CITIES OF TOMORROW (CoT) R&D PROGRAMME
FIRST GRANT CALL
FOR VERTICAL 4

1. Definitions

1.1 In this Call for Proposal, unless the contrary intention appears: -

(a) "Collaborator" means any company, institution, incorporated body or other industry or academic collaborator, which is not an Institution or an Investigator but is to be engaged in the Research in collaboration with the Institutions or any of them;

(b) "Host Institution" means the body or institution or administering organisation named in the Letter of Award as the "Host Institution" as the body responsible for undertaking and managing the Research;

(c) "Institutions" means collectively the Host Institution and the Partner Institutions and "Institution" shall mean any one of them;

(d) "Investigators" means collectively, the Lead Principal Investigator, Team Principal Investigators and Co-Investigators; and

(e) "Partner Institutions" means the bodies or institutions named in the Letter of Award as the "Partner Institutions" as the bodies responsible for working together with the Host Institution to undertake the Research

2. Introduction

2.1 The Cities of Tomorrow (CoT) R&D programme is a multi-agency effort, led by MND, that recognises the challenges that cities face and aims to leverage R&D to address these challenges.

2.2 The vision of CoT is to establish Singapore as a highly liveable, sustainable and resilient city of the future, and as a vibrant urban solutions hub – a living model which features cutting-edge urban solutions. This will be achieved through the integrated development of R&D in 4 key verticals and 2 horizontals:

- Vertical 1: Advanced Construction
- Vertical 2: Resilient Infrastructure
- Vertical 3: New Spaces
- Vertical 4: Greater Sustainability
- Horizontal 1: Urban Environment Analytics
- Horizontal 2: Complexity Science for Urban Solutions

[Please see Annex A for the vision and research focus areas for each of the verticals and horizontals]

2.3 A total of S$150 million has been approved to fund CoT. The funding will be set aside from the S$900 million allocated to the Urban Solutions and Sustainability (USS) domain under the Research, Innovation and Enterprise 2020 (RIE2020). More details on USS can be found at: https://www.nrf.gov.sg/rie2020/urban-solutions-and-sustainability.

3. Call Topics

3.1 For this grant call, there are a total of 3 Call Topics under Vertical 4. Please refer to Annex B for the details of these Call Topics.

4. Eligibility

4.1 Principal Investigators (PIs) from all Singapore-based institutions of higher learning (IHLs), public sector agencies and not-for-profit research laboratories as well as companies and company-affiliated research laboratories/institutions, are eligible to apply.

4.2 The Lead PI who leads the Research must be based in Singapore[1] and collaboration with foreign organisations and experts in the capacity of Co-Principal Investigator (Co-PI), or as Collaborator is allowed. Research work should be done in Singapore, and should not be carried out overseas unless expressly approved by the grantor.

4.3 PIs are allowed to submit proposals for one or more of the Call topics above. Please clearly indicate the Call topic that the proposal will address in the Proposal Template.

4.4 R&D proposals already funded by other government agencies will not be considered under CoT. PIs and supporting agencies will need to declare their other funding sources as well as participation in other funding initiatives during application. Proposals with similar scope, which are currently under evaluation by other funding initiatives, will not be considered until the results from the other funding initiatives are finalised.

4.5 Grant applicants are strongly encouraged to collaborate with industry and development agencies to develop innovative solutions that can address the call objectives and demonstrate strong potential for real-world application within Singapore.

4.6 Where applicable, we encourage the integration of relevant social and behavioural research to complement the R&D work under these grant calls, to ensure user-centricity and acceptability of the solutions proposed.

[1] Lead PIs must have a minimum of 9 months employment with a Singapore-based organisation (Singapore-based institutions of higher learning (IHLs), public sector agencies, not-for-profit research laboratories as well as companies and company-affiliated research laboratories/institutions), and must fulfil at least 6 months of residency in Singapore over a period of 1 calendar year.

5. Funding Support

5.1 The Call for Proposals offers funding support up to S$3 million (including indirect costs). Proposals more than S$3 million will require strong justifications.

5.2 When budgeting for funding under CoT, the total cost of the project should include all approved direct costs and indirect costs. All expenditure should be budgeted inclusive of any applicable Goods and Services Taxes (GST) at the prevailing rates.

5.3 Budget items are categorized as direct or indirect cost items. Direct costs are defined as the incremental cost required to execute the programme. This excludes contributions in-kind[2], existing equipment and the cost of existing manpower as well as building cost. Indirect costs are costs that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored research project, but contribute to the ability of the Institutions to support such research projects (e.g. providing research space, research administration and utilities, and not through the actual performance of activities under the sponsored projects).

5.4 Supportable direct costs can be classified into the following cost categories:-
- (a) Expenditure on manpower (EOM);
- (b) Equipment;
- (c) Other Operating Expenses (OOE);
- (d) Overseas Travel; and
- (e) Research Scholarship

5.5 For all direct cost items proposed for the project, please note that:
- (a) Host Institutions must strictly comply with their own procurement practices;
- (b) Host Institutions must ensure that all cost items are reasonable and are incurred under formally established, consistently applied policies and prevailing practices of the Host Institution; and
- (c) All items/ services/ manpower purchased/ engaged must be necessary for the R&D work.

5.6 The Lead PI should exercise due diligence and ensure that the proposed budget is correct and free from error.

5.7 For proposed Equipment to be purchased, please ensure that they are currently unavailable in the Host Institution. In the event where the Lead PI is aware that a similar Equipment is available in the Host Institution, but has still proposed to purchase such Equipment, the Lead PI has to provide the necessary justifications for CoT Directorate's approval. Please also note that there is a requirement to share Equipment purchased using NRF funds with other researchers in Singapore.

5.8 At the end of the Research, CoT Directorate shall have the option to require the Host Institution to transfer ownership of any of the Assets to CoT Directorate or any other person or body at no cost.

[2] Contributions from public agencies account as direct costs.

5.9 The CoT will support 100 percent of the approved qualifying direct costs of a project for Singapore-based IHLs, public sector agencies and not-for-profit hospitals and research laboratories. Companies and company-affiliated research laboratories or institutions will qualify for up to 70 percent of the approved qualifying direct costs of a project.

5.10 Support for indirect costs, in the form of overheads, will only be provided for Singapore-based IHLs, and not-for-profit entities[3]. Funding support of 20 percent of the total qualifying approved direct costs (i.e., Total direct costs less exceptional items) will be allowed. Host Institutions will be responsible for administering and managing the support provided by CoT for the indirect costs of research. Indirect costs must be specifically provided for in the grant, and approved by the Grantor based on the nature of the research.

5.11 Please refer to the document "Guidelines for the Management of Competitive R&D Grants" for information on Disbursement of funds, Variation requests, Audit and Progress reports and List of Non-Fundable Direct Costs for Research Projects.

5.12 CoT Directorate's decision on the funding support to be awarded for each project is final.

6. Intellectual Property Rights

6.1 Government agencies who are Institutions or Collaborators shall co-own any Intellectual Property (IP) arising from the Research. If Government agencies choose not to co-own IP, they shall make this position known prior to award.

6.2 The Institutions shall keep and maintain a full, comprehensive and updated list of all Research IP, which shall be made available to CoT Directorate for inspection at any time.

6.3 The parties shall use best efforts to ensure that Research IP is properly managed and wherever feasible, fully exploited and commercialized. When required to do so by CoT Directorate, the Institutions shall attend such meetings as CoT Directorate may direct to discuss the potential for exploitation and commercialization of Research IP.

6.4 The Government and public sector agencies shall reserve a non-exclusive, non-transferable, perpetual, irrevocable, worldwide, royalty-free right and license to use, modify, reproduce and distribute the Research IP for non-commercial, R&D and/or educational purposes.

[3] A*STAR RIs do not qualify for indirect cost funding.

7. Letter of Award & Acceptance

7.1 Successful applicants will be informed by the CoT Directorate. Notification in the form of a Letter of Award will be sent to the Director of Research for the respective Lead PI's Host Institution, and copied to the Lead PI.

7.2 The Letter of Award will include the following:
(a) Statement of Acceptance;
(b) Terms and Conditions of the Grant;
(c) Guidelines on Grant Management;
(d) Performance Indicators and Milestones; and
(e) Schedule and Budget Details.

7.3 The Acceptance Form must be acknowledged by all of the following:
(a) The Director of Research (or equivalent);
(b) The PI; and
(c) The Co-Principal Investigators (Co-PIs).

7.4 Upon acceptance of the CoT grant, the PI, Co-PIs and Host Institution are bound by these clauses and all other terms as specified in the Letter of Award.

7.5 The PI or Co-PIs cannot also be the authorised officer representing the Institution. In such cases, another officer duly authorised by the management of the Institution shall approve on its behalf.

7.6 The Acceptance Form and Annexes (if applicable) should be returned to CoT Directorate within a pre-determined time frame from the date of the Letter of Award. The date on which the Statement of Acceptance is signed shall be taken as the date of acceptance of the Award.

7.7 After the acceptance of the Award, the Host Institution, Partner Institutions and the Collaborators shall enter into a written agreement that is consistent with the obligations assumed under this Research and that includes conditions about: -
(a) the role of each party in the Research;
(b) the provision of cash or in-kind contributions to the Research by each party;
(c) the work to be undertaken by each party and its technical/scientific contributions;
(d) terms relating to Intellectual Property ownership and commercialization; and
(e) any other obligations to be fulfilled as laid out in this set of guidelines.

7.8 The Investigators are responsible for putting in place research collaboration agreements where and when applicable.

8. Research Integrity Policy

8.1 The Host Institution shall ensure that all necessary approvals for the research, including all ethics approvals, have been granted prior to the commencement of any research activities.

8.2 The Host Institution is responsible for establishing a research ethics and integrity policy and enforcing its compliance. In carrying out any Research, the Host Institution shall agree to:-

(a) Comply with the provisions of any relevant laws of the Republic of Singapore, statutes, regulations, by-laws, rules, guidelines and requirements applicable to it, as well as all applicable policies and procedures adopted by CoT as the same may be amended or varied from time to time;

(b) Have in place a research integrity policy which sets out the principles for the responsible conduct of research and procedures for investigating and responding to accusations of misconduct;

(c) Provide training in responsible conduct of researchers, for all researchers;

(d) Be held responsible for the conduct of research and researchers; and

(e) Ensure compliance with best practice, as well as the ethical, legal and professional standards relevant to the research.

8.3 All PIs, research personnel and all other persons involved in the Research must comply with the research ethics and integrity policy, and other approval requirements needed to carry out the research programme. The PIs should undertake the following declaration:

(a) In carrying out Research, agree to comply with the provisions of any relevant laws of the Republic of Singapore, statutes, regulations, by-laws, rules, guidelines and requirements applicable to it, as well as all applicable policies and procedures adopted by CoT R&D programme as the same may be amended or varied from time to time;

(b) Agree to hold primary responsibility for the responsible conduct of research, and shall abide and comply with the ethical, legal and professional standards relevant to research, in accordance to the research integrity policy of the Host Institution; and

(c) Declare any potential conflict of interest that may arise from the purchase of equipment/ physical items or engagement of manpower/ services in the course of carrying out Research.

9. Evaluation Criteria

9.1 Proposals will be evaluated based on the following criteria:

(a) Potential Contribution to CoT Objectives

- Relevance of proposed research in contributing to objectives stated for the CoT Call Topic.

(b) Potential for Breakthrough and Innovation

- Quality and significance of proposed research, including value for money, and the potential for breakthrough/innovation to advance knowledge and understanding within its own field or across different fields.

(c) Potential for Application and Deployment in Singapore and Commercialisation/Export

- Potential for application of research outcomes in Singapore by a public agency and potential for solutions to be replicated in Singapore beyond a single site/project.
- Feasibility for commercialisation/ export in areas where Singapore has a competitive advantage.

(d) Execution Strength and Technical Competency of Research Team

- Quality of plans for execution and delivery of the research programme and goals, including the appropriateness of the proposed milestones and deliverables (specific to evaluation of full proposal applications)
- Quality, significance, and relevance of the recent research record of the PI and co-PIs and the strength of the applicant group, including likely synergy in delivering research and potential for international leadership.

10. Submission Instructions

10.1 Please download all files and read all instructions and guidelines for the Grant Call from www.mnd.gov.sg/citiesoftomorrow/ongoing-grant-calls/v4-greater-sustainability.

10.2 All proposals must be submitted to **both** cot_submission@mailbox.hdb.gov.sg and BCA_COT@bca.gov.sg by 02 Aug 2018, 2359 hrs. **Late submissions or submissions from individual applicants without endorsement from the Host Institution will not be entertained.** It is advised to restrict submissions to 10 MB.

10.3 Full proposals and supporting documents are only considered to be submitted to the grantor if all relevant forms with the relevant attachments are submitted. The documents required are:

(a) Form A – Full Proposal;
(b) Form B – Budget;
(c) Form C – Capability Indicators; and
(d) Form D – Undertaking Form

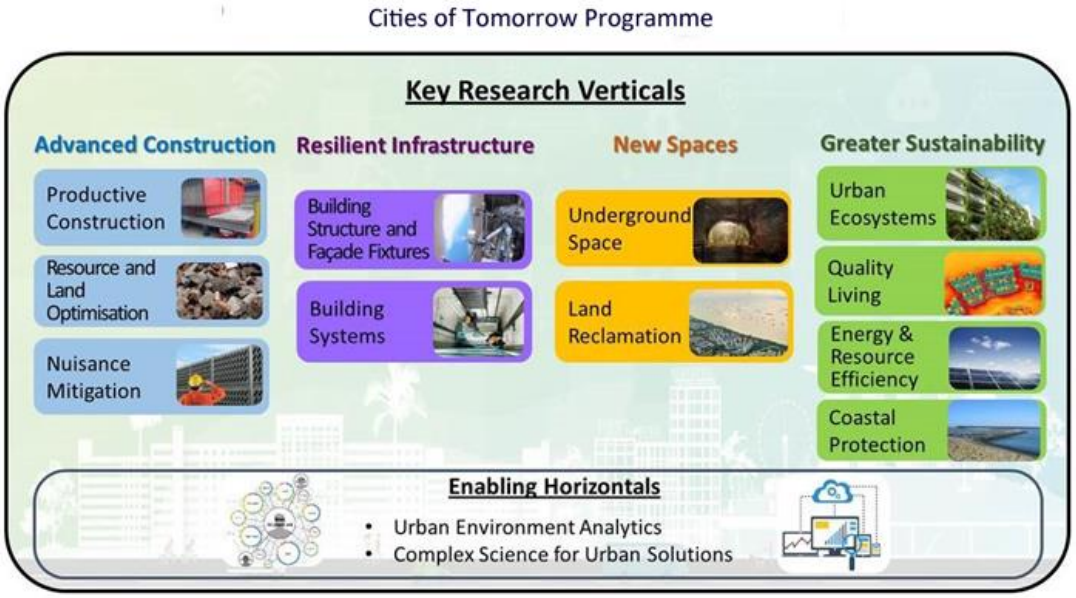
10.4 Please follow the naming convention and format for labelling of softcopy attachments:

Attachment	Naming Convention	Format of attachment
Full Proposal Template	*[Topic Code]* FP_ *Project title*	MS Word
CVs	*[Topic Code]* CV_ *Project title*	MS Word
References	*[Topic Code]* References_ *Project title*	MS Word
Letters of Support	*[Topic Code]* LOS_ *Project title*	MS Word
Budget Template	*[Topic Code]* Budget_ *Project title*	MS Excel
Capability Indicators	*[Topic Code]* Indicators_ *Project title*	MS Excel
Undertaking Form	*[Topic Code]* Undertaking_ *Project title*	PDF

Important: Where relevant privileged or confidential information is needed to help convey a better understanding of the project, such information should be disclosed and must be clearly marked in the proposal.

Annex A: Vision and Research Focus Areas for CoT Verticals and Horizontals

The CoT programme was developed by MND Family in conjunction with our partner agencies, with the aim of delivering outcomes in collaboration with the research community and industry partners. 4 verticals were identified to address key issues of national concern and R&D roadmaps were drawn up to direct funding through the setting of challenge statements. 2 horizontals, which represent specialisation in fields that are cross-cutting, were also identified as key enablers for the 4 verticals.



The vision and research focus areas for each of the verticals and horizontals are as follows:

Vertical 1 - Advanced Construction

Vision: To build a highly productive, integrated and technologically advanced construction sector

Key Research Focus Areas:

- *Productive Construction* – Develop an integrated, intelligent, digitally-enabled construction environment that is highly productive and cost effective.
- *Resource and Land Optimisation* – Reduce and reuse resources required in construction, and intensify land use for off-site production.
- *Nuisance Mitigation* – Reduce the environmental impact of construction activities.

Vertical 2 - Resilient Infrastructure

Vision: To create a robust, flexible and well-maintained city that has reliable and cost-efficient infrastructure

Key Research Themes:

- *Building Structure and Façade Fixtures* – Minimise building defects and enhance building inspection processes, as well as to reduce the cost and manpower needs for maintenance.
- *Building Systems* – Enhance the performance and reliability of key Mechanical and Electrical services.

Vertical 3 - New Spaces

Vision: To ensure sufficient space capacity to support Singapore's growth, yet maintain a liveable environment

Key Research Themes:

- *Underground Space* – Enhance underground mapping accuracy and reduce cost of underground development.
- *Land Reclamation* – Reduce material usage, cost, and environmental impact of land reclamation.

Vertical 4 - Greater Sustainability

Vision: To create a high quality living environment that is inclusive, resource efficient and adaptive to climate change

Key Research Themes:

- *Urban Ecosystems* – Create sustainable, resilient and green cities through applying an ecosystem approach to urban planning, development and management.
- *Quality Living* – Create a comfortable and pleasant living environment for residents.
- *Energy and Resource-Efficiency* - Enhance the energy and resource efficiency of towns, estates and buildings to reduce the environmental impact of operations.
- *Coastal Protection* - Future-ready coastal protection for sea level rise.

Horizontal 1 - Urban Environment Analytics

Vision: To achieve responsive and targeted service delivery as well as resource efficiency in municipal services and urban planning

Key Research Themes:

- *Data Analytics, Sensing and Predictive Diagnosis* – Provide targeted services, anticipate emerging trends for better response, and prioritise resources to optimise output.
- *Mapping, Modelling & Simulation* – Assess the impact of climate change on the natural and built environment, and to incorporate mitigating measures in planning processes.
- *Intelligent Systems* - Improve industry productivity through automation, as well as to improve reliability and consistency of compliance checks.

Horizontal 2 – Complexity Science for Urban Solutions

Vision: Applying complexity science to solve dynamic urban problems, by finding hidden regularities and parameters that affect urban planning

Key Research Themes:

- *Improving Liveability in Singapore* – Use complexity science to create decision support tools for urban planning, so as to better plan for a dense and liveable Singapore.

Annex B: Grant Call Topics

Project Code: CoT_V4_GC2018-1_P1
Call Topic: Phase Change Materials for Effective Indoor Cooling in the Tropics

1 Background

1.1 Phase Change Materials (PCMs) function as a thermal mass and enable cooling via passive means by absorbing latent heat during phase transitions in a narrow temperature range. Currently, there has been extensive research conducted on PCMs in temperate climates. However, with relatively higher temperatures (25 – 35 degrees Celsius) and a smaller daily temperature variance (average range of 6 degrees Celsius) in the tropics, there is a reduction in the efficacy of these conventional PCMs. Moreover, with higher night-time temperatures, there is a greater heat penalty when the PCM "recharges" and releases the heat that it has absorbed during the day.

1.2 Thus, further research is needed to determine suitable PCMs, PCM dimensions, and placement locations (exterior surface, in-built into the wall etc.) that are able to achieve cooling via passive means for existing and new buildings in Singapore's climate. Additionally, there is a need to develop and evaluate methods to integrate these materials into building structures, such as structural/non-structural walls and roofs that are conventionally made of reinforced concrete. Lastly, there is a need to evaluate the effectiveness of the solution for various building types (eg. for residential and industrial interior volumes).

2 Objectives and Scope of Call for Proposals

2.1 The objectives of the project are to:

(a) Determine suitable PCMs, dimensions, and placement locations that are able to achieve cooling via passive means for existing and new buildings in Singapore's climate;
(b) Develop and evaluate methods to integrate these materials into building structures, such as structural/non-structural walls and roofs, conventionally made of reinforced concrete; and
(c) Evaluate the effectiveness of the solution for various building types (eg. residential and industrial interior volumes).

2.2 The project will be split into two phases. Phase 2 will be contingent on phase 1 being successful.

Phase 1: Proof of Concept (POC)

(a) Compare and contrast the various types of PCMs (Organic, inorganic, eutectics, etc.) based on latent heat storage ability and phase changes that are most suitable for thermal insulation
(b) Evaluate the safety of suitable PCMs in terms of chemical stability, toxicity, fire safety, explosiveness, corrosiveness, etc. for building applications

(c) Identify suitable PCMs (type, dimensions and placement locations) for thermal insulation of existing and new buildings based on Singapore's local climatic conditions
(d) PCMs identified should be safe (non-toxic, non-flammable, non-corrosive, non-explosive etc.), be chemically stable, and be minimally degraded after many heating-cooling cycles

Phase 2: Proof of Value (POV)

(a) Develop a prototype for a building material incorporating the suitable PCMs and analyse the results of thermal insulation and cooling loads
(b) Replicate or simulate similar experiments in various building components (eg. gable-end walls, roofs) and building types (eg. various scales of interior volumes)
(c) Provide an analysis of material, installation, operations, and maintenance cost

3 Funding Support

3.1 This Call for Proposals offers funding support for a period up to 3 years. Proposals spanning more than 3 years will require strong justifications.

Project Code: CoT_V4_GC2018-1_P2
Call Topic: Solutions to Maintain Good Ventilation in Enclosed Spaces with Zero or Very Minimal Energy

1 Background

1.1 In highly urbanised environments, excessive noise is one factor that negatively affects liveability. Solutions to mitigate noise propagation include controlling the noise source, providing noise barriers to deflect noise, and active noise cancellation. For noise levels above certain thresholds (e.g. aircraft noise), such solutions may not be effective and a last resort is to enclose living spaces. However, this will reduce natural indoor ventilation and cause heat to build up within the space, requiring conventional means of mechanical ventilation and cooling, such as air-conditioning. Such approaches will increase the energy demand of a building and negatively impact our drive towards environmental sustainability.

1.2 A passive method of cooling buildings is through the use of a Solar Chimney, which is a vertical shaft that uses solar energy to generate convection currents and enhance the natural stack ventilation through a building. There have been past studies on Solar Chimneys, mostly done in temperate regions. However, due to differing factors such as the amount of solar irradiance, average temperature, humidity, cloud cover and the sun's path, it is not accurate to translate the results to Singapore's context. Moreover, studies conducted in the tropics have largely dealt with solutions for low-rise buildings. Additionally, many current passive ventilation strategies and technologies rely on opening up the façade of a building to channel external airflow through interior spaces. However, other solutions need to be developed to tackle the ventilation of fully enclosed spaces.

2 Objectives and Scope of Call for Proposals

2.1 The project aims to find innovative solutions to achieve good ventilation, and comfort of the inhabitants, in enclosed spaces in mid to high-rise residential buildings* using net zero to minimal energy. One of the main thrusts of the project is to relook at the design of solar chimneys in Singapore's context and determine effective parameters and design guidelines. This could include a detailed analysis on the air exchange within enclosed living spaces (e.g. optimal air flow for sufficient ventilation in HDB flats).
**With reference to BCA and SCDF classifications, mid-rise buildings are defined as 6 to 12 storeys, and high-rise buildings are more than 12 storeys.*

2.2 This project will be split into two work areas. Work area 1 looks at the development of solar chimney solutions as well as other ventilation solutions. Work area 2 looks at the development of ventilation standards.

Work Area 1: Development of Solutions

(a) Study and develop various Solar Chimney solutions that provide good ventilation in mid to high-rise enclosed spaces in the tropics. Solutions can generate convection currents through passive (eg. phase change materials, landscaping water features etc.) or active (eg. mechanical) means; however, if mechanical solutions are developed, they should consume net zero to minimal energy.

(b) Study suitable quantities and placements of the solar chimney in a building or flat for good ventilation (eg. the comparison between a few central solar chimneys or multiple chimneys throughout a branched ventilation network). Consideration should also be given to other factors such as inhabitant comfort, noise propagation, indoor air quality.

(c) Study and develop various other solutions that provide good ventilation in mid to high-rise enclosed spaces in the tropics (eg. hybrid solar chimney with passive downdraft evaporative cooling or district cooling systems).

(d) Test-bed and evaluate the solutions for Work Area 1 in mock-up environments for various residential building types (eg. mid-rise, high-rise). Collect and analyse the data (eg. indoor air quality data, air flow data, humidity and temperature data) to determine if the solution is able to provide good ventilation.

Work Area 2: Ventilation Standards

(a) Study and develop a standard for sufficient and optimal ventilation, and indoor air quality in enclosed residential spaces in HDB flats.

3 Funding Support

3.1 This Call for Proposals offers funding support for a period up to 3 years. Proposals spanning more than 3 years will require strong justifications.

Project Code: CoT_V4_GC2018-1_P3
Call Topic: Co-existence of Roadside Planting and Bio-retention Systems

1 Background

1.1 Bio-retention systems make use of natural materials such as soil media and plants to cleanse rainwater runoff. Besides its cleansing function, these features also serve to enhance the aesthetic of the surrounding landscape. These features can be located along the roadside verges to treat the rainwater runoff from roads. At the same time, Singapore's efforts in urban greening through the planting of trees and shrubs at the roadside over the decades have led to Singapore possessing the highest Green View Index (GVI) of any urban city, according to MIT's Senseable City Lab. As such, recognising the benefits brought about by bio-retention systems coupled with lush street planting, the idea of co-locating bio-retention systems together with roadside planting have been mooted - further optimising Singapore's limited land resource.

1.2 So far, no studies have been conducted on the bioswales types, tree/plant species, and planting schemes that can be co-located within the various road verge typologies.

2 Objectives and Scope of Call for Proposals

2.1 The proposal shall be able to answer the following questions:

(a) Can fully-operational bio-retention systems be installed and maintained along new roadside verges without impact to the eventual health, stability, and choice of planting schemes, to achieve a lush, tree-lined streetscape?

(b) Can such systems be retrofitted and maintained along roadside verges with existing mature trees without compromising the health and stability of these trees, future planting choice, as well as the function of these retrofitted systems?

(c) Are there viable solutions to facilitate such co-existence, and if so, what are the trade-offs, if any? If there are no viable solutions to co-exist on the narrow roadside green verge, what other out-of-box or beyond-road-corridor solutions could achieve the same benefit of cleaning the rainwater run-off from carriageway?

2.2 Expected outcomes include, but are not limited to feasibility reports, data analytics, numerical modelling analysis/forecasting tools, and guidelines to answer the research questions in para 2.1 of this document.

2.3 For reference on bioretention systems, roadside greenery provisions, and typical roadside typologies, please refer to PUB's ABC Design Guidelines, NParks' guidelines on greenery provision and tree conservation for developments, and LTA's code of practice for street work proposals relating to development works, respectively.

3 Funding Support

3.1 This Call for Proposals offers funding support for a period up to 3 years. Proposals spanning more than 3 years will require strong justifications.