

San Francisco Bay Conservation and Development Commission

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DRAFT MINUTES

TO: All Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415-352-3653; larry.goldzband@bcdc.ca.gov)
Sierra Peterson, Executive & Commissioner Liaison (415-352-3608; sierra.peterson@bcdc.ca.gov)

SUBJECT: Draft Minutes of April 16, 2026 Hybrid Commission Meeting

1. Call to Order. The hybrid meeting was called to order by Chair Wasserman at 1:02 p.m. The meeting was held with a principal physical location of 375 Beale Street, San Francisco, California, and online via Zoom and teleconference.

Chair Wasserman commenced: Good afternoon, all, and welcome to a very interesting and really long hybrid BCDC Commission meeting. My name is Zack Wasserman, and I am the Chair of the Commission. I want to thank the Commissioners who are here at Metro Center for attending in person as well as those who are participating virtually.

Chair Wasserman asked Ms. Peterson to proceed with Agenda Item 2, Roll Call.

2. Roll Call. Present were: Chair Wasserman, Vice Chair Eisen, Commissioners Addiego, Ahn, VACANT (represented by Alternate Ambuehl), Dorsey, Eckerle (represented by Alternate Kimball), Eklund, Gioia, Gunther (represented by Alternate Hacker), Hermosillo, Lee (represented by Alternate Kishimoto), Moulton-Peters (represented by Alternate Cox), VACANT (represented by Alternate Nelson), Ramos, Randolph, Showalter, Tam (represented by Alternate Gilmore), and Taylor. Legislative Appointees Jesse Arreguin, appointee of the Senate Rules Committee (represented by Alternate Zepeda, who joined after Roll Call), and Catherine Stefani, appointee of the Speaker of the Assembly (represented by Alternate Falzon) were also present.

Chair Wasserman announced that a quorum was present.

Not present were Commissioners: USACE (Beach), Department of Finance (Benson), U.S. Environmental Protection Agency (Blake), State Lands Commission (Dumlao), San Mateo County (Gauthier), Association of Bay Area Governments (Gonzalez), Governor (Hasz), Solano County (Mashburn)

3. Public Comment Period. Chair Wasserman called for public comment on subjects that were not on the agenda.

Dan Clarke commented: I have talked about this before. It is a harbor renovation in the North Shore of San Francisco. It is a routine amendment to a permit that has been amended many times; but it is really not routine because there's some issues about it. It is located in Gashouse Cove.

The challenge for this renovation is to balance chemical storage, which is going to be necessary because the area has a lot of chemicals, with beneficial use of the space, which I believe is really BCDC's concern.

The visual that is in front of you is, I think, something that will help us understand where the issues are. We will not deal with the issues at this time, but I want you to understand where they are.

So, the visuals just simply show that they have broken Gashouse Cove into a North and a South section. The chemicals are down below in the sediment, and the beneficial use is of the water on the top. The two visuals, they are temperature charts, but you can look at them as really three-dimensional, physical realities. They have dimensions, they have locations if you just spread them out. Gashouse Cove is relatively squarish because it is man made.

But that is what I am really here to give to you today, which is just that there is an area where there is controversy. It is centered where the visual shows you - in red there is a block of that area that is currently under the sediment and that is the area where I hope you will focus on that.

You need more information. We are not going to deal with that today. I am working with staff. Thank you very much for your time.

Chair Wasserman continued to the Report of the Chair.

4. Report of the Chair. Chair Wasserman reported on the following:

a. Commission Meeting Schedule: I want to start by talking about our schedule for the next month or so. We will have two meetings in June. The June 4 meeting, the official meeting will be short, to be followed by a working workshop on beneficial reuse; and we will have a meeting at the end of June. In July we will not meet on July 2, but we will meet on July 16 and on the first Thursday in August before a short summer recess.

New Commissioner: I am happy to recognize Alexis Strauss Hacker to our Commission. Ms. Hacker worked for the US EPA for some 40 years, including a period as the Acting Regional Administrator, and she is now an Alternate to BCDC Commissioner Andy Gunther representing the Regional Water Quality Control Board. Would you like to introduce yourself?

Commissioner Hacker spoke: I think you have said it all. I am delighted to join you all today. Thank you. And thank you to Sierra Peterson for helping to make my brief appearance as Commissioner Gunther's Alternate so easy.

I am serving also as a Governor's Appointee on the California Board of Environmental Safety, which oversees the Department of Toxic Substances Control, and which hears permit appeals, among other things, for hazardous waste facilities statewide. So, I serve as the Vice Chair of that board, and I serve as the Vice Chair of the Water Board and I enjoy both roles very much. Thank you.

Chair Wasserman continued: And you are filling a very important chair and responsibility. Andy is one of our major science interpreters and contributors.

Commissioner Hacker stated: I have known him since high school, so we go back a way.

c. Sediment and Beneficial Reuse Working Group Recap: Chair Wasserman continued: In the absence of Commissioner Gunther, I would like to ask Commissioner Showalter to give a short recap of the Sediment and Beneficial Reuse Commissioner Working Group meeting that was held last week.

Commissioner Showalter reported the following: Thank you very much. Yes, the Sediment and Beneficial Reuse Commissioner Working Group met last Tuesday to discuss the Sediment for Wetland Adaptation Project. Staff overviewed the Bay's history of wetland loss and the region's need to maximize beneficial reuse of dredge sediment and upland soil to adapt wetlands to rising sea levels.

Since staff presented their early Bay Plan Amendment concepts to the Working Group last November, they have been refining these concepts and developing draft policy language. Staff shared the key policy concepts at this meeting and took comments from us and is going back to write them up, and then we will be talking about them and giving comments during the workshop that our Chair just mentioned in June.

Also, for everyone interested, the presentations and meeting recordings are on BCDC's website. It is under the Advisory Working Group List if you need to find out where to find it.

And the other thing I would like to say about this is, unlike many other working groups I have been part of over my time on BCDC, this one has had an incredibly loyal following of more than 30 people who have come to every meeting. So that represents an incredible amount of public interest in this subject. And I just want to share that with you because I think it is important for us to know that this is something that not just we care about, but many people in the scientific community and the dredge community and the restoration community also care about. Thank you.

d. Environmental Justice Working Group Recap: Chair Wasserman announced: Now I would like to ask Commissioner Ahn to report on the Environmental Justice Working Group that met a couple of weeks ago.

Commissioner Ahn reported: On March 19, the Environmental Justice Commissioner Working Group did two items, a briefing on BCDC's addendum to the California Natural Resources Agency's Tribal Consultation Policy. So, staff presented on BCDC's new tribal consultation addendum, which contains BCDC-specific tribal consultation practices that build on the CNRA's policy and support BCDC's mission.

The second item was guidance on environmental justice and social equity policies and meaningful engagement for BCDC permitting staff. So, we had a staff briefing as well as broader discussion on guidance for our permit analysts. And the internal resource provided now suggests non-mandatory guidance on how permit analysts can determine whether an applicant has met the minimum requirements in the framework that we have set aside.

So, both items Commissioners and EJ Advisors were very engaged and expressed their support. They are meant to be overall useful and hopefully guide our equity and tribal policy on various projects and plans in the future, and they complete two strategic priorities that we have under the BCDC Strategic Plan. With that I conclude my report. Thank you, Chair Wasserman.

e. Bay Area Regional Collaborative: Chair Wasserman added: The only other thing that I want to report on briefly is the status of BARC, the Bay Area Regional Collaborative. As most of you know, that is an independent state agency created by the state legislature to ensure cooperation amongst the primary regional agencies in The Bay Area. Its membership consists of representatives of BCDC, MTC, ABAG and the Air Quality District.

The efforts of BARC have been paused by executive decision of Andy Fremier, the Executive Director of MTC, without review by the BARC Board.

There is an Executive Committee that has been formed consisting of the Chairs of the four agencies. In recent years, the BARC meetings have included participation by representatives of other regional agencies that are not formal members of BARC, including Caltrans and the California Coastal Conservancy and the Bay Area Water Quality District. Certainly, along with other interested parties but those agencies in a not-true membership but nonetheless in a fairly formal way.

The decision to pause has been made without significant public input. It has been made primarily on the basis of the Executive Directors of MTC and to a lesser degree the Air District not truly seeing the value of BARC; and there are lots of reasons for that that I am not going to go into now.

Plus, the very real situation that funds are very tight for all of these agencies. Primary funding for BARC has been coming from MTC with participation by the Air District with some contribution from BCDC.

The Executive Committee consisting of the four chairs and the executive directors will meet next week. I envision a full BARC meeting occurring in May to discuss the issue.

The discussions are going to primarily focus on whether or not we need more cohesive regional activity and whether we need more support for true regionalism and regional approaches in the Bay Area.

For those of you who have listened to me over the last number of years you probably will not be surprised that I think we need to do much more for regionalism than we are doing. And despite that each of our member agencies in BARC are regional entities in and of themselves, they tend to stay within their focus. We need a broader focus for any number of reasons.

I will continue to update you. I assure you there will be more public discussion of this issue. I cannot assure you what the result will be.

Commissioner Eklund chimed in: I just wanted to say thank you very much for mentioning this. I have been concerned about this; and also, we have not been consulted. The ABAG Executive Board has not been consulted at all. This is a shock that Andy has made that decision; and I will be talking to him about that and raising this at the next ABAG Executive Board for discussion. Because we truly need to collaborate between the four regional agencies.

Chair Wasserman added: And beyond the four.

Commissioner Eklund agreed: And beyond the four, absolutely. And I thought we were doing a great start by having the four meet together. So, I am really disappointed, but I just really compliment you very much for making it public so that folks like me can know where the decision is, the preliminary decision, and I will be having a conversation with Andy.

Chair Wasserman stated: I was taught as a young man to speak truth to power and I continue to believe that it is important.

Commissioner Eklund agreed: Absolutely.

f. Next Meeting: Our next meeting is on May 7, and we expect to consider the following issues:

- A public hearing and vote on initiating a Bay Plan Amendment regarding Bay sediment and its beneficial reuse;
- A public hearing and vote on Caltrans' Tolay Creek Bridge Project on Highway 37; and,
- Three briefings.
 - A progress report on the RSAP,
 - A briefing on Save the Bay's Local Flood Resilience Snapshots Program,
 - And an update on the BCDC/MTC/ABAG Rising Sea Level Funding and Investment Strategy.

Ex Parte Disclosures: That brings us to ex parte disclosures. If any Commissioner has not made a report in writing about a communication that has occurred outside of a public BCDC meeting concerning an adjudicatory manner now is the time to do that. You still need to make your written report. Does any Commissioner wish to make a report?

(No ex parte reports were made.)

5. Report of the Executive Director. Executive Director Goldzband reported: Thank you, Chair Wasserman.

On April 16, 1962, 64 years ago today, the media landscape in the United States was fundamentally altered when CBS chose Walter Cronkite to anchor its daily national newscast. Cronkite was one of Murrow's Boys, having started his CBS career in the 1940s. Surprisingly for those of us who remember his stature, Cronkite's ratings trailed NBC's "Huntley-Brinkley Report" for the first few years. But, by the late 1960s Cronkite was the undisputed singular most important newscaster and electronic journalist in the United States.

"Uncle Walter," as he was known, will always be remembered for his announcement of the death of President Kennedy, of his reporting from Vietnam in 1968, essentially not being able to describe the first moon landing a year later, and anchoring numerous political conventions.

The splintering of America's sources of news may portend that we never again will have such a journalistic icon. Cronkite spent almost twenty years in the anchor chair before retiring during President Reagan's first term.

With regard to staffing, I am pleased to report that we will be hiring Celida Moran to fill the third chair of our Admin Team, the position that has been empty since Kat Riley was promoted to the Long Range Planning Team.

Celida is a Viking, having earned her undergraduate degree in Environmental Science at Western Washington University in Bellingham, mainly due to its commitment to sustainability. She has worked both at The Bay Club and at Point Blue, and we look forward to her becoming part of the BCDC team.

I also want to let you know that for the third consecutive year the Trump Administration is proposing to eliminate NOAA's Coastal Zone Management Grants Program. You will remember that we have based our budgets during the past couple of years on the assumption that we will not receive such funding. You may also remember that such funding has found its way into the final federal budget each of those past two years due to congressional intervention, mainly from our allies in the Mid-Atlantic and Gulf states. But, because we are conservative budgeters here at BCDC, we shall continue to assume no federal funding for the next federal fiscal year while ensuring that our budget is both balanced and forward looking.

On the other hand, we have good news from the world of dredging funding. When you approved the four-year dredging schedule for the San Francisco District of the Corps of Engineers in January, we noted that it was likely that the State Coastal Conservancy would provide major funding to the Corps to increase beneficial reuse. That has occurred, combined with funding from the federal EPA totaling around \$13 million.

The Coastal Conservancy's separate advocacy also has resulted in an additional \$16.3 million of construction general funds for direct placement of sediment at Bay Area wetlands.

And funding for the Hamilton Wetlands Expansion Project also has been sent to the Conservancy from the Pentagon, which makes it a trifecta.

This weekend Chair Wasserman approved an emergency permit request from Alcatraz City Cruises. The cruise company uses a large primary float at Alcatraz to connect the ferry to the island, and it is designed to be held by five permanent piles. When the company disconnected the permanent float for routine maintenance and replaced it with a temporary float, two of the piles were damaged. So, BCDC has granted the company an emergency permit to strengthen the three remaining piles, and we soon will receive a routine permit amendment to fix the entire structure. In the meanwhile, they have reattached the primary float but are limiting access to it.

I will end with two pieces of good news and a reminder.

First, and I know this will make Mayor Cox happy, we are tremendously pleased that the Richardson Bay Regional Agency announced a few weeks ago that the last illegally-anchored boat in Richardson Bay's Eelgrass Protection Zone had cleared out.

Eighteen months ago, there were 25 boats in the zone, most required the RBRA to pursue a great deal of legal wrangling to get them to leave, both by consent and impoundment. So, that's awesome news. Now, only two vessels remain in the Bay's large, designated anchorage area and the RBRA expects that both will be gone by mid-October as required by our enforcement agreement.

We want to thank the RBRA for its persistence and our Enforcement and Compliance Team for being a smart collaborator and keeping tabs on the progress.

Second, I have emailed to each of you a list of the marvelous events that will take place next week during San Francisco Climate Week.

On Monday, I will be on a panel at the Klamath with the Bay Area Council, Bay Planning Coalition, the Port of Redwood City, and others discussing permitting reform among other issues.

Also on Monday, BCDC will host a resilient public access walking tour from Mission Rock down to Crane Cove Park.

And we will be sponsoring two separate events in our building here on Tuesday afternoon, one that includes a reception, by the way.

There is a long list of other very interesting events all week. Please check your email and let us know if you did not receive it.

Finally, I am bereft. Because I was not present at our last meeting you did not hear my annual admonishment that you must file your FPPC Form 700 Financial Disclosure on time.

Of course, that April 1st filing deadline has come and gone and as expected, some of you have not complied. I strongly urge you to get those forms in and get them in quickly. When you meet again in three weeks, I will be waving the list of non-compliant Commissioners and Alternates and providing it to the Chair. Consider yourselves warned.

With that, Chair Wasserman, I am happy to answer any questions.

Chair Wasserman asked: Are there any questions for our Executive Director?

Commissioner Eklund chimed in: I do not have a question, but I did file online, so hopefully you have it. If you could confirm that you have it, that would be great. Thank you.

6. Consent Calendar

a) Approval of Minutes for the March 5, 2026 Meeting

b) Recommended Enforcement Decision including Proposed Stipulated Cease and Desist and Civil Penalty Order CCD2026.001.00, to resolve Enforcement Case ER2023.063.03.

Chair Wasserman reviewed the items on the Consent Calendar and called for public comment.

(No members of the public addressed the Commission.)

Chair Wasserman asked for a motion and a second to approve the Consent Calendar.

MOTION: Commissioner Eklund moved approval of the Consent Calendar, seconded by Vice Chair Eisen.

VOTE: The motion carried with a vote of 19-0-0 with Commissioners Addiego, Ahn, Ambuehl, Cox, Dorsey, Eklund, Gioia, Gilmore, Hacker, Hermosillo, Kimball, Kishimoto, Nelson, Ramos, Randolph, Showalter, Taylor, Vice Chair Eisen and Chair Wasserman voting, "YES", no "NO" votes, and no "ABSTAIN" votes.

7. Commission Consideration of Administrative Matters. Chair Wasserman asked if there were any questions for Regulatory Director Harriet Ross regarding the Administrative Listing.

(No members of the public addressed the Commission.)

(No questions were posed to Ms. Ross.)

8. Commission Consideration and Possible Vote on Bay Plan Amendment No. 1-25, a Cartographic Update to San Francisco Bay Plan Maps. Chair Wasserman announced: That brings us to Item 8, proposed Bay Plan Amendment No. 1-25 to make cartographic updates to the San Francisco Bay Plan Maps.

You may remember that we had a public hearing in February on this issue. There was a lively discussion including issues such as where vista points may or may not exist. I do want to emphasize that the changes that are before us are designed simply to improve clarity, accuracy and ADA accessibility within the context of the existing Bay Plan Maps. They do not change those maps.

I want to remind the Commission that the maps are not designed to replace our old Rand McNally driving maps. These are not maps used to get your way around the Bay. They are maps used to look at jurisdictional issues and related issues.

Again, if people wish to, in the future we can revisit the vista point issue that is not really before us this afternoon. So, I hope that this will not be a lengthy discussion. We all get attached to maps. It is a human characteristic, so I understand that.

Our Geographic Information Systems Lead Todd Hallenbeck will lead off the presentation.

Geographic Information Systems Lead Hallenbeck addressed attendees: Thank you, Chair Wasserman. Good afternoon, Commissioners. Todd Hallenbeck, your GIS Specialist Lead.

September 18, 2025 the Commission voted to initiate the Bay Plan Amendment to revise and update the maps at the end of the Bay Plan. This amendment was limited. It is for cartographic purposes only and will not result in any policy changes to the Bay Plan. We held a hearing on the amendment on February 19, you were mailed out a Preliminary Final Staff Recommendation on April 3 and will possibly hold a vote today to adopt the resolution.

During my presentation today I will be reminding the Commission about the goals for this Amendment, providing some additional background on the maps and their uses, highlighting some of the existing issues that this Amendment attempts to resolve, and discussing how we address the Commission comments that we received at the public hearing, and finally, providing our updated Staff Recommendation.

So, this has been a very interesting process. We did not anticipate this level of interest from the Commission on updating these maps, since they have a fairly limited purpose and discrete use in BCDC's work but I really do love when our mapping work gets this much attention and think that the comments have really improved the maps.

The goal of this amendment is to improve the maps to help us better communicate and clarify Bay Plan policies.

Since these maps have not received a significant update in a while we envisioned that this process was going to be a quick fix to help them bring it up to better cartographic standards, make them ADA accessible and easier to use.

We are updating the data sources to better reflect current shoreline conditions and developing the maps so that they are actually easier to update internally on our end in the future.

It is important to note that the cartographic updates being proposed will not modify the Bay Plan Map policies or Priority Use Area boundaries. This is important since any substantial change to those Map policies or Priority Use Areas would require a much more significant process.

So, I want to make sure the Commission understands that what you have today are the final versions of the maps that can be adopted and for making further changes there would be a restart to the process.

So, the San Francisco Bay Plan includes seven static maps that serve as a screening tool to help the public, project applicants and local governments and other stakeholders understand BCDC's policies for specific locations around the Bay.

The Bay Plan Maps serve three primary functions described in the San Francisco Bay Plan Part V, The Plan Maps, so we can talk about what these do and what they do not do.

So, number one, they illustrate the geographic-specific Bay Plan policies. We will go through how this is formatted in the maps in a minute. But the Bay Plan policies listed opposite each corresponding map are enforceable policies. For example, Plan Map 1, Map Policy 1 Rat Rock - Preserve island; no development.

Number two, the maps provide Commission advisory notes and suggestions. These are comments including suggestions for further study, clarification of policy and alternative proposals. And they appear as plan map notes or Commission suggestions preceding the corresponding map and these comments are not enforceable policies of the Commission.

Lastly, the Maps illustrate the Commission-designated Priority Use Areas. These PUAs are shoreline areas designated by the Commission pursuant to the McAtteer-Petris Act for specific water-related uses including airports, ports, water-related industry, and waterfront parks and beach and wildlife.

And that is really what they are used for. These maps are not at the scale or detail to describe the Commission's legal jurisdiction.

They are not to be used to drive around the Bay as Chair Wasserman said. They are not a Rand McNally Road Atlas or Google Maps, for other members of our Commission.

They are intended to show all the shoreline conditions, recreational opportunities, or projects along the Bay.

So, here are how each of those three primary functions is displayed in the maps. This is a graphic showing amended Map 1 highlighting the Bay Plan Map policies. They are listed opposite of the map and numbered on the map and in the narrative. They are symbolized as white numbers inside black circles. This is included in the footer map legend as well. Each of these highlighted in red on the graphic.

For Plan Map 1 there are 14 Bay Plan Map policies and include Policy 9, for example, in the vicinity of the mouth of the Petaluma River, to “Provide public access to the Bay along levees if in a manner protective of sensitive wildlife.” These are enforceable policies of the Bay Plan.

This graphic shows the amended Map 1 highlighting Commission suggestions. They are listed opposite of the map and lettered. On the map and in the narrative they are symbolized as black letters inside white circles. This is included in the footer map legend as well. Not all Plan Maps have Commission suggestions, but for Plan Map 1 there are four Commission suggestions that include, for example, Commission suggestion D near Sears Point “Possible use of North Point property site as a possible restoration project site using dredge material.” These are not enforceable policies of the Bay Plan.

Lastly, this graphic shows amended Map 1 highlighting the Priority Use Area numbers, names and designations. They are listed opposite of the map and numbered. These numbers are assigned in Resolution 16 and are sequential across all the Plan Maps. This means the numbering does not start over for each map, as with policies or suggestions. On the map and in the narrative they are symbolized as black numbers, sometimes followed by letters, inside white halos not circles. This is included in the footer map legend as well.

The inclusion of the Priority Use Area number and name in the section is intended to help users connect these maps to the Commission’s Resolution 16 and the official boundary descriptions included there. The designations listed here also help users interpret the map where there might be confusion or hard-to-read symbology.

For Plan Map 1 there are nine Priority Use Areas mapped and include 15A Petaluma Marsh, for example.

As I have noted, the Plan Maps have a limited purpose. In practice they are used as an initial screening tool for our staff and project applicants. When an application for a project comes to BCDC it will include plans and photographs and BCDC staff will review the Bay Plan Maps to determine whether there are any relevant Bay Plan Priority Use Areas or the project involves any map policies or suggestions.

Similarly, project applicants may use the Maps for the same purpose.

And other users like local governments and the public can use the Bay Plan Maps to quickly understand what policies may apply to a particular location, but generally use the Maps less frequently.

But the Bay Plan Maps are just a starting point. BCDC staff also use much more powerful online tools to make decisions in an application process.

So, these tools include the publicly available Priority Use Area web mapping application where users can zoom to a particular location and get detailed information about the Priority Use Area, including the relevant Bay Plan policies, links to Resolution 16 boundary descriptions and even amendment history.

BCDC staff also now have access to other internal tools that map BCDC's various jurisdiction types using the best available science.

In addition to these specific tools, our GIS Program has been launched over a dozen different tools and data sets aimed at helping our staff and our stakeholders make more informed decisions about development around the Bay. These include things like the Community Vulnerability and Community-Based Organization Directory Tool, the Eelgrass Assessment Tool, RSAP Atlas, Shoreline Adaptation Project Map, Tidal Datums app, and the Bay Shoreline Flood Explorer, to name a few. You can access all of these tools in the maps and data page on our website.

Commissioner Kishimoto had a great question in the public hearing related to, why do we continue to publish these paper maps at all when we have these online resources? And it is a good point and a great question. These Bay Plan Maps are an old school way for us to convey some of the information that is required in the Bay Plan. But we are planning to review how we can modernize the Bay Plan to work with these other tools in the coming years. In the meantime, we wanted to do this update to fix these static maps and bring them up to our current standard.

So, while this Bay Plan Amendment is not changing any policy, Bay Plan Amendments are how the Commission can modify, add or delete Priority Use Areas, MAP policies or things like scenic drives and vistas.

These Bay Plan Amendments can be initiated based on a Commission recommendation as well as through projects seeking a permit.

Some recent examples of map-related Bay Plan Amendments include the comprehensive updates made to our Recreation policies and our Waterfront Park and Beach Priority Use Areas in 2006.

Permit applicant-driven examples were the modification of the Waterfront Park, Beach Priority Use Area at India Basin, and the removal and subsequent re-addition of the Port Priority Use Area Designation at Howard Terminal.

So, I want to highlight a few of the cartographic issues this amendment will address.

Example A shows symbology that is unclear. Here scenic drives and waterfront parks and beach share the same color - green.

Example B here shows labels that are obscured by symbology and are not ADA compliant.

Finally, since the current maps are not in a GIS it is hard for us to ensure consistency with our published GIS data and update them efficiently as we consider future map changes with the Bay Plan Amendment process.

Since this is a limited Bay Plan Amendment, I want to highlight some of the specific things being updated.

Improvements to the accuracy of the maps included updated data sources for our base map. This base map includes the general shoreline context to orient users but does not represent enforceable policies on the map. So updated data in this context includes some of the recently released Baylands Habitat Map from SFEI, representing the extent of tidal marsh and Baylands, for example. Most importantly, we will be updating these maps with the Priority Use Area GIS data that we published in 2023.

For improvements to legibility and clarity we are updating the symbology for the Priority Use Areas for colorblind users, adding labels for all the Priority Use Areas increasing the font size.

Many of these improvements allow us to better comply with the accessibility requirements related to contrast and readability.

It is important to clarify that this Bay Plan Amendment does not include changes to the Priority Use Area boundaries and associated Bay Plan Map Policy suggestions or notes or any other substantial changes to the categories of regional resources mapped.

On February 19 we held the public hearing to share the draft Maps. While we received no public comments there was an active Commission discussion that resulted in several changes to the drafts that we would like to share today.

At the hearing the Commission had questions and comments around the purpose and function of the maps, Priority Use Area Designation process, map symbology and accessibility, significance of vista points and considerations for labeling and data sources.

To help clarify the function of the Maps we included language in the Maps section introduction that describes the limitations on mapping our BCDC jurisdiction and included instructions on the maps themselves for users to refer to those preceding pages to read the specific map policies, suggestions or Priority Use Area names and designations.

To improve the clarity of the Priority Use Area boundaries, reduced the transparency of those and switched to using a hatching symbology for the Wildlife Priority Use Area. The use of the hatching for the Wildlife Priority Use Area primarily allows for users to better understand the shoreline conditions underlying these Priority Use Areas, such as the presence of tidal marsh or Bay waters.

To further improve the accessibility of the Maps for the visually impaired we reviewed and improved the color contrast between Priority Use Area classes and our base map - features like Bay waters. While not all elements meet a 3:1 color contrast ratio based on the colors alone, for those elements that do not meet that contrast requirement we used other strategies like the inclusion of icons, the hatching symbology that I just mentioned, and other patterns in the map symbols.

There was a lot of discussion about the vista points and scenic drives in the Staff Report. We included more background on their genesis in the original 1969 Bay Plan Supplement and talked about how they fit into the larger context of our Bay Plan policies that ensure staff evaluate all visual access to the Bay for projects, regardless of their designation as vista points. In the maps themselves we did reduce the size of the vista points.

Commissioners asked us about our choices for labeling. We made some small improvements to the placement of labels like city names, removed other nonessential labels that were included such as dredge material placement locations, and some of the remaining non-jurisdictional landmarks.

The maps primarily focus on labeling the waterways of significance, bridges, highways and some rural roads, Priority Use Areas, the map policies themselves, Commission suggestions and landmarks that are specific to BCDC's jurisdiction.

Lastly, we updated the data source for freight rails, and discussed the decision to not include the Bay Trail, largely due to the frequently changing nature of that resource and the overall intended use of the Bay Plan.

So, we think the Commissioner comments substantially improved the clarity and purpose of the Maps.

We will run through two map examples to just point out a few of these changes.

This map example shows the full Bay Plan layout that you will see in the Bay Plan itself, including the relevant preceding pages that list the specific policies, suggestions and Priority Use Area names. The major changes to highlight here include the hatching that is used for the Wildlife Priority Use Area symbology. You can also see a change to the placement of the City of Novato label closer to the Bay, and the size of the vista points have been reduced. And finally, the updated data source for freight rail includes this freight rail line alignment operated by SMART.

Here is another amended map example, this time Amended Plan Map 7 South Bay. Here you can see the reduced transparency applied to the Waterfront Park, Beach Priority Use Area. You can see the improved color contrast for Airport Priority Use Areas. And finally, we added text at the bottom in the footer legend to instruct users to review those specific plan policies, suggestions and Priority Use Areas as they are referencing and using these maps.

So, the Initial Brief Descriptive Notice and Staff Report indicated a possible hearing date on November 20. However, based on Commission feedback and the time needed to make updates, the public hearing was rescheduled for February 19, and the final Staff Recommendation was mailed on April 3.

We have released a draft Environmental Assessment for the Amendment, which is required by our regulations. This cartographic update is not a project subject to CEQA because it does not have the potential for either direct or indirect foreseeable indirect physical change to the environment.

Since this is a map change, the McAteer-Petris Act states it can be approved by a majority vote, whereas most Bay Plan Amendments require 18 votes or two-thirds of the Commission for approval.

After the vote, BCDC will submit the Amendment to the state Office for Administrative Law, which reviews our process to ensure we followed our regulations.

When that is approved it will become effective and we will proceed with printing physical copies of the Bay Plan, updating our interactive online tools, and distributing these resources to the Commissioners.

We will also submit the Amendment to NOAA to have it certified as part of our Coastal Management Program so it can inform our federal consistency review.

So, that is the end of my presentation, and I am happy to answer any questions.

Chair Wasserman acknowledged: Thank you, Todd.

Do Commissioners have any clarifying questions?

Commissioner Randolph was recognized: Quick question on the vista points, back to the vista points. When you say reduce the size does that mean reduce the icon or reduce the number?

Mr. Hallenbeck answered: The icon size, so their visual significance in the maps.

Commissioner Eklund commented: First of all I wanted to thank you very much for making the change of where the city is.

Another thought, MTC has in their maps the Bay Trail that goes around. Is there an opportunity to possibly include the Bay Trail in these maps as well, or is it already there?

Mr. Hallenbeck explained: That was raised at the hearing. We discussed the opportunity to potentially include it. For reasons that included the frequently updated nature of that resource, other places where you might find more updated information online, we decided that that, and additionally, there are significant stretches of Priority Use Areas that would otherwise be maybe obscured by the placement and alignment of the Bay Trail. And so given the purpose of the Maps, the changing nature of the data, we decided that that was not a resource that we wanted to include in the Maps at this time.

Long Range Planning Manager Buehmann chimed in: This is Erik, Long Range Planning Manager. Todd's team is also working on public access, like creating better mapping tools for our required public access areas. So that is something that we have been looking at to do with online mapping over the next, you know, it is something we are working towards.

Commissioner Eklund asked: So, then, Erik, the Bay Trail could be included in that one?

Mr. Buehmann replied: Yes, Bay Trail is often a required public access amenity required by our permits, right? It is a program, obviously, by MTC and ABAG. But yes, we would probably be including large portions of the Bay Trail segments in there. And then, because it changes so often, if a new project comes along and they build new Bay Trail segments, it would be easier to update and be more accurate.

Commissioner Eklund acknowledged: Yes, because ABAG really was the initiator to try to get the Bay Trail more public. Anyway, I just thought that it might be helpful at some point in the future to have it included as part of this mapping because ideally the whole Bay Trails' whole concept was so that people could walk around the Bay. Obviously, you are not going to do it in one day, or several days. But we still do not have that goal yet because there's still lots of gaps.

So, by having the Trail mapped on maps that people use then it might encourage more people to push to try to complete that Trail around the Bay.

Mr. Hallenbeck responded: Understood. And I think we are going to be working closely with MTC to ensure that the way that we are incorporating Bay Trail in addition to the authorized public access that BCDC is authorized in the resources we are working to develop will provide some great opportunities, I think, to highlight those gaps in the existing Trail.

Commissioner Eklund stated: That would be awesome, really. Thank you so very much.

Chair Wasserman noted: I do not see any hands on the screen. Sierra, do we have any public comment?

(No members of the public addressed the Commission.)

Chair Wasserman continued: Any final questions from Commissioners? Going once, going twice.

I would ask for the Staff Recommendation.

Mr. Hallenbeck read the following into the record: The staff recommends that the Commission adopt Resolution No. 2026.01 that would:

- Amend the San Francisco Bay Plan: Part V – The Plan Maps. This amendment is for cartographic purposes only and will not result in any policy changes to the Bay Plan.

- Approve minor changes including cartographic edits, data source updates, and other corrections as needed.
- Make necessary findings that this amendment to the San Francisco Bay Plan conforms to all applicable findings and declarations of policies in the McAteer-Petris Act.
- Make necessary findings regarding the Environmental Assessment.

Chair Wasserman continued: Before we take the motion, we will now close the public hearing.

MOTION: Commissioner Eklund moved to close the public hearing, seconded by Commissioner Showalter. The motion carried by a voice vote with no abstentions or opposition.

MOTION: Commissioner Cox moved to adopt the Staff Recommendation, seconded by Commissioner Randolph.

Chair Wasserman explained: This motion requires a simple majority vote because it is not considered to be a policy change to the Plan. Federal representatives are permitted to vote on this.

VOTE: The motion carried with a vote of 19-0-0 with Commissioners Addiego, Ahn, Ambuehl, Cox, Dorsey, Eklund, Gioia, Gilmore, Hacker, Hermosillo, Kimball, Kishimoto, Nelson, Ramos, Randolph, Showalter, Taylor, Vice Chair Eisen and Chair Wasserman voting, “YES”, no “NO” votes, and no “ABSTAIN” votes.

9. Contract for Software Licenses and Implementation Services. Chair Wasserman stated: That brings us to Item 9, a contract for software licenses and implementation services to create and establish a database platform to support our permitting, compliance, enforcement and planning programs. Ethan Lavine, Assistant Regulatory Director for Climate Adaptation, will start the discussion.

Assistant Regulatory Director for Climate Adaptation Lavine addressed attendees: Thank you. Good afternoon, Chair Wasserman and Commissioners. This presentation is a continuation of the presentation you heard back in February from Regulatory Director Harriet Lai Ross about BCDC’s work to find a technology platform to support our work. Today we will update you on the progress we are making in our ongoing effort to modernize BCDC’s technology by selecting and purchasing a software platform that will support our regulatory and planning programs.

The headline for today’s presentation is that staff has completed an evaluation of products and is recommending the selection of Salesforce for this platform.

Staff has gone through the initial stages of comparing offers from different suppliers under a leveraged purchase agreement available to us as a state agency that allows us to purchase software and implementation services at competitive rates.

And we are here today recommending the Commission proceed with a firm called StackNexus as the supplier for the Salesforce platform and to provide implementation services over the next year.

I will start by recapping what Harriet walked through last time.

The reason and need for the project, which was articulated back when we did the program assessment to look at BCDC’s Permitting Program in 2024, is that our current systems are outdated, inefficient and they do not work well together. This causes unnecessary time and effort for our staff, who spend valuable time searching for information that could instead go towards deeper work to analyze projects, track violations, and work with communities on adaptation challenges.

And another aspect of the problem is that applicants and the public are also subject to unnecessary taxes on their time and effort in that they have no way to apply for permits online, search our permit database, or track the status of applications, alleged violations, or local plan development under the RSAP.

As Harriet walked through last time, our program assessment identified that we need a modern platform that supports all of our work across permitting, planning, compliance and enforcement.

And that would include great improvements for applicants who would have the ability to make easy online submission of applications and other materials and also track in real time what is going on with their applications at BCDC.

For the public who would have far more transparency to the information available about our agency's work.

And to the staff, who would have an integrated system where information is centralized and searchable and where we can manage a project through its full life cycle in the same platform, even across teams.

To accomplish this, the program assessment recommended that like many of our partner agencies have done in recent years, we purchase access to a commercially available software platform to support these functions. Many platforms exist out there today for agencies like BCDC that offer the types of functions outlined here.

So, around the time that the program assessment was wrapping up in 2024 we began initial steps to pave the way for the project that we are here to talk to you about today. Harriet walked through these steps last time, so I will just briefly capture what she walked through, and I will outline our progress since February.

So, going back to the beginning, BCDC coordinated with the state's Department of Technology, who has oversight over purchasing and investing in software platforms, and won their approval to move forward with the project.

We worked to obtain funding for the project which was approved by the Legislature last year.

We formed a project team to represent the different BCDC programs which will need to contribute to its development, and which will be its end users.

We contracted for project management support with the California Department of Technology, who has been providing us with the help of two consultants since November of last year.

And with the help of our CDT consultants, we identified the requirements and business needs for our business units so that we could ensure that the product that we ultimately purchased met our needs.

And we conducted market research, which compared different platforms. This is shown at the bottom of the list, but this step has actually been in progress since the initial stages going back to around July 2024. It has included research on the platform options, vendor demonstrations, interviews with staff at other regulatory agencies on the systems that they use, and ultimately a structured scoring evaluation of the top platforms we were considering.

BCDC staff identified Salesforce as the best platform for this project, and in late March we put out a Request for Offers from suppliers under the State Software Licensing Program, which is a leveraged purchase agreement that allows state agencies like BCDC to obtain software at competitive rates.

After evaluation of the responses BCDC scored a firm called StackNexus the highest and we are here today to seek the Commission's approval before moving ahead to purchase the software and StackNexus' service in helping us getting it up and running.

We are recommending Salesforce and its Public Sector Solutions Platform because it meets the business needs we have identified. We had several 100 of these requirements actually identified but at a very high level. It will provide a one-stop-shop online platform for applicants, the public and all of BCDC's constituents, with much better customer service than we can provide today.

It will also accelerate the application review and management of cases for planning, enforcement and compliance, to help the staff do its work with greater efficiency, and open up new possibilities for tracking, reporting and collaboration.

A highlight for Salesforce is its flexibility to expand and change over time to reflect the evolving nature of BCDC's program, as well as its readiness to incorporate new tools, including the capacity for increased use of AI features going forward if we choose to do so.

Salesforce is already in use at more than 25 state agencies. StackNexus, who would be our implementation provider, has been involved at getting similar setups in place at CalOES, the Governor's office for Emergency Services, DTSC, the Department of Toxic Substances Control, Caltrans and a number of other state agencies.

The cost of implementing the system along with the service fees for the Salesforce platform in the first year will be a combined \$315,877.

Going forward, we will need to pay for the software on an annual basis through the state's Software Licensing Program, and at the current projected rate of usage that would be around \$100,000 annually.

So, with this the staff recommends the Commission authorize the Executive Director to enter into this contract, extend it for up to an additional 12 months at the Executive Director's discretion, and to amend the contract as necessary, including revising the amount, so long as the amendment does not involve substantial changes to the scope of work. That concludes the presentation.

Chair Wasserman acknowledged: Thank you.

(No members of the public addressed the Commission.)

Chair Wasserman asked: Do Commissioners have any questions on this item?

Vice Chair Eisen commented: In terms of the costs, I imagine that there are savings in costs that are obtained by using a system like this; maybe not easily quantifiable. But do you have a sense of whether there are going to be actual cost savings on the other side of this software?

Mr. Lavine replied: Yes, I think it is very difficult to quantify. But the idea is that it would provide a lot of benefits to the staff that we do not currently have. There's a lot of hours reduced as we scramble to find information. There's a lot of benefits we can provide with this new system that we simply were not able to provide before. So, I do not have a dollar amount for you, but that is that is exactly the idea.

Commissioner Gilmore was recognized: I have a question about the ongoing software costs. The roughly \$100,000 going forward I assume is simply for the software license or licenses. How are we handling upgrades or if there are software problems? Is that something we are going to handle in-house or through the State Department of Technology, or how does ongoing maintenance work? Thank you.

Mr. Lavine answered: Yes, that is a great question. There's a lot of decisions implicit that get at issues you raised. You are correct that the cost is for the various licenses that we would need to use Salesforce.

One of the reasons that it was recommended to BCDC by the Department of Finance to choose a commercially available software platform is because they provide an ongoing up-and-running system and there is the ability to get support from them if there's any problems with the system.

One of the reasons that BCDC liked Salesforce, in part, was because it provides what they call a low code, no code solution in that the simple functions that we do need to perform here at BCDC we can do largely without much ongoing IT support.

But in addition to that, I know that our administrative staff has actually shaped some of its decisions about the functions that the new IT person, which will be hopefully starting very soon, will be playing on the team to actually help us support the system.

So, it is kind of working at multiple levels. We do not expect the system to be as vulnerable to downtime as it would be with a custom system. We have support from Salesforce. If we ever need advanced support, there is the ability to choose from a rich ecosystem of vendors who support Salesforce software; and we will be having this additional capacity at the BCDC staff level with our with our new IT person.

Chair Wasserman observed: I do not see any other Commissioner questions. Ethan, will you present the Staff Recommendation.

Mr. Lavine read the following into the record: Yes. The recommendation of the staff is that the Commission authorize the Executive Director to enter into the contract as well as to extend it for an additional 12 months at the Executive Director's discretion, and to amend the contract as necessary, including revising the amount, so long as the amendment does not involve substantial changes to the scope of work.

MOTION: Commissioner Eklund moved to adopt the Staff Recommendation, seconded by Commissioner Cox.

VOTE: The motion carried with a vote of 19-0-0 with Commissioners Addiego, Ahn, Ambuehl, Cox, Dorsey, Eklund, Gioia, Gilmore, Hacker, Hermosillo, Kimball, Kishimoto, Nelson, Ramos, Randolph, Showalter, Taylor, Vice Chair Eisen and Chair Wasserman voting, "YES", no "NO" votes, and no "ABSTAIN" votes.

Chair Wasserman acknowledged: Thank you all for this effort, moving us ever so slowly into the 21st Century.

Executive Director Goldzband added: May I just say, I really want to thank Ethan who has led this, I am going to call it a fight because it has been a fight in a lot of ways. Not with CDT or anything, just getting us to this point.

I also want to make sure that although Stephen Benson is not on the call who represents the Department of Finance, we want to thank the State Department of Finance. Because we worked with them two years ago to change our legislation, to change the McAteer-Petris Act, which enabled us to get their permission to use Bay Fill and Abatement funds to pay for this. Because this will no doubt help our entire regulatory, permitting and Enforcement as well as Planning divisions so it works for everybody, and we would not have been able to do that without the assent of the Department of Finance.

Chair Wasserman continued: And just to echo that this has been a struggle. I am not sure I would use the word fight, but certainly a struggle. When I became Chair 14 years ago this was part of an array of getting us out of the little boxes of permits by which we were ruled.

Executive Director Goldzband noted: And just so you know, Chair Wasserman, we had a visitor last Wednesday, Kristine Zortman from the port of Redwood City. We went out to lunch to discuss a few things, and she had not been in our office.

Whenever anybody is in our office for the first time I always take them to the file room, because we still have a gajillion paper files in there. And I always walk them toward the side of the room where we have paper card catalogs still. Not that we really have to use them, but they remind us of where we certainly have been.

10. Public Hearing and Possible Vote on the Preliminary Benchmarks Proposed by the California Department of Transportation for the Richmond-San Rafael Bridge Performance Thresholds and Alternatives Analysis as Required by BCDC Permit No. 1997.001.06. Chair Wasserman announced: That brings us to item 10, a public hearing and possible vote on the preliminary benchmarks proposed by the California Department of Transportation for the Richmond-San Rafael Bridge Performance Thresholds and Alternatives Analysis as required by BCDC Permit Number 1997.001.06.

This is not a public hearing despite what I just said. There has been a little internal debate and slight miscommunication of what needs a public hearing and what does not. This does not. So, we will now consider this vote on the proposed metrics.

We voted last year, as you will remember, to require Caltrans to describe to the Commission Caltrans' plans to measure the impact of ending the 24/7 use of the third lane on the upper deck of the Bridge for bicycle and pedestrian access.

Having said that, this is a review of the metrics, not a review of the decision. We are not relitigating, reviewing the basic policy decision which may happen in the future when we reach the end of the pilot program, but that day is not this day.

Shoreline Development Program Manager Katharine Pan will open the agenda item.

Shoreline Development Program Manager Pan addressed attendees: Good afternoon, Chair Wasserman and Commissioners. I am Katharine Pan, your Shoreline Development Program Manager here at BCDC, and I will be providing the Staff Report for the Richmond-San Rafael Bridge, preliminary benchmarks for the Performance Thresholds and Alternatives Analysis.

This item involves an early deliverable required by the Commission when it approved Amendment No. 06 to BCDC Permit 1997.001 last August for the modifications to the Richmond-San Rafael Bridge Pilot Project. You were mailed a copy of the proposed metrics and benchmarks and the Staff Recommendation for this item on April 3.

I am going to give you a brief introduction before handing it off to the project team to present it in more detail. The team includes Caltrans, the Permittee, and their partner in this project, the Bay Area Toll Authority or BATA for short.

As a reminder, on August 7, 2025, the Commission approved Amendment No. 06 to BCDC Permit Number 1997.001, for the Richmond San Rafael Bridge. The Amendment included a three-year extension and modification of a pilot to test a multiuse public access path in the shoulder of the westbound upper deck of the Bridge.

The approved modifications included a change in the availability of the path, which had been open full time since November 16, 2019, to a part-time schedule.

The new schedule involves converting the path to an emergency shoulder from Sunday evening through Thursday afternoon by removing the concrete barrier protecting the path; and then reopening the path Thursday afternoon through Sunday evening by replacing the barrier. On days the path is closed, Caltrans must provide a free shuttle service for cyclists and pedestrians to help them cross the Bridge.

The purpose of the modified schedule is for Caltrans and BATA to test the potential operations of the Westbound Improvement Project, which proposes a similar schedule where the upper deck would be configured for a part-time HOV lane from Sunday evening through Thursday afternoon and a public path from Thursday afternoon through Sunday evening.

The modified pilot is part of the planning environmental phase of the Westbound Improvement Project development which is ongoing.

At the end of the modified pilot, Caltrans is required to seek another permit amendment that includes a long-term public access proposal for the Bridge, which may involve a version of the Westbound Improvement Project with a part-time path, a version of the previously piloted full-time path, or another alternative configuration. Whatever they ultimately propose is expected to be grounded in the findings from the pilot.

Caltrans and BATA began implementation of the modified pilot and shuttle service on October 27, 2025.

As part of the Commission's approval, the permit requires Caltrans to complete a number of analyses during the pilot period. These include the following:

1. Updates to the original pilot project evaluation that was presented for Amendment No. 06, covering traffic conditions, traffic and path user safety, maintenance impacts and path usership.
2. A Performance Thresholds and Alternatives Analysis that allows us to measure the significance of any observed changes in operations that are actually attributable to the path, and we will be talking about this one today.
3. An Environmental Justice Analysis of the potential EJ and social equity impacts of providing the path long term. And the Commission just approved the methodology for this analysis on March 5.
4. The development of conceptual designs for what the public access facilities should look like long term to provide for user safety, comfort and convenience.
5. Analysis and planning for the structural strengthening that will be required to accommodate the movable barrier and any other components of the long-term public access facility.

These analyses will be completed and submitted to the Commission by December, 31, 2028.

Now to give you a sense of what all these analyses will be used for. At the end of the pilot period Caltrans will return to the Commission with another amendment request that will include some form of long-term public access proposal for the Bridge. Here are some general descriptions of what those proposals might include.

First, if Caltrans and BATA choose to move forward with the Westbound Improvement Project, they may propose a part-time path with a bicycle and pedestrian shuttle similar to the current modified pilot.

Or if the Westbound Improvement Project does not move forward, the public access may involve a full-time path similar to the original pilot.

Or if the Westbound Improvement Project does not move forward, and if the pilot identifies significant safety or use conflicts associated with a full-time path, an alternative public access proposal that maximizes access consistent with the project must be proposed.

There may be some other potential outcomes possible following the pilot period, but these should give you an idea of what is likely.

So, let's come back to the Performance Thresholds and Alternatives Analysis, which is the focus of today's item. During the Commission's consideration of Amendment No. 06 there were some concerns expressed by the public that the pathway was significantly impacting Bridge usage, such that full-time or even part-time operations of the path would not be possible.

While the original pilot evaluation did find some evidence that certain performance metrics had worsened during the original pilot period, specifically peak hourly flows and travel time reliability, the evaluation did not provide findings that showed whether or not these changes were actually significant enough to warrant alterations to or removal of the path, particularly in light of the benefits provided by the path.

At the time no significant thresholds or performance criteria were presented that indicated that any change was too much or unacceptable at the regional level. Therefore, the permit amendment required that Caltrans complete a Performance Thresholds and Alternatives Analysis meeting the following criteria.

First, it must be developed with involvement from relevant stakeholders.

Second, it should establish performance thresholds that can be used to measure the significance of any observed changes in the Bridge operations that result from the implementation of the path. And it has to take into account public access benefits in developing those thresholds.

Third, it has to consider and meaningfully compare the effects and performance of different alternatives for public access.

And fourth, it must adequately consider the findings of the EJ Analysis being conducted for this project.

In addition, during the public hearing and vote for Amendment No. 06 the Commission was concerned that there were still several gaps in information after the original pilot. So, to avoid repeating the situation at the end of the modified pilot, the Commission voted to include a requirement that Caltrans return by May 7 of this year to present preliminary benchmarks for the Performance Thresholds Analysis.

Now for the purposes of this discussion the terms benchmark and threshold refer to different concepts and are defined as follows.

A benchmark is a reference point that can be used to contextualize data. It is not a statement of whether or not a condition is acceptable or requires change.

For example, a benchmark for traffic volumes on the Bridge can be the number of vehicles crossing the Bridge per hour in 2018. This number may help us to understand both the baseline of how the Bridge functioned before the pilot was implemented and provide a frame of reference for any observed increase or decrease during the pilot. What it does not do is tell us whether or not a given increase or decrease is significant enough to warrant a change in the project.

A performance threshold or threshold is a point at which a significant change in performance occurs that warrants a change in the project; where a condition goes from being acceptable to unacceptable. Thresholds should be based on community values and priorities, state and local planning and policies, and empirical evidence of cause and effect.

For example, a threshold for traffic volumes on the Bridge would tell us that if volumes consistently drop below a certain number of vehicles per hour, then Caltrans should implement a solution because at that hypothetical level congestion begins to affect the function of connected facilities. So, something like that.

Caltrans' preliminary benchmarks were included as Attachment A of the Staff Recommendation. I also have a printout of the summary table here if anybody would like a physical copy of that. The benchmarks were prepared by Caltrans staff in consultation with BCDC staff.

BCDC staff shared an early draft of the benchmarks with a small number of Commissioners who volunteered to review the draft and provide further direction to staff. These volunteers include Commissioners Gunther, Randolph, Showalter and Wasserman. Staff shared key points from these discussions with Caltrans' for incorporation into their final draft.

While the Commission did not specify criteria for the approval of the benchmarks, statements made by the Commissioners during the vote clearly indicated a desire to understand the approach to data collection and interpretation for the modified pilot, including which metrics will be used and which benchmarks will be used to contextualize the findings.

Additionally, the Commission recognized that at this stage of the modified pilot the benchmarks are intended to be preliminary and that they may need to be adjusted or expanded over the course of the pilot as more information is collected.

The Commission should review the proposed preliminary benchmarks to determine if they provide a sufficient basis for data collection and evaluation to allow for the meaningful development of the required Performance Thresholds and Alternatives Analysis, with the understanding that they may evolve over the course of the project.

At this time, I would like to introduce Joe Rouse, Chief of the Office of Highway Operations for Caltrans District 4 to present the thresholds for your consideration.

Mr. Rouse addressed the Commission: Good afternoon, Chair Wasserman and Commissioners. Thank you for the opportunity to speak with you today about our proposed benchmarks for evaluating this modified pilot on the Richmond-San Rafael Bridge. So, as Katharine mentioned, my name is Joe Rouse. I am the Chief of the Office of Highway Operations for Caltrans District 4 Bay Area here in Oakland. I have been with the Department for about 27 years, and the bulk of my career has been spent in doing transportation system management and operations, so evaluating projects such as these for their impacts on the state highway system. And as the name implies, my office is responsible for evaluating projects like this all across the Bay Area for their impacts on the operation of the state highway system.

So, I am not going to belabor too much these points here because Katharine already touched on a lot of this. But just to recap.

So, this original pilot was developed by BATA and Caltrans and it was intended for two purposes, right. To reduce congestion in the corridor and also to improve bicycle and pedestrian access. And so, on the upper deck we converted that emergency shoulder to a 10-foot bicycle pedestrian path separated by a movable barrier to provide that pedestrian access. There were also trail connections provided at either end of the Bridge, right.

This experiment was really intended to see what works and understand tradeoffs as we try to make this very highly constrained Bridge more multimodal. These changes as you see were implemented in November 2019 and were evaluated for four years. The one point I do want to make here, and you will hear me refer to this several times in this presentation is the Partners for Advanced Transportation Technology or PATH at UC Berkeley conducted an analysis of that original pilot and they issued a couple of reports summarizing their findings. So, you will hear me refer to that report a lot through the next few slides here.

Under the modified pilot, as has already been shared, the operation of the upper deck has changed. The barrier-separated pathway is in place starting Thursdays at 2:00 p.m. through 11:00 p.m. Sunday evening.

Outside of that time that barrier is moved back against the Bridge rail to provide a 10-foot-wide emergency shoulder. The purpose of this shoulder is to provide a space for vehicles to go in the event of an emergency or if their vehicle becomes disabled. Our maintenance crews also use this space to conduct their activities. The shoulder also provides space for first responders to bypass stopped traffic and access an incident on the Bridge.

And so, during the time the pathway is not in operation, as was noted, a free shuttle operates, I believe it is from 6:00 in the morning to 8:00 o'clock at night to shuttle bicycles and pedestrians across the Bridge, and that service is being operated by BATA.

So, let me dive into what we are proposing to measure under this modified pilot. Caltrans and BATA have identified seven different items that we want to track. The majority of these items will focus on the impacts of the pathway and shoulder on Bridge operations for both vehicles and bicyclists, and we also plan to review the impacts on roadway safety. And we will go over these items in greater detail in the next few slides.

I just wanted to note that in developing these benchmarks we carefully reviewed what was evaluated in the original pilot, so we relied heavily on that PATH Report to see what was measured and to determine some of our base numbers. And our thought was really to try to maintain consistency with the analyses that were done during that pilot.

And as has been mentioned already I really want to emphasize that these are preliminary benchmarks. We are clearly open to hearing what you all have to say in terms of what we are proposing here and making adjustments as the case may be. All right, so let's dive into this.

The first item we propose to track is the peak hour traffic volumes on the Bridge on weekdays. The intent here is really to see what effect the shoulder or lack thereof may have on the number of vehicles that are able to cross the Bridge during peak hours.

The benchmark that you see here was taken from that PATH Report on the original pilot. It is an average of what was observed in terms of traffic volumes during the morning peak period during both the original pilot and the pre-pilot conditions. And per the PATH Report, that peak period generally extends from about 6:00 in the morning to 9:00 in the morning.

I do want to note that Caltrans traditionally uses only peak hour volumes to determine the need for roadway capacity. And so, while hourly data could be provided, Caltrans believes that focusing on peak hour performance is really the most appropriate approach for doing this analysis. That peak hour analysis really allows us to take the most conservative look at how this pilot is affecting Bridge operations.

The second item we propose to evaluate is the amount of time it takes to drive westbound I-580 between the I-580 split in Albany up to the toll plaza or just slightly past the toll plaza. This stretch of roadway is about six and a half miles long. This metric is really intended to evaluate how much a shoulder or bike path impacts the amount of time it takes to drive this segment. This will be done by comparing the modified pilot to the original pilot and pre-pilot conditions.

The benchmarks that you see here were also taken from that PATH Report. They are an average of what was observed during both the original pilot and pre-pilot conditions. And per the PATH Report the peak periods, similar to what was in the previous slide, are 6:00 to 9:00 a.m. on weekdays, but on weekends we are seeing that time block shift to be from between more from 11:00 a.m. to 3:00 p.m.

The travel time on the Bridge approach is being measured separately from the travel time on the Bridge to allow for further analysis of other factors that may affect travel times.

So, the next item we propose to monitor is the amount of time it takes to drive across the Bridge itself. This would be measured from just starting past the toll plaza down to the western touchdown right there at the offramp to San Quentin. The Bridge itself is about five and a half miles long.

This metric, similar to the other, is intended to evaluate how much the shoulder or bike path impacts the amount of time it takes to drive the Bridge. This will be done by comparing the modified pilot data that we saw to the original pilot and pre-pilot conditions.

So, again, the benchmarks here also taken from the PATH Report. They are an average of what was observed during both the original pilot and the pre-pilot conditions. And again the peak periods across the Bridge are fairly similar to what we see on that I-580 corridor approaching the Bridge.

The last item that we plan to track when it comes to Bridge operations is the impact of incidents on the Bridge. This benchmark is really intended to allow comparison to the original pilot and pre-pilot conditions to show whether and how much the shoulder or bike path impacts the amount of time an incident adds to travel times across the Bridge and the corridor. Now, when we talk about incident, the term means it is a distinct event such as a crash, a fire, shooting, hazardous material spill, disabled vehicle, or any other natural or human-made disaster that impacts travel across the Bridge.

This benchmark of 90 minutes that you see here is a statewide standard that was established between Caltrans and the California Highway Patrol back in 2003. And that 90 minutes is measured as the time taken from when Caltrans is first notified of an incident to the clearance of that incident from the traveled way. In other words, by the time it is moved out of the traffic lanes. These incidents will be analyzed to find out not only how long it takes for traffic flow to return to normal conditions, but also how often the incidents are negatively impacting traffic flow.

All right, so let me touch on the one item that we are going to be using to analyze safety, and that metric is crash rates. This metric allows comparison to the original pilot and pre-pilot conditions to show whether the physical presence of the path or shoulder contributes to an increase or decrease in the frequency of crashes. A crash, according to Caltrans, we define that as a collision between objects, typically of one vehicle to another or against an obstacle.

We do not have a recommended benchmark for this at this time, and the reason why is our intent is to use the crash rate that was observed during the original pilot. But we show this as TBD because the crash data that we currently have available is only through the end of 2024. It typically takes a little bit of time for us to collect that crash data and compile it and get it into our system. We expect to have that data through the end of the original pilot, so October 27 of 2025. We expect to have that data available to us by the end of this calendar year and so we would have a benchmark established sometime around that point.

I do want to note that there will be an analysis of this data. We will be checking to see if there is a statistically significant impact compared to what we saw during the pilot conditions, the original pilot conditions.

I would also note that I know that there have been some questions about how crash rates are calculated, and there is a fairly detailed description for you in the attachments to the Staff Report. And we can certainly answer any questions on that if people do have those still.

The last two metrics have to do with the operation of the multiuse pathway itself. The first metric that you see here, the impact of schedule changes on weekday cyclists, is really intended to guide understanding on whether those using cycling as an alternative to driving during the week are shifting transportation modes due to the new schedule of the operation of the bike path during this modified pilot.

This benchmark is also to be determined based on the number of cyclists using the Bridge on weekdays during the original pilot, in combination with results of surveys conducted as part of the Environmental Justice Analysis and ongoing evaluation of the shuttle service.

So, we do obviously have figures and numbers from when the bike path was in operation during the original pilot and we are going to use that as well as some of these other analyses and stakeholder interactions to determine what would be a benchmark for evaluating this under this modified condition.

I also want to note that we are only focusing on cyclists because the data from the original pilot indicated relatively low levels of pedestrian traffic. And so, our focus really is more on just how many cyclists are using this facility since they do seem to be the more predominant mode on this pathway.

The last metric that we have here is the weekend path usage. And this metric is primarily intended to guide understanding on whether those who are using the Bridge as a means of recreation during the week in the past under the original pilot conditions may have shifted their use of the Bridge to the weekends as a result of the changes in the schedule and the operation of the path.

This metric can also continue to help evaluate whether or not there are trends such as increasing use of the path over time, growing awareness of the path, growing interest in cycling, walking or jogging in general. And so, it can also serve as an evaluation of the effectiveness of those improvements that were made as part of the original pilot connecting the Bridge to the local bicycle and pedestrian network on both the Marin and Contra Costa County sides.

While the path is only going to be in operation on Thursday from 2:00 p.m. and all day on Fridays, this proposal, this benchmark, is really only going to be comparing to Saturdays and Sundays under the original pilot. We are not looking to include Thursday and Friday as part of this evaluation. And we are doing that in order to provide a more direct comparison between the data that was collected in that PATH Report versus now.

The benchmarks that you see here currently serve as placeholders and they are based on the data taken from that PATH Report. And just as with the other metrics, we do intend to probably come up with some more refined benchmarks based on further observations, the surveys conducted as part of the environmental justice process, and other stakeholder engagement.

And again, as with the previous metric, our focus is almost again exclusively on bicyclists as pedestrians do tend to be a fairly, fairly small concentration of the folks that we were seeing using the pathway during the original pilot.

The last slide I have for you here is a summary of the metrics and data sources. And again, you have a larger version of this document in the Staff Report.

I do want to just briefly spell out the acronyms that you see listed here.

PeMS is the Caltrans Performance Measurement System. This system extracts data from our traffic monitoring system infrastructure that we have on the highways, usually in-pavement inductive loops that are embedded into the pavement. That information is taken to provide us with information on traffic patterns such as speeds and travel times.

The other resource that you see listed here is INRIX. INRIX is a commercially available transportation analytics service that provides information on traffic patterns, much like PeMS, but INRIX uses data from connected vehicles and mobile devices.

TASAS is the Traffic and Accident Surveillance and Analysis System. That is a Caltrans database and data processing system that contains data for collisions on the state highway system.

All of this data that we are referring to here can be reliably obtained within a reasonable time frame, so we do not expect there to be any real challenges in being able to extract this data and start to use it for our analysis. The only exception is going to be that crash rate data that I was talking to you about earlier because TASAS does not yet contain all of the crash data from most of 2025 I guess it would be, since we know that that is when the original pilot came to an end.

All right. With that I thank you for the opportunity to present, and we are hoping that the information in this presentation will give you some confidence that you can approve the staff recommendations. And with that, we are happy to answer your questions. I am joined by a few of my other managers and colleagues here from Caltrans and we will do our best to help answer any questions you might have. Thank you.

Chair Wasserman continued: Thank you. Clarifying questions from Commissioners? And again, just to review, this is where we are trying to clarify the data, not necessarily commenting on changes or where we are going. We will do this, then we will go to public speakers, and then we will come back to the Commission.

Commissioner Showalter spoke: I think these are clarifying. Anyway, I want to thank you for going through this exercise. I think that this is much clearer from my point of view than it was when we saw it the first time and I appreciate that so thank you for doing that.

I did wonder about measuring the incident clearance time. Do you study how the length of the incident impacts the length of travel time across the Bridge? Are you able to do that?

Mr. Rouse responded: So, that is where the 90 minutes comes into play. We want to make sure that these incidents are cleared off of the roadway within 90 minutes so that it does not add to the additional travel time. So, that is where that 90 minute threshold comes from.

Commissioner Showalter added: But hopefully a lot of them are much less than that.

Mr. Rouse replied: I would certainly hope so.

Commissioner Showalter continued: Yes. I would think some of them are like 5 minutes or something.

Mr. Rouse explained: Right, right. A lot of it is going to depend on where it is located relative to where our responders are based, right. How long it is going to take them to get across the Bridge to get to that incident, right. So, if shoulder is in place they could be able to use that shoulder to access the incident. If the shoulder is not in place they will have to work through traffic to get there and that will definitely probably make some type of a difference in terms of the incident response time. But how much that is, we do not know, that is why we want to measure this.

Commissioner Showalter stated: Okay. I think that is an important thing is what really does the use of the shoulder do to the clearance time. Not just does it keep it below 90 minutes, but what does it do to the congestion. That is the point.

Then another clarifying question I have is on slides 6 and 7 you refer to peak rates. On one slide it says Benchmarks, Weekday, 25-minute peak. And then on the next slide it says Benchmarks, Weekday, 7-minute peak. What's the difference there?

Mr. Rouse replied: So, the 25-minute benchmark is for the stretch of I-580 from the split in Albany, the I-580 split, up to the toll plaza. The 7 minutes is to actually drive across the Bridge. We are measuring them separately.

Commissioner Showalter acknowledged: That makes perfect sense.

Mr. Rouse stated: What our observation has been, if I may add, Commissioner, is that the toll plaza has generally served as a little bit of a bottleneck, and so that 25 minute peak is reflective of that bottleneck at the toll plaza.

Commissioner Showalter continued: Okay. I just probably was not listening carefully enough, you probably said that.

Then another thing I wondered about is the composition of the cyclists and whether we are talking, say you have 250 people on a weekend. Of that 250 people are 200 of them the same people that were there the weekend before and the weekend before that? Or do they represent a different swath of the population that is using this facility? And I wondered, is there any way for you to tell that? Or, for instance, commuters. Is there a way for you to track really how many people are commuters on a regular basis, versus maybe use it a couple times a year?

Mr. Rouse answered: I unfortunately do not have the answers to that question. I would have to defer to Francois from UC Berkeley PATH who conducted the initial study. I believe he might be able to elaborate a little bit more on what data was collected about the bicyclists. I believe there was a survey that was done in some cases, but I think he could speak to that.

Commissioner Showalter continued: Well anyway, the reason I am getting to that is I think that in the long run we want to encourage people to ride their bikes, right, because it reduces greenhouse gas emissions. So, I am wondering if that information would be valuable going forward and figuring out how to design our programs to increase the number of cyclists. So, that is what I had in mind when I was wondering about that. You do not really necessarily have to answer that right now, but that is what I was thinking about.

Mr. Rouse acknowledged: Your comment is duly noted, Commissioner, thank you.

Commissioner Cox commented: And again, thank you for a really thorough presentation. I wanted to follow on first with Commissioner Showalter's inquiry about 90 minutes. Because we are measuring the overall impact on traffic times, I think having a 90-minute benchmark when many crashes are resolved in 60 minutes or 30 minutes, and not measuring the impact of those lesser duration crashes, may not provide us with all of the necessary metrics.

So, is there a reason? I understand that that is the standard, but that standard has a different purpose. Our purpose here is to measure the impact of removing bicycle access to the third lane from Thursday through Sunday. And so, I think that using 90 minutes as the threshold may not provide us with full information about traffic delays. Does that make sense, my inquiry?

Ms. Pan chimed in: If I might just really quickly. So, one quick clarification is that there is not currently a third lane on the Bridge, I think you are referring to the shoulder.

Commissioner Cox clarified: Talking about the shoulder that is used as the breakdown lane, essentially.

Ms. Pan explained: So, just to mention again, there is like a difference between benchmark and threshold in the way that we are using it here. So, Caltrans and UC Berkeley are going to continue, as I understand it, collecting all the data that they can and then providing that, along with the benchmarks for stakeholders and the Commission to work with.

And so, the idea is not that the benchmark will become the threshold. That could happen, but that is not necessarily the case. I think what we will be doing is actually working with Caltrans to figure out what a reasonable threshold is in terms of what is the impact, like what is a condition that is changing. But the benchmark of 90 minutes, because we know that that is a statewide standard, gives us a little bit of context. So, it is not cutting anything off there. The data will still be collected. Francois can correct me if I am wrong, or you can correct me if I am wrong, but that is how I have been understanding it.

Commissioner Cox explained: I really was referencing benchmark, because a benchmark is used to contextualize the data presented. And in this case, I think a delay of 30 minutes is an important benchmark because of the impact on commuters. When someone has a typical commute time of 25 minutes with no traffic, but has to leave their house 90 minutes early in order to account for possible accidents and ensure that they are to work on time, I think a 30 minute delay has context in terms of considering it as a benchmark as opposed to a threshold. That is what I was asking if you could give consideration to.

Next, crash rates as a safety metric. I was wondering about whether you also might consider using enforcement records regarding misuse of the shoulder and/or speeding.

I have previously shared that I used to be a much more frequent user but I still use the Richmond Bridge regularly to commute to client offices. There are so many near-misses in terms of someone zipping along in the shoulder to pass because it is sometimes, even when that red X is there people still use it. And so, I am wondering if you might consider. I personally think there is not enough enforcement on the Richmond Bridge. But aside from that I am wondering if you might use enforcement records as another measure of safety.

Mr. Singh fielded this question: Good afternoon, Commissioners. My name is Inder Preet Singh, I am the Deputy Division Chief in the Division of Traffic Operations at Caltrans.

I just wanted to lay out why we are looking at this metric, the crash rate to begin with. It is our standard metric how we essentially look at if a facility needs any safety improvements. And this is consistent how it is being used, even in the previous analysis that has been done here. We will use it to inform us or educate us if really the presence of the path is having a negative impact.

So far what was seen during the evaluation that was completed in 2024, there was no direct correlation. Although during peak periods there were deviations which warranted that we should look into it further, that is exactly what we are doing now. Just analyzing. But we do not know if it is going to be statistically significant or not.

Now in terms of enforcement. That is again going back to how we analyze as a standard metric. We look at road user safety using the crash data. We can certainly work with our partner CHP to see if that information would also help, again, educate. We are open to that. But it would be more tied to incident response or incident clearance or the things that are happening, not necessarily directly in the lane of road user safety metric that we typically use. But we can certainly explore that.

Commissioner Cox acknowledged: Great. Just an ask. Not a demand, just an ask, would that be helpful perhaps. Okay, I had two more quick ones.

You asked how to measure impact of schedule changes, and you mentioned shuttle usage. But I am wondering, some of the complaints I have seen online have to do with inadequate. The shuttle only takes two bicycles, or that was what I read. I do not know how many bicycles the shuttle accommodates. Is that an adequate metric? If indeed the shuttle is full, how do you know whether there are adequate shuttles to accommodate the would-be usage of bicyclists who are not able to ride Monday through Thursday, to commute Monday through Thursday?

Mr. Man replied to Commissioner Cox: I am David Man. I am the Section Director of Bay Area Toll Authority. We are working with Caltrans to operate the shuttle, and I think thank you for that question about our free shuttle that we provide during the weekdays.

I do want to highlight that our shuttles can accommodate more than two bikes. Depending on the types of bikes it could be six, it could be eight. I also want to highlight that we have been in close contact with key bicycle community members to get feedback on what types of bikes to accommodate. So, I think we have made a lot of changes to our shuttle.

And I think I want to highlight that it is a pilot, so it is going to continue to evolve. We are currently looking at how the shuttle is being used and how many riders. And as far as my understanding is that we have had sufficient capacity during the commute period for the riders.

Commissioner Cox asked: So, you are able to measure whether bicyclists are being turned away?

Mr. Man replied: Correct. We do try to count how many bicyclists are using every trip across the Bay during that period, that is correct, and we hope to provide more information as we collect it.

Commissioner Cox stated: Well, that is great news that you are not turning bicyclists away, I love hearing that.

And last question had to do with only measuring Saturday and Sunday and not Friday. Sausalito has adopted a four-day work week for many of its workers. So, I am wondering if you might consider not including Fridays because people, recreational users for example who have a four-day work week, might shift their recreational use not just to Saturday and Sunday, but also to Friday. So, have you given that some thought?

Mr. Rouse answered: We did talk about this a little bit. Again as I mentioned in my presentation, the PATH Report specifically calls out Saturday and Sunday usage versus the weekdays, and so I think if we wanted to do a true apples to apples comparison I think we would need to work with the folks at PATH to see if we could get a better breakdown of that data from the original pilot for that comparison. That to me is the only barrier that I see to being able to do that. But I personally do not think it is insurmountable, but we would have to talk with the folks at PATH just to confirm if that is something that we can do.

Commissioner Cox continued: Yes. And again, this is just really questions regarding the benchmarks and thresholds that you have selected and inquiring whether there are further data gathering opportunities that could be helpful.

Mr. Rouse stated: Certainly, that is why we are here. We are definitely open to hearing what you all have to say and making adjustments as the case may be and so I appreciate the comments.

Ms. Pan noted: I do want to note Francois left a comment online just to say data is collected for each weekday separately and then aggregated. So, I do not know, Francois, if you want to explain a little bit, add a little bit more context to that?

Dr. Dion commented: Basically, the way that we have been doing the data is again, to be as discrete as possible. So, it is collected for each weekday separately. And then when we do the analysis then the focus on Saturday/Sunday was simply because the volumes on the Bridge were much higher on those two days than they were on the other days. But we have all the data from the day that the Bridge opens. Again, it is collected for each weekday. So, if we wanted to look at Friday we could go back with the data and then see if there's any change there.

Commissioner Gioia had questions: My question really goes to how we are going to sort out the impacts of the forward project, which is both removing the toll lanes and extending the HOV lane. So, those are going to have, as was presented at our last meeting, benefits. Those are going to reduce congestion and move traffic across that area quicker. So, in looking at some of this data, not all - but some of this, how are we going to differentiate this new amended project - improved changes, from changes from that other project? And wouldn't we have to collect some baseline data after the forward project is completed to get a baseline on some of the data? Because otherwise it is sort of apples and oranges comparison.

So, this is really to Caltrans or BCDC staff, right. Because there were major benefits. This is going to be the first Bridge to remove the toll booths and then the extension of the HOV lane. So, those are going to impact some of this data in a pretty significant way.

Mr. Rouse responded: Thank you for the comment. I will just note that in the Staff Report, I did not include it here in the presentation, but in the Staff Report we do flag several of these benchmarks as possibly needing to be reevaluated, particularly after the Open Road Tolling Project is implemented, because of the impacts that they will have on the performance of the corridor as a whole. So, we do have those flagged, and we would definitely want to evaluate both before and after those changes just to see how much of an impact is really due to the ORT implementation versus the presence of the pathway itself.

Commissioner Gioia continued: Are we going to have enough time to collect some of that benchmark data on this?

Mr. Rouse replied: Yes. I am being told that we will because of the schedule in terms of when the ORT is going to be implemented.

Commissioner Gioia requested information: Tell us that schedule. As someone who lives in Richmond near that Bridge I get asked a lot. What is the schedule? When that will start. Both the HOV lane extension and the toll booth removal.

Mr. Rouse deferred to a colleague: To answer that question I am going to turn it over to our Project Manager for the ORT project.

Mr. Omran responded: Hello. This is Muthanna Omran. I am Regional Project Manager; I work on the Toll Bridge Program for Caltrans.

The answer to that question is, it is a very good question. We started the pilot extension last August and the actual construction of the ORT project started in November, if I remember correctly. But the removal of the toll booths is not until probably next January, if I guess right. We have a project schedule, but it is being looked at, re-looked at. That will nest this ORT construction squarely in the middle of the three-year period that we have for the pilot extension. That will allow us to study the before and after the implementation of the ORT.

Commissioner Gioia asked: So, when is the HOV lane going to happen? It was not clear. I thought all this was starting this summer. That was what we were told before.

Mr. Omran answered: Summer of 2027.

Commissioner Gioia continued: That is the extension of the HOV lane?

Mr. Omran stated: Correct.

Commissioner Gioia asked: Then you are starting the removal of the toll plaza at the end of the year?

Mr. Omran answered: I think so. There is a little recalibration.

Commissioner Gioia added: You are replacing the word delay with “recalibration”. That is okay. Because it is a delay because it really was going to be this summer, and I guess that is a nice way to say it, that it is a recalibration.

Commissioner Kishimoto had questions: I have some questions. I do not know if they will be, it is more context for interpreting the data that we are going to be getting or the data itself. But, they have to do with just going back to the original Commission policies about reducing the pressure to fill the Bay with bridges and roadway projects. And as you know the long-term regional goal of going towards transit-oriented and walk/bike-friendly transportation versus car-oriented transportation, okay.

So, one question is, generally at the state level the state has shifted from LOS Level of Service and congestion measures to more total miles traveled. And I do not know how you would measure it, but is there any way of doing that? And maybe one data point might be how much land use is changed on both sides of the Bridge. That would give us some context for any traffic volume changes we would see as well. If there will be significant land use on those sides.

And I suppose another related question would be, I think it was last year we talked about the bike network, just having. Some of it was just very recently completed and maybe some of it was about to be completed. But at least somewhere in the Staff Report if not as a measure is the status of the build-out of the cycling network on both sides of the Bridge.

And I had the same question about the forward project so that was good.

Yes. Those are my major ones. It is really the question of does adding a car lane, is that inducing just more traffic and more car-oriented development? That is kind of the question in the back of my mind.

Mr. Rouse replied: So, the Westbound Improvement Project, which would put that third lane on the Bridge, will include a VMT analysis. That is part of our standard analysis for those types of projects.

As far as the development of the bicycle network, I would have to defer to our partners at MTC and others who are more responsible for developing and identifying those networks. Caltrans is the owner-operator of the state highway system. We focus on the bike access for the state highway system, and so our focus has been exclusively on what is happening on the 580 corridor with this bike-pedestrian path.

Commissioner Kishimoto continued: And then about land use changes on both sides?

Mr. Rouse responded: Same thing again, I would have to defer to MTC as the regional transportation planning authority for this region, which would help govern some of the land use questions and discussions.

Commissioner Kishimoto had a question for BCDC staff: Okay. And can I ask our BCDC staff whether that would be at least included in the Staff Report?

Ms. Pan stated: I think if you would like it to be included in the Staff Report we can include an analysis in the Staff Report of some kind. I think it is the Commission's prerogative to request it.

Commissioner Zepeda was recognized: I want to ask a little bit of a clarifying question. It is an email that I received from a constituent, I am not sure if everybody else received it. And I think you kind of answered it, but I just want to make sure in case this person is listening. It is in regards to the metrics for what are we considering as for road safety.

It reads, are we considering breakdowns, flat tires, running out of fuel, et cetera, as part of that? They mentioned the metric evaluation of impact of incidents on travel times includes all incidents defined as distinct event affecting the traveled way such as a crash, fire, shooting, hazardous material spill, disabled vehicle. So, I think a flat tire or running out of fuel would be considered as a disabled vehicle?

Mr. Rouse answered: Yes.

Commissioner Zepeda acknowledged: Yes?

Mr. Rouse replied: Yes.

Commissioner Zepeda continued: Perfect. They just sent that email, so I needed to ask that question, that was a clarifying question.

My other question as well, just to kind of back up my colleagues here to try to get that data for Thursday and Friday because I think it is going to be very important. Those are potentially two commuting days. When we were having the conversation several months ago, many months ago, we were trying to figure out how many people are using it. And those would potentially allow us to get a glimpse of commuting versus not and how do we have that conversation?

I am the council member for that district where that Bridge sits in Richmond, so my constituents there are all affected by the traffic, and all are affected by the pollution coming from that Bridge. So, it is very important that we try to have that conversation and try to figure out who are we catering to, especially when we talk about environmental justice.

As we are collecting data are we able to also collect benchmarking data on the eastbound side?

From what I understand a long time ago there was some consideration about whether to put the bike lane above or below and it was above because it was easier access. There's connectivity on both sides of the Bridge. On the lower lane there is not connectivity, it will be a lot more costly to put a bike lane down below.

But I do not know if there is any data being gathered down below. If there was ever a conversation to look at that again to see if there is more impact of vehicles on the upper level, the lower level. Up above, you have more beautiful views to look at so maybe there's more crashes. You are speeding because it is nicer. You have the top down. Down below you are like, oh, it is sad, I want to go home, nobody is looking anywhere. Just trying to figure out, is there a better opportunity down below to put a bike lane than up above?

Mr. Rouse stated: I think actually the permit that we have is for the operation of the bike path on the upper deck. As I understand it, there was no request as part of the permit to evaluate any change in where the bike path is placed.

My history with this project is not quite as extensive as some others, but my understanding is that the issues in the eastbound direction had been mostly related to traffic congestion and opening up the shoulder down there was the intent to try to improve congestion in that direction. So, we have not been asked to look at that and at this point we had no plans to look at that.

Commissioner Zepeda continued: Thank you. Again, the reason being, if we are looking to reconsider the bike lanes again, opening them up full time or keeping them where they may be. And I understand. And maybe I was the only one that asked back then, but I was told that bike lanes down below could not potentially fit because there was no connectivity. It would be a lot more expensive to put in the landing on each side.

The comment that I made at the time was that when the backing happens on the upper level, it is directly impacting residents that live right next to the Bridge. So, it is impacting them right at their front door. On the Marin side you have a lot more green space before anybody is more affected by it. So, if there were to be any more backups due to the bike lane, it is just a different conversation on how and who we are impacting if it is on the upper level or on the lower level. So, just a question. If we do not have any data down below, we are not able to get it, then we are not able to. Just wanted to make sure that we ask that.

And then, do we have any data on crashes? Do we collect any crash data based on speed and also based on traffic? So, the more traffic, the more crashes, the less traffic, fewer crashes. Trying to just figure out if the lanes, if we only have two lanes during the weekends and there's a lot more traffic, are people crashing more because even though they are going slower they are not looking at each other, there's bumper to bumper crashes. If they are going faster, there's less crashes. I do not know if there is any data on that.

Mr. Rouse explained: It is a generally accepted traffic engineering principle that when there is more congestion there is more potential for rear end collisions, those types of crashes. Our crash rates, that is where it is my understanding that several of the Commissioners had difficulty trying to understand the million vehicle miles traveled figures that we were originally putting in as part of the crash rate data that we were looking to use as a benchmark. But that, we use that.

I will just try to summarize this as easily as I can and I may need to rely on Inder Preet to add some clarification if there is any further need for that. But we try to standardize how we analyze crash rates across the entire state highway system. Cause really does not play a factor into that. We just look at how the roadway is performing from a safety perspective compared to other types of similar roadways. We take volumes into account by using that million vehicle miles traveled metric. Again, he can probably elaborate a little bit better than I could. But we do try to do a standardized approach when we look at crash data. I do not know if I am answering your question, but if you need more further clarification we can certainly work through that.

Mr. Singh spoke: Again, Inder Preet Singh, Deputy Division Chief in Caltrans Traffic Operations. So, essentially, I guess, the response to your question is, we do normalize. So, when you said, like, hey, higher traffic do we notice higher crashes, lower traffic lower amount of crashes. It depends how you define high and low, right.

Of course, during COVID period when traffic dropped, the volumes dropped, then there was drop in the number of crashes. But if you take that period out, as was noted in the previous evaluation report as well, there was no statistical difference between pre-pilot and post-pilot or during original pilot in terms of the collision rates. There was a difference, maybe some, but it was not statistically significant, so we did not really observe anything to that effect.

Now having said that, during the peak hours we did observe that potentially having the path there may, when the path was in place, potentially we were having more crashes. But again, even at that time, it was not considered statistically significant to say presence of the path is causing more collisions. It was not concluded even back then.

Now what we want to study is to see and affirmatively align one way or the other what is happening out there. Do we see an increase, a statistically significant increase? And if we do, then we go dive into what you said. What are some of the causes of these crashes? Are we noticing more rear end, side swipes, hitting the objects, which is the vast majority of these crashes that were happening on the Bridge. So, we start delving into that once we notice, like you go start here and you start digging deeper if you see a pattern. But if you do not see a pattern then we are not going to rule that the path is leading to one way or the other, so to speak.

Vice Chair Eisen chimed in: Something you just said plays into the question that I had, which I think is basically a question about correlation versus causation. And what we are trying to figure out is, does the presence of the path cause slower traffic, slower volumes, more crashes, et cetera. But it is not really clear to me. For example, you are now going to be measuring the time it takes to approach the Bridge versus what it took to approach the Bridge back when the path was there. But how do we know, once you know those numbers, that the presence of the path is what is causing whatever change you see? That is the piece. I can see that there might be a correlation, but I am not really sure where you get from that to causation.

Mr. Rouse deferred to Mr. Dion: The suggestion was we defer to Francois. I think that is an excellent question. I do understand what you are aiming for. Francois, I do not know if you want to elaborate on any of this, if you have an answer here on this.

Dr. Dion explained: Yes, I can. Causation is sometimes a little bit difficult to establish, but we try to do the best we can with the data we have. We do know from the work that has been conducted so far, for instance, that with the path present, for instance, traffic moves a little bit more to the left lane on the Bridge, and we know that there is no really impact on speed.

And so, the main idea with respect to traffic first is to measure whether the path during peak hour constrained traffic. And we suspect it might to some level and that is what we want to test with moving the barrier during the week.

But as for the incidents, this is a little bit more challenging because, again, is what exactly caused an incidence and there could be multiple factors. Speeding could be an effect, but then if speeding is there it may not be related to the path itself, it might just be the driver. Side swipe we can think, okay, maybe because of the path and people changing more lanes because they want to get away from the wall, then there might be. So, these elements are really difficult to establish, but we try to do the best we can with the data we have and see if we can find a pattern. Obviously, a lot of it depends also on the details of the crash reports that we get.

Mr. Rouse added: Yes, that is what I was going to note, is that a lot of that information you would have to delve into the crash reports themselves.

Vice Chair Eisen continued: Well, that is my concern because when we talked about this way back when there were differences, but it was hard to really know whether that was attributable to the bike path. I can see that you would have to develop a theory. Well, if there is a bike path and people are moving over, and therefore if they are moving over, they are more likely to bump into somebody, et cetera. But what is the theory as to why the approach to the Bridge could be affected by the bike path?

Dr. Dion answered: The theory there is, again, if the bike path reduced the capacity of the Bridge, it means you have fewer cars being able to pass. And I think we did estimate that in the full-time configurations you could lose maybe 600 to 700 vehicles not able to get on the Bridge during the time periods. And these essentially would translate into longer queues. You have longer queue and you tend also to have incidents in the queue. Usually rear end. People do not pay attention and then they rear end someone. Or they change lanes more often because they see a queue and they are trying to stay in the lane that they think will get them to the Bridge the fastest. So, they are kind of related. So, that is why when we look at the statistics, we look at the approach and the Bridge separately and try to see if a change on the Bridge is affecting a change on the approach.

Vice Chair Eisen asked: So, does that mean that when we are looking at the number of incidents and the number of crashes we are looking at incidents and crashes in the approach to the Bridge as well as on the Bridge?

Mr. Rouse replied: No, our plan is to just look at the crash data on the Bridge itself.

Dr. Dion added: Yes, in details. That is what we are planning on doing.

Vice Chair Eisen acknowledged: Okay. Well, I am just hoping all of this data collection will actually lead us to answers that we can understand. But thank you for that answer.

Chair Wasserman commented: I do not see any other hands. I want to go back to this issue that Cesar raised in particular, and it has come up a couple of times. Where in your categories of impacts specifically do what I would call non-crash stops, so it is running out of gas, engine failure, flats, where there may be no Caltrans or CHP interaction, it may just be the tow truck coming in and fixing it. Where do those get reflected in the benchmarks?

Mr. Rouse stated: It would be as part of that incident data that we are collecting. The incident clearance time.

Chair Wasserman acknowledged: Okay. Then I am going to go back to Commissioner Cox's question. Assume for a moment, run out of gas. Gets taken care of relatively quickly.

You simply have got to get the tow truck there, put the gas in, car goes. I do not know how long that takes. It obviously depends on how long to contact the tow truck and so forth. But a reasonable guess is 30 minutes. That counts as an incident, yes?

Mr. Rouse agreed: Yes.

Chair Wasserman asked: Okay. But it does not count in going over the 90-minute clearance.

Mr. Rouse stated: It will be cleared sooner than 90 minutes.

Chair Wasserman continued: Right. So, am I right that those are sort of two different benchmarks. One is number of incidents, the other is more than 90 minutes where there is a more serious problem. And if not, what is the relevance of the 90 minutes?

Mr. Rouse replied: No, I understand your question. Our focus is really on how long it takes to clear the incidents.

Chair Wasserman added: Regardless of how long it takes.

Mr. Rouse answered: Not necessarily the number of incidents.

Chair Wasserman continued: I do not understand how you can distinguish those two. I mean, I obviously know how you distinguish, one is length of time, the number is incidents.

Mr. Rouse pursued clarification: I just want to make sure that I am understanding. It sounds to me like several of you are interested in knowing about the number of incidents that are occurring on the Bridge.

Chair Wasserman answered: Yes.

Mr. Rouse noted: Okay, I am seeing heads nod, okay.

Chair Wasserman stated: I think that is a fair take.

Mr. Singh spoke: So, Chair Wasserman, we are going to collect that data as well. As a matter of fact, we are already collecting it. Looking at what incidents are happening today through our TMC. There is additional data that we are collecting. And how many minutes is it taking for us to clear it out? So, both of them would talk to each other. It will not be just 90 minutes and we are done.

Chair Wasserman verified: So, you are collecting the data.

Mr. Singh responded: Yes, we are.

Chair Wasserman asked: Now, in terms of the benchmarks, are you considering that issue?

Mr. Singh replied: It would be. That is why you do not have thresholds yet. This is a preliminary benchmark, right? Ninety minutes is the standard. When we do the thresholds up or down, that is when that information would play in. And not only that, it will play on how when we have the shoulder, the emergency lane or the clearance lane, are we seeing much lower times then, as against when we have a bike path? So, all of it will play in together. But that is the information we do not have today. But that will definitely come in.

Chair Wasserman acknowledged: That will get figured in.

Mr. Singh reiterated: Yes.

Chair Wasserman asked: Thank you.

Do we have public comment?

Warren Wells gave public comment: Hi, Chair Wasserman, Members of Commission. This is Warren Wells with the Marin County Bicycle Coalition. Just a few comments and questions.

Commissioner Gioia brought up a question that I also have. Namely, how will the benefits be disaggregated between the original pilot, which concluded in October '25, and between there and the toll plaza removal, and then from post-removal to the end of the updated pilot. This is something I brought up multiple times during earlier discussions of this effort, where I fear that benefits of the Richmond-San Rafael Bridge Forward Project may be attributed to the removal of pathway, both by this Commission and the general public. And so, it is my understanding that the only data that would be useful for evaluation of the original, updated pilot would be that collected between October '25 and January '27.

On collisions, an area where I see a shortcoming is the Staff Report cites that it will evaluate the number and frequency of collisions but omits severity. If removal of the pathway reduces the frequency of collisions but increases their severity, potentially due to higher off-peak speeds, that should not be viewed as a success. Severity needs to be evaluated. It was looked at in the past study. It should be looked at in this study as well.

On travel time I recommend basing the travel time benchmark on posted rather than observed speeds. Speed is not an unalloyed good. If removal of the pathway led to everyone driving 120 miles per hour you would see people crossing the Bridge in two minutes, but that would be bad.

The proposed off-peak threshold is 4 minutes, implying an average speed of 63 miles per hour, or 8 miles per hour over the posted speed limit. I recommend 4.3 minutes, which would be a driver traveling the posted speed limit of 55 miles per hour between the toll plaza and the touchdown in Marin.

On incident clearance. I was told by one of the consultants who worked in the original multipath study that a recommendation was given to CHP, regrettably never adopted, that officers could respond to incidents using the multiuse path via smaller vehicles that were in fact purchased for this goal. This would have allowed gas and repair equipment to be brought to a stranded motorist. Had this been done it is likely that many hours of commuter time would have been saved and the benchmark for this threshold would have been different, but alas.

A couple of quick other things. To address Commissioner Eklund's concerns, the shuttle capacity is adequate for the number of people who use, who the shuttle works for. However, the lack of fixed schedule means that users, of which I am one, need to add a 25-minute buffer to any trip since you do not know whether a shuttle will be waiting for you or one will have just left. There is a real time tracker but unfortunately it has been down all day today, which I heard from one of our members who was waiting there because apparently there was also a problem with the trailer.

Just one other note, this was kind of brought up earlier. The benchmark looks at the number of users, but does not evaluate the pathway users, cyclists, but does not evaluate types of users, namely people with recumbents or trailers who may not be accommodated by the existing shuttle configuration. Thank you so much and really appreciate your time.

Bruce Beyaert gave public comment: Hello. My name is Bruce Beyaert. I am the chair of TRAC, the Trails for Richmond Action Committee. This discussion today has been really helpful to me. Coming into the meeting I was puzzling why the Caltrans proposal measures the clearance time, the 90 minutes discussed, for all incidents, crashes, disabled vehicles, et cetera. But as far as the number of incidents on the Bridge is looking only at crashes.

And the discussion of causation versus correlation really clarified that for me. The only plausible, conceivable effect of the trail versus shoulder on incidents is for crashes, whether it is a trail-shoulder or a trail does not affect the number of people running out of gas or flat tires or any of those things. So, it makes a lot of sense to me. I understand now why Caltrans is only looking at the number of crashes, not the number of incidents. That makes a great deal of sense.

On the other hand, they are looking at clearance time for all incidents, including crashes and disabled vehicles, because potentially the presence or absence of a shoulder could affect clearance time. So, I wanted to thank Caltrans and the Commission for this discussion that really clarified that in my mind, thank you.

Chair Wasserman asked: Comments by Commissioners?

So, I will jump into the breach. I would ask you to be very thoughtful and careful. I am not implying that you are not, but when you come back to us about this difference between causation and correlation.

We heard both in writing and in oral testimony a great deal about people concerned about congestion on the Bridge. Absolutely a very serious concern, not only for those people but for Cesar's constituents as well.

There is the natural tendency as you are driving in that congested traffic and you see this pathway that could be a lane, whether for traffic or for emergency services, that does not appear to be heavily used, to attribute that as the cause. That does not make it so.

I appreciate, I really do appreciate that some of this data is difficult not only to gather but also to interpret. But as you are doing that please continually step back and say, where does it stand between this causation and correlation. So that when we are at the end of this next pilot study we really can very solidly say, as solidly as possible, science is not perfect, I recognize that. That yes, there is not only correlation but solid scientific basis for the belief in causation. Obviously, if there is no difference in congestion well then it is pretty easy to say no, the pilot Pilate did not work, let's go back. I just ask you to keep doing that and not to get lost in the weeds of the data.

Commissioner Gioia was recognized: I just want to make sure, and I raised it in my question, that Caltrans, whenever they implement their recalibrated date for their toll plaza HOV Project, that we are able to get good baseline data and really understand and sort out the impacts of different projects on these results. So, I just want to make sure there.

Commissioner Hacker commented: I believe Commissioner Gunther, who could not be here today, shares the comments that Commissioner Gioia had articulated about how might we as the other projects with regard to the HOV lane and the toll plaza get underway. How might a year thereafter or sometime yet further thereafter, how might you be able to reliably look at the data and be able to differentiate. I just wanted to say that in the time that he and I spent preparing for this, that was one of his concerns.

And it seems that one could take a snapshot before the removal of the toll plaza at the end of this calendar year and say, what has the data shown us for 2026 before we launch into 2027. Without any momentous conclusions one could draw boundaries around the 2026 data. Thank you.

Commissioner Cox spoke: In listening to the remainder of the questions and some of the comments another possible metric occurred to me which is use, just overall usage. Because folks who commute or who use the Richmond Bridge and are aware of the

challenges in commute times due to absence of the third lane in event of breakdowns were disincentivized, perhaps, to use the Richmond Bridge. And so, I am wondering if simply measuring overall ridership, overall drivership if you will during the period of the pilot might be a useful metric. Just to see if there has been any increase in those using, those driving over the Bridge now that Monday through Thursday this third lane is now available to handle any breakdowns, et cetera. Again, thank you for all of the effort put into establishing these metrics.

Chair Wasserman called for the Staff Recommendation: Katharine, Staff Recommendation, please.

Ms. Pan read the following into the record: Staff recommends the following draft resolution: For purposes of satisfying the requirements within Special Condition II.D.5.d(1) of BCDC Permit No. 1997.001.06, the Commission approves the proposed preliminary benchmarks for the Performance Thresholds and Alternatives Analysis.

Commissioner Cox asked: May I amend that motion to say, with the proviso that the comments provided today are factored into account as final benchmarks are established.

Chair Wasserman acknowledged: That is the motion, Commissioner Cox has made it. It is not an amendment, that is the motion.

MOTION: Commissioner Cox moved to adopt the Staff Recommendation, with the proviso that the comments provided today are factored into account as final benchmarks are established, seconded by Commissioner Showalter.

VOTE: The motion carried with a vote of 16-0-2 with Commissioners Addiego, Ahn, Cox, Dorsey, Eklund, Gioia, Gilmore, Hacker, Kimball, Kishimoto, Nelson, Randolph, Showalter, Taylor, Vice Chair Eisen and Chair Wasserman voting, "YES", no "NO" votes, and Commissioners Ambuehl and Ramos voting, "ABSTAIN".

Chair Wasserman: Thank you for all of your work.

11. Briefing on Bay Sand Mining, Overview of Commission Process, and Studies. Chair Wasserman stated: That brings us to Item 11, which is a briefing on sand mining and an overview of our Commission process and studies regarding sand mining activities in San Francisco Bay, including what has been learned and what is still unknown.

The staff briefing will be followed by short presentations from the representatives of Martin Marietta and Lind Marine to provide the Commission with their perspective on the sand mining that they have been doing and propose to do, and a second short briefing by San Francisco Baykeeper.

This is a briefing on a pre-application process where we envision a full permit application in spring or summer of this year.

Baykeeper asked to be included for a presentation when the agenda was first published and staff agreed, consistent with the way they have done in other circumstances of significant potential controversy.

And again, we are not making a decision today. This is not a public hearing. It is a briefing to hear information. And we have done similar things for Highway 37, Howard Terminal and others. We ask Commissioners today to be careful not to make statements about their decision because we are not making a decision today. Obviously, you may ask questions when we get to that point of view.

Before we begin the staff presentation, I am going to recognize Commissioner Showalter who chairs the Committee Working Group which has been studying this for some time.

Commissioner Showalter reported the following: Yes, hi everybody. I wanted to bring up a couple of things to make sure that we were all aware of them and I appreciate what Chair Wasserman said about this being a briefing.

Our Working Group got started in July of 2024, we had three meetings in succession in about two months, and then we had three more meetings and there was about six months between each of those meetings. This was not like the Beneficial Reuse Group. It was a much smaller group but thank you to everybody who took part. I think it was more like 10 to 20 people taking part in the meetings.

But anyway, I wanted to share that at the subgroup meetings we had presentations about the science. It was our understanding that our task was to really get conversant with the science and the state of it in this subject, which is actually pretty complicated, so that we could help with the communication of that to the rest of the Commission.

Most of the presentations were by our own Brenda Goeden. She did a very good job of bringing a tremendous amount of information together. We also had a presentation by a scientist from SFEI. In most of these meetings the miners provided public comment. They were allowed to give a presentation in two of the six meetings.

We did not ever have a presentation by Baykeeper, so I was a little surprised when I saw this today because I thought this was a briefing on what had just been before the Sand Mining Working Group and it is a little more than that. So, we are having this presentation from the Baykeeper as well and I just wanted to share with you that this is new to the Sand Mining Working Group as well as all the Commissioners. I think as has been mentioned, it is an example of BCDC really bending over backwards to be transparent and welcoming to interested stakeholders.

I would also just like to share that this is complicated and you may want to go, and then again, you may never want to hear about it again, I don't know. But you may very well want to go and look at some of these presentations. And if you go on the website under Commission, under Advisory Boards you will find that they are all listed with the agenda and you can watch, you can go through and listen, or you can just look at the presentations. And I wanted to share that that information is available. And with that.

Executive Director Goldzband chimed in: Thank you, Commissioner Showalter, that was really lovely and we appreciate that as staff about what you said about the Working Group. And we appreciate the fact that you and Commissioner Nelson and Commissioner Gunther were steadfast in how you dealt with it.

We will make sure and I am going to ask Sierra who is there, to make sure that as part of the agenda or wherever we can do, we highlight where those materials are on the website itself. So, we will do that in some way, shape or form as a result of this discussion. And so, I just want to make sure you know that we will do that.

Chair Wasserman announced: Brenda Goeden of our staff who manages our Sediment Program will start off.

Sediment Program Manager Goeden presented the following: Thank you, Chair Wasserman and Commissioners. I am pleased to present today a briefing on the sand mining activities, the recent studies that were completed, the process that brought us to this point, and finally where we are today. It is important to note, as has been said, that this is only a briefing. There is nothing to vote on, no decision to be made.

After my presentation, Erika Guerra from Martin Marietta and Bill Butler from Lind Marine will give a brief presentation on their perspectives, followed by Ben Eichenberg from Baykeeper. Once the presentations are concluded, public comments are made, we will have time for a discussion.

As you are aware, mining in San Francisco Bay takes place in two general areas, the Central Bay and Suisun Bay.

Mining in Central Bay is authorized on four State Lands leases, in nine parcels, over 2,601 acres shown on the right, and includes mining of coarse-grained sand for concrete, and finer grained sand for fill purposes in construction. It is important to note that mining does not occur in the parcel in Raccoon Strait, northwest of Angel Island.

In Suisun there is one State Lands lease with two parcels and one private lease with mining authorized, over 1,363 acres, including mining of fine grain sand for fill purpose. It is important to note that mining on Middle Ground Shoal on the left in the map is limited to areas deep enough to mine. Lind Marine mines exclusively on Middle Ground Shoal; and Suisun Associates, a joint venture between Martin Marietta and Lind Marine, mine on Suisun Channel.

The mining equipment used by Martin Marietta in Central Bay consists of a barge, a drag head, a suction pump with fish screens installed on the water intake pipes, but not on the drag head itself. The drag head screen prevents rocks and debris from entering the head.

Lind Marine's equipment, which is similar to Martin Marietta's equipment, only operates in Suisun. Rather than using a drag head to suction sand into the barge they use a pipe dredge head. It is inserted into the sand, water jet slurries the sand and the sand is removed via the pipe. It has a fish screen mounted on the water intake pipe to prevent entrainment.

Now we will give a brief mining history. Sand mining in San Francisco Bay has occurred for almost a century via several small mining companies that began as far back as the 1930s.

Prior to 2012 the State Lands Commission staff issued Negative Declarations and Mitigated Negative Declarations under CEQA for individual 10-year leases.

Once leases were approved, the regulatory agencies issued permits for the leases.

BCDC primarily issued administrative permits with fairly modest amounts of sand for mining.

In the mid to late 1990s Hanson Aggregates, now Martin Marietta, acquired several lease areas, consolidating the mining activities in Central Bay. Mining continued under these consolidated leases for several years.

In 2004 the United States Geological Survey issued a report *Shifting Shoals and Shattered Rocks*, which for the first time described and showed the effects of human activities on subtidal habitats in the Central Bay, including mining activities. This report included images of areas where continued mining had removed sand bedforms that had never been seen before.

In the same time frame the State Lands Commission and BCDC investigated reports that mining was occurring off the lease areas and other issues. This resulted in an enforcement case with significant fines, as well as a requirement to track when mining was occurring and where it was occurring and reporting it to the Commission. This is the first time that surveys were able to be shown where mining was actually happening. This is an important step in understanding how staff was beginning to see the differences in mining activities and their potential effects on the Bay bottom.

So, between 2010 and 2012 the State Lands leases had expired and new leases were requested.

For the first time State Lands Commission staff completed an Environmental Impact Report for sand mining activities. They examined the potential impacts of mining 2.2 million cubic yards of sand from the Bay.

They incorporated mitigation and minimization measures and found significant impacts to listed smelt, air quality, and climate change issues.

But authorized mining under a Statement of Overriding Considerations.

Baykeeper challenged them in court for the issues associated with public trust and impacts to listed species, but the State Lands Commission prevailed.

The graph here shows the mining from the 1970s through 2014 as reported by the mining companies to BCDC. The Red Box captures the baseline that State Lands Commission used in evaluating CEQA the five years preceding the Notice of Preparation. The red dotted line shows the level of mining that State Lands authorized in 2012.

Once the Commission staff received applications, it reviewed the CEQA findings but did additional analysis. Staff used the volume mined over the last 10 years, shown in the yellow box. Working with the miners, they agreed to recommend to the Commission 1.426 million cubic yards of mining annually, with the flexibility of a peak year mining when the market demanded more sand. This peak year mining was allowed so long as the sand that could have previously been mined in years prior had not been mined, thus creating a permitted surplus of available sand.

It is important to note that beginning in 2008 there was an economic recession that may have affected the construction industry.

It is also important to note that this graph does not capture sand imported from areas outside of the Bay including quarries and that imported from British Columbia. Staff took this additional information into consideration.

In 2015 staff provided the Commission with a recommendation that reduced the amount of mining authorized by the State Lands for a total of 22 million cubic yards to 14 million cubic yards over 10 years. In that recommendation staff included requirements to study water quality along with the Water Board, impacts to the benthic community along with NOAA Fisheries, and the sand transport system and budget to help us better understand the sand system.

Staff also recommended fish screens to reduce entrainment of fish and the removal of Bay fill as mitigation for loss of benthic habitat.

During the public hearing and discussion, the Commission raised many issues and questions about the sand system. The Commission's questions are listed here. I am not going to read them to you now because we are going to run through each one and what we found out in just a bit.

Because information about the sand system and the potential impacts of mining was lacking the Commission required the mining companies to provide \$1.2 million in funds for studies to help address these questions. The Commission then issued permits with the understanding that next time the mining applications came before the Commission, staff and the industry would have better information and some of these questions would be answered.

Fast forward a few years. Once sufficient funding was provided, staff and the Conservancy assembled a Sand Technical Advisory Committee made up of agencies and interested parties including the Coastal Commission and Baykeeper, who refined the management questions.

Staff also brought together five scientists with expertise in sediment transport, oceanography, hydrology, engineering and modeling. This Independent Science Panel assisted staff in the drafting of requests for studies and selecting the researchers.

Once the researchers were chosen, they spent the next two-plus years studying the issues and completed a literature review, a sediment and sand budget, sources of sand and its age, modeled the sand transport in the system, and considered how mining was changing the system.

Fast forward another couple of years. The studies were finished and reviewed by the Independent Science Panel. Each research team drafted a final study report and key findings of their research. The Independent Science Panel drafted a findings report. This report synthesized the research papers and provided findings at a regional scale and a local scale, as well as made recommendations for future considerations.

With this report in hand and the studies to back up the information, staff then worked with a dedicated group of Commissioners in the Sand Studies Commissioners Working Group.

This Working Group had seven public meetings with Independent Science Panel members and the researchers who presented their findings to the group. At these meetings the miners were afforded the opportunity to share their perspective on each of the presentations and the research.

With the history and the process behind us, I will now turn to the Commissioner's questions with what we have learned.

The first question the Commission asked is how much sand is in the Bay and where is it?

While we were not able to study this question because it required deep-water sediment cores that were just far too expensive to undertake, we did learn through a sand budget analysis, modeling, and provenance studies, that only a small amount of sand is entering the Bay from the Delta and the local tributaries. We also learned that more sand is being mined than is entering the Bay.

The next question the Commission asked is where is sand located in the Bay?

It is found in the deeper parts of the Bay, in areas of tidal exchange, strong currents and water flow with enough energy to move sand in bedforms. From the most recent analysis of the Bay bottom, less than 20% of the Bay bottom is composed of sand. The remaining part of the Bay, over 80%, is mud and clay.

From the map you see sand in Suisun is shown in pink. The Central Bay sands are shown in blue. The study made an even more important finding, which is that sand in Suisun Bay is disconnected and separate from the sand that is in Central Bay.

The Commission asked if sand is relic? Meaning, is it old. Or is sand in transport?

After extensive analysis and dating of sand grains, the researchers from the University of Texas at Austin determined that the Bay sand is relic. There is no new sand entering the Bay. The sand in the Bay and outer coast was laid down long before the end of the last Ice Age when the Bay was only a river. The Bay sand is from the Jurassic and Cretaceous period between 145 and 199 million years ago. The red arrows on the right of the diagram depict the time of sand deposition in the earth's history. The yellow arrow on the left shows the approximate timing of the end of the last Ice Age when the river became the Bay.

Then, what is the impact of mining relic sand? And the related question of, if you are digging a big hole will the sand be refilled if the system floods? This question is a bit more complicated to answer and I will do so to the best of my ability in a few slides.

The primary answer is that when mining relic sand in most places, a hole develops as mining continues. The Bay generally does not fill these holes back in. An example of this is shown in the red mined areas in the Suisun lease area shown on the slide.

We analyzed the changes in the Central Bay bottom resulting from mining every five years beginning in 2004, and the mined areas are primarily getting deeper.

In Suisun we started this analysis later, but the results have shown basically the same thing. Mined areas are getting deeper.

The next part of the question has to do with the second part of the question, what is the impact of mining sand in transport? I will provide two examples.

The researchers examined six areas that were regularly mined in Central Bay and two areas mined in Suisun Bay. The first example at Point Knox Shoal off of Angel Island shows active mining between 2008 and 2019. As you can see by the black lines, mining occurs repeatedly in this area. The researchers found that after 2014 with the rate of mining that was occurring the area continued to deepen with little sand filling in the mined areas. This trend continues in the 2023 bathymetric survey. This trend was consistent across most of the mined areas.

Another example is an area adjacent to the Presidio where there is significant sand transport along the shoreline. In this case we are looking at the small circle in the lower part of the analysis. The mined areas are also shown in black. In Area 6 the rate of mining occurring there was lower in the same timeframe, and the sand was replenishing at a greater extent. You can also see that the mining did not occur in 2019 and sand waves were re-formed.

So, the answer here is - it depends. Things to consider are the location, the amount of mining, the rate of mining, along with the sand transport rate and pathway.

Following this line of thinking, the Commission asked if mined sand, sand in transport, was affecting beaches and tides?

Unfortunately, we did not have the resources to answer this question, either in the basic science or funding to do so, and whether or not mining is actually having effects on beaches.

What we were able to do is confirm sand transport pathways and they were further refined from earlier studies in 2013. This map shows the current understanding of sand transport pathways.

The provenance work or fingerprinting of sand sources found additional significant information. The sand in Suisun is different from sand in other areas. It comes from the Central Coast Range.

Ocean beach sand, North and South Central Bay sand are the same source. And the South Ocean Beach sand and North Central Beach sand are distinctly differently sourced. So, we can think about these areas and their connections more specifically as we analyze sand mining and their impacts.

So, then we get to the bigger question that you all asked, which science can point to, but it is influenced by societal considerations. What is sustainable volume of mining? What is substantial depletion?

We know that there are basically two layers of sand. An active layer of sand that is on top and in motion. The amount of active sand is not the same in all locations.

Underneath the active layer is sand in storage. It forms the base of the Bay bottom.

The majority of the sand that is being mined is sand in storage because these areas are not being replenished or only being partially replenished. They continue to deepen over time and in some areas these holes are starting to widen.

When mining is occurring in areas of active transport, we do not know where it was going or what the effects of taking it out of transport are.

In both situations, the mining causes a loss of bedform, sand wave shoals and ripples, and this has effects on habitat structure in these areas.

There are a few more studies that were completed but separately from the physical process studies. Water quality impacts of the Bay were evaluated.

The wastewater from the mining barges did not contain contaminants as expected, as sand generally does not attract nor retain contaminants.

The sediment plume was also examined for turbidity and suspended sediment. This part of the study found that the mining discharge water increases turbidity and suspended sediment. But this effect continues only during the mining event and once it is complete the turbidity dissipates. The size, concentration and extent of the plume is different in each event due to the dynamic nature of the Bay. Increased turbidity can affect fish and wildlife through changes in visibility, respiration and predation.

Another study examined the question of, what are the impacts to benthic life?

In this case two studies were completed. One is part of the CEQA document in 2019 and one in 2015 that was completed in 2018.

The most recent study compared an area before and after a single mining event at the one-year mark. The study was designed to determine if the mining area recovered after mining. It found that within one year the benthic community did recover but it was somewhat different in composition.

The figure on the left shows the 2015 study designed in mined areas or treatment. While we assume repeated mining in the same area continually removes the benthic community, we do not know whether any recovery recurs when mining continues continuously.

The figure on the right shows the mined areas for one year of mining. The gray lines are individual mining events, and you can see those in each of the ringed areas.

What has not been studied is the effect of repeated mining events in the same location and its effect of this regular sand removal on the bottom-dwelling community. In addition, we do not know the effect of loss of bottom-dwelling organisms on wildlife that depends on them for food including fish, seabirds and marine mammals, or the effect of loss of sand wave shoals and ripple habitats.

So, where are we now? With all that information you may be thinking, what do we do?

The State Lands staff has completed a Supplemental EIR. They did a supplemental review because they determined there has been no substantial change in the environment since the 2012 EIR. As part of this effort additional modeling and a reanalysis of the benthic data occurred. The CEQA review found no significant impacts from the proposed mining. This is based on the concept that the previous EIR analyzed 2.2 million cubic yards of mining, and the current request is for 1.7 million cubic yards of mining annually.

In February of 2026, State Lands issued new 10-year leases. The miners had requested a time extension to the current permits due to the need to complete permitting now that CEQA has concluded.

The Commission staff has had three pre-application meetings with the miners to date, and we will have one more, and then the miners will submit their applications for review. We expect to bring the mining applications to you in late 2026 or early 2027 depending on how quickly the other agencies act.

To tee up the next conversation, this graph shows the cumulative mining that has occurred from 1974 through the first quarter of 2026. The X-axis goes up to 2 million cubic yards and the Y-axis is years. The gold box shows the amount of sand that has been mined from the Bay over the past 10 years, with a maximum of just under 1 million cubic yards and an average of about 700,000 cubic yards.

Staff anticipates that the three applicants together will request a total of 1.426 million cubic yards annually, or 14.26 million over 10 years. And likely requests include peak mining of 1.7 million cubic yards for periods of high demand.

This graph shows the cumulative mining that has occurred only in Central Bay from 1974 through 2026. Note here the scale has changed. The X-axis now goes up to 1.6 million. The gold box shows the amount of sand mining that has occurred from Central Bay over the past 10 years, with a maximum of 800,000 cubic yards.

Staff anticipates the applications in Central Bay will request a total of 1.41 million cubic yards, or 14 million cubic yards over 10 years, with peak mining of approximately 1.4.

This graph shows the cumulative mining that has occurred in Suisun Bay for the same period, combining Suisun Bay Channel mining and Middle Ground Shoal mining. But the scale has again changed. The X-axis now goes up to 1 million cubic yards. The gold box shows the amount of sand that has been mined from Suisun Bay over the past 10 years, with a maximum of approximately 200,000 cubic yards.

The staff anticipates that the total applications for Suisun Bay will be 285,000 cubic yards per year, with a peak year ability of 355,000 cubic yards for high demand.

With that, Commissioners, I conclude my presentation. I will now introduce to you Bill Butler of Lind Marine and Erika Guerra of Martin Marietta to make the next presentation.

Ms. Guerra addressed the Commission: Good afternoon, Chair Wasserman, Commissioners. My name is Erika Guerra, and I am the Environmental Land Director for Martin Marietta in California. Joining me today are Bill Butler with Lind Marine and Aaron Holloway, who is a Senior Maritime and Coastal Engineer for GHD.

Sand mining takes place within several designated list areas as Brenda described.

Mr. Butler continued: After mining in those lease areas, barges deliver sand to marine terminals that are shown here around the Bay. Bay sands are an important local source of materials for local projects. Bay sand mining efficiently provides these local materials by barge to these locations close to where the sand is ultimately used. Each barge removes about 140 truck trips off the road. These terminals are small working waterfront sites with limited space and minimal stockpiles. So, sand mining in the Bay is done effectively on a just-in-time basis, meaning the sand is mined only in response to an immediate market demand.

Ms. Guerra continued: Bay sand is a foundational material in concrete, asphalt, and other construction needs. These needs are not going away. They are accelerating. We are entering a new construction cycle after a decade of recovery from the Great Recession, then a pandemic and a temporary slowdown due to interest rates.

Housing is expected to rebound in 2027 and beyond. The state has projected roughly \$180 billion in construction investment over the next decade. California's housing mandate requires every city and county to plan for its fair share of housing through the Regional Housing Needs allocation process.

The current cycle alone is intended to facilitate approximately 2.5 million new homes by 2031. That is not aspirational, that is state law. That means more concrete, more asphalt, more shoreline protection and sea level rise projects that utilize sand.

Mr. Butler continued: So, the question is not whether sand will be used, it will be. The question is whether it can be sourced locally with lower emissions and greater oversight; or imported at far higher environmental and economic costs.

For that reason, it is critical that the Commission avoid reducing the allowable mining volumes. Permitted mining volumes are not extraction targets that the companies try to hit. They are planning tools that provide a measurement level for determining environmental effects, while ensuring that the region can respond to construction demand that is dependent on economic cycles, the housing mandates and at times, urgent needs like disaster relief and climate resilience. Indeed, the fact that we have not mined the full permitted volumes over the past several years underscores the direct connection to market demand.

Ms. Guerra continued: In the aftermath of earthquakes, wildfires or infrastructure failures, the ability to rebuild quickly depends on having materials available locally. A permitted, reliable supply of sand is not just an economic asset, it is a public safety necessity.

Mr. Butler continued: The sand mined from the Bay serves portions of all nine Bay Area counties. It is used where it can be delivered most cost effectively and with the least environmental footprint from overland transport. Bay sand is not exported outside the Bay Area.

Ms. Guerra continued: So, what are the alternatives?

Alternatives include trucking materials from the Central Valley or importing by ship from Canada or from British Columbia, specifically, as Brenda mentioned.

If allowable volumes of Bay sand are artificially constrained, the likely result is not less sand use but a shift to these imported materials with significantly higher transportation emissions, cost and economic uncertainty from fuel prices and tariffs. Every ton of sand imported from inland or foreign sources adds fuel consumption, congestion and emissions at a scale that directly undermines the state's climate policies. In contrast, local supply is one of the simplest and most immediate ways to reduce the carbon footprint of construction.

Mr. Butler continued: So, the ability to extract Bay sand has been extensively studied over several rounds of permitting, multiple CEQA reviews and the courts, and all of these at the full permitted volumes in place now. We can rely on a highly regulated, locally sourced material that reduces emissions, supports housing and strengthens resilience, conducted in an environmentally safe manner.

Aaron Holloway with GHD will now address the recent sand transport studies that Brenda talked about that have been completed. The other aspects, such as benthic habitat, biological resources and water quality will be fully addressed when we actually submit our permit application we anticipate in May. Aaron.

Mr. Holloway spoke: I would like to start with a couple of high-level takeaways from the recent sand studies.

Number one, San Francisco Bay is not a fully connected sand transport system, as Brenda described. Delta-derived sand is no longer a significant source of sand to the Bay or outer coast. Central Bay and Suisun Bay are comprised of relic sand from different sources.

Number two, mining has a negligible effect on sand transport pathways between the Bay and outer coast. This was modeled extensively for the 2012 EIR, again as part of the sand studies, and again, most recently for the Supplemental EIR. These studies have consistently shown that bed elevation changes attributable to mining are negligible, even just outside the Golden Gate.

The sand budget found that the amount of sand leaving the Bay through the Golden Gate is effectively zero, further supporting the finding that mining within Central Bay has a negligible effect on sand supply to the outer coast.

The relic deposits of sand within Central Bay and Suisun Bay are vast. Based on these estimates, the State Lands Commission researchers, they found the entire 10-year permitted volume of mined sand is roughly 1% of the sand stored in those embayment's.

I would like to focus a little more on the exchange of sand at the Golden Gate Bridge. This was a key topic area in the last round of permits and was again a focus area in these studies.

A key objective of the sand budget was to evaluate the movement of sand at the boundary between the Central Bay and the outer coast. The amount of sand moving through this boundary is referred to as flux and is difficult to estimate. To overcome this difficulty the sand budget quantified inputs, outputs and bed elevation changes within the Bay such that the only remaining unknown was the flux at the Golden Gate. This allowed them to solve for the flux, and they concluded that the net exchange of sand between the Central Bay and outer coast was very small, effectively zero, considering the uncertainties.

So, although large amounts of sand flow in each direction through the Golden Gate Bridge, the amount of sand is roughly in balance with one another, so the amount going in is roughly equal to the amount going out. Thus, the net exchange is zero and Central Bay is not a significant source of sand for the outer coast.

Considering the uncertainty involved in estimating bed elevation changes, it is also possible that the ocean is a source of sand for the Bay, which would explain the significant accretion observed at beaches nearest this boundary.

The sand budget also omitted a key variable, which is the size of this relic pool of sand. The sand budget focused on active sand transport, so the inflows, the outflows and the change in bed elevation at the surface of the Bay floor. So, the conclusions from the sand budget can only be viewed relative to those active transport volumes.

What the sand budget does not account for is the vast quantity of sand in relic storage below the Bay floor. This enormous volume of sand is important to characterize when evaluating significance and sustainability of mining activities.

So, there is information available to provide an order of magnitude estimate for the relic sand volume.

Studies from the San Francisco International Airport Development Program collected borings in the Central Bay and performed geophysical scanning of the relic deposits. The depth of mining activities and bedform heights also inform sand depths within and adjacent to leased areas. The State Lands Commission experts estimated over a billion cubic yards of sand exist in these embayment's alone. Roughly 13% of this sand is located within the lease areas and at depths that can be mined. The volume of sand mined over a 10-year period at the permitted volumes would total about 1%, the small black sliver, of this total amount of sand.

So, in conclusion, there has been a lot of work, a lot of focus areas. The overall takeaways are largely consistent with the prior permitting efforts. The effects of mining are localized. Independent modeling and observations consistently show no measurable effect beyond these areas, even under conservative and worst-case mining scenarios. Most mining occurs in relic, deep-sand deposits, and the permitted mining volumes represent a small fraction of what is available. Thank you.

Ms. Goeden continued: Thank you to the mining industry. I am going to introduce Ben Eichenberg from Baykeeper to speak to you next.

Mr. Eichenberg presented the following: Hi there. I am Ben Eichenberg, Senior Attorney with San Francisco Baykeeper. I really appreciate the opportunity to present today. I will try to be brief. I know it is late in the day, and I think there has been a lot of information that you have already gotten. I think these slides speak for themselves. I will try to go through them pretty quickly and just give a broad overview, but you will have them available for reference later on.

I am here on behalf of San Francisco Baykeeper and our 5,000-plus members and supporters who all care deeply about San Francisco Bay and the communities around it.

Our scientists have determined that sand mining is one of the biggest threats to the Bay, in line with oil spills, harmful algal blooms, cutting off of freshwater flows, industrial pollution and nutrient pollution. So that is why we continue to advocate and put our energy into this issue and making sure that any sort of resource extraction is done in a sustainable way.

BCDC had significant concerns during the 2013, 2015 mining approval process, as I think you heard, especially regarding whether or not the mining activity represents the extraction of sand that is being continually supplied or whether it is relic and is not replenished. So, I think that is a good thing to keep in mind going forward.

As you have heard, BCDC has unique authority over San Francisco Bay. Obviously, you know that.

We feel that BCDC must exercise this authority and should not be relying on State Lands, which has a different mission. You are not bound to what State Lands has approved, and it can insert additional requirements, as you did before, under that authority. So, the Bay Plan requires protection of Bay resources including the sand that we are talking about here that is needed for ecological function and sea level rise resilience.

There is new science since 2012, as you have heard significant new science, and it has been a really interesting journey to see where the sand comes from and how it moves around, and I think there's still significant information gaps as well.

BCDC required all of these studies because you were concerned that the sand that was being mined was not being replenished. And the studies confirmed that the mining is at unsustainable rates of relic sand, and that the pool of sand is common with the sand outside the Golden Gate. So, it is reasonable to assume that there will be a reduction in those outer sand volumes if you are reducing the sand inside. That sand transports, moves back and forth, between the two areas. And if you are making just reasonable assumptions on the information we have, that connection should lead to the idea that maybe there's going to be impacts to other areas if you take the sand out of one area. And so far, there has not been any proof that there is no connection.

The data from this graph is found in the State Lands record. Here you can see that the actual mining is below, well below the authorized rate approved by BCDC and far, far below the limit approved by State Lands. So, we would like BCDC to consider moving forward setting the limit at what was actually mined rather than almost double that, which is where State Lands has set it.

There is no evidence that we need more. So, based on these baselines and what the market has, as we have heard about the market and what it requires, there should not be too much hurt for the economy or the industry itself. So, we feel this is an appropriately cautious approach to use these as baselines.

You have done all the science, you asked for all the science based on these extraction levels, and what we know about the Bay and what we know about sand transport is based on the mining that has occurred. So, this is what we know, and this is where we should base any permits going forward. And anything more than that should be based on more research where we really adequately understand whether there are going to be impacts to beaches. And I think as you heard, we do not really know that yet.

The EIR from State Lands analyzed a reduced alternative that was the actual average mined, and that would be a good result based on the science. They did not adopt that alternative. But there is already an analysis of those impacts so we can look at that and know what volumes have been actually mined and that is where we think it should be set.

In this graph, .45 is the estimate of what is coming in from tributaries and then sloshing back in and out through the Gate. The point here is that the sand mining takes out way more than that. So, it is the green plus gray equals the blue and then the red is what is mined.

I just wanted to mention fish populations. Fish populations are now at record lows. We have a lot of marine mammals and a lot of fish and critters that are using this area, especially through these transport pathways. We have heard how unique the Estuary is, a mixture of fresh and saltwater, and you get a lot more species through there. And it is particularly in this area right where water comes in and out through the Golden Gate.

And we have seen a lot more gray whales. But we also know now that nearly half of the gray whales that die in the Bay die from ship strikes. There was a really recent *New York Times* article which I recommend, that said that 18% of the gray whales that enter the Bay end up dying here, and half of those die from ship strikes.

We know that whales and other sensitive species activity is increasing in the mining areas and transport pathways. The Farallon Institute has pointed out this in their comments, which I also urge you to review.

Sand mining occurs in these very areas where all of this ecological activity is increasing in recent years. So, that implies that the threat of ship strikes, sand mining is more ships, more activity, you are going to have more impacts, and that really needs to be taken into account but was not really taken into account in the EIR that State Lands put together.

I think what we are talking about here is erosion, that erosion is accelerating. We know there is a common pool of sand in the Bay and at the San Francisco Bar, and we also know that the San Francisco Bar supplies sand to Ocean Beach. San Francisco is, as you know, spending enormous amounts of money to replenish sand on Ocean Beach, and mining risks exacerbating these problems by taking sand away from that transport pathway.

Here we are looking at the mining pits and permanent bed loss, which this table shows the science on how much is lost in the individual leases.

In 1 through 4 up here you see that you get significant depletion and no recovery, while with 5 and 6 you do get some recovery. But overall, you only get half of the sand back in the pits created by the sand mining. But that is only what is coming in from the sides, that is not new sand.

I think our overall point is that the State Lands Commission EIR did not adequately address this new science, so BCDC is going to need to be looking at it itself.

The information gaps that need to be filled.

You need to address the removal of an irreplaceable and finite resource.

You have to address the information gap about how much sand there is in the shared pool between the Bay and the Bar and what impacts mining has on that pool.

You have to figure out a reasonable baseline that represents actual conditions, and you have to evaluate actual available sand in the lease areas.

I have covered the takeaways. This slide shows what needs to be done moving forward.

First, you should require a BCDC-specific CEQA review. According to the ISP, a reduction in sand transport from Bay to ocean has the potential to affect coastal beaches. This remains the most important information gap facing us, and that information gap should be filled before additional levels of sand are taken out of the Bay.

Number two, we should reduce permitted volumes to no more than the reduced project alternative. You required reduced amounts in 2015 and additional studies, you can do so again.

Number three, any permit should be conditioned on completion of all of the Independent Science Panels recommended monitoring and studies. According to the ISP, the studies we have that we have done already did not tell us what the physical effects of sand mining were at permitted level. So, we have to know that before we allow a whole bunch more extraction. And the Coastal Commission also supports this in their comment letter, which I urge you to review.

And then four, you should require further study of the impacts to beaches, shoals and the flux at the Golden Gate.

And five, you should reduce permitted volumes in areas where currently proposed amounts exceed available sand.

Thank you very much. I will stick around and be available for questions.

Ms. Goeden noted: That is all of the presentations so public comment, I believe, is next.

Chair Wasserman announced: I am going to go to Commissioners' questions.

Commissioner Cox spoke: I was curious what the status of Baykeeper's lawsuit against the California State Lands Commission is over alleging that they are relying on faulty data and allowing increased mining that threatens various habitats?

General Counsel Scharff chimed in: The status is that Baykeeper sued on the EIR; that is really going to become a court decision. As far as I am concerned, we view the EIR as correct until the court says no.

Commissioner Cox asked: And are we undertaking our own analysis or we are not?

Mr. Scharff stated: We are not taking an environmental analysis like that. We take a staff analysis, which is very different than an EIR analysis.

Commissioner Cox acknowledged: Okay, and then I had a question for staff. There was a comment regarding turbidity and you mentioned one thing, but I wanted to know if you agree that turbidity also results in reduced photosynthesis, reduced oxygen, clogged gills, hinders predators' ability to find prey, disrupts the food chain?

Ms. Goeden stated: My understanding is all of that is correct.

Commissioner Eklund was recognized: Thank you very much. Do you know other estuaries in California that also allow mining of the bay for sand?

Ms. Goeden answered: There used to be sand mining that took place on the beach, actually, in Monterey County, and that took place for many, many years. That was shut down a few years ago. To the best of my knowledge, there is not another place in California that allows aquatic sand mining at this time.

Commissioner Eklund asked: And what about up in Washington or Oregon?

Ms. Goeden replied: I do not believe Washington or Oregon either. The sand that comes down from British Columbia is quarried sand off of Orcas Island, but it is glacier sand.

Commissioner Nelson commented: Brenda, a couple of questions for you. Baykeeper talked about impacts and potential impacts to fish species. Potential impacts to Delta smelt are a particular concern because that species in particular is at risk of extinction; but impacts to the other struggling species, Chinook salmon, green sturgeon, are obviously a real issue as well. Can you talk more about the environmental analysis conclusions and staff's conclusions about those impacts and the effectiveness of mitigation to address them.

Ms. Goeden replied: Sure. So, in the State Lands Commission Supplemental EIS/EIR they initially found in the draft document that there was significant impacts to longfin and Delta smelt. But when they completed the final EIR, Supplemental EIR, they reduced that impact to less-than-significant with minimization and mitigation measures. My understanding that those are primarily the fish screens which reduce or eliminate entrainment of larger fish, but it does not reduce or eliminate entrainment of larval fish or eggs, as well as the plankton that they feed on.

And the other impact, I should also have said that for Delta smelt they are primarily located in the Suisun area. Longfin smelt are located throughout the Bay. And the spawning takes place up in the Suisun area for Delta smelt. The other minimization measure that the State Lands staff included was reducing the mining volumes during the spawning months up in Suisun. With that they determined that there were not significant impacts, as I understand it.

Commissioner Nelson continued: That is reducing the volume. In other cases, there are construction windows where we just do not do construction during certain windows because of the sensitivity of fish species. In this case it means there is less dredging but still dredging during those windows, right?

Ms. Goeden agreed: Yes. So, navigation dredging has environmental work windows that are primarily followed. But there are times when navigation dredging mitigates for dredging outside those work windows and there are pretty strict construction windows where that in-water construction does not occur during those times.

Commissioner Nelson continued: Two more questions. First, we are accustomed to thinking about managing the Bay from the perspective of sustainability. This is an unusual circumstance because the sand miners are dredging relic sand. As we have learned that sand is not routinely replaced. We are not replacing all of the sand that is being dredged. How does the McAteer-Petris Act and our regs handle, how does it address the issue of sustainability with regard to sand dredging? Or should we think about that?

Ms. Goeden replied: Yes. The McAteer-Petris Act and the Bay Plan do not specifically speak to sand mining activities, so we do not have policies specific to that activity. We do have policies specific to navigation dredging because navigation dredging is necessary for transport, military and commerce.

The McAteer-Petris Act talks about extraction of the Bay. Extraction of materials from the Bay is something that is requiring a permit. It also looks at minimizing dredging activities in the Bay. Mining is a dredging activity. It is the method that mining occurs.

And as far as the Bay Plan policies, the dredging policies also along with the subtidal area policies, seek to minimize dredging activities in the Bay to reduce impacts to the habitat. Fish and wildlife policies seek to minimize impacts to habitat of whatever activity is happening around fish and wildlife.

So, we would apply multiple policies to this project to get at the question of whether or not the mining is appropriate but not specifically sustainable.

Commissioner Nelson continued: Last question. One of the frustrating things about what we learned, we learned a lot in the last decade in terms of science about sand transport and dredging in the Bay.

We did not learn enough about potential impacts on the far side of the Golden Gate, to bridges and sand bars on the other side of the Gate. And we learned what we learned. I would have loved to have learned more. We just did not answer those questions with the science that was done in the last decade.

I just want to make sure, I am encouraging the staff to make sure that staff is talking with the scientific community about whether and how it is possible to do a better job of answering those questions in the next permit, so we think about making sure that we keep making progress on that front. Do not know where the science is in terms of our ability. Do not know what the cost is. I just want to make sure that staff is looking at that issue and thinking about coming back to us with recommendations.

Ms. Goeden stated: Yes, staff is definitely thinking about that. The scientific studies, each one of them included recommendations for future studies to expand the knowledge.

But I also just want to congratulate the Commissioners and the sand miners and all of the researchers because this set of studies was the first ever studies on sand in San Francisco Bay.

Everything else we know about San Francisco Bay has to do with the tidal marshes and the mud flats. We have very little knowledge of sand structures or sand habitat or wildlife that lives in them. But this was a first foray, so it was my honor to do this work with everybody.

Commissioner Nelson acknowledged: Good point. Thanks for the reminder. Thank you, Brenda.

Commissioner Eklund spoke: My question is that you said that this is really the only source of sand, at least I thought I heard that. Well, I will ask the question. Is this the only source of sand in the Bay Area where you are currently dredging or mining?

Mr. Butler responded: Thank you, Commissioner Eklund. No, we did not indicate that this was the only source of sand in the Bay Area. This is a key local resource of sand in the Bay Area. There are other sources, most of them are now outside. The alternatives for sand are coming mainly from the Central Valley from the Tracy area or up north in Yuba County. And the other source, as Brenda mentioned as well, is being sourced in from British Columbia.

There are other kinds of sand. They are manufactured from quarries. That is a little different. It takes a lot more energy, et cetera, to do that. So, we were making the point that this is a local source of natural sand that is part of the sand resource that comes into the Bay.

Commissioner Eklund clarified: So, this is the only local source. You are saying that you cannot get sand anywhere else locally.

Mr. Butler replied: It is a local source. There are sand operations, for example, in Sunol, the Sunol area. There are manufactured sands from quarries that are in.

Commissioner Eklund verified: In the Bay Area.

Mr. Butler answered: That are in the Bay area as well, yes. This is an important piece of the whole construction materials market. But most of the natural sand, if you had to replace that sand with some from somewhere else, would have to come from the Central Valley or from British Columbia.

Commissioner Eklund stated: So, I used to work for the Army Corps of Engineers. And from what I understood is that some of the dredge material that the Army Corps collects in the hopper dredge or in the clamshell dredges, that there is sand also in that material as well. Have you explored any of that at all?

Mr. Butler replied: That is an interesting question. I think there has been some exploration of some parts of that. For example, I think Bullshead Shoal near the Benicia Bridge actually was an example of that. That has not been pursued as another area. The places that we are mining now are the places where the sand is appropriate for the construction materials use.

Commissioner Eklund continued: Right. But the Army Corps of Engineers does dredge the Bay in some parts and then takes it out past the Farallon Islands and then dumps it out there. Anyway. Thank you very much for answering my question.

Ms. Goeden chimed in: And I will just quickly add, Commissioner Eklund. The Army Corps dredges in Suisun Bay, which is the same sand and same channel that the Suisun Channel Lease comes from. The challenge is there's a couple of challenges, and they are sort of bureaucratic, logistical. There are leases for sand mining through State Lands. The Army Corps dredges sand under federal navigation servitude.

Commissioner Eklund agreed: Right.

Ms. Goeden noted: The miners could bid for a contract from the Army Corps, to take that sand.

Commissioner Eklund acknowledged: Right.

Ms. Goeden continued: One of the challenges is that there is a question of royalties, and then do they pay royalties and get paid for doing the dredging. Their yards are smaller. So, having the space to take all that sand at once, which is what the Army Corps requires for safe navigation, challenges the amount of space they have in their yards. And then there was one more piece. The way the mining currently occurs. They stay in one location. They pull mine from that location. But the Army Corps requires taking of the sand from the whole channel to a specific depth, again for safe navigation.

So, it is not to say it could not happen. But we did talk about it I think around 2010. I have been working on sand since 2002. So, we did talk about it. We kind of got frustrated and walked away but we could revisit that question. But at the moment, the sand that is available to the miners is on the leases.

Commissioner Eklund acknowledged: Right, I understand that. But if in fact this sand is not being replenished and there's a finite amount left, then there's going to be some tough decisions made. I just wanted to make sure that people knew that there may be some alternative options for, quote, sand mining. But it does not necessarily have to come from this particular location. It might be the best kind of sand you get, high quality, pure, whatever. But based on environmental impact analysis, we might want to look at other options. Anyway.

So, thank you very much for answering my questions. Great presentation from staff, great presentation from the mining company and also Baykeeper. Really appreciate all the engagement here and look forward to some real good-hearted discussion about where we go from here. I am excited about it, though, thank you.

Commissioner Zepeda was recognized: Quick question. I know that our jurisdiction is the Bay and what happens within the Bay. But is there any data or anything showing us the impact, environmental impact of not dredging the Bay, and instead just saying we are going to import everything. So, we know that we are going to have more, as they showed in one of their slides, we are going to have a lot more impact on the roads, we are going to have a lot more CO₂. We are kind of between a rock and a hard place because which one is less worse.

Ms. Goeden agreed: Yes.

Commissioner Zepeda asked: But is there that data there? I think that should help us make a decision about what is.

Ms. Goeden stated: I think that data may be available, but I do not know that we have it readily available. If we were to do a no mining at all.

Executive Director Goldzband chimed in: Go ahead, Bill, I apologize. But after Bill I want the counsel to talk briefly about the jurisdiction and authority issue with regard to sand mining and other options.

Mr. Butler spoke: Hi, Commissioner Zepeda. Yes, just to briefly touch on that there. When we submit our full applications later there will be accompanying studies that look at the alternatives. So that would be sand coming from the Central Valley, that would be sand coming from imports, and that would also include an analysis of emissions associated with that.

That was done in the last round of permitting as well and I believe that the studies then showed that, for example, the amount of greenhouse gas that would be generated from importing materials from both a mixture of land-based and coming from Canada would be about three times higher than what it would be from mining sand from the Bay.

Other pollutants are up to 50 times higher in that scenario. But those studies will be updated as part of our upcoming permit application.

Commissioner Zepeda continued: There are so many pieces to the environmental world, right? It was mentioned, the food chain. What is that going to do to the food supply if the fishes cannot eat? What happens there? What is happening to our air? So, there are so many different pieces I am not sure if that is going to also bring some of that just to have a well-rounded environmental because it has to include a little bit of everything, if possible.

Mr. Scharff chimed in: I wanted to respond a little bit to you on that. You raise a really difficult issue in that what are the other factors outside of our jurisdiction that we should consider or not consider, and that would be like greenhouse gas emissions, for instance, what he raises.

Our view of it, and we are still refining this, so it will be in the Staff Report, but our view of this is, you can consider other things in the broad sense of things, but the Commission should not make any decision based on factors beyond BCDC's jurisdiction that harms Bay resources. The McAteer-Petris Act is focused on Bay resources. You are Bay Commissioners. You need to protect the Bay. That is really what it is.

You can look at these other things and think about it, but at the end of the day your charge is to protect the Bay. So, if you told me that you thought, hey, this is really going to be bad for the Bay. It is going to violate the McAteer-Petris Act in a number of ways. But you think greenhouse gas emissions is so important that you think they should mine, I would say that you cannot do. If that makes sense to you. So, anyway, we will do a much better job of writing that up for you, but that was sort of the trying to put it in English for you guys at this point.

Commissioner Zepeda acknowledged: Thank you, and I appreciate that. And I am not advocating one way or the other, I am just being my own devil's advocate.

Mr. Scharff stated: No one needs to advocate for anything, this is just discussion.

Commissioner Zepeda agreed: Yes, yes, so I am just trying to just figure out. Could a case be made to say, well, CO₂ could impact, because the environment is connected, you cannot have one without the other. The impacts will still come back to the Bay if we are having.

Mr. Scharff opined: I think it is too attenuated. At the end of the day, if you really thought that it was such a severe issue, greenhouse gas emissions, and that you had the proof, right. You would have to have clear evidence. Sorry, clear evidence. You would then come back and say, for the health and welfare of society we are going to override the McAteer-Petris Act, which you can do, but it is a different standard. And we almost never do that. Maybe Zack could say if we have ever done it but I do not recall us ever doing it up to this point.

Chair Wasserman noted: John Gioia is the historian here, not me.

Mr. Scharff stated: I do not recall us ever doing it. So, that is the answer.

Commissioner Kishimoto was recognized: Well, I am just really beginning to learn about this. The argument was made that this is a local source, but I still did not understand what percentage of Bay Area demand is met by this source.

Ms. Goeden replied: Thank you, Commissioner, for that question. We did have a presentation at the Commissioner Working Group on this, and the sand miners estimated that 30% of the Bay Area need for sand for the construction industry is supplied by this source.

Commissioner Kishimoto acknowledged: Okay, great. I did just listen to counsel talking about we should be focused just on environmental impact. But is it possible to ask how the economics of this works with the sand miners. Do they pay an impact fee or mitigation fee or extraction fee and who does it go to?

Ms. Goeden fielded this question: Yes, I can answer that. I cannot tell you how much off the top of my head, but the sand miners pay a royalty to the state of California for the State Lands Commission because they are the owners of the subtidal lands under public trust, and so they are the ones who do the leases, and they get the royalty. BCDC simply gets a permit fee, as usual, so we do not benefit from that.

Mr. Scharff noted: And we actually do not get the permit fee.

Ms. Goeden acknowledged: Oh, right.

Mr. Scharff stated: I want to say the permit fee goes to the state of California. So, BCDC gets nothing.

Ms. Goeden agreed: Yes. We get to do some really interesting science, which is fun.

Chair Wasserman added: Different rewards.

Commissioner Showalter was recognized: I thought we were just doing questions and not comments. One of the things I think that is important to think about as we move forward is when you do mining, whether the sand is mined from the Bay or it is mined from a quarry, it is not really being sustained. It is a geologic resource. It moves around. It is a huge resource, but it is a geologic resource. So, the idea of sustainability is a little different with this than it is.

So, when I think about it I think that we want to think about is this mining harmful to the ecology? What does it do to the ecology of the Bay? I think that is the question we need to ask ourselves. I just wanted to share that because I have really thought about this a lot.

And then the other thing I wanted to share that I thought was fascinating and I really thank Brenda for leading these studies is, when you do these new investigations there's a lot. You make progress but you do not get to the end of the story. Particularly the sand budgets.

The sand budgets were fascinating. But the bottom line is, we do not really know whether there is on a long-term basis sand going out on a regular basis to the Bay or coming in. It is going out and in and out and in all the time. As that was said, that is really interesting.

And then the other thing is, we do not really know about the impact of the beaches. So, those are two things I hope we will continue investigating. Because of course we all care about those things.

But I just wanted to mention, is taking this out, whether it is sustainable or not, harmful to our ecology. I think that is what we need to think about. Thanks.

Ms. Goeden offered staff thoughts: Thank you, Commissioner Showalter. I would like to offer staff's thoughts on this. I was able to give a 20-minute presentation on 638-some-odd pages of science so I had to pick and choose a little bit.

But one of the studies that I was unable to really present was the USGS Study from 2023 and 2025 which shows that overall, and this confirms the 2013 Study from USGS as well, is that because of the human activity of continually removing sand and sediment through navigation dredging, flood protection reduction and sand mining, the Bay floor continues to lower in all embayments overall over time. So, while it is a geological resource, and we are talking about a very specific activity here, there is a consequence of human activity to San Francisco Bay.

And the other side of it is that the ebb-tide delta, which protects the Bay from significant wave energy and storm energy, has continued to shrink over the years since we have been monitoring it. And one of the reasons why we have seen the shift in the way the sand is moving is because the ebb-tide delta has come close to the mouth of the Bay now, and it has focused the sand in a different direction than it used to be. And that is hard science. I am happy to share it in another presentation.

Commissioner Showalter added: I think another part of hard science that is just fascinating is that the sand from the gold mining era that went through our system for what was it, almost 70 or 80 years. We figured out during, I think it was the '90s, that it had probably finished.

Ms. Goeden agreed: That is true.

Commissioner Showalter stated: And so, these systems are dynamic.

Ms. Goeden agreed: Yes, absolutely.

Chair Wasserman continued: Public speakers, public comment. I am going to ask them to make it, let's say two minutes.

Mary Jane Schramm spoke: Good afternoon, Commissioners. Mary Jane Schramm for the Marin Audubon Society. Thank you for the chance to comment on reviewing sand mining leases in San Francisco Bay. My background includes 20 years with NOAA's Greater Farallones National Marine Sanctuary, and I serve on the San Francisco Harbor Safety Committee's Marine Mammal Subcommittee, but today I represent Marin Audubon. I will boil this down.

State Lands Commission analysis of the SEIR reports the sand removed is not replenished. It is hard to accept that there have been no significant impacts to habitats and wildlife. Mining is transforming the Bay's physical and biological profile, so it is essential these operations be evaluated in the context of changing ocean climate, sea level rise and other factors, with in-depth study of cumulative stressors to the ecosystem.

Since the last SEIR revision there have been radical changes in special status species' use of the Bay. Gray whales right now are foraging in the Bay between Treasure Island, Alcatraz and Angel Island, mostly on organisms that live in the sand. But SEIR Appendix G, Biological Resources, erroneously reports their incidence is rare to low. That is demonstrably no longer true.

Also, the Central Bay is now an established feeding ground for endangered humpback whales, and as correctly noted in Appendix G, their potential to occur is moderate to high. Humpbacks feed throughout the Bay water column most of the year.

The Bay also supports thousands of sea birds, Brandt's cormorants, Pigeon Guillemots and others nesting on Alcatraz or migrating. Shorebirds suffer habitat loss from altered scour and deposition patterns. Sea floor disturbance, noise and suspended sediments affect bait fish and benthic organisms that can impact their survival.

Julie Thayer commented: Thank you, Commissioners, for the opportunity to comment. My name is Julie Thayer with Farallon Institute. We have conducted ecological research in the Central Bay for over 30 years.

The Supplemental EIR for this process is deficient regarding analysis of wildlife depending on the Central Bay area, as well as functioning as a climate refuge for outer coast marine organisms. The ocean estuary interface is a highly diverse system with many more species and ecological connections than either the outer coast or the inner Bay separately. Sand mining impacts on wildlife at this important interface should be addressed during the permitting process.

So, wildlife usage in the Central Bay has increased exponentially, particularly marine birds and mammals in the sand mining lease areas, and 30-plus species of fishes and invertebrates on which these predators forage. The SEIR does not adequately treat any of this, unfortunately. I do not have time for details here due to the two minutes.

I would like to mention the water quality studies mentioned in the staff presentation. Turbid plumes are continuous during mining, which can sometimes last for many hours on many subsequent days. This is in areas where whales as well as other organisms tied to a central place such as seabirds breeding on Alcatraz are attempting to forage. They do not have another option. The turbid plumes inhibit predator foraging, likely disrupting prey and precluding visual foragers from eating.

The previous biological studies were inadequate in both scope and sampling design and impacts from concentrated mining and space and time have not been considered for species restricted to these habitats. Important fishery species such as Dungeness crab and California halibut utilize this area in higher concentrations than anywhere else in the Bay.

Christian Marsh spoke: Good afternoon. I will make this short. Christian Marsh. I am a permitting and litigation counsel for the permittees, and I have been working on this matter for over 15 years.

I really just wanted to answer a couple of questions that have come up during this back and forth, particularly Commissioner Nelson's questions about the impacts on species.

One of the things that has not been gone into in a lot of detail here are all of the other studies that have been conducted of the Bay and all the other effects. We will look forward to bringing those to bear. But just on the species alone we have biological opinions from NOAA Fisheries, US Fish and Wildlife Service. An essential fish habitat assessment approved by NOAA Fisheries, an incidental take permit from CDFW that shows that impacts to smelt are fully mitigated. Those are just a fraction of the analysis that has been done on species.

I would also note that while the sand studies did not address the impacts of sand mining beyond the Golden Gate, the State Lands Commission undertook multiple rounds of modeling, including most recently as part of the 2025, 2026 SEIR process that did look at modeling and looked at the entire other 20 million cubic yards, or 1.7 million cubic yards, and found that it was imperceptible beyond the Golden Gate. So that has been analyzed and those studies are available and we will be submitting those.

Lastly, I would just say that your Chief Counsel and I are going to have a nice debate over whether you can consider climate change. There are a number of policies that deal with feasibility. There are also policies that deal with the important public benefits that you can approve projects that have public benefits. I cannot imagine a circumstance where you would not consider issues beyond your regulatory authority in analyzing public benefits or feasibility, whether it is technological, economic. You certainly do not have jurisdiction over the economics of these projects, but you can consider that. Thank you.

Chair Wasserman continued: Thank you all for the work you have done and the presentations. We look forward to continuing the dialog. Brenda, do you want to say anything?

Ms. Goeden replied: Thank you, Commissioners, for your time and attention.

12. Adjournment. There being no further business, the Commission meeting was adjourned at 5:08 p.m.