

GPAC Meeting Summary

September 21, 2023, 6:30-9:00 PM

Introduction

Meeting Access

All GPAC Meetings are public, and this GPAC meeting was held in-person at the Lucchesi Park Community Center. Meeting information, meeting recording, presentation slides, and other materials are posted on the City's Meetings site and the Petaluma General Plan website:

www.cityofpetaluma.org/meetings/ and <https://www.planpetaluma.org/>

Agenda

- Welcome
- General Public Comment
- Project and Staff Updates
- Flood and Sea Level Rise Projections Context
- Flood and Sea Level Rise Modeling and Maps
- Public Comment & Discussion
- Final GPAC Comments

Attendance

There were 11 total members of the General Plan Advisory Committee (GPAC) members in attendance, as well as members of the public. The following GPAC members were present:

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|---------------------|----------------------------|
| 1. Dave Alden | 7. Iliana Inzunza Madrigal |
| 2. Phil Boyle | 8. Roberto Rosila Mares |
| 3. Erin Chmielewski | 9. Brent Newell |
| 4. Mary Dooley | 10. Kris Rebillot |
| 5. Yensi Jacobo | 11. Bill Rinehart |
| 6. Sharon Kirk | |

The following GPAC members were absent:

1. Stephanie Blake
2. Jessie Feller
3. Ali Gaylord
4. Kevin Kelly
5. Roger Leventhal
6. Joshua Riley Simmons
7. Elda Vazquez-Izaguirre
8. Lizzie Wallack
9. Bill Wolpert

The following City and consultant staff were present at the meeting:

City of Petaluma:

Brian Oh – Director of Community Development, *City of Petaluma*

Heather Hines – Special Projects Manager, *City of Petaluma*

Heather Gurewitz – Senior Planner, *City of Petaluma*

Gina Benedetti-Petric - Assistant Director Public Works and Utilities, *City of Petaluma*

Pam Tuft – *City of Petaluma*

Monica Aparicio and Maria Galvez – *Spanish Interpreters*

Consultant Team:

Michelle Hernandez - *Raimi + Associates*

Dave Javid – *Plan to Place*

Dave Smith - *West Consultants*

Sebastian Bertsch – *Sherwood Design Engineers*

Meeting Summary

The focus of the 25th GPAC meeting was to discuss the map products from the recently updated modeling of flooding and sea level rise in Petaluma and allow the GPAC to review the modeling and maps of projected mid-century and end-of-century flooding and sea level rise in Petaluma. This introduction to the modeling and maps will be the foundation for future discussions about how to adapt to flooding and sea level rise and plan for future land uses.

Opening

The Spanish interpreters explained how live interpretation listening devices were available for this in-person meeting. Dave Javid followed by taking roll call attendance for GPAC members.

General Public Comment

The following public comment was made at the beginning of the meeting.

- Has the Petaluma Valley Historical Hydrological Study Report been made available for the planning team, and will it be incorporated into the plan? The document looks at the historical and current Petaluma estuary watershed.

Project and Staff Updates

Brian Oh presented project and staff updates:

- City staff and the Climate Action Committee (CAC) reviewed administrative drafts of the Blueprint for Carbon Neutrality (the City's Climate Action Plan) and the team is planning on releasing the Public Draft Blueprint for community review at the end of September. Community engagement on the Draft Blueprint will include an open house, an online comment form, and CAC meetings in October and November.
- The City was awarded a grant for the development of a specific plan for the North Petaluma SMART Station area and to develop affordable housing adjacent to the station.

- Upcoming GPAC meetings will dive deeper into flood resilience planning, land use alternatives, and the public draft policy frameworks.

Please see the presentation slides and the project website (<https://www.planpetaluma.org/>) for more information about the project and staff updates.

GPAC Clarifying Questions & Comments

The following question was asked by GPAC members.

- Will the materials we see tonight be available later?
 - A: Yes.

Flood and Sea Level Rise Projections Context

The floodplain mapping update process followed the best available guidance, was created to be a complex and locally focused model, and was calibrated with rainfall data. The new flood model is more advanced than what was used in the previous General Plan update and the existing FEMA flood maps, as the new model looks at the entire Petaluma watershed instead of just the water within City limits. The flood model considers the specific conditions that contribute to flooding in Petaluma, such as the projected sea level rise, the city's hydrology, rainfall, and the river's high tide. The City intends to guide the General Plan with future flood projections in mind to improve the resiliency of Petaluma.

Please see the presentation slides and meeting materials for more information about the context and background that informed the development of the flood and sea level rise modeling and maps.

GPAC Clarifying Questions & Comments

- Are there warnings for storm surge events?
 - A: Storm surges are caused by atmospheric conditions, making it difficult to know exactly what the impacts will be and how much higher the sea level will be above the base. King tides can be better predicted and spur warnings ahead of time.
- How often should the data be updated, every 5 years? Since it is dynamic, do we need to keep revisiting this?
 - A: For sea level rise, the State issues guidance on new projected sea rise and the likelihood of those projections every 3-5 years. The timeline to update Petaluma's maps and projections would depend on the State guidance and City capacity.
- Can you explain the details and significance of the sea level rise scenarios projections chart and how they affect predictions?
 - A: The dates of historic measurements of sea levels are at the bottom, then in blue are the predictions that range between 6 in. to 4 ft. Each line follows a different climate change RCP scenario, established by the International Panel on Climate Change (IPCC), where the lowest one is the one where the highest emissions and climate change mitigation action occurs. This scenario can lead to less SLR, and the highest is a scenario where no action to mitigate climate change occurs. Though the scenarios with higher numbers, there is more uncertainty about how climate change will affect ice cap melting, weather patterns, and in turn, sea level rise.

- When you consider the likelihood of sea level rise and flooding, how does it compare to the last time this type of analysis was done, like in the last general plan? What was the last prediction and how far from it are we?
 - A: This type of sea level rise and flooding guidance was not available the last time the general plan was updated. The predictions for sea level rise have become more drastic every year.
- These projections use 2018 guidance and data, what is your read of the latest data and the more conservative data coming from OPC and IPCC? Especially since the latest IPCC climate change report has stated that sea level rise is going to be worse every year.
 - A: The end-of-century model is built on assumptions; we know that these numbers will change and get higher. With the mid-century projections, we chose the lower probability/higher sea level rise number to map in order to get ahead of the effects that will happen because we have less time to prepare.
- IPCC said that they have been underpredicting the sea level rise impacts because their models have not been conservative enough, so has previous OPC guidance underpredicted climate change and SLR impacts?
 - A: The state guidance does consider that, which is why they say end-of-century modeling should use the high-emissions RCP scenario that would see a more drastic sea level rise.
- Did you have any models that padded the numbers beyond State guidance?
 - A: They are already padded, and this helps to understand and plan critical infrastructure, which has to be treated even more conservatively, though we were grappling with how and when to go above State guidance. For example, for the midcentury, we looked at the very low probability SLR increase (0.5-5% likelihood), when the State recommends only looking at the 17-83% likelihood range.
- How does the model validation compare to the floods that happened earlier this year?
 - A: We calibrated the models to include the historical events with the most flooding in the City and included the data from the City gauges.

Flood and Sea Level Rise Modeling and Maps

The City has used the FEMA flood maps for the past 20 years, and while they have been updated with new data, they do not account for king tides and sea level rise. The updated maps being presented show the effects of all three phenomena (flooding, king tides, sea level rise). The maps do not anticipate any adaptation measures, as their intent is to be used to guide the City as it develops flood and sea level rise mitigation and adaptation measures in the upcoming decades.

Please see the presentation slides and meeting materials for more information about the flood and sea level rise modeling and maps.

GPAC Clarifying Questions & Comments

- Are regular tides taken into consideration?
 - A: For a 100-year rainfall, we assume the high tide sea level and add the sea level rise projections to that in order to project the worst-case scenarios.
- Is there any consideration of river dredging or is that so minor that it does not have any impact?

- A: The maps do include the latest dredging data from the Army Corps of Engineers.
- Do the maps show when a 1% storm happens at the same time as a storm surge? Can that occur?
 - A: The conditions that make a 1% rainfall event, have different factors than what makes a 1% storm surge. There is some research being done to estimate what the chance is that both would happen at the same time, but it is a complicated statistical question where we know that the chance is very low. One of the ways the model deals with this is that it was built with an understanding of the current tides and was tested with the high tide level.
- Flooding depths are concentrated in corridors and streets, are buildings assumed to be at the ground plane or are they higher?
 - A: We used LIDAR data, a type of data that just captures the ground elevation, not building and structure height.

Public Comment on Agenda

Public comments were presented after the presentation.

- Curious about the relationship between the maps and the FEMA maps that guide homeowner insurance. How will these maps be used for that or are they separate?
 - A: The FEMA map stands alone, as it is a snapshot in time and is updated when improvements are made. It does not change until the City asks FEMA to change it. All of tonight's effort is meant to guide the General Plan and the community to be more proactive about the future so we can be more resilient. Updating the FEMA maps will run concurrently with the General Plan process, and the City will work with consultants to submit data to FEMA and to submit updated maps to FEMA to get approval.
- Since the Army Corps of Engineers did the work on the northern portion of the river, did that get reflected in the maps?
 - A: The Army Corp of Engineers, Sonoma Water, and the City of Petaluma worked together on a project on the northern portion of the Petaluma River which was designed to handle the improved river and water flow, to mimic the historic movement of water, and to better control the velocity of water. The intent of the project was not to change the characteristics of water but to protect that area.
- We should follow the Irish example of building multiple small dams to recharge our water, such as a water reservation area. The suggestion that we move people is not the best because the people who will suffer the most from flooding are low-income people who cannot easily move, such as those in the mobile homes area. We will not have enough funds to move people away from flooding areas, and we should not allow new buildings in areas that will get flooded. Any new development should be a good distance away from the areas expected to flood.
- When you did the models, did they account for the wall that was built along the freeway? There has been more flooding caused by the wall and freeway expansion. The public commenter's property backs up to it and has been tracking the flooding back there since it has drastically changed since the highway has been expanded. Is the LIDAR data from before the completion of the highway expansion (and the new wall) or after?

GPAC Discussion

After the presentation and public comments, GPAC members provided the following comments and questions for the presenters and team.

- The General Plan only looks at what is within the city limits, so for land outside of city limits, will we recommend to the County to use this updated flood modeling data?
 - A: The data that we used for our models is from the County, they are doing a similar General Plan update and will need to deal with these same flooding issues that affect the whole county.
- It seems that upstream of Payren, sea level rise does not have much effect. Are we finding that upstream flooding is what we were expecting or is more drastic?
 - A: The tidal zone is not really changing, adding the sea level rise scenario affects up to the turning basin, the rest of the flooding effects upstream are caused by rainfall. The model considers the higher vegetation levels in the creeks than what was previously assumed, which impacted the projected flooding shown in the maps.
- Can you describe the LIDAR data that was used? Does it remove the building heights and keep the existing infrastructure?
 - A: LIDAR builds a model and grabs the elevation of the surface and once it sees a building, the footprint gets removed and averages that ground level to the surroundings. It does not know what the buildings' first floor is (i.e., whether there are stairs) and that could be a discrepancy when understanding the flooding impacts on each parcel and building.
- Does the model account for the flood water having to go around the building, even though they remove the building heights?
 - A: The model does include the building footprint and that influences where the water would move.
- Will we be talking about watershed health and potential river infrastructure and how that impacts future flooding and sea level rise?
 - A: Yes, within the General Plan, different elements will address it. The GPAC will also be discussing it.
- The General Plan should allow for flexibility to adapt as sea level rise estimates change. My biggest concern is that we are already using older data from 2018.
 - A: Since we are trying to complete the General Plan within a specific window, there is not enough time to re-do these maps. City staff can take updated data to the City Council and Planning Commission every 5-7 years to make focused updates to the sea level rise maps of the General Plan, many jurisdictions already do this. The City could explore that strategy to update as data updates.
- Can we borrow these maps to look at them on our own time?
 - A: The maps are publicly available on the project website and available to be downloaded.
- This was a great meeting to have in person, it is much easier to focus and be engaged.
- The maps have been a long time coming, and the team has done a fantastic job explaining it!

Final GPAC Thoughts

No GPAC members provided comments at the end of the meeting.

The meeting was adjourned at approximately 9 PM.