E. Progress metrics

Building energy and efficiency

Mitigation or adaptation?	Action	Measuring progress
Mitigation	Work with PGE to become net zero electricity by 2035	☐ City and PGE initiate by: development of "Path to Net Zero" program ☐ Evaluate progress: emissions reductions from electricity over time - percent complete ☐ Complete: Milwaukie's emissions from electricity are net zero
Mitigation	Engage Northwest Natural to develop strategy for being net zero by 2040	☐ City and Northwest Natural initiate by: developing program for reducing emissions ☐ Evaluate progress: emissions reductions from gas over time - percent complete ☐ Complete: Milwaukie's emissions from natural gas are net zero
Mitigation	Adopt a commercial and residential building energy score program based on City of Portland's	☐ City initiates by: hiring staff to develop energy score program ☐ Evaluate progress: implementation of program across the city – number and percentage of homes that have been rated ☐ Complete: program fully implemented (every building has been touched by the program)
Mitigation	Advocate for more energy efficiency state building codes	☐ City initiates by: developing advocacy plan ☐ Evaluate progress: number of hours/dollars dedicated to lobbying every three years ☐ Complete: State Building codes meet or exceed Milwaukie's objectives
Mitigation	Incentivize property owners to encourage multifamily energy efficiency upgrades	☐ City initiates by: creating program and securing funding ☐ Evaluate progress: number and percentage of multifamily complexes and units implementing energy efficiency upgrades ☐ Complete: all units have been updated
Mitigation	Develop community solar project	☐ City initiates by: development of community solar project ☐ Evaluate progress: facility complete and program underway

		☐ Evaluate progress: full subscription for each facility ☐ Complete: determine demand for further facilities and repeat
Mitigation	Work with PGE on demand repose programs	☐ City initiates by: development with PGE of program ☐ Evaluate progress: number and percentage of load that is subscribed to demand response program ☐ Complete: all customers have either deliberately opted into the program or opted out
Adaptation	Implement solar, battery storage and micro-grids for resilience in weather events	☐ City initiates by: planning process ☐ Evaluate progress: total planned / installed microgrid capacity (MW) ☐ Evaluate progress: microgrids serving emergency command center ☐ Complete: microgrids serving all essential service centers

Vehicle fleets and fuels

Mitigation or adaptation?	Action	Measuring progress
Mitigation	Incentivize workplace charging in parking lots	☐ City initiates by: develops program and determines funding ☐ Evaluate progress: number and percentage of Employers with EV charging ☐ Evaluate progress: ratio of employer provided parking spaces with EV charging to spaces without charging ☐ Complete: all employer parking spaces provide charging access
Mitigation	Support outreach efforts to encourage shift to EVs	☐ City initiates by: creating education program ☐ Evaluate progress: annual number of outreach events and running total ☐ Evaluate progress: number of households or organizations that receive education materials annually ☐ Evaluate progress: total visits to events ☐ Complete: all vehicles in the community are EVs
Mitigation	Create program to install electric vehicle charging infrastructure at multi-family complexes	☐ City initiates by: developing program and securing funding ☐ Evaluate progress: number of multifamily complexes with any EV charging

		☐ Evaluate progress: percentage of multifamily complexes with any EV charging. ☐ Evaluate progress: ratio of charging stations to dwelling units. ☐ Complete: all parking spaces provide charging access
Mitigation	Convert diesel-powered heavy fleet vehicles to low carbon fuels	☐ City initiates by: ongoing purchase of low-carbon fuels ☐ Evaluate progress: percentage of gallonage that is "low carbon" fuel. ☐ Complete: 100% use of low carbon fuels
Mitigation	Optimize light duty fleet and replace least efficient vehicles with most efficient vehicles	☐ City initiates by: setting policy or purchasing pattern ☐ Evaluate progress: total number of vehicles. ☐ Evaluate progress: percentage decrease in number of vehicles. ☐ Evaluate progress: percentage of light duty vehicles replaced with hybrid or electric vehicle. ☐ Complete: all light duty fleet is an electric vehicle charged with net zero electricity
Mitigation	Work with Clackamas County, Tri-Met and Metro to develop micro-transit from park-and-ride or light rail station to local destinations	☐ City initiates by: establishing a working group that is focused on developing micro transit ☐ Evaluate progress: plan for micro transit adopted ☐ Evaluate progress: micro transit planned system is what percentage complete? ☐ Complete: system as designed in fully operating
Mitigation	Work with school district, waste haulers and waste water agency on fleet transition	☐ City initiates by: meeting with schools to review use of biogas or low carbon fuel, including electric and hydrogen ☐ Evaluate progress: percentage of fleet vehicles operating in service of Milwaukie using alt fuels ☐ Evaluate progress: percentage of fleet fuels coming from low carbon or zero emissions sources ☐ Complete: All service vehicles in Milwaukie are using low carbon or no carbon fuels/energy

Adaptation	Review location of fleet yard and fuel storage to examine flood vulnerability. Look at fuel movement during flood conditions and diversify fuel sources in terms of fuel transport into Milwaukie to prepare for climate event-related import challenges.	☐ City initiates by: determining what the flood risk is to the yard and to the delivery of fuel ☐ Evaluate progress: plan adopted to relocate fleet yard and understood by all parties ☐ Evaluate progress: plan adopted to source fuel during flood or fire event ☐ Complete: All relevant parties can follow plan and source fuel to maintain service to Milwaukie during events
Adaptation	Implement intergovernmental agreements or MOUs with other agencies for fleet support in emergencies (e.g. large-scale debris removal)	☐ City initiates by: setting meetings with all local agency partners for the discussion of the potential plan ☐ Evaluate progress: percentage complete of the plan ☐ Complete: plan adopted and signed for in formal MOU

Land use and transportation planning

Mitigation or adaptation?	Action	Measuring progress
Mitigation	Partner with Metro and TriMet to increase transit service, particularly to underserved employment areas	☐ City initiates by: identifying the employer need and meets with Metro and TriMet to determine process ☐ Evaluate progress: plan in place for development and funding ☐ Evaluate progress: percentage complete of employment areas served with adequate transit ☐ Complete: All workplaces have adequate transit service nearby
Mitigation	Implement a Transportation Management Agency (TMA) with area partners	☐ City initiates by: following formal process to establish the TMA ☐ Evaluate progress: percentage complete of planning process ☐ Evaluate progress: program established with funding and funding ☐ Complete: TMA operating
Mitigation	Implement "EV ready" zoning regulations that affect buildings and multifamily housing	☐ City initiates by: passing a zoning ordinance or establishing new zoning rules for new development

		☐ Evaluate progress: number and percentage of new buildings that are "EV ready" ☐ Complete: all new buildings are EV ready
Mitigation	Incentivize employers to encourage active transportation and transit	☐ City initiates by: creating or identifying incentive program and funding ☐ Evaluate progress: percentage of participating employers by total employee count ☐ Evaluate progress: number and percentage of all employees using active transportation and transit ☐ Complete: every workplace has a program
Mitigation	Continue to promote a "fee in lieu of" for areas outside of pedestrian corridors; redirect funds to corridors that do	☐ City initiates by: already initiated ☐ Evaluate progress: number and percentage of permits annually that use the fee in lieu ☐ Evaluate progress: percentage of total active mode paths gaps/linear footage filled by this method. ☐ Complete: All major pedestrian corridors have complete paths .
Mitigation	Promote "neighborhood hubs" through Comprehensive Plan policies	☐ City initiates by: already initiated via Comprehensive Plan process ☐ Evaluate progress: percentage complete comprehensive plan ☐ Evaluate progress: percentage complete of plan incorporated into development rules ☐ Complete: all new development and major renovations are following Comprehensive Plan
Mitigation	Implement parking pricing in downtown	☐ City initiates by: establishing of the rule or ordinance to do so ☐ Evaluate progress: number and percentage of spaces metered ☐ Complete: all parking spots are metered
Mitigation	Implement variable system development charges to encourage accessory dwelling unit development	☐ City initiates by: establishing in rule/ordinance a sliding scale set of system development charges that correlates to square footage past baseline threshold ☐ Evaluate progress: annual number of ADUs developed

		☐ Complete: rule is standard operating procedure
Mitigation	Lower parking ratios near high capacity corridors	☐ City initiates by: reviewing corridors for the reduction in parking ratios ☐ Evaluate progress: percent complete ordinance development ☐ Complete: Zoning ordinance is complete
Adaptation	Update flood plain maps with local group coordination and funding	☐ City initiates by: organizing agency partner meeting with FEMA and developing delivery schedule ☐ Evaluate progress: FEMA commits to delivery date certain ☐ Evaluate progress: if FEMA's timeframe doesn't work for the partners – developing and hiring a consultant team to determine flood conditions in advance of FEMA work ☐ Complete: accurate working flood map for planning use across agencies
Adaptation	Provide incentives to increase flood storage capacity	☐ City initiates by: determining flood storage need, developing program and securing funding ☐ Evaluate progress: percentage of needed flood storage enrolled in program (gallons/acre feet) ☐ Complete: needed flood storage developed
Adaptation	Plan for future employment land considering flood risk and natural resources	☐ City initiates by: educating employers on the risks of flooding for their property ☐ Evaluate progress: number of employers with adequate flood mitigation protections in place ☐ Evaluate progress: number and percentage of jobs in Milwaukie with adequate flood mitigation protections in place ☐ Complete: all employer locations threatened by flooding have mitigation strategy in place to keep jobs local
Adaptation	Reclaim riparian areas for flood storage for safety and property protection	☐ City initiates by: identifying properties that could not be protected in future floods with engineered solutions ☐ Evaluate progress: number and percentage of property owners reached with this news ☐ Evaluate progress: number and percentage of property owners that

		negotiate a trade or purchase with the city for their existing threatened property
		☐ Complete: all property owners have come to an agreement with the City or have signed a statement accepting responsibility for the property in the future with no claims on the City

Materials use, purchasing and recovery

Mitigation /adaptation?	Action	Measuring progress
Mitigation	City to require deconstruction or delayed demolition period	☐ City initiates by: planning an ordinance or zoning rule change. ☐ Evaluate progress: number of tons of demolition material recovered ☐ Evaluate progress: percentage of all demolition material that is recovered ☐ Complete: ordinance or rule established
Mitigation	Promote the repair of equipment and materials and buy used and durable before purchasing new	☐ City initiates by: establishing a purchasing policy that encourages repair versus replacement and buying used and durable ☐ Evaluate progress: number of items slated for replacement that were repaired instead ☐ Evaluate progress: estimated dollar saving by repairing or buying used and durable compared to replacement with new item ☐ Complete: policy becomes standard operating procedure
Mitigation	Provide education and outreach to avoid edible food waste	☐ City initiates by: outreach campaign with periodic updates to remind households ☐ Evaluate progress: percentage of households reached with educational materials. ☐ Evaluate progress: short tons of edible food waste to landfill reduced from ODEQ Solid Waste Composition Study. ☐ Evaluate progress: number of increased donations to foodbanks after education efforts ☐ Complete: food waste to landfill in waste composition study drops below 1%
Mitigation	Public Works to use less impactful pavement alternatives	☐ City initiates by: establishing procurement policy and specifications for lower carbon pavement

		□ Evaluate progress: tons and percentage of substitute concrete materials for Portland cement. □ Evaluate progress: tons and percentage of reclaimed asphalt pavement as substitute for virgin binder □ Evaluate progress: percentage of asphalt paving using warm mix asphalt □ Complete: all paving uses lower carbon mixes as standard operating procedures
Mitigation	Promote existing food waste composting services	□ City initiates by: outreach to households periodically to remind them to use existing yard and food waste curbside collection bins □ Evaluate progress: number and percentage of households reached with educational materials □ Evaluate progress: short tons of food waste composted annually □ Complete: food waste to landfill in waste composition study drops below 1%
Mitigation	Use mulch and compost in landscaping	□ City initiates by: establishing policy or practice of using mulch and compost in landscaping to augment soil, reduce watering and decrease need for pesticides □ Evaluate progress: tons of compost used each year □ Complete: standard operating procedure in all relevant landscape areas
Mitigation	Showcase materials management practices with a demonstration project	□ City initiates by: building Ledding library and developing interpretive signage □ Complete: Interpretive signage present in updated Ledding library

Natural resources

Mitigation /adaptation /sequestration?	Action	Measuring progress
Sequestration	Increase tree canopy coverage to 40% by 2040	□ City initiates by: identifying locations for placement □ Evaluate progress: number of trees planted, and percentage of canopy cover developed

		☐ Complete: 40 percent canopy is planted and maintained with all removed trees replaced
Adaptation	Work with the Tree Board to develop a tree planting program focused on shielding low income neighborhoods from heat	☐ City initiates by: identifying locations for placement with low income areas prioritized ☐ Evaluate progress: percentage of lower income area trees planted ☐ Complete: low income areas are fully planted for shade provision
Adaptation	Review intergovernmental water agreements	☐ City initiates by: reviewing agreements and naming concerns or things to change ☐ Evaluate progress: Engagement of partners ☐ Complete: Changes made to agreements
Adaptation	Update stormwater masterplan	☐ City initiates by: running stormwater update process ☐ Evaluate progress: future conditions are adequately studied and characterized ☐ Evaluate progress: factors and methods are updated to accommodate future conditions ☐ Complete: plan is ready for implementation
Adaptation	Identify sewer and waterways vulnerable to flooding	☐ City initiates by: updating FEMA flood maps and updating stormwater master plan to determine risks ☐ Evaluate progress: percentage complete for plan update ☐ Complete: Sewer and waterways identified and prioritized for engineering and construction
Adaptation	Adjust code to require on-site stormwater storage and water filtration before release that meets future conditions	☐ City initiates by: updating stormwater master plan ☐ Complete: code updates reflect future conditions
Adaptation	Introduce more monitoring stations to protect drinking water wells	☐ City initiates by: determining areas to monitor ☐ Evaluate progress: RFP for well equipment or service contract ☐ Evaluate progress: number of baseline stations Number of additional stations established

		☐ Complete: all needed areas are monitored regularly
Adaptation	Develop a potable/drinkable water re-use plan	☐ City initiates by: developing a plan for re-use of high priority used water sources and needs ☐ Evaluate progress: agreements complete with large sources to participate ☐ Evaluate progress: percent complete planning for major water sources to reach major water consumers ☐ Complete: used water major sources are connected to major water consumers via installed pipes

Public health and emergency preparedness

Mitigation /adaptation /sequestration?	Action	Measuring progress
Adaptation	Work with the Federal Emergency Management Agency (FEMA) to update flood plain maps	☐ City initiates by: organizing agency partner meeting with FEMA and developing delivery schedule ☐ Evaluate progress: FEMA commits to delivery date certain ☐ Evaluate progress: if FEMA's timeframe doesn't work for the partners – developing and hiring a consultant team to determine flood conditions in advance of FEMA work ☐ Complete: accurate working flood map for planning use across agencies
Adaptation	Work with partners to support community outreach about how to reduce fire and flood risk	☐ City initiates by: conversation with partners to develop outreach and education plan ☐ Evaluate progress: number and or percentage of households and organization reached with information ☐ Complete: all households and organizations are reached within a 3-year time frame. Repeat
Adaptation	Plan for cooling and air quality relief centers	☐ City initiates by: planning process to develop cooling and air quality relief centers with agency and community partners ☐ Evaluate progress: facilities identified for each neighborhood

		☐ Evaluate progress: number and percentage of facilities with equipment installed ☐ Complete: implements cooling and air relief centers systems operating and in emergency command structure
Adaptation	Promote more sophisticated home air filtration systems	☐ City initiates by: conversation with stakeholders, including property owners, HVAC companies, home equipment vendors and developers ☐ Evaluate progress: number and percentage of buildings retrofitted ☐ Evaluate progress: number of households participating in buying standalone equipment ☐ Complete: all buildings and households have equipment
Adaptation	Develop public-facing flood and fire risk zone maps and implement signage on streets to raise awareness	☐ City initiates by: determining areas needing flood and fire risk zone maps/signs ☐ Evaluate progress: number and percentage of signs installed ☐ Evaluate progress: City makes maps available to the public ☐ Complete: all signs installed, all households provided with maps