



D. Emissions reduction tables

Building energy and efficiency – City-led mitigation actions

Action	How will this be implemented?	Implementation timescale	Potential GHG reductions (MT/CO ₂ e)	Marginal cost effectiveness (\$/-1 MTCO ₂ e)	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Work with Portland General Electric (PGE) to become “net zero” from electricity by 2035	City partners for collective action	16 years	54,000	Costs data unavailable	2	2	2	1	1	3	3
Engage NW Natural to develop strategy for becoming “net zero” from natural gas by 2040	City partners for collective action	21 years	48,000	\$15	1.666667	2	2	1	1	1	3
Adopt a commercial and residential building energy score program based on the City of Portland’s program	City law/code City partners for collective action	2 years	5,800	\$1-200	2	2	2	3	2	1	2
Develop micro-grids and energy storage systems in conjunction with purchasing renewable power	City partners to lobby state/feds Partners lead, city participates	4 years	6,100	\$71	2.3	3	2	3	3	1	2
Work with PGE to implement demand-response programs	City partners for collective action	10 years	4,300	Costs data unavailable	2.333333	1	2	2	3	3	3
Advocate for more energy efficiency State building codes	City partners to lobby state/feds	2 years	3,300	\$3	2.5	3	2	3	2	2	3
Incentivize property owners to encourage multifamily housing energy efficiency upgrades	City law/code City partners for collective action	6 years	1,800	\$1-200	3	3	3	3	3	3	3
Develop a community solar project	City partners for collective action	6 years	100	(\$100)	2.7	3	3	3	3	1	2

Building energy and efficiency – City-led adaptation actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Implement solar, battery storage, and micro-grids for resilience in weather events	City partners for collective action	6 years	2.3	3	2	3	3	1	2

Vehicles and fuels – City-led mitigation actions

Action	How will this be implemented?	Implementation timescale	Potential GHG reductions (MT/CO ₂ e)	Marginal cost effectiveness (\$/-1 MTCO ₂ e)	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Incentivize workplace electric vehicle charging stations in parking lots	City law/code City educates	4 years	2,500	\$3	2.2	3	2	2	2	1	3
Support outreach efforts to encourage shift to electric vehicles	City educates	2 years	4,000	(\$175)	2.5	3	2	2	2	3	3
Create a program to install electric vehicle charging infrastructure at multi-family housing complexes	City law/code City educates	4 years	500	\$25	2	2	3	2	1	1	3
Convert diesel-powered heavy fleet vehicles to low-carbon fuels	City operations	2 years	100	\$58	2.3	1	2	2	3	3	3
Optimize the City's light duty fleet and replace the least efficient vehicles with more efficient vehicles	City operations	2 years	210	(\$54)	2.3	1	2	2	3	3	3
Work with Clackamas County, Tri-Met and Metro to develop micro-transit from park-and-ride or light rail station to local destinations	Partners lead, city participates	2 years	Not scalable	Not scalable	2.3	1	3	1	3	3	3
Work with the school district and waste haulers on fleet transitions	Partners lead, city participates	8 years	Data unavailable	Data unavailable	2.5	2	2	2	3	3	3

Vehicles and fuels – City-led adaptation actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Review the location of the fleet yard and fuel storage to examine flood vulnerability. Look at fuel movement during flood conditions and diversify fuel sources to prepare for climate event-related import challenges.	City operations	2 years	1.7	1	2	1	2	1	3
Implement intergovernmental agreements or MOUs with other agencies for fleet support in emergencies (e.g. large-scale debris removal)	City Operations	2 years	2.2	2	2	1	2	3	3



Land use and transportation planning – City-led mitigation actions

Action	How will this be implemented?	Implementation timescale	Potential GHG reductions (MT/CO ₂ e)	Marginal cost effectiveness (\$/-1 MTCO ₂ e)	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Implement the Safe Access for Everyone (SAFE) street and sidewalk improvement program to expand bike and pedestrian access	City operations City partners for collective action	10	n/a	n/a							
Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas	City partners for collective action	4 years	3,900	\$190	2.5	3	3	2	2	2	3
Implement a Transportation Management Agency (TMA) with area partners	City partners for collective action	4 years	3,900	\$190	2.5	3	3	3	2	1	3
Implement “electric vehicle ready” zoning regulations for commercial buildings and multifamily housing	City law/code City educates	4 years	4,000	Data unavailable	1.8	2	2	2	2	1	2
Incentivize employers to encourage active transportation and transit	City partners for collective action City educates	4 years	700	\$190	2.8	3	3	3	2	3	3
Continue to promote the purchase of sidewalk credits in areas outside of pedestrian corridors and redirect funds to areas needing this infrastructure	City law/code	2 years	700	\$190	2.2	2	1	2	3	3	2
Promote “neighborhood hubs” through Comprehensive Plan policies	City law/code	2 years	600	\$190	2.5	2	2	3	2	3	3
Implement parking pricing in downtown	City law/code	2 years	800	Data unavailable	1.7	2	1	2	3	1	1
Implement variable system development charges to encourage accessory dwelling unit development	City law/code	2 years	1,000	(\$1,000)	2.2	2	3	3	2	1	2
Lower parking ratios near high capacity corridors	City law/code	4 years	Data unavailable	Data unavailable	2.2	2	2	2	2	3	2

Land use and transportation planning – City-led adaptation actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Update flood plain maps with local group coordination and funding	City operations	4 years	1.8	1	2	1	3	1	3
Provide incentives to increase flood storage capacity	City law/code	4 years	2	1	2	1	3	2	3
Reclaim riparian areas for flood storage for safety and property protection	City Operations	10 years	2	1	2	1	3	2	3
Plan for future developable land considering flood risk and natural resources	City Law Code	4 years	2	1	2	1	3	2	3

Materials use, purchasing and recovery – City-led mitigation actions

Action	How will this be implemented?	Implementation timescale	Potential GHG reductions (MT/CO ₂ e)	Marginal cost effectiveness (\$/-1 MTCO ₂ e)	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Require deconstruction of existing properties or delayed demolition periods	City implements through law/code	4 years	1400	\$225	1.5	2	2	1	1	1	2
Promote the repair of equipment and materials and buy used and durable before purchasing new	City partners for collective action City educates	2 years	600	(\$150)	2	1	1	3	3	1	3
Provide education and outreach to avoid edible food waste	Partners lead City partners for collective action City educates	2 years	500	(\$1,000)	2.7	2	2	3	3	3	3
Use less impactful pavement alternatives when paving streets and sidewalks	City operations	2 years	100	\$35	1.8	1	2	1	2	2	3
Promote existing food waste composting services	Partners lead City educates	2 years	300	(\$300)	1.8	1	2	2	1	2	3
Use mulch and compost in landscaping	City operations	2 years	300	(\$300)	2.3	1	2	3	2	3	3
Showcase materials management practices with a demonstration project	City educates	4 years	Not scalable	Not scalable	2	2	1	2	2	3	2

Natural resources – City-led adaptation actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Work with the Tree Board to develop a tree planting program focused on shielding low income neighborhoods from heat	City operations City law/code City educates	2 years	2.8	2	3	3	3	3	3
Review intergovernmental water agreements for supply security	City operations City partners for collective action	2 years	1.8	1	2	1	3	2	3
Identify sewer and waterways vulnerable to flooding	City operations City partners for collective action	2 years	2.2	1	2	2	2	3	3
Adjust design criteria to require on-site stormwater storage and water filtration before release that meets future conditions	City law/code	4 years	2	1	2	2	2	2	3
Update stormwater masterplan	City operations City law/code	4 years	2.3	2	3	2	2	2	3
De-pave areas where possible to encourage stormwater filtration	City operations	8 years	1.8	2	2	1	2	1	3
Introduce more monitoring stations to protect drinking water wells	City operations City partners for collective action	4 years	1.7	1	2	1	1	2	3
Develop a potable/drinkable water re-use plan	City operations City partners for collective action	8 years	2	1	2	2	3	2	2

Natural resources – City-led sequestration actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Increase tree canopy coverage to 40% by 2040	City operations City educates City partners for collective action	10+ years	6,200	\$15	1.8333333	2	2	1	2

Public health and emergency preparedness – City-led adaptation actions

Action	How will this be implemented?	Implementation timescale	Co-benefits average score	Addresses Milwaukie superactions	Opportunity for social equity	Mitigates and adapts in one action	Revenue generation of cost avoidance	Leverages existing efforts	Community support
Work with the Federal Emergency Management Agency (FEMA) to update flood plain maps	City partners for collective action	4 years	2.3	1	3	1	3	3	3
Work with partners to support community outreach about how to reduce fire and flood risk	City educates City partners for collective action	4 years	2.3	2	3	2	2	2	3
Plan for cooling and air quality relief centers	City operations City partners for collective action	6 years	2.3	2	3	1	2	3	3
Promote more sophisticated home air filtration systems	City law/code City educates City partners for collective action	6 years	2.2	2	3	1	3	2	2
Develop public-facing flood and fire risk zone maps and implement signage on streets to raise awareness	City operations City partners for collective action	4 years	1.66667	2	2	1	1	1	3