	(4 FTE)	(3 FTE)
Total Cost of Additional Staff	\$800,000	\$1,800,000	\$600,000
	(5.25 FTE)	(9 FTE)	
Ongoing Program Costs	\$200,000	\$500,000	TBD
One-Time Program Costs	\$800,000	TBD	TBD
Total Program Costs	\$1,000,000	\$500,000	TBD
		+TBD	
TOTAL	\$1,800,000	\$2,300,000 +	\$600,000 +
		TBD	TBD

The Fiscal Year 2019-20 Narrative Budget came to Council on April 25, 2019 prior to this Study Session and, thus, did not address all of the funding options raised in this report. (It did, however, propose an additional 1.5 FTEs in ongoing staffing, through conversion of a 0.5 FTE limited-period Administrative Aide to a full-time, ongoing Analyst I/II and addition of a 0.5 FTE Office Assistant III at a cost of \$254,150). Depending on the Council's direction during this Study Session, staff will include an appropriate placeholder for additional sustainability funds in the Proposed Fiscal Year 2019-20 Budget.

# Creation of a Sustainability Reserve

Staff recommends establishing a sustainability reserve with an adequate balance to fund the new staff, programs, and actions needed at the desired level of response during the next three years. Such a reserve would provide a reliable funding source for many of the actions that will take multiple years to complete, enabling the City to attract higher-caliber staff for positions that would require a term beyond one year. As with other existing reserves, establishing a Sustainability Reserve recognizes the significant long-term investment needed to address an important and high-cost community need and the long-term liabilities associated with climate change and other environmental impacts. It also takes advantage of opportunities the City may have to accumulate funding over-time, depending on the City's fiscal condition.

The initial proposed funding source for a sustainability reserve would be to utilize the currently available unallocated General Fund balance and re-allocate one or more previously proposed transfers to other reserves. In future years, the Sustainability reserve could be augmented through additional unallocated General Fund balance

(when such a balance exists), grants, and allocation of new business license revenue for transportation projects, as appropriate. In addition, other funding strategies can be explored such as inclusion of relevant sustainability program costs in the enterprise funds and revenue from congestion pricing.

Possible funding sources for consideration in establishing a sustainability reserve could include those listed below in Table 8. Council could consider using any of these sources in any amount up to the total amount indicated.

Table 8: Possible Funding Sources for a Sustainability Reserve

<b>Amount of Funds</b>	Current Source (as discussed in Narrative Budget)	
\$4,500,000	Est. 2018-19 Unallocated GF Balance	
\$2,000,000	Est. 2018-19 new contribution to CalPERS from FY19	
	carryover (above the \$4 million already contributed in	
	FY 2018-19)	
\$2,000,000	Est. 2018-19 contribution to SPAR (Midyear budget	
	change)	
\$1,000,000	Est. 2018-19 contribution to OPEB (Midyear budget	
	change)	
\$4,000,000	Proposed 2019-20 contribution to CalPERS	
\$1,000,000	Proposed 2019-20 contribution to SPAR	
\$14,500,000	Total	

#### **Commitment of Three Years of Funding**

Given the urgent timeline for addressing global climate change, staff proposes establishing a reserve that would provide funding for three years of investment in enhanced sustainability actions. Throughout this period, staff will continue to assess sustainability priorities, best practices, the effectiveness of the City's efforts, the availability of additional funding sources and the feasibility of creative funding strategies to maintain and expand the sustainability reserve. However, it should be noted that the City's ability to maintain, let alone increase an ambitious level of spending on sustainability will be impacted by the City's fiscal condition and the economy, which is expected to experience a downturn in the third year of the City's current five-year forecast.

Using the rough cost estimates in the sections above, and considering whether costs are either ongoing or one-time, staff would project three-year funding needs as follows for the different response levels:

Table 9: Estimated and Partial 3-Year Funding Needs

Response Level	3-Year Funding Need
Foundational	\$3,800,000
Advanced (including Foundational)	\$11,800,000
	(includes a very modest \$2.5 million in
	various capital and program costs;
	additional, unquantified but substantial
	costs are anticipated)
Innovative (including the above)	Much more difficult to estimate
-	Current estimate is \$13,600,000
	plus considerable, unquantified
	transportation project/service costs

Considering the possible sources for a sustainability reserve in Table 8, a three-year Foundational Level commitment in the amount of \$3,800,000 could be funded with the Fiscal Year 2019-20 unallocated General Fund balance. At the Advanced Level, reductions in proposed transfers to other reserves would be needed to fund the three-year estimated cost of \$11,800,000. Additional funds at the Advanced Level may be needed once projects and costs are identified for such actions as building electrification and higher level LEED standards for City facilities and new transportation projects and services for the community).

Staff acknowledges that reducing contributions to other reserves represents a trade-off, and has presented the strategic plan and this Study Session as an opportunity for Council to consider where sustainability fits within other critical priorities and establish more specific policy direction for the City's response to sustainability challenges.

Depending on Council's direction, staff will include a sustainability reserve in the Proposed Fiscal Year 2019-20 Budget being evaluated by the Council on June 11. As mentioned above, specific annual appropriations will be recommended as part of the Council action on ESAP-4 in June.

#### NEXT STEPS

## **Developing ESAP-4**

Compared to the prior three ESAPs, staff is taking a different approach in the process and possibly the scope and structure of the ESAP-4. Given the compressed time frame before the end of the fiscal year, ESAP-4 will likely be a higher-level, more strategic plan that prioritizes key focus areas and strategies (and, as possible, specific actions), some of which can be implemented in the near term and others that will require further work plan development. Based on feedback about the strategic options presented at this Study Session, we plan to bring ESAP-4 to the Council in late June 2019 without a preliminary meeting with the Environmental Sustainability Committee. This allows the Council's direction on the Strategic Plan to inform the ESAP-4, so that it can be more strategic and responsive to the City's sustainability vision. It also allows us to keep both of these important documents (the Strategic Plan and ESAP-4) on track while enabling the Council to build on the already substantive discussions that have taken place in recent meetings (the December 4, 2018 Council review of staff's analysis of the ESTF-2 recommendations and the April 1, 2019 Environmental Sustainability Committee review of the Strategic Plan). Finally, staff is considering what the proper time horizon may be for implementing ESAP-4 in light of the potentially significant and evolving changes to how the City structures its sustainability work.

Beyond this Study Session, staff anticipates the following key dates:

- June 11, 2019: Staff will include an Environmental Sustainability placeholder in the Proposed Fiscal Year 2019-20 Budget for Council adoption.
- Late June: Staff will bring ESAP-4 to the Council for adoption, with a more specific project work plan and appropriation request.

#### **COUNCIL QUESTIONS**

Staff seeks Council direction on the following:

- 1. The preferred response level (Foundational, Advanced, or Innovative).
- 2. Creation of a sustainability reserve.
- 3. Preferences among the identified funding source options for the reserve.

- 4. Inclusion of the associated three-year funding estimate as a placeholder budget in the Fiscal Year 2019-20 Proposed Budget.
- 5. Any other input on the Program Assessment, Strategic Plan, Draft Sustainability Vision, and ESAP-4.

## **PUBLIC NOTICING**

Agenda posting, e-mails sent to the Environmental Sustainability Task Force 2 and other community members interested in sustainability, and social media posts.

ASR-SA/5/CAM 620-04-30-19SS 190007

Attachments: 1.

- 1. Sustainability Strategic Plan
- 2. Key Findings of the 2018 IPCC and US National Climate Assessment Reports
- 3. Environmental Sustainability Program Assessment
- 4. Case Studies of the 10 Benchmark Cities
- 5. Table of Levels, Levers, Strategies, and Actions

cc: CDD, PWD, ACDD, APWD—Cameron, APWD—Hosfeldt, PP, ZA, TM—Lo, SWPM, WRM, TP—Baird, TP—Kim, SP—Anderson