

Community Resilience & Wellbeing	Increase community adaptive capacity	City asset vulnerability tool	Create tool to evaluate vulnerability of City assets, project and activities. Incorporate tool into City workflow (e.g. permits and expenditures), updates of the Hazard Mitigation Plan, and Capital Facilities Plan. Include training for City staff, Council, and committees in the use of the tool.	2019 Climate Resiliency Recommendations	Vol	M		2	1	3	2.2	Addresses hazards to major City infrastructure but does not adapt them for climate change or provide funding mechanism for the adaptation process.	5	4	3	4.0	Failing to implement this plan identifies top priorities for climate adaptation of City infrastructure.	5	4	4.5		4	4	4.0		3	3.5		3	2	2	2.8	Planning tool is broad but small effect on public health, may support engineering services, and indirectly supports natural system health.	2.00	4.00	4.50	4.00	3.50	2.33	3.37		8		
Community Resilience & Wellbeing	Increase community adaptive capacity	Comprehensive climate outreach & education	Develop comprehensive climate outreach & education programs. The city will partner with NDCS to leverage resources for technical and expert advice plus outreach and education. This includes: - Renewable energy tours; Create a "Renewable energy" or "energy efficiency" home tour. Use a neighborhood garden tour or Master Gardener program for neighbors to learn from each other on how to implement renewable energy or energy efficient upgrades in their homes. - Host community conversations in climate vulnerable locations to educate and train community on how to adapt to those climate impacts. - Involve high school students in climate work and developing a yearly "Climate Action Report Card". - Partner with environmental education organizations such as AmeriCorps or the County Health Department on major climate-related events to raise awareness and increase adoption of climate-friendly activities, beginning with a Climate Week.		Vol	C		1	1	4	2.1	Is purely a resilience action thus is rated 1 for mitigation, and is a voluntary education/outreach action thus has very low likelihood of addressing goals. Addresses a higher than average adaptation need as it advances the ability to prepare for climate impacts.	5	4	4	4.3	Will likely cost nothing to the community, and will require some funding from the city but cost much. Cost of inaction is high for those in the community who have little to no knowledge on climate change and adaptation measures.	3	5	4.0	City will be a technical advisor and official partner, strongly supported by city staff and council, and no constraints identified.	3	3	3.0	No comments from CAPG/PC	5	5	5.0	Will benefit everyone, but particularly to those who are most impacted by climate change and would benefit from climate education.	5	3	2	3.3	Climate change education will build community resilience, in turn benefiting public health for the whole community for over 5 years. Some jobs may be created via educational opportunities, and natural systems will indirectly benefit from increased knowledge and awareness of ecosystems/climate change.	2.00	4.33	4.00	3.00	5.00	3.33	3.67		9	
Community Resilience & Wellbeing	Increase community adaptive capacity	Housing Action Plan implementation	Implement key provisions of the Port Angeles Housing Action Plan. This includes: - Implement Cottage Housing Development (CHD) that allows small lot single family housing developers to construct these types of housing products in feasible and appropriate single family neighborhoods including Residential Single Family (RS-7, RS-9, and RS-11) zones where the added density will benefit from valuable distances to existing transit, school, employment, community facility, and other supporting services. (Complete) - Expand the definition of allowable innovative, functional, and cost effective housing products such as duplex, attached single family, town or row houses, tandem houses, minor houses, congregate housing, micro housing, small efficiency dwelling units (SEDU), and mixed-use structures among other in the Residential Medium Density (RMD) and Residential High Density (RHD) zones. (Complete) - Subdivide land into parcels that may be	Port Angeles Housing Action Plan	Reg	C		4	1	5	3.3	Is regulatory project that will directly enhance resilience. Action is a mitigation 1 but action addresses a major need and is thus scored 3 for adaptation need.	4	3	4	3.7	Cost to the community is likely minimal, moderately likely to experience some political pushbacks, however many actions are already in progress.	5	3	4.0	City will be implementing resilience, and is likely to experience some political pushbacks, however many actions are already in progress.	5	4	4.0	Support from CAPG/PC members	5	5	5.0	Reduces vulnerability to those who face historic inequities.	5	4	2	3.7	Significantly benefits public health, will likely spur some green jobs might indirectly support some natural systems	3.33	3.67	4.00	4.50	5.00	3.67	4.07		11	
Community Resilience & Wellbeing	Increase community adaptive capacity	Hazard Mitigation Plan implementation	Implement key provisions of the 2019 Hazard Mitigation Plan: - Promote FireWise building design for construction in the Vision Master Plan and Housing Programs. - Develop alternate water supplies to provide reserve water sources to be used in event of drought or water shortage. - Develop advanced warning systems. - Identify Elders and other vulnerable populations to prioritize for mitigation and disaster assistance. - Develop and/or improve Emergency Plans such as Evacuation Plans, Tribal Records Protection Plan, Continuity of Operations Plan, etc. - Update flood assessment. - Create and expand water efficiency/conservation programs.	2019 Hazard Mitigation Plan	SFP	C		2	1	3	2.2	Does not address emissions	4	2	4	3.3	Failing to implement will risk significant costs/damages to SDCME in the community.	3	4	3.5	City likely to partner with County to implement.	4	4	4.0	Addresses vulnerability to those in fire-prone areas generally located in western PA, which is lower income (noting some homes downtown and along bluffs and shorelines that are more affluent).	5	4	4	4.0	Reduces vulnerability to those in fire-prone areas. Doesn't perpetuate historic inequities, but doesn't necessarily benefit those communities either.	5	4	3	4.0	Will benefit the public health of those living in fire-prone areas and may indirectly benefit natural systems by reducing avoidable fire risk. Might create some green jobs.	2.00	3.33	3.50	4.00	4.00	4.00	3.37		12
Community Resilience & Wellbeing	Prepare for extreme events	Wildfire urban interface	Provide education and incentives for new construction and incentivize existing buildings to install venting and other features that resist ember wash ignition.	2019 Climate Resiliency Recommendations	Reg	C		4	1	3	2.3	Mitigation is a 3 as this is purely a resilience action and addresses an average adaptation need (wildfires). Has a high likelihood of addressing goals as it directly enhances resilience and is a regulatory action, but the scope of those who are reached is likely limited.	3	4	4	3.7	Might add additional cost to housing developers and to houses who need to install venting. Will likely result in low cost to the city as it is a simple policy change. Cost of inaction is high for those who live in forested areas, and are at high risk of wildfires.	5	5	5.0	City would be main implementer and funder. City staff and council seem to be supportive and did not identify any anticipated challenges.	3	3	3.0	Identified as a low priority action from CAPG/PC	4	3	3.0	Reduces vulnerability to those in fire-prone areas. Doesn't perpetuate historic inequities, but doesn't necessarily benefit those communities either.	3	3	2	2.7	Will benefit the public health of those living in fire-prone areas and may indirectly benefit natural systems by reducing avoidable fire risk. Might create some green jobs.	2.67	3.67	5.00	3.00	3.50	2.67	3.47		13	
Community Resilience & Wellbeing	Prepare for extreme events	Climate resilience & emergency planning	Continue to collaborate with emergency planning partners to integrate climate considerations into emergency and hazard mitigation planning. - Implement city-wide emergency planning exercises and education (i.e., Map Your Neighborhood) to build community resilience during emergency events. - Create climate resiliency hubs at key locations (e.g., library) to support residents during extreme events such as flooding or heat waves.	November 2021 CAPG Meeting	SFP	C		3	1	3	2.2	Action is purely a resilience action thus is rated a 1 for mitigation. Is moderately likely to address goals as the action is voluntary, directly benefits resilience and is trackable. Addresses a average adaptation need.	5	4	5	4.7	Will likely cost the community nothing and the city a bit to implement city-wide emergency planning education and amend haz mit. plan. Cost of inaction is high as the community may experience otherwise avoidable damages if not prepared for emergencies.	5	4	4.5	City would be implementer and action is unlikely to encounter constraints.	4	4	4.0	Support from CAPG/PC members	5	3	4.0	Action does not specifically benefit a certain group of people or community but will reduce vulnerabilities to everyone.	5	3	2	3.3	Indirectly benefits natural systems (considering climate change in the haz mit plan will likely provide more accurate predictions as to which critical areas/ecosystems will be harmed). Everyone's health will benefit from increased emergency response education, and minimal jobs may be created through	2.33	4.67	4.50	4.00	4.00	3.33	3.77		14	
Ecosystem Health	Increase opportunities for carbon sequestration and storage	Forest and marine habitat preservation	Partner with organizations and individuals (e.g., National Marine Sanctuary, Olympic NPS/NF, NOAA, PSP WA DNR, WA DFW, FMC, and private timber landholders) and the Lower Elwha Klallam Tribe to preserve forest and marine habitats, developing new strategies where needed.	Workshop action				5	5	5	5.1	Preservation of carbon sequestration, habitats, ecosystem services.	4	4	2	3.3	The partnerships potential to produce large benefits with very little cost/investment through partnerships.	3	2	2.5	Potential for constraints to be encountered but political will is shifting and challenges would likely be overcome.	4	5	4.5	Large number of partnerships and regional support.	5	3	4.0	Will benefit all.	5	5	5	4.0	Minimal constraints to public health, greater benefits to economy and preservation of natural systems functioning.	5.00	3.33	2.50	4.50	4.00	4.00	3.97		15	
Ecosystem Health	Restore and protect natural habitat	Urban tree canopy, parks, and open space	Protect urban tree canopy, parks, and open space. This may include: - Develop a tree protection ordinance that emphasizes older trees - Incentivize urban tree planting, especially in public areas (e.g., street planting strips)	2019 Climate Resiliency Recommendations	Reg			4	1	2	2.3	Action is mainly a resilience action and is in the retail system sector thus is rated low for mitigation, however has a high likelihood of addressing goals as it is a regulatory project that directly benefits resilience reduces GHG emissions. Adaptation is scored 2 as it addresses a minor need	3	3	5	3.7	Will likely impose some higher costs on developers for limiting areas for development, and will cost the community to plant trees. Will likely incur moderate costs to the city to develop ordinance and incentivize urban tree planting. Cost of inaction is high for animals, vegetation and failing to implement will likely exacerbate heat island	5	5	5.0	City will be implementer. Council and staff are supportive of action and didn't identify any constraints.	4	4	4.0	Support from CAPG/PC members	4	3	3.5	Protecting urban tree canopies equally in the city will benefit areas and communities with the least amount of green spaces (usually underserved communities as research shows richer communities have more green spaces).	5	2	5	4.0	Access to green areas is proven to benefit mental and physical health, thus this action will present a significant benefit public health of a portion of the population for over 5 years. Tree planting job/volunteer opportunities will arise, but likely not a ton of green job opportunities. Action directly supports many natural systems/areas.	2.33	3.67	5.00	4.00	3.50	4.00	3.67		16	

Community Resilience & Wellbeing	Prepare for extreme events	Flood vulnerability and risk	Work with state partners to encourage FEMA to incorporate climate change in rate maps and guidance.	2019 Climate Resiliency Recommendations	SPP	C		2	1	3	2.2	Addresses an important need but action is indirect and steps away from results that will enable climate adaptation.	5	5	3	4.3	FEMA mapping that included SLR would not cost the community and the results would not change the risk to the community from SLR flooding. However, the results could provide funding opportunities for later adaptation.	1	4	2.5	Very little involvement or resistance is likely	4	4	4.0		4	3	3.5	Sea level rise would primarily affect the communities near the waterfront, whom rarely suffer from historic inequalities. Updated Flood maps may better inform vulnerability of western PA communities, which were cut off during recent atmospheric rivers.	1	1	1	1	1.0	The assessment will have little change on the existing and future hazards of SLR.	2.00	4.33	2.50	4.00	3.50	1.00	2.96		
Ecosystem Health	Restore and protect natural habitat	Native plant landscaping	Incentive use of native plants landscaping in residential, commercial, and industrial settings within the City (e.g. partner with the County, Callam Conservation District, and Lower Ewhah Klamath Tribe's Natural Resources Department).	2019 Climate Resiliency Recommendations				3	1	1	1.1	to moderately likely to address goals as it is voluntary with incentives but doesn't address a major mitigation or adaptation need.	3	3	1	3.2	Will likely result in moderate costs to the community to plant native vegetation, and will require some investment from the city but not much as they will partner with other entities. The cost of inaction will likely be very low.	5	4	4.5	City is regulator and implementer, and seems unlikely there will be challenges per council/staff feedback	3	3	3.0	No comments from CAPS/PC so neither support nor opposition	3	3	3.0	Action does not particularly reduce vulnerabilities for or benefit communities nor harm them.	4	1	3	1.2	Natural systems will directly benefit from native vegetation however the scope is limited and the action isn't targeted at critical areas. Community wide public health will benefit from increased green spaces, and these benefits are likely to persist for some time. This action, however, will likely not support many green jobs.	1.67	2.33	4.50	3.00	3.00	2.67	3.77		37	
Ecosystem Health	Restore and protect natural habitat	Critical area protection	Add climate impact overlays to existing "Critical Areas". Create critical area flood mapping beyond FEMA's historical flood data to inform future development and support prohibition of permanent infrastructure in those areas.	2019 Climate Resiliency Recommendations	Reg			2	1	4	2.1	The regulatory approach could help plan for and prevent climate hazards and prevent new development in hazardous locations.	4	4	4	4.0	Prevent future development in climate hazard zones.	3	4	3.5	DOE has been laying the path for CAO integration of climate change for years. The public is increasingly accepting of the science.	4	4	4.0	Assumed that there is community support for this action.	4	2	3.0	Most development along shorelines is by communities that have not faced historic inequalities.	4	1	4	1.0	Reducing new development in areas vulnerable to climate would provide long-lasting benefits. Minimal benefits to green economy.	2.33	4.00	3.50	4.00	3.00	3.00	3.27		35	
Ecosystem Health	Restore and protect natural habitat	Coastal erosion reduction	Encourage soft armoring of shorelines to protect infrastructure and habitat, particularly along Ediz Hook. Implement native vegetation and other natural resource management practices to reduce landslides and coastal erosion	2019 Climate Resiliency Recommendations	SPP			3	2	5	3.1	Beach nourishment would increase resilience and enable transition of coastal wetlands. Soft shore is not appropriate on bluffs and landslide areas.	3	3	4	3.3	Beach nourishment will increase the resilience and decrease the vulnerability of shores/habitats to coastal flooding.	5	4	4.5	Some uncertainty on this one.	3	3	3.0		3	3	3.0	Most development along shorelines is by communities that have not faced historic inequalities.	3	3	4	1.3	Greatest benefit to natural systems, including eelgrass/salt marsh along Newell/PA side of Ediz Hook.	3.33	3.33	4.50	3.00	3.00	3.33	3.47		20	
Ecosystem Health	Restore and protect natural habitat	Shoreline Master Program updates	Incorporate climate change more explicitly into the Shoreline Master Program.	2019 Climate Resiliency Recommendations	Reg			2	1	4	2.2	The regulatory approach could help plan for and prevent climate hazards.	5	4	4	4.3	This regulatory approach will enable safer setback distances and prevent poor planning in the future.	3	4	3.5	DOE has been laying the path for SMP integration of climate change for years. The public is increasingly accepting of the science.	4	4	4.0	Assumed that there is community support for this action.	4	2	3.0	Most development along shorelines is by communities that have not faced historic inequalities.	4	1	4	1.0	Reducing new development in areas vulnerable to climate change would provide long-lasting benefits. Minimal benefits to green economy.	2.33	4.33	3.50	4.00	3.00	3.00	3.37		21	
Ecosystem Health	Restore and protect natural habitat	Salmon habitat protection	Work with local ecological restoration partners (e.g., Callam County Streamkeepers) to monitor and analyze climate change impact at salmon stream restoration sites and 6 creeks in the City. Use the Habitat Recovery Pilot Program to support restoration efforts.	2019 Climate Resiliency Recommendations	SPP			1	1	5	2.3	Monitoring does not result in climate adaptation.	4	5	1	3.3	Low/no cost.	1	5	3.0	Very easy to implement.	5	4	4.0	Stakeholders and partners support this use of existing data. Increased residential support score based on workshop 2 feedback.	3	3	3.0	Monitoring will not affect equity.	1	2	5	2.7	Engineering services may be employed; salmon are a high priority critical habitat	2.33	3.33	3.00	4.50	3.00	2.67	3.07		23	
Transportation	Decrease transportation GHG emissions	Transit infrastructure, equity, & safety	Support Callam Transit in expanding public transit infrastructure and services to ensure access to buses available at all times and decrease the need for travel in single-occupancy vehicles. This includes: Develop strategies that promote transit equity and community safety by considering the most vulnerable, then design and implement transit to support pedestrians, bicycles, mass transit and individual cars, in that order. Increase use of the park and ride system. Implement fare-free transit within Port Angeles city limits. Explore a high-occupancy vehicle lane on Highway 301 between Carlborg and the Port Angeles UGA. Reference Callam Transit's Comprehensive Operational Analysis for implementation	2019 Climate Resiliency Recommendations	Cap	C		5	5	1	3.3	Assesses a major mitigation need (transportation) and solely reduces GHG emissions. Thus is rated low for adaptation. Action has a very high likelihood of addressing goals as it is a capital infrastructure project that directly reduces emissions.	5	1	3	3.0	Will likely cost little to nothing for the community and may save money for public transit riders. Will likely cost the city a significant amount, even if partners with Callam Transit. Cost of inaction is likely moderate, as failing to make incentives and ease the transition away from SOV and toward alternative transit modes will continue increasing transportation emissions which	4	3	3.5	Wasn't sure whether City role should be rated 4 or 5 but because they are supporting Callam Transit and not necessarily along the implementing it rated as a 4. Might experience some pushback with, for example, fare free transit and other actions that could be seen as raising taxes.	3	3	3.0	Moderate support from the community.	5	5	5.0	Will benefit all, particularly those living in historically underserved communities and low income individuals.	4	5	1	3.3	Increasing access to public transit and thus improving quality of life will benefit many communities for a long time. Building road infrastructure will support many green jobs. However, development of new infrastructure will likely not support healthy natural systems and may impact habitats in undeveloped areas.	3.67	3.00	3.50	3.00	5.00	3.33	3.77		30	

Transportation	Decrease transportation GHG emissions	Increase EV use for general public	Work with Peninsula Regional Transportation Planning Organization (PRTPO) to develop strategies and expand infrastructure to increase use of electric vehicles. This includes: Develop and implement an EV infrastructure plan Identify top barriers to EV adoption and develop plan to address them Explore changes to code to incentivize or require EV charging in municipal facilities and some land use zones (in excess of current state law)	2019 Climate Resiliency Recommendations	Cap	C		5	5	5	1	3	Has a very high likelihood of addressing goal as it is a capital infrastructure project that will result in direct GHG emissions reductions that is broad reaching. Transportation is a major mitigation need for the city, thus it is scored a 5. It is a sole emissions reduction action, thus the adaptation need is a 1.	5	3	4.3	Cost to the city is moderate as they will need to develop and fund the EV development plan (the cost of funding the strategies would be a significant amount, but because the action is only laying to develop strategies and not necessarily implement them, just the cost as only moderate). Cost of inaction is high, as transportation emissions account for a large chunk of PA's emissions	5	4	4.5	City will be able to implement and regulator (even with partnership), and City staff and council did not identify any constraints	3	3	10	No comments from CAPG/PCP so neither support nor opposition	4	2	3.0	Certain parts of the community will benefit from increased EV use and infrastructure, but this will largely be folks with moderate-high income. Thus, this action may harm those who do not have the \$ to afford EVs.	1	4	2	2.8	Minimal support to public health, but action will likely support a significant amount of green jobs and will indirectly support natural systems by bettering air quality	3.67	4.33	4.50	3.00	2.33	3.67	31			
Transportation	Decrease transportation GHG emissions	Biking and walking infrastructure	Develop and expand infrastructure to support biking, walking, and e-mobility (e.g., scooters), including walkability and bikeability across highways, busy interchanges, and other busy streets (e.g., Blyn).	2019 Climate Resiliency Recommendations	Cap	C		4	5	1	1	3	Building path/bike infrastructure will directly reduce GHG emissions and thus is very likely to address goals. Action addresses transportation which is a very major mitigation need, thus rated a 5. Because it will solely reduce GHG emissions, it scores a 1 on adaptation need.	5	2	2.7	New infrastructure will likely result in high costs to the city, didn't rate a 1 because City staff comment about leveraging state/federal funding. Likely minimal to no costs to the community. Cost of inaction is likely very low, however would result in externalities from transportation emissions	5	3	4.0	City will be able to implement and regulator. May experience some challenges.	5	5	10	Large support from CAPG/PCP	3	3	3.0	Action doesn't have direct equity considerations so it neither benefits or harms vulnerability to the population. If infrastructure was explicitly expanded to overburdened communities, the scores would likely change to 4's.	4	4	1	3.0	Building and bike routes will largely benefit public and mental health of those who have access to the routes, and will support green infrastructure. However, development of these routes will likely negatively impact habitats.	3.93	2.67	4.00	5.00	3.00	2.67	32			
Transportation	Decrease transportation GHG emissions	Municipal fleet electrification & life reduction	Support and incentivize electrification and lower emissions of transportation in the City. Create incentives to move City transportation fleet toward electrification in order to reduce GHG emissions and improve local air quality (e.g., reduce local car tabs for electric vehicles and develop electrical charging stations around the City). Establish a reduced idling policy for all government vehicles. Incentivize carpooling and trip reduction. Identify municipal operations that could be accomplished without a vehicle or with a less carbon-intensive fuel source (e.g., e-scooter or take transit for meter readers)	2019 Climate Resiliency Recommendations	Cap	M		3	1	4	2	2	Moving towards a hybridized and EV vehicle fleet, being a leader in EV charging stations installation, and being mindful of more efficient transportation practices will have a measurable impact on overall emissions.	4	2	4	3.3	Moving towards a hybridized and EV vehicle fleet and being mindful of more efficient transportation practices will have a measurable impact on overall cost	3	2	2.5	Requires leadership support and Council Action for prioritization	4	4	4.0	Access to EV infrastructure and a reduction of fuel costs for the City's vehicle fleets are a big win for tax payers.	4	2	3	3.0	Public, Municipal EV charging stations supports equity	4	2	3	3.0	Transition to EV and hybrid transportation shares benefits with green purchasing, transit support, PRTPO support.	2.67	3.33	2.50	4.00	5.00	3.00	3.47	33
Ecosystem Health	Restore and protect natural habitat	Harmful algal bloom monitoring	Work with Port Angeles Harbor Cleanup partners, as well as NOAA, to increase funding to monitor harmful algal blooms in the Port Angeles harbor.	2019 Climate Resiliency Recommendations	Cap			4	1	4	3	2	Action addresses low mitigation need as water is a relatively low priority for the City. Action addresses an average need and is likely to address goals as it is a capital project.	5	3	4	4.0	Will likely cost the community little to nothing but will require city funding (didn't score lower because partnerships decrease costs for the city). The cost of inaction is high for marine species. If algal blooms are not monitored, aquatic species will be at greater risk which will in turn harm economies dependent on fish etc.	4	3	4.5	City will be funder of implementing entity. No constraints were mentioned by staff/council.	5	3	4.0	Neither support nor opposition from CAPG/PCP members. Support from community to change algal blooms in community workshop.	3	3	3.0	Action doesn't particularly benefit or harm underburdened communities	2	2	2	2.0	Will benefit the public as monitoring algal blooms will help inform lake/beach closures and keep the public safe. Minimal algal monitoring jobs may be created. The benefit to natural systems is likely minimal as it algal blooms are only monitored, not acted on in this action.	2.67	4.00	4.50	4.00	3.00	2.00	3.30		
Ecosystem Health	Increase carbon sequestration potential	Extension of timber harvest rotation	Work with the County to encourage timber companies to extend timber harvest rotation times, as longer aged trees will sequester more carbon.	2019 Climate Resiliency Recommendations	SPP			1	5	3	3	1	More carbon sequestration from local forests can result in larger scale change. Unlikely to achieve goals as depends on voluntary actions that would cost timber companies revenue. Outreach to address climate risks and mitigation.	4	5	1	3.3	The cost is very low, failing to implement may not result in additional cost/damages to the community.	3	3	3.0	Moderate challenges in asking for profits to be reduced.	3	3	3.0	Neutral	4	1	3	2.7	Benefits to public health, very little impact on green jobs, supports healthy natural systems.	3.00	3.33	3.00	3.00	3.00	2.67	3.00						
Transportation	Increase transportation resiliency	Transportation vulnerability	Expand the WSDOT climate vulnerability assessment to include non-state roads and other transportation systems to ensure that transportation investments are resilient to future climate impacts.	Kenmore Climate Action Plan - draft	SPP	M		2	1	4	2	1	Vulnerable infrastructure/roads are important to resilience of Port Angeles community.	3	3	3	3.7	Greatest cost is inaction if roads fail and isolate the City.	3	4	3.5	Unlikely to be challenged and resilient transportation corridors/accesses	5	4	4.0	Community understand needs of a vulnerable community: single road in/out of western PA that flooded during recent atmospheric rivers.	3	3	3.5	Addresses needs of a vulnerable community: single road in/out of western PA that flooded during recent atmospheric rivers.	5	2	3	3.8	Public health is insured with functional access/roads out of town. Natural systems may have improved function where impeded by unsustainable roads.	2.33	3.67	3.50	4.50	3.50	3.33	3.37	38	
Buildings & Energy	Mitigate energy-related GHG emissions	Energy efficiency retrofits	Incentivize retrofits to include energy efficient retrofits, such as weatherization and energy efficient appliances, while avoiding the gift incentive. Prioritize based on conservation potential and ability to alleviate financial stress for those who are energy-burdened.	2019 Climate Resiliency Recommendations	Reg	B		3	2	3	3	2	Action is voluntary but directly reduces emissions via financial incentives. Action is in the energy sector which is a relatively low mitigation need since PA energy grid has a low emissions profile. Action addresses energy grid resilience which is an average adaptation need.	2	3	2	2.3	New energy appliances will likely result in significant costs to the community even with incentives. Cost to city is likely minimal as there are no infrastructure plans, just incentives. Because the PA energy grid is already pretty clean, cost of inaction is low. Cost of inaction is likely moderate to some of the community; increased energy cost without energy efficient appliances.	4	5	4.5	City would be the primary funder/resource provider but may or may not fund the incentives and based on city council/staff feedback, there doesn't seem to be significant constraints.	3	3	10	There were no comments from PC/CAPG so I went with a 3.	4	4	4.0	Prioritizing the most energy burdened will reduce their vulnerability; these retrofits will mostly benefit those who are energy burdened, and some who are not.	3	2	2	2.3	Will likely benefit the public health of those most energy burdened by bettering air quality, however will likely result in minimal green jobs and natural system support.	2.67	2.33	4.50	3.00	4.00	2.33	3.37	39	
Ecosystem Health	Restore and protect natural habitat	Wildlife corridors	Enhance, restore, and protect wildlife corridors to help wildlife adapt to climate impacts. Potential corridors include: -Six creek valley -Marine bluff -Areas within west-side forests	2019 Climate Resiliency Recommendations				3	1	3	3	2	Addresses major need for wildlife community but not entire community.	3	3	2	2.7	Moderate costs to apply, less cost for inaction.	5	4	4.5	Unlikely to encounter challenges that could not be overcome.	4	4	4.0	Moderate costs to apply, less cost for inaction.	3	3	3.5	Wildlife corridors in west-side forests could reduce vulnerability in western PA lower-income communities	1	3	3	2.8	Greatest benefit to natural systems and green engineering/ec economy.	2.33	2.67	4.50	4.00	3.50	2.33	3.30		

Buildings & Energy	Mitigate energy-related GHG emissions	Energy efficient home heating sources	Incentivize homeowners to switch heating sources from wood-burning stoves and propane to high-efficiency electrical heaters and other less carbon intensive sources. Leverage existing BPA program and state and federal funding sources.	2019 Climate Resiliency Recommendations	Vol	C	3	2	3	2.2	Voluntary financial incentives are moderately likely to address goals. Mitigation is low so the energy is a low emissions source. Adaptation is moderate as it addresses an average need	2	4	1	2.3	Energy efficient heaters/stoves will likely post a significant cost to some of the community even with incentives. Incentives are minimal costs to the city, especially if federal funding is leveraged. Because the PA energy grid is already pretty clean, cost of inaction is low.	5	4	4.5	City would be implementing and regulator of incentives. No comments from council, and city staff did not identify wood stove providers/main users who may not support as much.	3	3	3.0	No comments from PC/CAPG so rated a 3 - some like stoves and may not want to switch; affects wood stove providers/main users who may not support as much.	4	5	4.5	Action doesn't particularly benefit overburdened communities - benefits are distributed equally (not equitably) Distributes benefit everyone, particularly those who cannot afford electric appliances. Reduces vulnerability to those who have not yet replaced electric appliances.	4	1	2	2.8	Benefits some population (those with propane/wood burning stoves) for a significant amount of time. Doesn't necessarily spur any green jobs and indirectly supports healthy natural systems by bettering air quality.	2.67	2.33	4.50	3.00	4.50	2.33	3.27	40
Buildings & Energy	Mitigate energy-related GHG emissions	BPA renewal agreement	Review and renegotiate Bonneville power franchise agreement and ensure renewable, resilient, and low-GHG emission sources that protect healthy habitat for salmon and other aquatic species. Include the option to purchase green energy from the grid and other power providers.	2019 Climate Resiliency Recommendations	SFP	C	4	2	1	2.5	Action is in the energy sector which is a relatively low mitigation need since PA energy grid has a low emissions profile. Scored 3 for adaptation need since action is solely an emissions reduction action, but is likely to address goals.	1	2	3	2.0	Cost will likely be minimal to none to the community, will cost the city a bit to renegotiate, and will result in moderate cost damages if not acted upon.	3	3	3.0	City will be a critical partner in the renegotiation (I) and there may be some challenges in ensuring affordable energy for the community.	3	3	3.0	Neither strongly supported/ opposed by PC/CAPG members	5	3	4.0	Reduced energy costs will benefit everyone but not one community more than the other.	3	3	4	3.5	Will moderately benefit public health and spur support green energy infrastructure, and will significantly benefit aquatic species.	2.33	2.00	3.00	3.00	4.00	3.33	2.97	41
Buildings & Energy	Mitigate energy-related GHG emissions	EV parking requirements	Mandate that all multifamily housing and other types of housing have EV parking capacity. Include incentives in the code to support bicycle storage (e.g., racks) and ride share amenities.	November 2021 CAPG Meeting	Reg	C	5	5	1	3.0	Action will directly and significantly reduce emissions and to addressing a major mitigation need (and will) but since it is a emissions reduction action it is scored 1 for adaptation	2	3	3	2.7	Will likely impose significant costs to the community and moderate costs to the City by providing incentives, and the cost of inaction is moderate.	5	2	3.5	City will be the lead and will likely face some political opposition as it is mandated (constraints identified by Council/staff).	2	3	2.0	Some opposition from CAPG/PC members	5	4	4.5	Doesn't affect vulnerability or fairness but costs will likely be felt hardest by those already experiencing vulnerabilities. Will benefit those who live in MFD the most so they can easily access EVs and bike infrastructure. Reduces barrier of access to EV infrastructure.	5	3	2	3.5	May benefit public health but benefits are not clear, will significantly support green economy, and will indirectly benefit natural systems from reduced emissions. Will significantly reduce transportation emissions and thus benefit public health. Will indirectly benefit natural system and will moderately support green jobs but not	3.67	2.67	3.50	2.00	4.50	3.33	3.47	42
Buildings & Energy	Increase resiliency of energy systems	Community renewable energy grid	Invest in capital projects that develop community energy projects (e.g., local microgrid, local solar project) to ensure there is energy supply redundancy, especially with the City or neighborhoods lose power. Consider partnerships with Chatham PUD and low- or zero-rate homeowner credit.	2019 Climate Resiliency Recommendations	Cap	B	5	2	4	3.0	This capital project/infrastructure have a high likelihood of reducing emissions. Action is in the energy sector which is a relatively low mitigation need since PA energy grid has a low emissions profile. Action addresses energy grid resilience which is an average adaptation need and weatherization/home heating which is a higher adaptation need.	4	1	3	2.7	High cost to city as it's a capital infrastructure project, minimal cost to the community. Cost of inaction is moderate while investing in these projects will likely decrease frequency of future blackouts, there are other ways to do so (i.e., residential and commercial energy conservation strategies)	5	2	3.5	City will be primary funder and implementer in partnership with other entities. Council says community buy-in for solar is a constraint, plus it would be expensive to implement. Technological constraints to microgrid technology.	3	3	3.0	Mixed support from PA / CAPG members	5	5	5.0	Will reduce vulnerability for all, and particularly those who are most affected by black/brownouts, most likely low-income, elderly, and BIPOC individuals.	5	4	2	3.7	Making the energy grid more resilient benefit the public health of significant portions of the population for years to come, especially as energy demands increase. Investing in renewable energy projects will indirectly benefit natural systems by moving to cleaner energy sources. Many green jobs will likely become available through these	3.67	2.67	3.50	3.00	5.00	3.67	3.47	43
Buildings & Energy	Reduce vulnerability	Climate-smart finance policies	Disincentivize building in high-risk areas, add filing to properly record, and financially prepare for development that may still continue in high-risk areas such as stream valleys and marine bluffs (e.g., require long-term bonds)	2019 Climate Resiliency Recommendations	Reg	C	4	1	5	3.0	Regulatory action that will directly enhance resilience, is purely mitigation so 1 for adaptation and 5 for adaptation as land use is a major adaptation need.	3	2	4	3.0	Will likely result in moderate costs across the community, will impose high costs to the City and cost of inaction is high particularly for those living in high risk areas.	5	2	3.5	City is implementer but is likely to encounter challenges given Council feedback that development shouldn't be allowed in high risk areas. Unsure how much stakeholders/partners would support - assume there will be those who support and those who oppose	4	3	3.0	Opposition from CAPG/PC member. Strong support from workshop members to prohibit development in critical areas. Unsure how much stakeholders/partners would support - assume there will be those who support and those who oppose	4	1	4	3.0	Reduces vulnerability in hazard areas will likely benefit natural ecosystems. No or minimal investment in a green economy, but will benefit the health of those already living in hazard areas and those who might develop in the future. Some natural systems will significantly benefit from disincentives but not a 5 since its incentive based.	3.33	3.00	3.50	3.50	3.50	3.00	3.37	46				
Buildings & Energy	Reduce vulnerability	Retrofit buildings for vulnerability	Disincentivize development and remove existing infrastructure in the coastal nearshore (i.e., managed retreat). If not possible, retrofit infrastructure for coastal flooding and sea level rise. Consider hard shoreline protection in certain areas, such as bluff crests where infrastructure needs to be realigned and protected. This action would be informed by the SLR vulnerability assessment.	2019 Climate Resiliency Recommendations	Cap	C	4	1	5	3.0	Action will significantly enhance resilience. Because action is purely resilience, mitigation is a 1 but adaptation is a 5 as it addresses a major need	2	2	5	3.0	Costs are likely high to those wanting to develop near the coast. Cost to the city is likely large to retrofit existing buildings. Cost of inaction is high.	5	3	4.0	City will be lead, and will likely experience political constraints (some think development should be halted all together and we a proactive approach should be taken, some think a more reactive approach is acceptable) May encounter push back be development along coastline is highly valuable.	4	4	4.0	Support from CAPG/PC members	4	3	3.5	Reduces vulnerability for those living near the coast, and distribution of benefits doesn't perpetuate historic inequities.	5	3	2	3.8	Will significantly benefit public health (benefit mental health knowing their homes are safer), will support some green jobs. Hard armoring (eg along bluffs) will likely negatively impact coastal ecosystems, but managed retreat may benefit natural systems (e.g., Edic Hook marsh/regrass).	3.33	3.00	4.00	4.00	3.50	3.33	3.57	47
Consumption and Waste	Decrease waste-related GHG emissions	Wastewater facility emissions reduction	Evaluate wastewater facility to reduce GHG emissions.	2019 Climate Resiliency Recommendations	SFP	C	1	1	5	2.0	The wastewater treatment plant accounts for a very small amount of emissions, but it is in a major floodplain and measures should be taken to protect this essential infrastructure from potential rising sea level and seasonal flooding	5	5	5	5.0	protecting our wastewater infrastructure now outweighs the potential cost of doing nothing.	5	5	5.0	Low planning-related costs make this action very achievable with political will.	4	3	3.5	Planning-level action is low cost and allows for the assessment of design alternatives.	3	3	3.0	Treatment plant not located near development, because it's an evaluation, does not affect equity	3	5	3	3.7	Addressing treatment plant emissions will lead to addressing Bayview clean-up, which is a major clean-up need, real action that requires engineering services is high green econ, but lower for other co-benefits	2.33	5.00	5.00	3.50	3.00	3.67	3.77	48

Consumption and Waste	Promote sustainable consumption	Residential food waste diversion programs	Consistent with the County Solid Waste Management Plan, develop food waste diversion program for households, such as using greenwaste bins for compost to eliminate landfilling of food waste that cause methane emissions.	2019 Climate Resiliency Recommendations	Vol			2	3	1	2.0	Voluntary program that will directly reduce emissions, but is addressing waste which is an average mitigation need is a minor adaptation need.	4	3	0	3.7	Will likely cost the city nothing to start these programs, but will cost the city a moderate amount. Cost of inaction is high, resulting in increased methane emissions.	5	5	5.0	City will be lead implementer and regulator (I think, however maybe collection agencies would be the lead and the City is more of a 4/7). Likely minimal to no constraints; Council and staff were supportive and don't mention any constraints.	4	4	4.0	Support from CAPG/PC members	3	3	3.0	Doesn't directly reduce vulnerability for the community and does not distribute benefits in a way that perpetuates historic inequities.	3	3	2	2.7	Moderately benefits public health, creates some green jobs and indirectly supports natural systems.	2.00	3.67	5.00	4.00	3.00	2.67	3.37	51
Consumption and Waste	Promote sustainable consumption	Commercial food waste diversion programs	Consistent with the County Solid Waste Management Plan, work with the County to develop food waste diversion and composting programs for commercial businesses, such as diverting food waste to donation programs, placing compost bins around the city, and identifying and use applications for compost, to reduce climate changing gases that are emitted when organics rot in landfills.	2019 Climate Resiliency Recommendations	Vol			2	3	2	1.2	Action is voluntary w/o incentives and directly reduces waste GHG emissions thus is scored a 2. Action addresses the waste sector which is an average mitigation need. Adaptation score is a 2 as it mainly addresses GHG emissions reduction but food donations also benefits vulnerable parts of the community.	4	3	1	3.7	Will likely not cost the community anything but will require some investment from the city to place compost bins around the city and develop programs. Will likely result in minimal cost increases for the community, might not be free but low cost. Cost of inaction is low because waste emissions account for so little of emissions profile.	5	4	4.5	City will be implementer and regulator and action is unlikely to encounter constraints.	3	4	1.5	Support from CAPG/PC members. Lowered Residential support score to a 4 based on workshop 3 feedback.	4	4	4.0	While this action mainly benefits everyone equally, however food donation programs will particularly benefit those that historically face inequities.	4	4	1	3.3	Food donation programs will persistently benefit the public health of some (food insecure individuals) for 5+ years. New programs and educational opportunities will spur green jobs, and indirectly benefit natural systems by increasing composting opportunities which benefit soils, animals etc.	2.32	2.67	4.50	3.50	4.00	3.33	3.37	52
Consumption and Waste	Promote sustainable consumption	City and community sustainable purchasing	Utilize a "Green Team" model to develop sustainable purchasing policies for the City and community.	2019 Climate Resiliency Recommendations	Vol	M		4	5	3	4.0	The impact will depend on the scope of changes to purchasing practices. This could be as simple as digitization of all City Activities to purchase orders like recreation/transportation products	5	3	2	3.3	"green purchasing" has the potential to assist reduction of soft costs related to maintenance of space and access to information in the field. Need to quantify leaving waste to encourage transition to green purchasing	5	5	5.0	Changes in purchasing behavior and low risk make this action very feasible	4	3	1.5	Moving to an online paperless system allows for more accessibility to information for community members without a high cost. Green purchasing assists with overall municipal cost savings for and better budget management for maintenance and continuing costs.	3	3	3.0	Promotes better access to information.	3	3	3	3.0	Affects many levels of decision-making related to climate action and adaptation	4.00	3.33	5.00	3.50	3.00	3.00	3.77	53