

Appendix E

Monitoring & Evaluation Criteria

BURO HAPPOLD



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Measure name	Possible indicators Note, these have been provided for the purpose of illustrating possible data collection requirements. It is not intended that these are adopted. During the setup of each proposed measure, the purpose, objectives and intended outcomes will need to be carefully considered and subsequently a set of meaningful indicators defined.	Supporting notes Note, all indicators should be supported by qualitative assessment of officer and project team experiences in order to identify and address any potential barriers to successful implementation.	Sources and implementation			Key partners or data source
			Integrate with existing processes	Utilise external data sets	New partnerships / processes likely required	Peer review beneficial
Mainstream climate resilience into City Corporation governance and decision-making	Proportion of reviews and processes subject to a resilience review (all future projects); qualitative assessment of success of integration into management processes; staff feedback as to priority given to resilience in decision-making. Qualitative review of actions. altered and changed through resilience review (number of actions, scale of alteration).	A group of City Corporation officers would be well placed to coordinate this work across departments and risks. As part of the research proposed in other measures it will be vital to clearly establish appropriate species. Indicators should be supported by qualitative assessment of success of integration into management processes and; staff feedback as to the level of priority given to resilience in decision-making.	X		X	London Climate Change Partnership
Embed principles of inclusion and equity throughout all climate action strategies	As above	As above	X		X	
Public communications and awareness raising campaigns	Number of people or businesses reached by campaigns (all future projects, analysis by project type and target audience); respondent self-reported engagement with advice and information; additional specific data collected on behaviour and actions resulting from measures through follow-up research (impact, reach, constraints, remaining challenges).	Public communications campaigns should be tracked carefully to understand their reach. This should include analytics on how many are exposed to campaigns (such as through social media and web statistics) and follow-up surveys to understand their real-world impact.	X	X		Analytics functionality of web and app platforms used; Thames Water and other stakeholder assessments

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Emergency planning	Qualitative assessment of the effectiveness of plans and strategies after a real event, including strengths, weaknesses and alignment with stakeholder strategies. Proportion of plans achieving positive scorings or assessment, number of measures or actions altered following an emergency event.	New emergency plans developed by the City Corporation should be reviewed by external experts alongside assessment of indicators. This will help to facilitate collaborations with other projects and groups and provide assurance as to the robustness of plans. In addition, when emergency situations do arise independent reviews should take place to critically analyse the plans' efficacy	X	X	X	X	Category 1 responders – e.g. fire service, London Ambulance Service, Environment Agency; UK risk register
Review and expand data collection and monitoring across all properties to support decision-making	Number of properties or buildings with working monitors and meters (baseline, change over time); assessments of behaviour changes following installation from meter data (e.g. demand reduction over time).	Record installation numbers and uptake rates for smart meters and other instruments, with analysis as to corresponding demand reduction or similar usage characteristics to understand their impact and value.	X		X		Resident associations and housing management organisations, utility providers
Strengthen community and business networks to build adaptive capacity	Self-reported sense of connectedness or community cohesion; number of projects supported (and project outcomes); percentage of communities engaged and aware; perceptions of City Corporation progress to action forum decisions.	Review and discuss structure of networks in the forums or through feedback surveys. This should involve structured, consistent questions around the City Corporation role and involvement, and where changes to the structure should be trialled. Invite feedback as to how stakeholders and residents feel their feedback has been requested and actioned.	X				Existing business networks and relationships

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Pest and disease horizon scanning, surveillance and research programme	Numbers of new pest/disease challenges or vulnerabilities identified (baseline, change over time); effectiveness with which research findings are integrated into policy; number of citations.	Develop monitoring data on disease and pest outbreaks in the Square Mile and other assets. This should be supported by periodic reviews of the scope of sources considered in horizon scanning exercises, and supplemented by new data and surveillance techniques as they become available	X	X	X		Academic institutions, green/blue cover assessments for London, UK Plant Health Risk Register, Environment Agency invasive species actions, monitoring and reporting, academic literature
Strengthen resilience requirements for planning	Assessment of impact on resilience measures introduced (proportion successful, degree of impact, level of user understanding).	Integrate with internal planning monitoring and oversight mechanisms. Combine with carbon emissions planning requirements tracking and assessment.	X	X		X	UKGBC, LETI, RIBA recommendations and target areas
UKGBC, LETI, RIBA recommendations and target areas	Number of households and properties supported (cumulative); number of social and affordable housing units upgraded (cumulative); water saved (% against baseline); number of homes overheating (baseline, change over time); flood damage events (£ annually); prevalence of heat related ill-health in retrofitted homes.	Monitor uptake of scheme, combining with tracking for carbon emissions reductions as a result of retrofits. Stakeholder engagement with residents would help gain feedback on measures introduced and their effectiveness.	X	X		X	GLA accelerator funding and support, green housing investment from central government

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Climate ready, fortified public health programmes	<p>Number of first aid training sessions delivered; effectiveness of introduced policy revisions; assessment of performance in shock and stress events.</p>	<p>New healthcare programming should be reviewed and checked by healthcare experts from Public Health England or academic institutions to assure that the work is in line with national strategies and to provide additional insight.</p>	X	X	X	X	Public Health England, St Bartholomew's Hospital, London or St John's Ambulance Services
Continue to fund flood modelling, which include SUDs and other mitigation strategies, to complement EA flood models	<p>Number of assessments carried out, including area and length of frontage considered; number of new scenarios and areas modelled; frequency of model updates; properties identified with change in flood risk compared to minimum SFRA assessment requirements and EA models (2020 baseline).</p>	<p>Integrate with existing discussions and Strategic Flood Risk Assessment work and planning with the Environment Agency</p>	X			X	Environment Agency
Ports and markets operational resilience planning	<p>Numbers of resilience challenges or emergencies faced (against 2020 baseline); feedback from stakeholders on strengths/weaknesses of new regulations (frequent); change in risk profile faced due to City Corporation initiatives (over time, against 2020 baseline).</p>	<p>Integrate monitoring and oversight with existing regulations for management. This may initially require the development of new data collection or mechanisms to enable new measures and focusses of the strategy to be appropriately captured.</p>	X		X		Knowledge-sharing with other Port Health Authorities, Defra, Public Health England, collaboration with suppliers and market users

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Action to tackle food poverty	Numbers of supported individuals (over time); numbers of individuals permanently out of food poverty or insecurity (cumulative); feedback on structure of programme and suggested improvements (positive vs negative, over time).	Review and discuss measures with those who have accessed or access support. The success of this measure will be best monitored by those affected by it, so a schedule of surveys and interviews with community members should be established. Tracking numbers accessing such schemes may also help to budget appropriately and identify rising shocks and stresses.	X	X	X		Existing foodbanks set ups and organisations operation in the Square Mile e.g. The Trussell Trust, GLA food insecurity assessments
Enhanced monitoring, surveying and tracking of ecosystem health	% of City Corporation spaces analysed (for all surveys); data on average, best and worst condition of spaces, split by space manager type (City Corporation, private, crown etc) (for all surveys); assessment of impact of City Corporation management, interventions and policies on natural capital (assess change in impact over time).	This measure would look to expand current surveying and assessment so should be incorporated with ongoing oversight measurements and combined with other oversight initiatives around biodiversity and green infrastructure.	X	X	X	X	Defra, academic partnerships, Defra Plant Health Register UK, SSSI reporting, water quality monitoring results
Support mutual aid and community aid groups	Funds allocated (over time); impact of funds e.g. food parcels distributed (cumulative); positive/negative aspects of City Corporation support and engagement reported (for all projects).	Alongside tracking update rates, the success of this measure will be best monitored by those affected by it, so a schedule of surveys and interviews with community members should be established and assessed.	X	X	X		Existing groups and projects in the Square Mile or surrounding areas

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Flood defence assets maintenance and management regimes	Note, these have been provided for the purpose of illustrating possible data collection requirements. It is not intended that these are adopted. During the setup of each proposed measure, the purpose, objectives and intended outcomes will need to be carefully considered and subsequently a set of meaningful indicators defined. Number of Square Mile assets at each Condition Grade (against 2020 baseline); number of assets with responsible owner not identified or unresponsive (annual); % assets with outstanding action or maintenance (annual).	Note, all indicators should be supported by qualitative assessment of officer and project team experiences in order to identify and address any potential barriers to successful implementation. This measure would look to expand current activities so should be incorporated with ongoing oversight measurements and Environment Agency monitoring.	X	X	X	X	Environment Agency, Square Mile riparian owners; results of SFRAs and modelling
Review above and below ground utilisation in the Square Mile	Completion of study; % spaces reviewed (baseline); % spaces where access or usage could not be determined (baseline); % space with new functionality or capability identified (baseline); effectiveness of dissemination.	Submit review and subsequent plan to typical City Corporation oversight mechanisms for new studies, with peer review if appropriate.	X				May be supplemented by Ordnance Survey datasets and .gov.uk land use or land registry data as used in GIS mapping exercises at present
Public communications and awareness raising campaigns	Effectiveness of dissemination; frequency of updates to guidance and materials; positive/negative feedback from public and users (for all projects).	Outline review process internally for the release of guidance and awareness materials, in alignment with, or using the results of, relevant oversight functions for different measures	X				Advertising Standards Authority
Expand use and availability of non-sensitive data	Proportion of non-sensitive (relevant) datasets on public platforms (baseline); frequency of updates (change in time); period between dataset updates and publication (change in time); usage (no. of downloads).	This measure should be supported by engagement with key stakeholder to understand what data would be useful to aid the adaptation and resilience efforts of others. Work with clerks will be required to ensure legal mechanisms and protocols are met when making data available.	X				GLA Datastore, .gov.uk datastore, Office of National Statistics

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Strengthen City Corporation knowledge, skills and capacity	<p>Number of staff hours for new training (against 2020 baseline); effectiveness of training delivered; new staff hires to develop resilience capabilities (over time); assessed shortfall in expertise remaining (number of roles, periodic assessment).</p>	<p>Combine with existing internal HR and management plans.</p>	X				<p>GLA. London Climate Change Partnership. Public Practice. Innovate UK.</p>
Develop financial package and programme to manage resilience actions	<p>% of measures fully funded, partially funded or not funded (baseline); assessment of impact of any programmes stopped during time period of resilience strategy implementation (over time, cumulative).</p>	<p>% of measures fully funded, partially funded or not funded (baseline); assessment of impact of any programmes stopped during time period of resilience strategy implementation (over time, cumulative).</p>	X		X	X	<p>GLA. Business Improvement District. Financial sector industries in the City.</p>
Sustainable rain and surface water management policy	<p>Uptake of new measures (cumulative); area covered by new measures (cumulative); m³ water stored, reused, wasted, to sewage (annual); surface water flood risk reduction as a result of measures (over time, against start of programme baseline).</p>	<p>Any major changes to process or infrastructure on this area should be reviewed by external experts or commission, with stakeholder engagement to assure uptake of, compliance with and appetite for the programme. Data on water collection should be collected to facilitate tracking of indicators.</p>	X	X	X		<p>Major developers and housebuilders, planning data, SFRA and flood modelling data</p>
Protect assets in flood zones	<p>Number of assets at worse than 1% Annual Exceedance Probability protection (against 2020 baseline). Number of critical assets in the flood plain (against 2020 baseline).</p>	<p>Monitor flood risk of assets remaining in flood plains through the SFRA process and collaboration with the Environment Agency. Asset owners should also be consulted in this process.</p>	X				<p>Strategic Flood Risk Assessment, Environment Agency, key stakeholders, Ordnance Survey data on critical infrastructure</p>

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Develop urban heat vulnerability index and mitigation strategy	Area with UHVI assessment having taken place (cumulative); number of policies, properties or people affected by tool outcome in City Corporation management; assessment of other policies to ascertain the potential impact of the tool on their output; frequency of re-review.	This is a complex measure taking a new approach to overheating management. This measure is also intended to be carried out with cross-cutting collaboration with other groups - such as other local authorities and major stakeholders. As such an external review and oversight process will be important to ensure this is guided and set up effectively.		X	X	X	Other local authorities, urban heat island and temperature studies, Indices of Multiple Deprivation, GLA
Strengthen water quality monitoring networks	% of water bodies assessed and at what time period (against 2020 baseline); proportion of testing data analysed; frequency of analysis of correlation between testing and actions.	Uptake rates, data on pollution incidences and corresponding reductions. Internal review of efficacy of approaches would be recommended, with expert advice where necessary.	X				Thames Water, Defra, Environment Agency
Develop City Corporation and Square Mile water footprint management strategy	Proportion of water usage accounted for (baseline); projections of water saved or per capita consumption as a result of the programme (annual); exceedance of Thames Water targets (as per 2020 Water Management Plans).	Submit review and subsequent plan to typical City Corporation oversight mechanisms, with peer review if appropriate.	X	X	X		Thames Water, water metering data

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Research, planning and reviews to strengthen natural capital management strategy	Note, these have been provided for the purpose of illustrating possible data collection requirements. It is not intended that these are adopted. During the setup of each proposed measure, the purpose, objectives and intended outcomes will need to be carefully considered and subsequently a set of meaningful indicators defined. Area programmed to change strategy or deemed suitably managed (periodic), frequency of reviews.	Note, all indicators should be supported by qualitative assessment of officer and project team experiences in order to identify and address any potential barriers to successful implementation. Commission external groups to feed into or review natural capital plans to ensure they are effective and in alignment with plans for surrounding regions. Monitoring should also refer to biodiversity health monitoring and surveys to understand the influence of these reviews.	X		X	X	Defra, academic partnerships, Defra Plant Health Register UK, SSSI reporting
City Corporation and Square Mile growing schemes	Number or area of schemes (over time); green coverage changes (cumulative); track shift of space usage before/after scheme introductions (cumulative).	Track green cover and change in space usage, measuring against targets set in the plans and the Biodiversity Action Plan and other policy goals.	X	X	X	X	GLA green/blue infrastructure studies and natural capital research, Defra, academic institutions, planning data
Open a City Corporation Ecological Research and Education programme	Usage and engagement rate of scheme (over time); analysis of its impact on local communities and City Corporation actions through proportion of positive feedback (for all projects); number and value of projects to resiliency goals e.g. green coverage increase, species resilience changes.	Oversight designed as appropriate to final set up of this measure, with a dedicated team in place to drive it forward and ensure it is used to full effect.	X	X	X		Academic institutions, green/blue cover assessments for London,
Establish food 'waste' collection and redistribution system	% of households using scheme (over time); % of City businesses engaged and participating in scheme; % of waste treated under scheme (over time); materials and waste reused thanks to scheme (over time)	Number of houses and properties accessing scheme, tracking of food distribution and destination. Surveys and feedback from users will also be essential to drive improvements.	X		X		Partnering with waste management contractor to collect data
Model food supply networks through the Square Mile to inform future planning	Proportion of food network accounted for in study; number of major gaps highlighted, and value or volume of food associated with these gaps.	Submit review and subsequent plan to typical City Corporation oversight mechanisms for new studies, with peer review if appropriate.		X	X		Academic institutions, knowledge-sharing exercises with other cities - e.g. New York and Barcelona

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Emergency support package for food networks and businesses	Number of respondents/businesses reporting satisfaction with measures; number of businesses closed after emergency events (cumulative).	Review and discuss measures with those who have accessed or access support. The success of this measure will be best monitored by those affected by it, so a schedule of surveys and interviews with community members should be established. Tracking numbers accessing such schemes may also help to budget or mitigate appropriately for future events.	X		X	X	Existing business networks and relationships
Work with partners to accelerate actions to address water leak management	% water lost through leakage to Square Mile or City Corporation properties (over time); amount spent on leakages; time to respond to leakage events (pipe burst etc).	Analysis of monitor metering and leakage data as per installation of meters and footprint study results. Collaboration with Thames Water to collect data will be essential for accurate results.		X	X		Thames Water
Introduce climate-resistant and adaptive landscaping	Number of planting regimes altered; proportion of species or area of space suited or vulnerable to current and updated climate forecasts (over time).	Track changes using planting records and schemes as part of internal operations. Reviews by independent experts will also help drive understanding.	X			X	Defra, academic institutions, UK Climate Projection updates, National Land Use database and surveys (*)
Cool Streets Programme	Area of public space protected (against 2020 baseline); average max temperatures (compare to 2020 baseline); comparison with temperatures of nearby unprotected space (over time).	Analyse temperature records and programme influence, carry out metering and data collection at high degree of detail/high spatial resolution.	X	X	X	X	Transport for London, Highways England, GLA
Heat resilient public realm and highway surfaces	Meterage of roads converted (or proportion, cumulative); number of instances of road melt or heat-related damage (track over time); lifetime of roads (rolling average).	Planning and project records, metering and property-level data collection.	X	X	X	X	Transport for London, Highways England, GLA

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Building retrofit programme	Note, these have been provided for the purpose of illustrating possible data collection requirements. It is not intended that these are adopted. During the setup of each proposed measure, the purpose, objectives and intended outcomes will need to be carefully considered and subsequently a set of meaningful indicators defined. Number of retrofits implemented (cumulative); building typologies and ownership data retrofit (analysis); usage data: water saved (against 2020 baseline), number of homes overheating (against 2020 baseline); flood events (£ damages).	Note, all indicators should be supported by qualitative assessment of officer and project team experiences in order to identify and address any potential barriers to successful implementation. Planning and project records, metering and property-level data collection.	X				EPC or other planning certificate data on building stock
Diversify energy sources and partner with regional organisations and utility providers to increase back-up power for critical services	Proportion of demand available from back-up supplies (against total demand); % supply origin converted; number of properties with renewable supplies (over time).	Track diversification and records of infrastructural changes in collaboration with stakeholders and energy providers and using metering and property-level data collection.	X		X		Energy providers, National Grid, UK Power Networks
Sacrificial land and/or natural flood risk management areas	Total area converted (baseline), property-level flood defence installation numbers; number of in-use properties at risk of flooding due to new arrangement (change against 2020 baseline).	This would be a step change in flood management practice in central London, so a commission should be engaged to provide oversight to this work, and new interventions should involve extensive stakeholder engagement and collaboration with the Environment Agency and TE2100 team.			X	X	Environment Agency, SFRA data, stakeholders and residents
Increase the quality and provision of green space and coverage in the Square Mile and wider City Corporation spaces	% increase in green cover; number of trees planted (cumulative); number of restoration programmes initiated (by area); area of space upgraded to SSSI (over time).	Track green cover and change in space usage, measuring against targets set in the plans and the Biodiversity Action Plan	X	X			Defra, GLA blue/green infrastructure surveys, Defra UK Plant Health Risk Register