



City of Santa Cruz



Public Review Draft

# 50-year Community Vision For West Cliff

February 2024



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# City Manager Statement

For both the Santa Cruz community and visitors, West Cliff is a cherished stretch of coastline that holds immense significance. Santa Cruz boasts unparalleled natural beauty, and West Cliff stands as a symbol of our deep connection to the ocean and the rugged cliffs that define our landscape. For decades, West Cliff has been a beloved destination for residents and visitors alike, offering breathtaking views, recreational opportunities, and a sense of tranquility that is quintessentially Santa Cruz.

In the aftermath of the January 2023 storms, now more than ever, we recognize the imperative need for transformative thinking to ensure the resilience and accessibility of West Cliff for all. Climate change presents unprecedented challenges, threatening our coastline with rising sea levels, erosion, and extreme weather events. The 50-year Community Vision for West Cliff is not about preserving West Cliff as it exists today, but rather creating a resilient and accessible space that can withstand the impacts of climate change while continuing to serve as a vital hub for our community. This Vision requires bold action, innovative solutions, and collaboration across jurisdictions to safeguard the well-being of our residents and the coastline for generations to come.

With this 50-year Community Vision, we aspire to create a West Cliff that is more than just a scenic route—it will be an example of how to manage for a resilient coast. Prioritizing pedestrian and bicycle use by reducing vehicle access along West Cliff will preserve access while providing physical space to accommodate future changes to the coast due to the impacts of climate change. Pursuing studies to understand how to implement living shorelines, nature-based solutions, and engineered natural features will give the City a suite of options to implement when specific conditions arise.

We have deep appreciation for the community, community groups, the focus group, the City's West Cliff team, and the leadership of the Mayor and City Council. Following the public review, final edits, and adoption of the 50-year Community Vision for West Cliff, the *Resilient West Cliff: Accessible to All Roadmap* will evaluate City plans, policies, and programs in alignment with the Vision. Together, we will embark on a journey toward a more resilient future - one where West Cliff remains a treasured asset for all, standing as a testament to the strength and spirit of Santa Cruz.



Matt Huffaker  
City Manager





# 50-Year Community Vision Statement for West Cliff

Over the next 50 years, the community envisions a resilient and accessible West Cliff for all - celebrating the beauty and awe of the coast, while balancing the varied uses of residents and visitors, and keeping the community safe. Moving from disaster response to long-term resilience requires a new way of viewing the City's relationship with the coast and creating space for the coast to move as it has over time immemorial.

## Access and Traffic

To address the balance required to provide access while working with nature, the City will protect critical facilities while implementing separate pedestrian and bicycle lanes, and one-way vehicle access along West Cliff Drive supported by traffic control measures in the surrounding neighborhood.

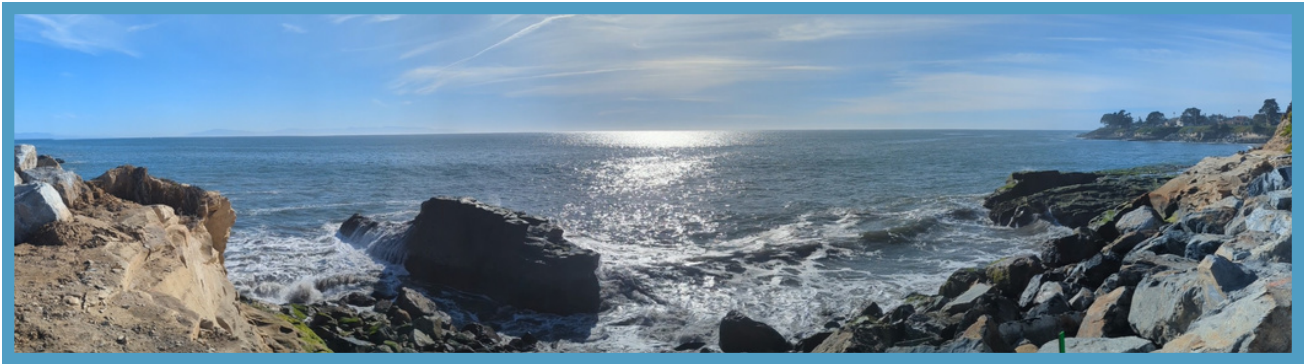
## Exploring Bold Actions

While implementing these near-term priorities, the City is committed to exploring and developing additional management options for West Cliff to lessen the impacts of erosion, such as living shorelines, engineered natural features and planned relocation in the most vulnerable assets.

## Collaboration

To bring this 50-year Community Vision to fruition, the City will work collaboratively with governmental, non-profit, and private partners to plan, fund, and implement this Vision over the next 50 years. With a dynamic and adaptive management approach implemented by the City, updated every ten years, West Cliff will remain resilient and accessible for the community.





# Living on a Dynamic Coast

## Impacts of a Dynamic Coast

West Cliff is a dynamic and beloved part of the California coast - ever changing and constantly evolving in response to shifting environmental conditions, such as weather, wind, and ocean currents. The influence of a changing climate with forecasted increases in sea level rise, frequency and intensity of storm events, and temperature (air and ocean) will continue to change West Cliff. The accelerating effects of climate change on the City's beaches and bluffs will require a dynamic iterative approach to coastal resilience planning. Scientific information, community consensus, regulatory changes, and the political landscape will evolve along with our understanding of the changing on-the-ground conditions.

## Adaptive Management

To be responsive in such a dynamic environment, while also preserving a range of planning options, a new planning framework has emerged - adaptive management. Adaptive management can be defined as an intentional and iterative process of decision making that aims to reduce uncertainty over time via systematic monitoring. Adaptive management makes use of management interventions and follow-up monitoring to promote understanding and improvement of past actions to better inform future decision making.

The degree of change taking place at this time is not trivial. Measurable impacts from climate change and other environmental degradation include: between one to four inches of erosion every year between 1956 to 2018, with up to a foot of erosion annually depending on the severity of storm events, and \$35 million in storm damages incurred in just the past two years; all of which are expected to increase as a result of the exacerbating effects of climate change and stronger storm events. As we approach 2075, five to 25 feet of erosion along is projected to occur along West Cliff depending on soil composition and condition of coastal armoring.



State and federal regulatory agencies have already prioritized adaptive management as the preferred approach to coastal management. This approach is also recommended by the California Coastal Commission in its Sea Level Rise Planning Guidance for California's Coastal Zone (2021). To address this direction, the City is pursuing an adaptive management strategy to account for inevitable changes along West Cliff, while considering how these changes will limit options for use. The City's Resilient Coast Initiative has additional information on adaptive management.



## Case Study

### Lighthouse Field Beach Short Term Parking Lot

West of the parking lot across from Lighthouse Field State Beach and before Columbia Street is a section of cliff and path which has experienced significant erosion over many decades, and particularly in early 2024. After recent storm events, the City continues to move barriers inland to accommodate additional erosion and protect the community from the hazards of coastal erosion.

This section of path is an example where erosion is forcing the City to retreat from the coastline. To maintain access along this section of West Cliff and to address ongoing erosion, the City may consider rip rap, seawalls, or changes to the right of way and road realignment, all costly solutions – some of which are shorter-term than others. There are also tradeoffs to different approaches – while rip rap and seawalls would preserve the right of way, they do not allow for sand from erosion activity to replenish beaches. The proximity of this site to Lighthouse Field State Beach highlights the opportunity for the City and the state to work together on long-term solutions that accommodate some erosion while maintaining access in the decades to come.





## Why Does West Cliff Need a Vision?

The 50-year Community Vision represents the community's aspirations for what West Cliff will look like in 50 years and how the community wants to use West Cliff in the future. It allows the City to allocate resources to projects which may take decades to plan, fund, and complete. This also allows the City time to build disaster resilience along West Cliff to weather future extreme storms and ongoing stressors, and keep the community protected from the impacts of climate change.

### What is a Vision?

A vision represents a shared expression of values developed with community input to guide future decisions. A vision can be used to guide planning, decision making, and work to implement specific policies and projects.

*"...much of the existing infrastructure that allows people to access, recreate, live, and work in coastal communities was not designed to be resilient to the threats of climate change and sea level rise, which present unprecedented challenges and must be met with proactive adaptation." - California Coastal Commission, Critical Infrastructure at Risk: Sea Level Rise Planning Guidance for California's Coastal Zone, Page VIII, November 17, 2021*



The storms of January 2023 were more than a reminder of the constant change our coastline experiences; they were a harbinger of increasing rate of change and risks faced by communities. The 2023 bomb cyclone that impacted access to West Cliff for over a year inspired the community and the City Council to reflect on decades of discussions and commit to working together across the community to develop a coordinated vision and advance projects for a resilient West Cliff, accessible for all. During the May 23, 2023 City Council meeting, City Council directed City staff to develop a 50-year Community Vision for West Cliff. Throughout 2023, the City brought the community into discussions about the future of West Cliff to develop a vision reflecting the community's preferences for future use.

## Prior Engagement

Over the past five years, the City conducted significant community outreach to share its understanding of past and future coastal processes, engage community in planning processes and sought to understand community preferences about West Cliff. Some highlights of prior engagement include:

- The City's Resilient Coast Santa Cruz Initiative hosted over 50 engagements ranging from talks with community groups, focus group meetings, workshops, open houses and surveys to engage the public about local coastal issues.
- After the January 2023 storms, the City's Public Works Department hosted five in-person meetings about transportation and traffic issues around West Cliff.
- With the Council providing direction in May 2023, the City built on previous engagement and began additional outreach to develop the 50-year Community Vision. Between June 2023 and February 2024, the City engaged approximately 1,780 touch points through in person and virtual meetings (480 people), surveys (200 people), and public opinion research (1,100 people).



## 50-year Community Vision



## Prevalent Community Feedback Threads

During both the in person and virtual meetings, as well as the survey, participants emphasized the importance of prioritizing pedestrian and bicycle access and adding traffic control measures; beach access; and maintaining the dynamic coast narrative in the 50-year Community Vision (see Appendix B for additional details on community engagement). Other preferences also emerged such as habitat restoration and improved ecological connectivity, and engineered natural feature restoration which involves using engineering to construct features, such as an artificial reef or sand groin to dispel wave energy.

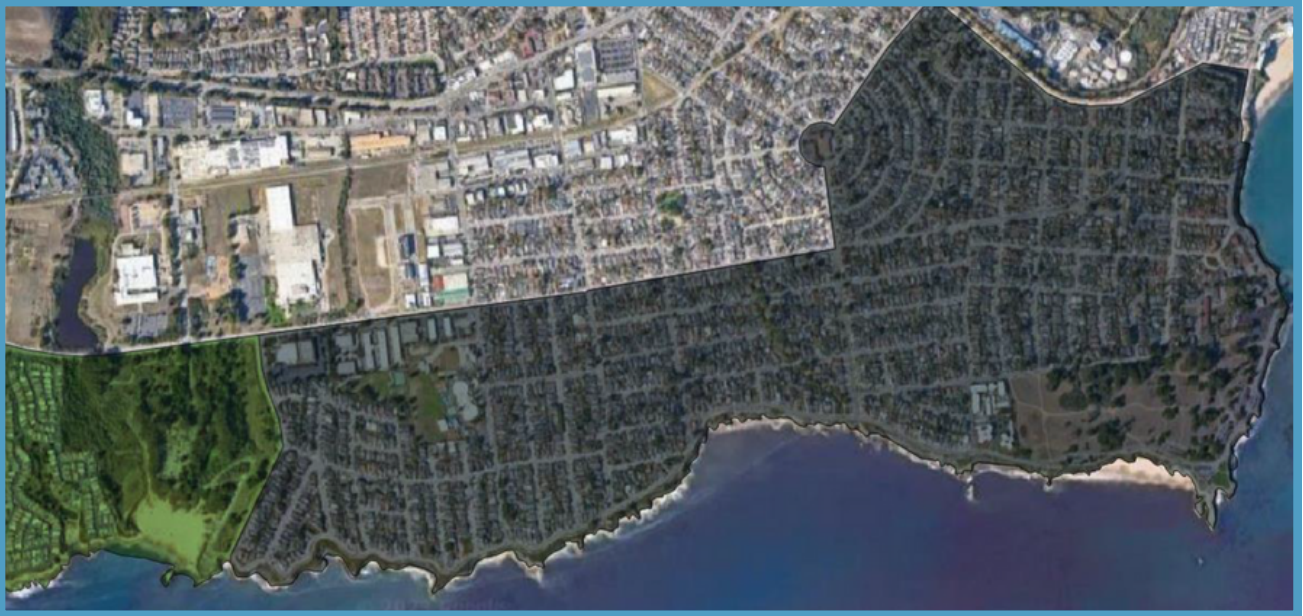


*"Santa Cruz, California the dynamic coast and the resiliency of the community that support it" - Headline about the future of West Cliff submitted during the August 15, 2023 City Council Study Session on the Resilient Coast*



## Public Opinion Research

From December 2023 to January 2024, the City conducted public opinion research to understand how registered City voters use West Cliff and their opinions about what they would like West Cliff to look like in the future. Respondents were classified as either in the “impacted neighbors region” (12% of responses) or in the rest of the City (88% of responses). Additional details on the public opinion research can be found in the City’s report.



The shaded area of this map shows the “impacted neighbors area” from the City’s public opinion research. Image credit: EMC Research, Inc.



Image Credit: Fehr & Peers



### Public Opinion Research Highlights

- **97%** of respondents agreed that West Cliff is important to the quality of life in Santa Cruz.
- **95%** of respondents agreed West Cliff helps make Santa Cruz a great place to visit.
- Overall, **55%** supported rebuilding lost natural elements with engineered solutions, with that support comprised of **65%** from impacted neighbors and **54%** from the rest of the City.
- **93%** of respondents want to enjoy the view and scenery of West Cliff in the future.
- **91%** of respondents want to walk or jog along West Cliff in the future
- **78%** of respondents want to watch birds or wildlife along West Cliff in the future.
- Maintaining beach access (**88%**) was the most broadly supported future vision element, followed by a separate pedestrian path (**85%**).
- When asked whether they preferred one-way vehicle access or two-way vehicle access after being presented information about both options, 61% of survey respondents preferred one-way and 32% preferred two-way with 7% either unable to decide, preferring both, or unsure (See Appendix B - Figure B4).
- In the impacted neighbors region, **48%** of those preferred one-way and **47%** preferred two-way with **5%** either unable to decide, preferring both, or unsure (See Appendix B - Figure B5).
- Of those in the rest of the City, **63%** preferred one-way compared to **30%** preferring two-way with **7%** either unable to decide, preferring both, or unsure (See Appendix B - Figure B6).





## West Cliff 50-year Community Vision

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At the convergence of ocean and land is West Cliff. Perched above the Monterey Bay National Marine Sanctuary is Lighthouse Field and Natural Bridges State Parks, a neighborhood nestled between world-class views and recreation opportunities. West Cliff is a destination loved by residents, the community, and visitors from all around the world. From individual rituals like yoga and meditation to globally recognized events, West Cliff is known as a place for individual retreats and global competitions.

Recreation is embedded into the fabric of daily life along West Cliff. It is not simply a “nice to have” amenity, but inextricably woven into the fabric of the Santa Cruz culture. From surfing to biking, walking, kayaking, meditation, yoga, bird/whale watching, and sightseeing - anybody who visits West Cliff can connect in their own unique way to the bond between water and land. The environment of West Cliff is as varied as the uses – from cliffs towering 30 feet in height to beautiful beaches tucked between the bluffs. Moving upwards from the water’s edge are enclaves of habitat and native plants, historical and interpretive markers, paths, pedestrian and bicycle lanes, and West Cliff Drive. Further back includes monarch habitat, creeks, private property, and critical infrastructure which allows permanent human activities along and around West Cliff to be possible.

## **Balancing Change and a Collective Future**

From these many activities emerges a need for a community that comes together to build trust, solve problems, and fashion a collective future together for West Cliff that recognizes these many uses and the cherished landscape and community that exists.

Many changes will occur in the next 50 years. Some of the changes experienced in recent decades are ones that West Cliff has not faced in the past. From the changes resulting from extreme storm events to the future projected impacts of sea level rise, to the inevitable evolution of transportation and policy and regulatory paradigms, change is the constant the community can most anticipate.

## **Beauty, Resilience, and Continued Uses**

Over the next 50 years, the community pictures a resilient and accessible West Cliff for all – celebrating the beauty and awe of the coast, while balancing the varied uses of residents and visitors and keeping the community safe. Moving from disaster response to long-term resilience requires a new way of viewing the City's relationship with the coast and creating space for the coast to move as it has over time immemorial.

To address the balance required to provide access while working with nature, the City will protect the most vulnerable areas to allow the City to maintain critical facilities while implementing separate pedestrian and bicycle lanes, and one-way vehicle access along West Cliff supported by neighborhood traffic control measures. While implementing these near-term priorities, the City is committed to exploring and developing additional management options for West Cliff to lessen the impacts of erosion, such as living shorelines or nature-based solutions, limited engineered natural feature restoration and planned relocation.

To bring this 50-year Community Vision to bear, the City will work collaboratively with governmental, non-profit, and private partners to plan, fund, and implement this 50-year Community Vision over the next 50 years, and updates made to the 50-year Community Vision every ten years. With a dynamic and adaptive management approach implemented by the City, West Cliff can remain a community gathering point for all.

## **Prioritizing Pedestrian and Bicycle Access**

The community requested the City prioritize pedestrian and bicycle access by converting one lane of traffic along West Cliff to separated pedestrian and bicycle lanes. Separated pedestrian and bicycle lanes will expand safe routes for the





community, as during multiple engagement meetings the community described a need to separate pedestrians and bicycles for safety along West Cliff. Prioritizing pedestrian and bicycle access was supported consistently by the community during multiple engagement meetings, and in the City's public opinion research.

### **One-way Vehicle Access and Additional Traffic Control**

To prioritize pedestrian and bicycle access, the City will transition from two-way vehicle traffic along West Cliff Drive to one-way westbound vehicle traffic. This will allow additional space to create separated pedestrian and bicycle and lanes. The City will manage these new movement patterns by installing additional traffic control measures.

### **Limited Hard Armoring**

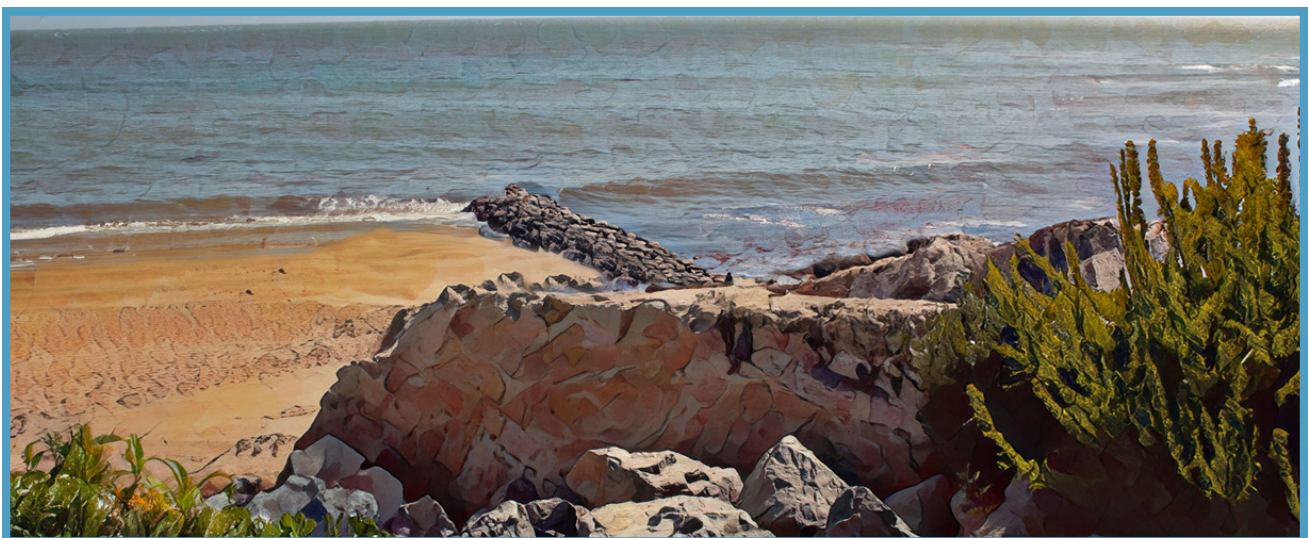
Throughout engagement activities the community prioritized other interventions more than hard armoring. Prior work to understand the potential of hard armoring to protect West Cliff highlights the many challenges of installing and maintaining armoring solutions on a dynamic coast. Since armoring will be limited to those areas with critical infrastructure and to maintain access to West Cliff, the City can conserve the natural cliff-ocean interface which allows for some sand from natural erosion to replenish beaches. Hard armoring to preserve access does have consequences as it results in less sand from the cliffs moving to pocket beaches because there is a barrier between the natural coastline and the ocean.



Image Credit: Carrie Drew, The Drew Creative

## Exploring Nature-based Solutions and Engineered Natural Feature Restoration

To buffer against the impacts to pocket beaches caused by hard armoring in some areas and to improve West Cliff's resilience, the City will explore nature-based solutions and engineered natural feature restoration management strategies. These strategies can have benefits like retaining sand (reducing beach erosion) and protecting the cliffs by reducing the strength of waves impacting the coastline. As with any new management strategy, the City will need to consider the potential impacts, like changes to surf breaks or erosion patterns, from modifying natural processes.





## **Park Space as Recreation Area and Buffer**

Ensuring park and coastal access while minimizing built infrastructure in park space is a way to work with nature to preserve a natural coastline. Maintaining clifftop space is important for building West Cliff's ability to accommodate both known and unknown changes over time, and ultimately when erosion impacts infrastructure, the City must have the physical space to move infrastructure in areas where erosion on West Cliff is severe.

## **Planned Relocation**

In those areas where space is no longer available to support access by the public, the City will explore partnerships to develop a program to provide opportunities for private landowners to engage in optional buyout and lease back programs to convert private property to public and provide space for natural amenities for the entire community to enjoy.

## **Collaboration**

Collaboration with the community, public partners, research institutions, non-profit, and private partners to identify effective pathways forward to advance the 50-year Community Vision is essential. Coordinating across City departments and outside of the City's jurisdiction is necessary to advance projects along West Cliff to further the 50-year Community Vision. New ideas to reduce the impacts of climate change on West Cliff while maintaining recreation will require active participation from other agencies. For example, if the City wanted to plan a project at Lighthouse Point, the City would need to work with California Department of Parks and Recreation and other agencies.

## **Context**

It is necessary for the City and the community to recognize planning processes, especially along the coast, will require time and flexibility, as community engagement continues and as the coastline and community priorities change over time. By exploring multiple coastal management options, the City can preserve physical space to accommodate the changes of the dynamic coast. While the City is constantly pursuing innovative pathways and components of the 50-year Community Vision - when disasters inevitably impact West Cliff - the City will also use these disasters as windows of opportunity to take transformative steps toward new coastal management approaches, and infrastructure design. With support of the community and investments by state and federal partners, improvements will be made over time to reflect this broader vision of prioritizing access over armoring, and balancing the natural processes that have shaped our coast to the community that now resides at its edge.

# Celebrating My 65th Birthday Along West Cliff in 2073



February 22, 2073

*I knew setting out that each step would echo with stories - mine and the whole Santa Cruz community's. The 2024 visioning workshops and community conversations my parents were so involved with and all the changes that came after formed the backdrop of the last 50 years for my partner and me along with my children and now my first grandchild. How we responded to the challenges of a rising sea and came together to protect our values while dealing with necessary change, have really defined our community in ways none of us in 2024 could possibly have anticipated.*

*As I walked up the pathway to the bluff overlooking Cowell Beach, I couldn't help but smile remembering my first time surfing Steamer's Lane on the calmest day of the year. Further along the pedestrian path, with bicycle lanes to my right, and just that single one-way lane for the periodic vehicles, I'm struck by how adapting to climate change created community opportunities and how that has shaped us since. It was great having a quick place to park on top of Cowell's and access to Pleasure Point to surf - or watch surfers. But the traffic and congestion were also an unwelcome problem. We may be further back from the cliff, and it's harder for cars to come through, but we've seen a 10 fold increase in people walking and biking throughout the drive and there's now so many spaces to gather, exercise, meet a friend, or just stop and look at the ocean.*



*Its Beach is a particularly special place for me. It wasn't always my favorite spot as a kid, but it's become one over the years. Although the City put in sand groins to slow erosion, this was one of those spots where the changes were just different than anyone thought. The cliffs became unstable, and beach access challenging. The decision to retreat here and push back the pedestrian and bicycle paths, and route cars further around, was a reminder that this is an evolving challenge we have had to learn to live with. And that retreat helped nourish the beach and bring it back for the community to love!*

*By the time I got to Mitchell's Cove, I was feeling all 65 of my years. It takes a little longer in 2073 to walk this distance than it did in 2024. The City's decision to invest in seawalls was one of the toughest conversations my parents were part of. My dad hated the idea of armoring the bluff. But as the years went by, and we saw the ongoing changes, it became clear that leaving things as they were wasn't going to work. Over the last ten years, some of those seawalls have failed and the rip rap has been moved out to sea by strong storms, so we've pulled back even further creating a green space at the top of the bluff, a place where you can see and feel the changes we're experiencing. As I continued my walk towards Natural Bridges State Park, the path narrows where some parts of the bluff fell in last winter.*

*As I head home from my walk, I am overwhelmed with gratitude for the life we've built here in Santa Cruz. Living through it all, I feel all of it - what we gave up as much as what we gained. I can still remember the hard conversations my mom and dad had about how the City should address changes on the coast. As I got older, I witnessed first-hand those difficult conversations being had throughout the community. But as the years went by, as we saw both the changing impacts, and the results of our community response, I also felt pride that we'd tackled this head-on, I felt grateful for our capacity to change and create new spaces that respected what we all loved about the shoreline, while also adapting to what was happening.*

*This place isn't just a scenic coastline; it's the heart of our community, a symbol of our love for each other and for the natural world we're so privileged to call home. It may always change, but it will also always be close to my heart as my grandchildren grow to love West Cliff as I have.*





## Next Steps - Implementing the Vision

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As a global leader in sustainability, the community of Santa Cruz supports a West Cliff that is accessible, sustainable, and balances the needs of the community in as many ways as possible. The 50-year Community Vision guides decisions in all policy, program, and project documents as changes occur in the next 50 years. As clarity is gained on uncertainties and some of the more complex management strategies, the City commits to implementing the 50-year Community Vision as quickly as jurisdictional, financial, environmental, and regulatory bounds allow. The City will use disaster recovery as one mechanism to achieve long-term resilience for users of West Cliff and coastlines across the City. The City will engage the community and work across departments and partners to implement the Vision and improve resilience along West Cliff through *A Resilient West Cliff Accessible to All Roadmap*.

### Vision Updates

The City intends to update the Vision every ten years, prior to the revision of the Local Coastal Program (LCP). The exact means and mechanisms to implement the Vision will change over time and the dynamic coast necessitates updates to the Vision to reflect the City's adaptive management approach to the coastline, and as the City acquires information about coastal conditions, climate change, regulatory drivers, funding opportunities to support implementation, and public perspectives.



As a result of the dynamic conditions and likely changes in the bounds used to define acceptable actions on West Cliff, and in concert with near-term actions to prioritize pedestrian and bicycle access and work with nature on West Cliff, the City will use adaptation pathways to implement projects and planning efforts aligned with the Vision.

- The City's LCP has long called for coastal monitoring and the City is in the process of deploying and further incorporating coastal monitoring into its LCP, currently under revision. This provides a foundation for implementing adaptive management.
- There are also policies included in the West Cliff Drive Adaptation and Management Plan adopted by City Council in 2021, such as monitoring for shoreline change (page 130) and implementing a monitoring program for sea level rise, beach width, bluff offset, flooding and storm damage (page 130).
- There is a growing recognition of the need to address climate impacts with flexibility and iteration is leading state and federal agencies to embrace the approach.

Beyond updates to the LCP and guided by the 50-year Community Vision for West Cliff, the City will adopt an approach to coastal management based on adaptation pathways which allow the City to make informed management decisions in a structured way. The City's proposed adaptive management approach aligns with the City's vision for a safe, accessible, resilient West Cliff for all.

### **Development of a Sustainability and Resilience Committee**

The City will explore developing a Sustainability and Resilience Committee, comprised of seven members to assist the City with implementing the 50-year Community Vision for West Cliff and advise the City on resilience and sustainability issues city-wide. This Committee would become deeply embedded in the resilience and sustainability issues facing the City and make recommendations to City Council about policies.

Working together with community members, neighboring jurisdictions, and across all levels of government, the City will use this 50-year Community Vision for West Cliff, the new Resilience and Sustainability Committee, and the many individuals which have contributed to this process to confidently move forward equipped with a shared vision and actionable next steps.

# Appendix A - Bounds on the Vision

The following bounds are intended to drive the 50-year Community Vision process towards an implementable outcome. Feasible implementation is difficult to define given the 50 year time frame and all of these bounds may change.



**Jurisdictional:** Activities in the 50-year Community Vision should primarily fall within the City's jurisdiction, however any activities below the high tide line or overlapping with neighboring cities, the County of Santa Cruz, or the state of California would require engagement with these jurisdictions and could limit the feasibility of the 50-year Community Vision. Operations and maintenance for projects to advance the 50-year Community Vision would primarily fall within existing agreements that allow the City to operate within 300 feet of the shoreline.

**Regulatory:** The primary authority to issue permits along the coast is the California Coastal Commission (CCC). Once the Local Coastal Program Amendment (LCPA) is approved by the CCC, much of the project activities occurring above the high tide line would be approved by the City independently, or in consultation with the CCC. Regulations may change over time which could shift this bound. The City is working with the CCC on the LCPA currently underway. Depending on the area, permitting authorities may vary and the City might have to secure additional permits, especially in the context of disaster response projects, which can require follow up approvals despite a streamlined permitting process.



### What is the Local Coastal Program?

The LCP is a City program that conforms with the California Coastal Act of 1976. It consists of the land use plan and implementation plan. The LCP is updated periodically and is currently being updated.

**Environmental:** Ongoing sea level rise and forecasted increases in extreme storm event frequency and duration are projected to significantly increase erosion rates in the future. These impacts will be both longer term, and shorter term with peak erosion occurring during extreme storm events. The consideration of this long-term trend requires ongoing evaluation of infrastructure decisions to support hard armoring such as sea walls and similar infrastructure that do not distribute wave energy as well as softer interventions may result in catastrophic failure of infrastructure instead of slower erosion. Softer infrastructure such as most nature-based solutions currently available require space to migrate over time, and with some scenarios, options for nature-based solutions may be limited. Environmental bounds can also include restrictions on built infrastructure due to the presence of protected habitats, both on land and in the ocean.

**Financial:** Over the next fifty years the cost profile of implementing the 50-year Community Vision is likely to shift significantly. Greater costs for hard armoring may occur, while the lower relative costs of nature-based solutions up front may be balanced by longer term maintenance costs or real estate related investments or property transfers. Costs would be based on the scale and extent of the activities. Current funding available from the state and federal government already support some aspects of each of these. Federal government organizations such as the Federal Emergency Management Agency (FEMA) are already indicating disaster funding will become less available as FEMA's financial resources are reduced with the increased frequency of climate change related disasters. Funding available after disasters and proactive investments through a resilience district or other form of locally driven revenue may reduce costs coming directly from the City's General Fund in the near-term. However, the funding landscape (both state and federal) is likely to be more competitive and funding organizations may favor one approach over another.

## Appendix B - Engagement Summary

The City convened three types of outreach activities between August 2023 and January 2024 to develop the 50-year Community Vision: Council study session, public meetings, and Focus Group meetings. City staff also held internal coordination calls, internal trainings, and coordinated engagements with state and federal partners. The City also opened a two-week public comment period on the draft 50-year Community Vision to collect additional feedback from community members.

### August 15 Council Study Session

The City held a Council study session on August 15, 2023 to engage with Council and members of the public about what West Cliff will look like in 50 years. After a presentation on the dynamic coast, participants submitted newspaper headlines they would like to see written about West Cliff in the next 50 years or newspaper headlines they would want to avoid.

The City received the following headlines from participants during the August 15 Council Study Session. Headlines were recorded exactly as they were written except when writing was illegible.

- *Crisis at the coastline we still haven't learnt from 1963 (and 2023) - lower westside residents sell up due to volume of traffic*
- *50 years - surfacing and two way road - quiet traffic - slow traffic*
- *Lower CO2 - save planet*
- *Love West Cliff*
- *Coastal access saved - two way traffic and hiking and biking*
- *Move fast before the storm - prevention*
- *Headlines for the future*
- *Resilience District formed to fund coastal work*
- *Storm damage assessment ends with options - park versus restroom complex*
- *Santa Cruz soars above the storms - cars, pedestrians, dogs, traffic in [illegible] mitigated over the years to enjoyable, safe for all in use of West Cliff Drive*
- *Lighthouse survives coastal changes and lights the way to continued surf, dogs, vehicle and coast [illegible]*
- *Hearty thanks to City Council who 50-years ago saved West Cliff for all to enjoy [illegible] the [illegible]*
- *Santa Cruz, California dynamic coast and the resiliency of the community that support it*



- *Santa Cruz Resilience planning pays off*
- *Santa Cruz leads climate adaptation as a model for the rest of the world*
- *Climate change has no impact on Santa Cruz due to their robust planning*
- *While destructive winter storms plague coastlines across the world, Santa Cruz CA once again leads the way on resilient coastline!*
- *Why Santa Cruz? Because they've figured it out: resilient coastline accessible to all!*
- *Santa Cruz ocean reserve offers a respite and sanctuary for weary bay area dwellers*
- *Santa Cruz successfully preserves its coastline for the next generation*
- *Beautiful beaches armed because of far sighted previous stewards in Santa Cruz provide coastal access to many this summer*
- *Did you know - beach was underwater 50 years ago? What created this beach as a nature-based climate solution [illegible] 50 years ago*
- *What does mobility look like in 50 years?*
- *Due to the normal 400 ~2,000 ~12,068 and 26,000 year cycles: all coast lines are to be renewed, i.e. destroyed by normal cyclic solar system actions. Middle October 2024, may have the tides event to this very room*
- *An in depth look at how our forward thinking ancestors turned our coast into an enviable national example of coastal management!*
- *When planned retreat is a smart move: pathways to our future coast*
- *Armors killed my beach*
- *Santa Cruz has some of the best sand bards to surf in all of California, but it wasn't' always the case: how the City worked with surfers to make it happen*
- *The true Surf City; how a City came together to protect it's waves, beaches, and coastline*

## **October 3, 2023 Public Meeting**

During the October 3 Public Meeting, the City presented background information on the process to develop a 50-year Community Vision, including the purpose of the Focus Group, the definition of the 50-year Vision, City work on West Cliff past and future, and the bounds around the 50-year Vision. The meeting featured interactive activities where participants were invited to get into small groups and rank the provided themes and participants were asked to suggest additional themes. The groups then shared their rankings of the themes and feedback on themes with each other and re-ranked the themes as a group. The key feedback was to include a transportation theme, reword various themes to be more specific, and combine similar existing themes.

[illegible]

## December 5 Public Meeting and Survey

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### What did meeting attendees like across all scenarios?

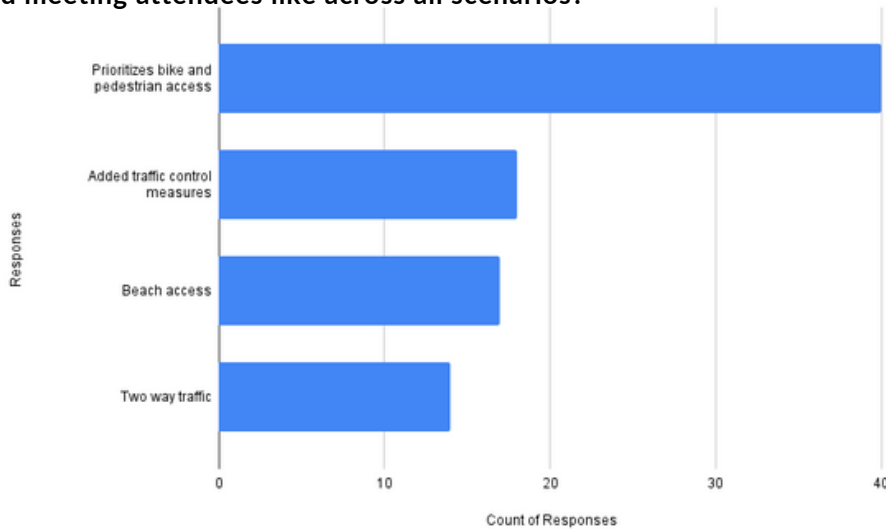


Figure B2. The bar graph shows the top liked elements across all scenarios from participants who attended the in-person meeting on December 5, 2023.

### What did people like across all scenarios?

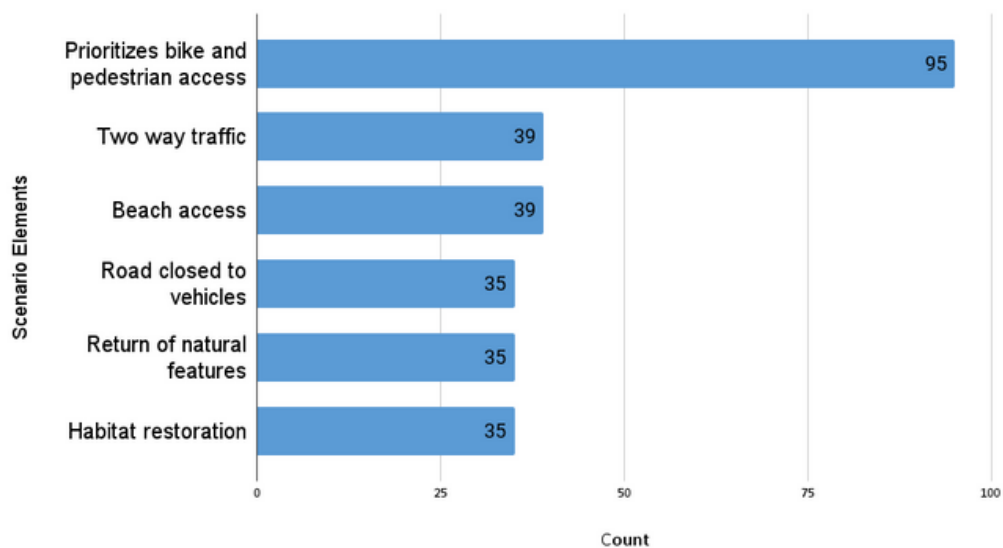
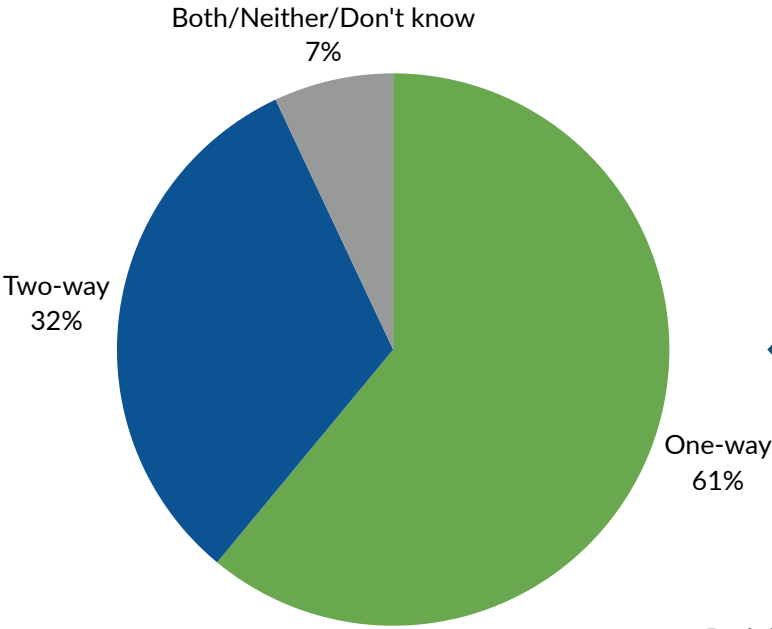


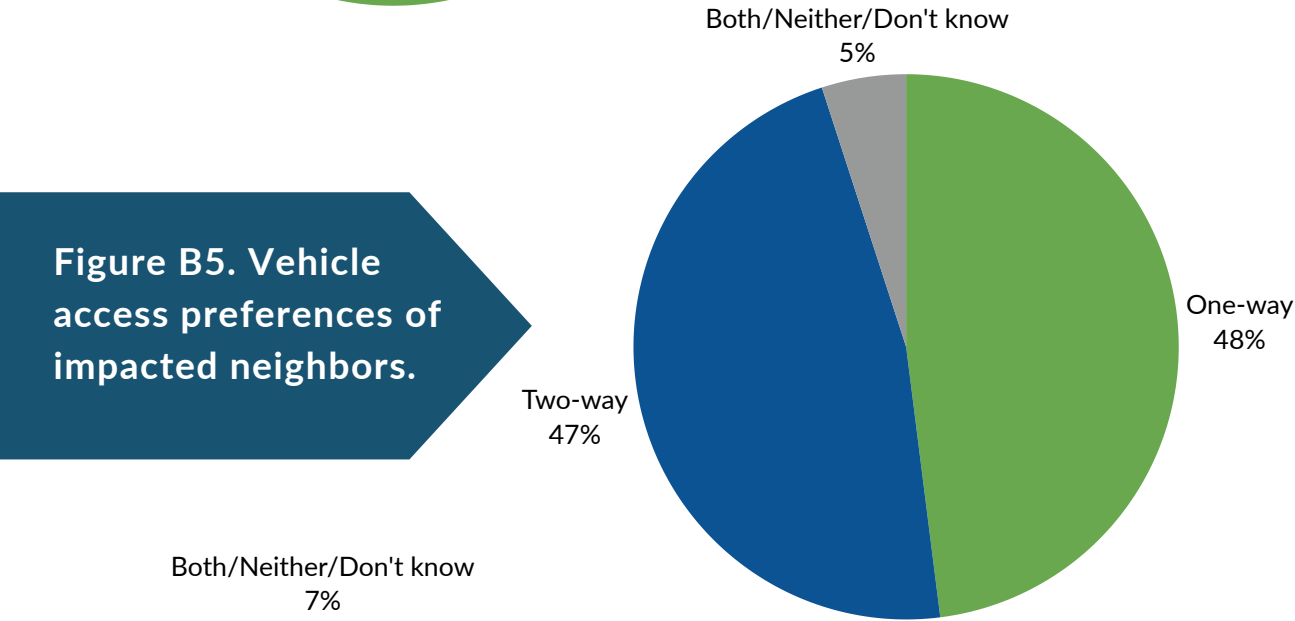
Figure B3. The bar graph shows the top liked elements across all scenarios from those who responded to the online survey about the scenarios.

## January 30, 2024 Public Meeting

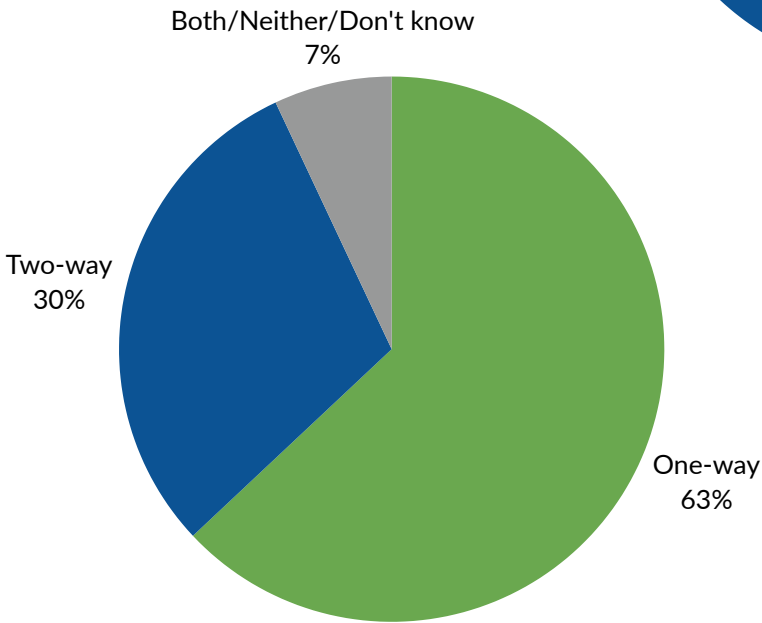
During the January 30, 2024 meeting, the City presented a summary of previous outreach activities to confirm top common threads of community feedback, including presenting information on the City's recently completed public opinion research. Participants were then split into breakout groups where they had the opportunity to provide additional feedback on their reactions to the previous outreach activities and summarized top threads, as well as on the results of the public opinion research.



**Figure B4. Vehicle access preferences of all public opinion research respondents.**



**Figure B5. Vehicle access preferences of impacted neighbors.**



**Figure B6. Vehicle access preferences for the rest of the City.**



## **Focus Group**

The City convened five meetings of a group of twelve neighborhood, local, regional, and statewide experts with a connection to Santa Cruz and West Cliff to provide additional feedback on the 50-year Community Vision. The City used the Focus Group to leverage external experience with staff understanding of project realities to suggest content for public workshops guided by real world limitations and visionary ideas.

### **September 27 Focus Group**

During the first Focus Group meeting, participants introduced themselves and the City established ground rules for the group. Focus Group participants shared what they were looking forward to about the group, and how they are connected to West Cliff. The discussion encompassed a wide range of topics, from project prioritization to technological advancements in environmental monitoring. There was a call for a comprehensive approach to coastal management, emphasizing both natural and gray infrastructure solutions. The group stressed the importance of transparent communication and messaging to the public. Safety concerns were raised, particularly regarding hazardous areas like Ground Trail. Overall, participants emphasized inclusivity and forward-thinking solutions. There was also recognition of the value of involving younger generations in shaping the future.

### **October 17 Focus Group**

During the second Focus Group meeting, participants highlighted their key concerns about the 50-year Community Vision for West Cliff. Some participants mentioned concerns from the public about diversity within the Focus Group, and hearing a desire for a two-lane, two-way road to allow for surfers to reach surf breaks, while others asked about the distinction between a plan and a vision. Other Focus Group participants mentioned hearing from the public preferences for one-lane, one-way citing increased opportunities for safe recreation while acknowledging concerns about traffic congestion, and funding availability to implement projects along West Cliff. Participants made comparisons between West Cliff and East Cliff.

Focus Group participants discussed draft scenarios and provided suggestions on the best way to present these scenarios in the future. Participants requested a presentation outlining the risk levels and environmental conditions along West Cliff in 2075, and information on the projected demographic shifts in Santa Cruz in 2075. Participants discussed the importance of considering the perspectives of local

local residents as well as the broader community. The meeting concluded with participants sharing their reflections on the need for context, realistic solutions, and an iterative approach to addressing the evolving challenges of West Cliff.

### **October 23 Focus Group**

In the third Focus Group meeting, participants received a presentation on the climate projections for West Cliff in 2075. Dr. Tiffany Wise-West shared erosion and damages have historically been the greatest along West Cliff when large waves from the southwest arrive during times of high tide and from warmer El Niño waters. She shared the projected medium-high risk sea level rise (0.5% probability) cliff erosion hazards for Zones 1 and 2. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.8 feet in 2030, 2.6 feet in 2060, and 6.9 feet in 2100 (West Cliff Drive Adaptation and Management Plan: Public Works Plan, Table titled 'Projected Cliff Erosion Hazard Distances from a 2018 Cliff Edge for Each of the Scenarios', page 198). Projected median risk sea level rise (50% probability) cliff erosion hazards for Zones 3 and 4. Cliff erosion hazards, based on a year 2000 baseline, project that sea levels will rise by 0.4 feet in 2030, 1.0 feet in 2060, and 2.3 feet in 2100 (West Cliff Drive Adaptation and Management Plan: Public Works Plan, Table titled 'Projected Cliff Erosion Hazard Distances from a 2018 Cliff Edge for Each of the Scenarios' page 198). The Focus Group also received an update on the population demographic projections for the County of Santa Cruz in 2060, which included a shift in the age structure of the population where there are more older adults in 2060 compared to 2023.

### **November 1 Focus Group**

During the third Focus Group meeting participants were presented with information about each of the following scenarios: Natural Feature Restoration, Hold the Line, One Lane Prioritization of Active Transportation, and West Cliff Park and Building for Change, and Disaster Driven Retreat and Variable Infrastructure and provided feedback on what they liked and did not like about each scenario.

### **November 30 Focus Group**

During the fourth Focus Group meeting the group discussed the feedback from the previous November 7, 2023 virtual public meeting where the City asked the public to provide information on their preferences for elements of different scenarios including Natural Feature Restoration, Hold the Line, One Lane Prioritization of Active Transportation, and West Cliff Park and Building for Change, and Disaster



Driven Retreat and Variable Infrastructure. The Focus Group also reviewed draft visuals for the engineered natural feature restoration scenario and provided feedback on the visuals themselves and how best to present this information during the upcoming December 5, 2023 outreach meeting.

## Appendix C - Glossary of Terms

**Adaptation Pathways** - A flexible decision-making approach under uncertainty that consists of a sequence of climate adaptation strategy decision points over time where transition between strategies is signaled through the use of triggers and thresholds. (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, page VII-3)

**Amoring** - To fortify a topographical feature to protect it from erosion (e.g., constructing a wall to armor the base of a sea cliff , or to construct a feature (e.g., a seawall, dike, or levee) to protect other resources (e.g., development or agricultural land) from flooding, erosion, or other hazards (California Coastal Commission Sea Level Rise Policy Guidance, 2018, page 182)

**Climate Change** - A change in global or regional climate patterns. In particular, a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels. (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, VII-3)

**Coastal Access** - Physical routes and support amenities to maximize public recreational opportunities in the coastal zone consistent with sound resource protection and conservation principles, and protected rights of private property owners. (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, VII-3)

**Erosion** - The loosening and transportation of rock and soil debris by wind, rain, or running water and/or the gradual wearing away of the upper layers of earth (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, page VII-5)

**Equitable Access** - All people can experience and enjoy California's outdoors regardless of who they are or where they live. It also means that everyone can experience the outdoors in a way that is safe, welcoming, convenient, affordable, and culturally relevant. (Draft Outdoors for All - Providing Equitable Access to Parks and Nature, page 14)

**Exposure** - The number and dollar value of assets considered to be at risk during the occurrence of a specific hazard (City of Santa Cruz Local Hazard Mitigation Plan 2018-2023 Update, Appendix C, page 3)



Habitat - The physical location or type of environment in which an organism or biological population lives or occurs (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, VII-5)

Hazard - A source of potential danger or adverse condition that could harm people and/or cause property damage. Natural hazards include floods, tsunamis, and earthquakes. (City of Santa Cruz Local Hazard Mitigation Plan 2018-2023 Update, Appendix C, page 5)

Infrastructure – Physical or organizations structures and facilities, like buildings, roads, power supplies needed for operation of a society

Leaseback Program – A tool governments can use to lease acquired properties to their original owners to generate revenue or to a third part to reduce maintenance costs

Local Coastal Program - The LCP is a City program that conforms with the California Coastal Act of 1976. It consists of the land use plan and implementation plan. The LCP is updated periodically and is currently being updated.

Mitigation Actions - Specific actions to achieve goals and objectives that minimize the effects from a disaster and reduce the loss of life and property (City of Santa Cruz Local Hazard Mitigation Plan 2018-2023 Update, Appendix C, page 7)

Natural Feature Restoration - Man-made features constructed and engineered to replicate previously present natural features that may have eroded or been lost over time to mimic natural conditions

Planned Relocation or Managed Retreat - A coastal management strategy that allows the shoreline to move inland, instead of attempting to hold the line with structural engineering. (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, page VII-5)

Pocket Beaches – A small beach sheltered by coves

Resilience - The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization, and the capacity to adapt to stress and change (Natural Resources Agency Safeguarding California: Reducing Climate Risk, 2014, page 314)

Risk - The estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in adverse condition that causes injury or damage (City of Santa Cruz Local Hazard Mitigation Plan 2018-2023 Update, Appendix C, page 8)

Sea Level Rise - An increase in the level of the world's oceans due to the effects of global warming (City of Santa Cruz Local Coastal Program 2021 Amendment Public Review Draft, page VII-7)

Shocks - Single acute events or crises

Stressors - Ongoing, underlying challenges which put pressure on systems or locations consistently

Vision - A description of a desired future state developed using feedback from the community, while considering bounds (limiting factors)

Vulnerability - Describes how exposed or susceptible an asset is to damage. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. (City of Santa Cruz Local Hazard Mitigation Plan 2018-2023 Update, Appendix C, page 9)