



ASEAN AUSTRALIA SMART CITIES TRUST FUND

2021 ANNUAL PROGRESS REPORT



ASEAN
AUSTRALIA
SMART CITIES
TRUST FUND
Asian Development Bank



Australian Government
Department of Foreign Affairs and Trade



CONTENTS

SNAPSHOT OF AASCTF 2021 ACHIEVEMENTS	IV
OVERVIEW	6
YEAR IN REVIEW	12
PROGRESS AGAINST DMF TARGETS	54
FINANCIALS	60
WORK PLAN FOR 2022	64
RISKS AND MITIGATION	74

ABBREVIATIONS

AASCTF	ASEAN-Australia Smart Cities Trust Fund
ADB	Asian Development Bank
ALPA	Activity Level Performance Assessment
APR	Annual Progress Report
ASCN	ASEAN Smart Cities Network
ASEAN	Association of Southeast Asian Nations
ASUS	ASEAN Sustainable Urbanization Strategy
COVID-19	Coronavirus disease
CRMT	City Resource Mobilization Tool
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DFAT	Department of Foreign Affairs and Trade, Australia
DMC	Developing Member Countries
DMF	Design and Monitoring Framework
FEWS	Flood Early Warning System
FGD	Focus Group Discussion
GESI	Gender Equality and Social Inclusion
ICD	Inclusive Cities Dialogue
MCO	Mobility Control Order
M&E	Monitoring and Evaluation
MLCP	Makassar Livable City Plan
MTR	Mid-Term Review
OTJ	On-the-Job
P2P	Peer-to-Peer
QPR	Quarterly Progress Report
SEADS	Southeast Asia Development Symposium
SEUW	Southeast Asia Urban Development and Water Division
SME	Small and Medium-sized Enterprises
SURF	Southeast Asia Urban Services Facility
TO	Task Order
UFPF	Urban Financing Partnership Facility

SNAPSHOT OF AASCTF 2021 ACHIEVEMENTS

FOUNDATIONAL ACTIVITIES



6
CONCEPT NOTES
delivered



10
NEW TASK ORDERS
endorsed



9

ACTIVITY LEVEL PERFORMANCE ASSESSMENT (ALPA)
prepared & monitored
(TO level)

5

GESI ACTION PLANS
prepared & monitored
(TO level)



2

SME & PRIVATE SECTOR ENGAGEMENT ACTION PLANS
prepared & monitored
(TO level)



IMPLEMENTING ACTIVITIES



12
TASK ORDER REPORTS
finalised

5



INTERACTIVE DASHBOARDS
developed



1
TASK ORDER
concluded

INFLUENCING ACTIVITIES



4
DIGITAL SOLUTIONS BRIEFS
published



SMART CITY E-LEARNING COURSE (PART 1)
endorsed



3
QUARTERLY NEWSLETTERS
issued

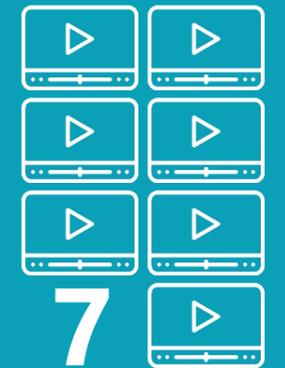
1

SOCIAL MEDIA CHALLENGE
executed



4

WEBINARS
successfully organized



7
VIDEO & MULTIMEDIA PRODUCTS
produced

2

TWINNING ARRANGEMENTS
formalized



1

DATATHON
executed



10
SILVER CITY WORKSHOPS
conducted



11
BRONZE CITY WORKSHOPS
conducted

BAGUIO FEWS "ON-THE-JOB" TRAINING PLAN & ENHANCED CAPACITY BUILDING PROGRAM
endorsed



OVERVIEW

On 1 April 2019, the Asian Development Bank (ADB) approved the establishment of the **ASEAN Australia Smart Cities Trust Fund** (AASCTF or the Fund) under the Urban Financing Partnership Facility (UFPF). On 2 April 2019, the Government of Australia, through its Department of Foreign Affairs and Trade (DFAT), committed to contribute A\$20 million (approx. US\$13.94) towards the Fund. The Fund is currently scheduled to close on or before 30 June 2024. This Annual Progress Report (APR) covers activities for the 2021 calendar year.

The Fund’s envisioned impact aligns with ADB’s Strategy 2030, particularly its fourth operational priority on building livable cities that are green, competitive, inclusive, and resilient, and the ASEAN Sustainable Urbanisation Strategy (ASUS), which aims to promote high quality of life, competitive economies, and sustainable environments.^{1,2}



Figure 1. Map of AASCTF participating cities, with current tiered city designation indicated.

¹ Asian Development Bank. 2018. Strategy 2030, Achieving a Prosperous, Inclusive, Resilient and Sustainable Asia and the Pacific.

² ASEAN Secretariat. 2018. ASEAN Sustainable Urbanization Strategy. Jakarta.

PROGRAM AIMS AND ORGANIZATION

EXPECTED OUTCOME

The expected outcome of the Fund will be that through the adaptation and adoption of digital solutions, across three core functional areas (planning systems, service delivery, and financial management), systems and governance in participating ASEAN cities are improved, vis-a-vis:

- Strengthening city **planning systems** and processes by enhancing the collection, storage, analysis, and utilization of data on geospatial platforms.
- Promoting the use of integrated and smart network management systems to strengthen operational systems and to improve quality and efficiency of **service delivery**.
- Introducing integrated **financial management** information systems to improve institutional credit worthiness and fiscal standing.

Across all the Fund’s work lies three important cross-cutting themes that are addressed and embedded within every activity – Gender Equality and Social Inclusion, Climate Change, and Private Sector. Through the adoption of digital solutions to improve the three core functional areas, and by addressing the cross-cutting issues throughout, the AASCTF will deliver capacity development, partnerships support, and investment grants with the intent that scalable and replicable best practices across ASEAN are identified (see Figure 2).

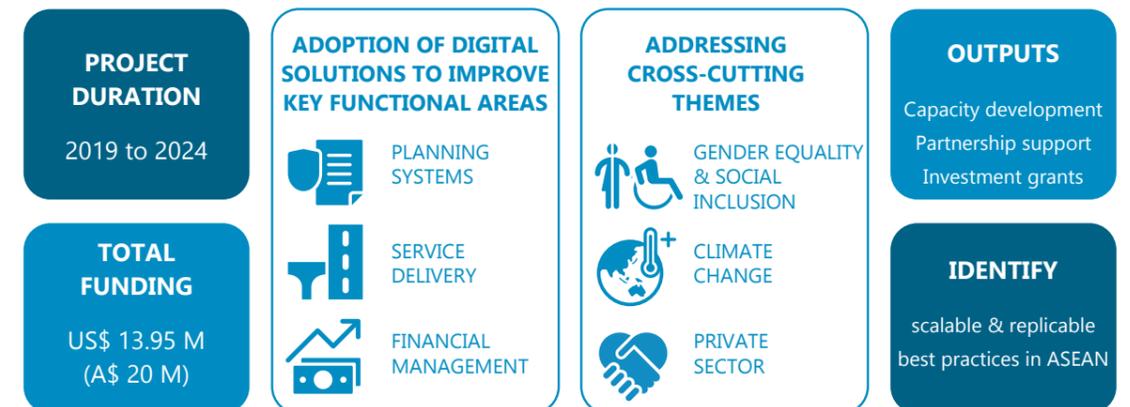


Figure 2. Overview of the AASCTF program.

WORKSTREAMS

Subsequent sections of this APR are structured in accordance with the Fund’s three workstreams:

- **Foundational Activities** refer to activities that are either preparatory, such as city selection and task order development, or provide overarching and/or cross-cutting strategic direction.
- **Implementing Activities** refer to technical assistance, direct charges, and investment grant targeted city interventions undertaken in the pilot (silver and gold tier) cities.
- **Influencing Activities** refer to broad communication and knowledge sharing activities, regional networking, city twinning, and targeted capacity development activities.

IMPACT STORY: MAKASSAR

A suite of smart tools to achieve Makassar's *sombere* vision

Background

Like many port cities, Makassar is a thriving trading hub with rapid urbanization and a diverse economy. Situated along the Makassar Strait in the South Sulawesi, the city is one of the largest in Indonesia. To stay on this progressive trajectory, while ensuring sustainable development, the local government has set its sights on becoming a world-class city, banking on a *sombere* and smart city philosophy.

"*Sombere* means great hospitality, great humility, and great brotherhood," according to Makassar Mayor Moh. Ramdhan Pomanto, speaking in Bahasa Indonesian. "It is a Makassar word that has many meanings... and we combine this with smart city," he added. The idea is to have what the government calls 'heartware' alongside the hardware and software associated with technology, to make citizens both smart and hospitable.

For AASCTF, this perspective of 'putting people first' is the cornerstone of the Makassar Strategic Urban Framework project.

Specific Interventions Supported

The Makassar Strategic Urban Framework project is the first task order under the AASCTF program, which is funded by the Government of Australia, managed by ADB, and developed and implemented by global consulting firm Ramboll. The project intends to deliver a strategic citywide framework that integrates existing smart city plans, actions, and initiatives to support the city's

Medium-Term Development Plan. This will enable the local government to prioritize strategies and interventions that contribute to their *sombere* and smart, world-class city goal.

There are three main components of the Makassar Strategic Urban Framework: first, there is an Urban Situation Assessment, which provides an understanding of the city, its challenges, and needs; second, an interactive Urban Development Scenario report, which reviewed plans and projections for city development; and third is the centerpiece of the project—the Makassar Livable City Plan (MLCP), which builds on the first two components and comprises an extensive package of plans, smart tools and interactive platforms, a document library, instructional videos, and a stakeholder engagement report.

In developing this suite of information and tools, the stakeholder engagement was an essential part. About 2,104 residents participated in a survey conducted in five select districts. The survey enabled citizens to feel involved in the development of their city by sharing their views on the quality of- and access to services. The AASCTF team, meanwhile, was able to gauge the perceptions and priorities of people across different demographic groups, which helped in identifying interventions that the city can consider as part of the MLCP. According to the results (which have been developed into an online dashboard), flood early warning systems, safe streets, and fire hazard and rescue are among the most important services to improve.



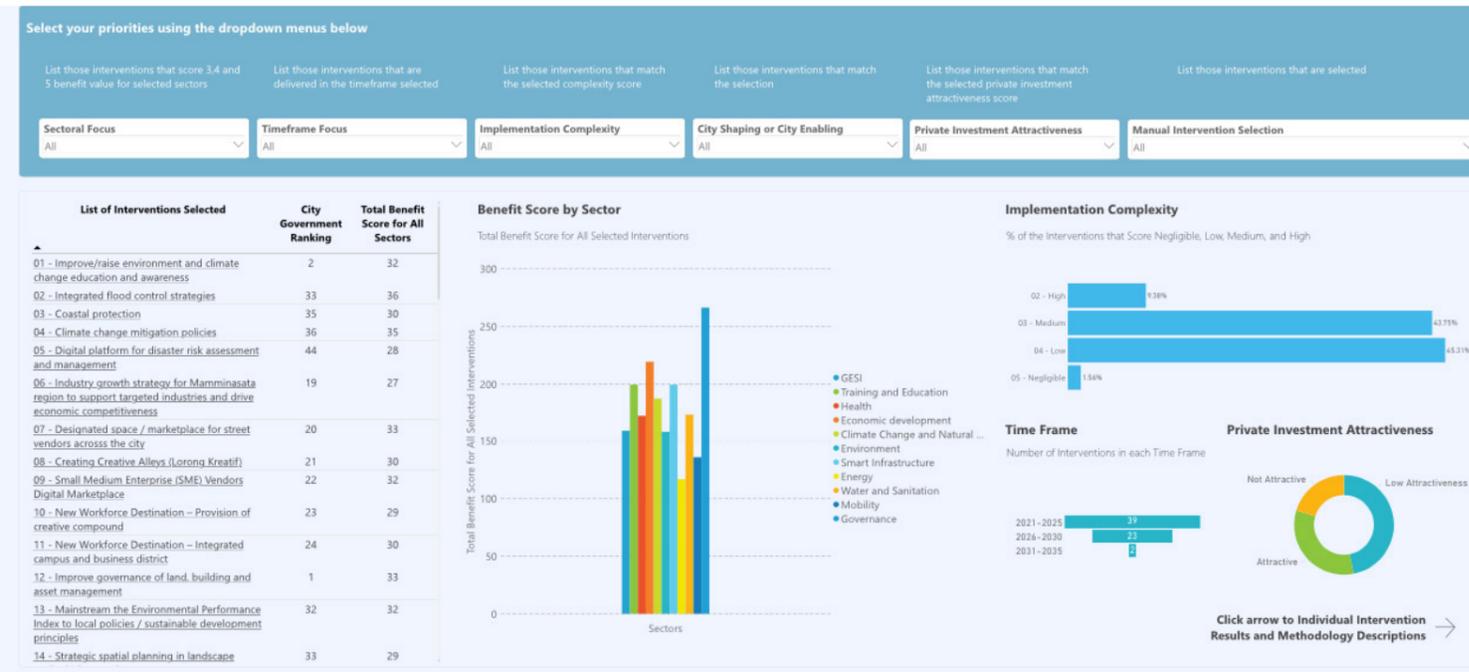
The Makassar city government envisions a world-class city where citizens are smart, hospitable, and empowered to take part in developing their city. Photo: ADB

Arifuddin Rahman, one of the respondents, expressed his approval of the survey. Translated to English, he said: "This kind of survey has actually never been done here before, so I think that's very good ... I hope all of the plans can be done, so development can go well."

Plans and recommendations are plenty in the MLCP; and so are the tools and ensuing analysis that back those plans. The web-based GIS platform, *ur-scape*, developed by the Future Cities Laboratory in Singapore, and *INDRA* Makassar, a digital climate resilience platform created by Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) (see separate *impact story on page 24*), both provide digital tools for visualizing spatial data for more informed urban planning. The city, for example, can better appreciate future risk areas (for example, risks due

“ We have high hopes that the ASEAN Australia Smart Cities Trust Fund will be able to help Makassar City, since we need a lot of support in smart city development and sustainable technology.

— Moh. Ramdhan Pomanto,
Makassar Mayor



One of the smart tools of the Makassar Livable City Plan is the Prioritization tool, which uses Microsoft's Power BI software to showcase specific interventions to turn Makassar into a sombere and smart city. Photo: AASCTF

To engage with citizens and include them in city planning, the AASCTF local team interviewed random residents in five districts with the aid of a smartphone loaded with the online survey form. Photo: AASCTF

to inundation from sea level rise) when deciding infrastructure investments.

Even better perhaps, the MLCP Prioritization Tool takes planning further. The digital dashboard provides an interactive tool containing 64 concrete

measures that the city can implement to help reach its vision. Ramboll has evaluated all 64 smart city interventions and integrated comparative scoring into a simple digital interface that allows the user to select interventions or groups of interventions based on complexity, timeframe needed, private investment attractiveness, and level of benefit per sector. Each intervention also has a corresponding city government ranking, which highlights key priorities including digital technology capacity building, data management and security, and integrated digital applications to support governance and public services.

"The Makassar Livable City Plan is a unique undertaking, for the breadth and depth of the work involved to produce a strategic framework that utilizes digital technologies to build local capacity and support the government's vision for a smart and livable city," said Craig Niles, Principal for Urban Planning in Ramboll Australia and Task Team Leader of the AASCTF Makassar project.

“ **The Makassar Livable City Plan is a unique undertaking, for the breadth and depth of the work involved to produce a strategic framework...**

— Craig Niles, Principal for Urban Planning, Ramboll Australia

"The Prioritization Tool is one highlight of this, as it aims to strengthen collaboration between agencies in Makassar, promote an integrated or systems approach to urban planning, and maximize the multi-sectoral benefits from the interventions pursued."

Results and Impact

The response from the city has been very encouraging, from the citizen survey to the Urban Situation Assessment and Urban Development Scenario reports, and with the potential next phase of the Makassar project already in discussion. While the MLCP will only be finalized and handed over in early 2022, AASCTF may soon be working on capacity building to support the Makassar city government build its digital skills and capabilities. Future tasks may include supporting data management via a digital city ecosystem, which focuses on establishing a scalable, comprehensive database for Makassar that can power a range of

applications to support public services and smart livable city initiatives.

Overall, Mayor Pomanto has shown optimism with the Makassar Livable City Plan. He said, "We have high hopes that the ASEAN Australia Smart Cities Trust Fund will be able to help Makassar City, since we need a lot of support in smart city development and sustainable technology."

YEAR IN REVIEW

This section presents the key 2021 achievements and activities of the AASCTF. When referring to “AASCTF team” this denotes, in particular, the considerable and highly active role of the Southeast Asia Department Urban Development and Water Division (SEUW) team in ADB tasked with managing the overall Fund, alongside global consulting firm Ramboll³ as the main implementing partner of the Fund. Where other partners have been engaged under the AASCTF umbrella, their role and contribution has (with care and to the extent possible) been directly credited.



Photo: ADB.

³ Ramboll homepage: <https://ramboll.com/>

FOUNDATIONAL ACTIVITIES

CITY SELECTION AND DESIGNATION

In 2021, the AASCTF program focused on building and sustaining the gains made during the previous years, as well as expanding support to other cities within the ASEAN region. As was the case at program commencement, city selection continues to be guided by each individual city’s alignment with four key considerations, as set out in Figure 3.

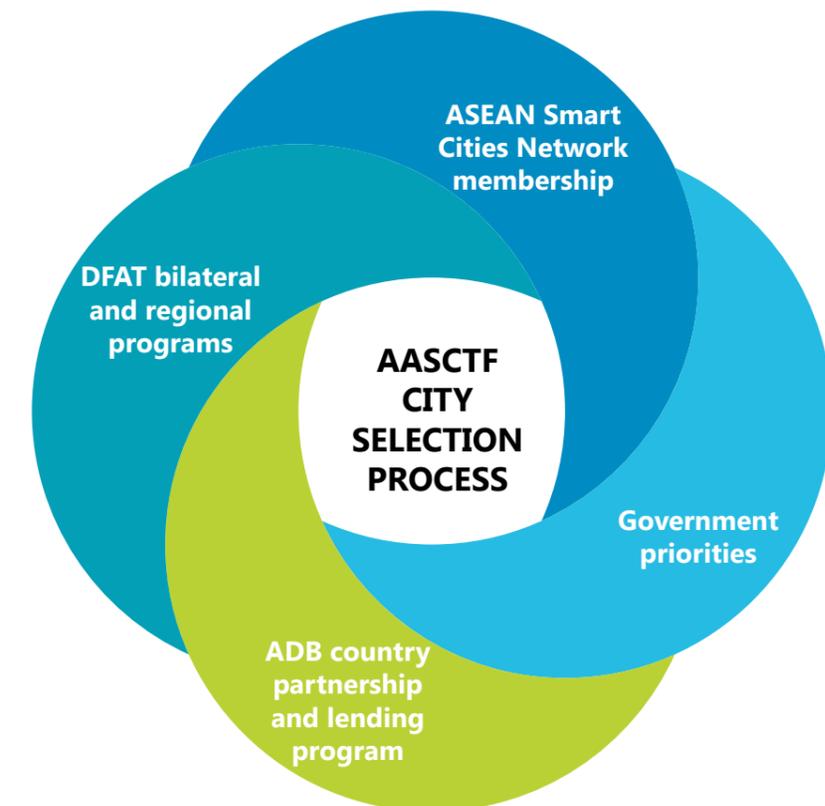


Figure 3. AASCTF city selection.

At the 2021 mid-year review ADB flagged to DFAT a lack of traction and/or changes in alignment among some cities. Between August and November 2021, ADB and DFAT revisited the selection of participating cities. Effective early November 2021, the total number of participating cities was reduced from 26 down to 24, with 5 cities dropping out and 3 cities being added.⁴

⁴ On November 2021, ADB and DFAT together concluded discussions on city selection changes. In total 5 cities were removed, including: Banjarmasin (INO), Cirebon (INO), Sorong (INO), Vientiane (LAO) and Manila (PHI). A further 3 cities were simultaneously added, including: Davao (PHI), Semarang (INO) and Pontianak (INO).

AASCTF is working with different types of approaches and methodologies towards defining, designing, and implementing its city-focused activities. The approaches and methodologies applied in a certain city varies, mainly according to:

- Level of intervention – bronze, silver and gold, with a deepening engagement at the silver and gold tiers;
- Entry points, in terms of sector or themes as prioritized by local government counterparts; and
- Timeline of ongoing and planned ADB lending activities.

An overview of the current designation of participating AASCTF cities is shown in Table 1 (see also Figure 1 on page 6), with some further specifications on the three different levels of engagement provided in Figure 4.



Figure 4. Levels of city intervention.

In 2021, traction and engagement at the bronze tier increased several-fold following an uptick in regional knowledge sharing and capacity building activities (e.g., webinars, intro workshops, etc.). Engagement at the silver tier also increased and expanded in 2021, with the number of designated silver cities totaling eleven (11) at the close of the reporting period [up from eight (8) the previous year]. At the gold tier level, three cities – Davao (PHI), Luang Prabang (LAO) and Ho Chi Minh City (VIE) – are currently earmarked to receive AASCTF investment grants which piggyback on larger ADB loan packages.

As evidenced to-date city designation under the AASCTF program remains fluid and demand-driven, with the ever-present possibility of graduation from bronze to silver and silver to gold tiers.

Table 1. City designation by level of intervention.

COUNTRY	CITY	BRONZE	SILVER	GOLD
Cambodia (CAM)	Battambang	○	○	
	Bavet	○		
	Kampot	○		
	Poipet	○		
	Phnom Penh	○		
Indonesia (INO)	Makassar	○	○	
	Palembang	○		
	Pontianak	○		
	Semarang	○		
Lao PDR (LAO)	Kaysone	○	○	
	Luang Prabang	○	○	○
	Pakse	○		
Malaysia (MAL)	Penang	○	○	
Myanmar (MYA)	Yangon	○	○	
Philippines (PHI)	Baguio	○	○	
	Coron	○		
	Davao	○	○	○
	El Nido	○		
Thailand (THA)	Chonburi/EEC	○	○	
Vietnam (VIE)	Gia Nghia	○		
	Ho Chi Minh City	○	○	○
	Hue	○	○	
	Phan Rang	○		
	Phan Thiet	○		

CONCEPT/TASK ORDER DEVELOPMENT

Entry points for targeted support have been identified in each silver city through consultations by the AASCTF team with the respective key city government officials and other key stakeholders as appropriate. In total ten (10) task orders were endorsed in 2021, including seven (7) new city intervention task orders, two (2) new regional level task orders, and one (1) scope variation to an existing task order.

The AASCTF team develops task orders based on the seven-step approach outlined in Figure 5.



Figure 5. Seven-step approach applied to AASCTF task order development process.



Photo: ADB.

Task orders endorsed

In total seven (7) new city intervention task orders and one (1) variation to an existing city intervention task order were endorsed by ADB in 2021 (see Table 2).

Table 2. City intervention (silver tier) task orders endorsed in 2021.

City	Project Title [NEW/VARIATION]	Date Endorsed
Yangon (MYA)	Yangon City Smart Water Management and Resilience Project [NEW]	29 Jan 2021 ⁵
Baguio (PHI)	Gender Transformative Approach for Strengthened Development, Application and Replication of the Baguio FEWS [NEW]	13 Apr 2021
Penang (MAL)	Penang Smart Mobility the Micro-Simulation Model Development [NEW]	12 May 2021
Battambang (CAM)	Smart Solid Waste Financial Management (Phase 1) [NEW]	12 May 2021
Hue (VIE)	Smart Digital City Model for Master Planning [NEW]	27 Dec 2021
Chonburi/EEC (THA)	Smart Innovation Ecosystem and Smart City Investment Portfolio [NEW]	27 Dec 2021
Luang Prabang (LAO)	Luang Prabang Integrated and Smart Tourism, Heritage and Urban Plan [NEW]	27 Dec 2021
Baguio (PHI)	Baguio City Smart Flood Warning, Information and Mitigation System – scope variation adding: “Baguio LGU Targeted Capacity Building Programme to Enhance Delivery of a Sustainable FEWS” [VARIATION]	27 Dec 2021

Further details regarding implementation status, progress to-date and targets ahead for the 2021 endorsed city intervention task orders (along with those city intervention task orders already under implementation at the commencement of the current reporting period) can be found under the heading *Implementing Activities* in both **Year in Review** as well as **Work Plan for 2022** sections of this APR. Meanwhile, targeted capacity development activities which are conducted under the frame of the city intervention task orders are specified under the heading *Influencing Activities*.

In addition to the city intervention task orders endorsed in 2021 as overviewed above, two (2) regional level task orders were endorsed by ADB in 2021 (see Table 3).

Table 3. Regional (bronze tier) task orders endorsed in 2021.

City	Project Title [NEW/VARIATION]	Date Endorsed
Regional (REG)	Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities [NEW]	16 Jun 2021
Regional (REG)	Smart Cities–Inclusive Cities Capacity Building Programme for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities [NEW]	02 Aug 2021

Further details regarding implementation status, progress to-date and targets ahead for the 2021 endorsed regional task orders can be found under the heading *Influencing Activities* in both **Year in Review** as well as **Work Plan for 2022** sections of this APR.

⁵ ADB placed on hold its assistance in Myanmar effective 1 February 2021. Since then, all AASCTF activities (including this task order) were paused.

Task Orders Under Development

By the end of 2021 a total of four (4) new city intervention task orders and two (2) variations to existing city intervention task orders were under development (see Table 4).

Table 4. City intervention (silver tier) task orders under development at end-2021.

City	Project Title [NEW/VARIATION]	Status (Yearend)
Davao (PHI)	Davao Bus Driver Training & Technology Study – Pilot Preparation & Implementation Support [NEW]	
Kaysone (LAO)	Smart Learning Platform with E-learning Modules (Phase 2) [NEW]	
Chonburi/EEC (THA)	Smart Innovation Ecosystem and Smart City Investment Portfolio – scope variation TBC [VARIATION]	
Hue (VIE)	Smart Digital City Model for Master Planning – scope variation TBC [VARIATION]	
Battambang (CAM)	Smart Solid Waste Financial Management (Phase 2) [NEW]	
Ho Chi Minh City (VIE)	TBD [NEW]	

Further details regarding task order finalization timeline and implementation targets for the city intervention task orders which remain under development at the close of the reporting period can be found under the headings *Foundational Activities* and *Implementing Activities* in the **Work Plan for 2022** section of this APR.

Furthermore, one (1) variation to an existing regional level task order was under development at the close of the reporting period (see Table 5).

Table 5. Regional (bronze tier) task order under development at end-2021.

City	Project Title [NEW/VARIATION]	Status (Yearend)
Regional (REG)	Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities – scope variation TBC [VARIATION]	

Further details regarding task order finalization timeline and implementation targets for the regional task order variation which remain under development at the close of the reporting period, can be found under the headings *Foundational Activities* and *Influencing Activities* in the **Work Plan for 2022** section of this APR.

OVERARCHING/CROSS-CUTTING THEMES

Operationalization of the cross-cutting theme strategy (Gender Equality and Social Inclusion) and discussion note (Private Sector Engagement and Climate Change) documents, developed in 2020, was a central focus across all AASCTF activities within the reporting period.

COVID-19 remained, as in 2020, an emergent cross-cutting and high priority issue of 2021, with focus in the reporting period increasingly shifting towards lessons capture and knowledge sharing on promising practice and policy adaptations to address and mitigate the present and future impacts of major shocks such as, but not limited to, COVID-19.

Furthermore, while AASCTF overarching/cross-cutting strategies are considered living documents, no material updates were made to any of the strategy documents within the reporting period.

Gender Equality and Social Inclusion



The operationalization of the AASCTF Gender Equality and Social Inclusion (GESI) Strategy, approved in December 2020, was in full swing in 2021. The GESI Strategy builds on the core principles of fostering gender equality and social inclusion across all facets of AASCTF workstreams by applying a twin track approach in which GESI is:

1. mainstreamed into all task order/pilot project activities via development, implementation and continuous monitoring of GESI Action Plans (maintained on a quarterly basis as an attachment to the Activity Level Performance Assessment (ALPA), annexed to the respective task order Quarterly Progress Report (QPR)); and
2. conceptualized (where appropriate) into specific, targeted activities at a strategic regional and/or city intervention level within the AASCTF action areas.

Two (2) GESI targeted intervention task orders were developed and endorsed within the reporting period, namely: Baguio (PHI) city intervention task order for *Gender Transformative Approach for Strengthened Development, Application and Replication of the Baguio City Flood Early Warning System* and Regional (REG) level task order for *Smart Cities–Inclusive Cities Capacity Building Programme for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities*.

IMPACT STORY: GESI

On track towards a smart flood early warning system for all

In the high altitudes of Baguio City, tourists flock to experience the summer capital of the Philippines. Come typhoon season, however, intense rainfall cause flooding and landslides. Devastation affects the city, with disproportionate impacts on vulnerable women and other marginalized members of the community.

Disasters, after all, are not gender neutral. Often, when flash floods hit, people who are most vulnerable, such as women living in poverty and people with intersecting vulnerabilities (like those who are elderly and living with a disability), have to scramble to pack necessities and get their family to safety. Sometimes, when the water rises so quickly, panic ensues and everything is left behind.

The city government has been working to address these gaps in coordination, planning,

and preparation. AASCTF, to support Baguio, has been collaborating with local officials and agencies to develop a smart flood early warning system (FEWS). Not only will this project include a flood mitigation action plan, outreach and dissemination plan, and enhanced capacity building program, but it will also apply a gender transformative lens across the FEWS.

This approach exemplifies the Fund's cross-cutting mandate to mainstream gender equality and social inclusion in its projects. In Baguio, the goal is for the FEWS to provide appropriate, applicable, and timely early warning that reaches the last mile. Benjamin Magalong, Mayor of Baguio City, said: "Key to becoming a more resilient city is ensuring that we can better meet the needs of all our citizens, particularly those who are marginalized and vulnerable."



Women and other marginalized members of society carry different burdens and have their own challenges during times of flooding; but these can be addressed with ample planning through a gender-sensitive FEWS.

Photo: ADB



The AASCTF team, composed of gender experts from Ramboll and Practical Action Consulting, conducted an online Workshop on Gender Transformative Approaches to the Baguio City Flood Early Warning Systems on 17 August 2021 attended by the city government and stakeholder representatives.

Photo: AASCTF

The AASCTF project team – led by global consulting firm Ramboll and supported by UK-based non-profit Practical Action Consulting – conducted a gender and inclusion study to identify the most vulnerable communities in the city and understand their experiences during times of flooding and evacuation. The study was guided by Practical Action's UN Women-endorsed 'Missing Voices' methodology, which applies an interview approach to find, build trust with, and listen to individuals facing multiple axes of marginalization.

Building on the study findings, the team also prepared a policy brief that contains targeted policy and practice recommendations for the smart FEWS. In addition, a plan to translate both the study and recommendations into

specific actions was developed with city government agencies.

"The actions drafted can form the basis of implementation plans, standard operating procedures for the FEWS, and even guidance for future iterations of the system," said Catherine Grant, Ramboll Lead Consultant and AASCTF Task Team Leader. "By mainstreaming gender equality and social inclusion into the project, the city government has embraced the journey towards a gender transformative flood early warning system."

Private Sector



AASCTF views private sector and small and medium-sized enterprise (SME) engagement as an important strategic and operational aspect of the Fund's activities to not only deliver best and next practice solutions in the immediate term, but to also enable cities to sustain, replicate and scale the implemented solutions over the longer-term. The 2020 ADB-endorsed Discussion Note for 'Increased Private Sector Participation' has continued to inform and guide actions in this key cross-cutting area throughout the reporting period. In 2021 the focus was on both:

1. applying a private sector engagement lens across all task order/pilot project activities via, where appropriate, the development, implementation and continuous monitoring of SME & Private Sector Engagement Action Plans (maintained on a quarterly basis as an attachment to the ALPA, annexed to the respective task order QPR); and
2. conceptualizing (where appropriate) specific, targeted activities at a strategic regional and/or city intervention level within the AASCTF action areas.

At the city-intervention level, several entry points have been identified in select silver tier cities. This is particularly the case in Kaysone and Battambang task orders where private sector engagement is a prerequisite for successful execution, operation and overall long-term sustainability of the delivered interventions. Furthermore, both regional level task orders under implementation in 2021 viewed private sector as a key stakeholder, having a seat at the table throughout the majority of activities and dialogues taking place and planned for within the reporting period.

In Q1/Q2 2021 the AASCTF team executed four (4) successful webinars each of which spotlighted use cases from regional/international private sector, including Ramboll, Deloitte Australia, Via, Serviceworks, Mapita Oy, Visa and Baker Mackenzie Hanoi. The AASCTF team furthermore executed a successful Datathon in Q2/Q3 2021 (see page 47) which supported to spur private sector engagement and provide financing for the scaling of impactful smart solutions to support an equitable recovery from COVID-19.

Also, over the reporting period, the AASCTF team continued discussions with colleagues from ADB's Office for Public-Private Partnership, ADB's Private Sector Operations Department, and ADB's Ventures Financing Partnership Facility, the latter of which is in particular working to de-risk, finance, and scale impactful technology solutions.

Looking ahead AASCTF will seek to further expand different types of engagement with the private sector, including among others: city twinning, capacity building, knowledge sharing, collaboration, co-creation, resource sharing, and co-investment.

Climate Change



Climate Change mitigation and adaptation are high priorities for the cities involved in the AASCTF pilot activities. On a planning level, reducing emissions from greenhouse gasses through changes in the energy, transportation and housing sectors, are important focus areas for the AASCTF, as well as development of energy-efficient service delivery across all sectors.

At the city intervention level, two (2) task orders in particular, Makassar and Baguio, carried forward the Fund's climate change agenda over the course of the reporting period.

In Makassar, a digital climate risk resilience platform, INDRA Makassar, formed an integral part of the final AASCTF city intervention output, the Makassar Livable City Plan (MLCP) and Prioritization Tool. The INDRA platform was the outcome of a collaboration with Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO)⁶, whereby CSIRO provided both modelling capabilities and digital tools for visualizing and interpolating spatial data to inform urban planning.

In Baguio, climate change is main impetus behind the entire task order; wherein the ongoing development of a new Flood Early Warning System (FEWS) coupled with the delivery and endorsement (within the reporting period) of a Flood Mitigation Action Plan for Baguio, places a uniquely sharp and distinct focus on climate resilience and adaptation among all of the Fund's current portfolio of activities.

Ramping up of both influencing and implementing activities targeting meaningful climate action in AASCTF participating cities is on target for delivery in the remaining fund period. Progress toward achievement of the Fund's overall targets in the area of climate change will by-and-large be captured on an ongoing basis through the inclusion of such in the ALPA, reported on a quarterly basis under the individual task order implementation activities.



Photo: ADB.

⁶ CSIRO homepage: <https://www.csiro.au/en/>

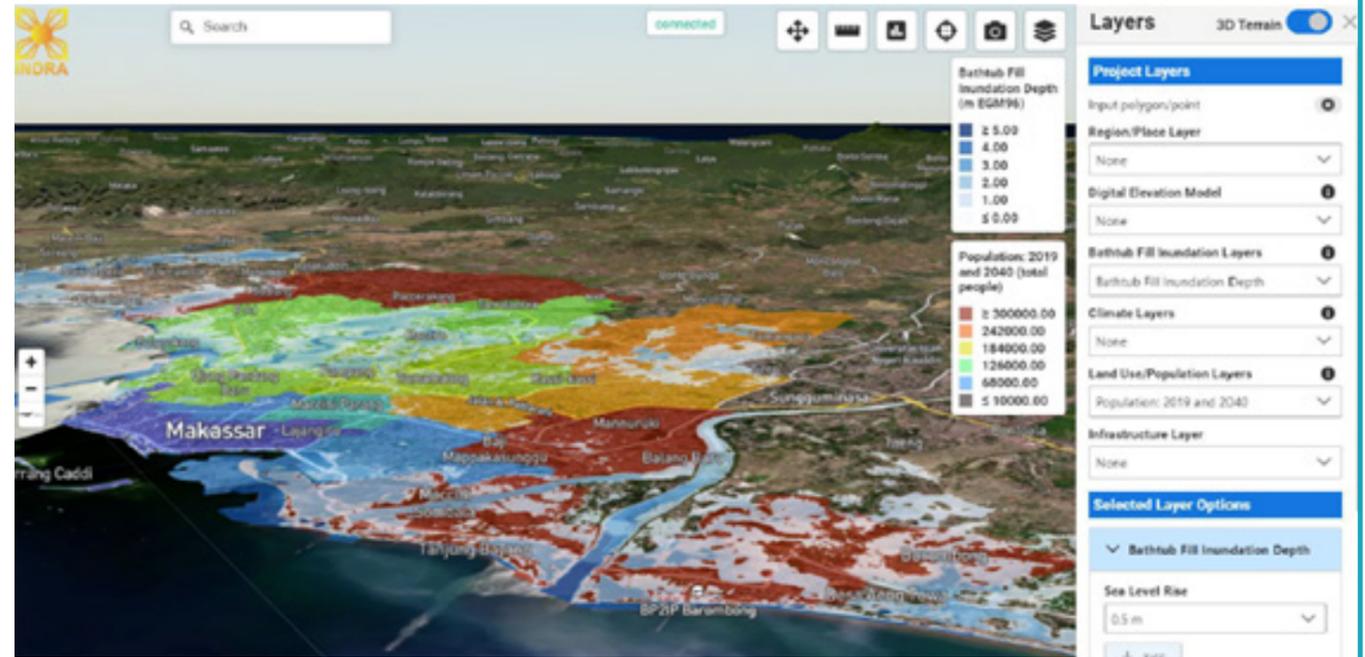
IMPACT STORY: CLIMATE CHANGE

Building the layers to battle climate change in Makassar

Before 2021 ended, heavy rains pummeled the city of Makassar in Indonesia. Rubber boats were brought out amidst the flooding to rescue residents. In one headline, more than 3,000 people were affected in six sub-districts. Public kitchens and health posts were set up. But this occurrence is no longer a rarity in the coastal city. Climate change and its impacts are a clear and present danger, one that the city government recognizes and aims to address.

AASCTF, similarly, considers climate change as one of the most pressing challenges cities face. This is why it is one of the three cross-cutting themes of the program, guiding every aspect of the Fund’s work.

In February, the Fund engaged the services of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia, also known as its national science agency, to develop a digital climate risk resilience platform for Makassar. This would be an integral piece to the Makassar Livable City Plan being developed by Ramboll, the Fund’s consulting and implementing partner, together with the government (see the *Makassar impact story, page 8*), as it would provide the necessary data and scenarios that show how citizens, infrastructure, or other sectors and areas of the city could be affected given changes in temperature, sea level rise, and other factors. The platform can help inform decision-makers in terms of urban planning and future proofing, especially as the city government strategizes its long-term development plans and services.



The INDRA Makassar platform shows the southern areas of the city to be densely populated by 2040, and how these areas could be severely affected by sea level rise of 0.8 meter. Photo: CSIRO



Hospital locations layer displayed with the inundation layer for a sea level rise scenario of 0.5 meter, with the Rumah Sakit Umum Wisata UIT hospital flooded by a depth of 0.3 meter. Photo: CSIRO

CSIRO, specifically its Data61 unit, designed the INDRA Makassar platform based on their original INDRA tool. Using datasets from the core framework, such as layers on historical and future climate predictions for the region, they incorporated it with custom datasets from the University of Hasanuddin, Ramboll, and other sources. These external layers consist of the digital elevation model of Indonesia, land use data, population and population change data, infrastructure layers, housing demand, and others. Together, the INDRA Makassar platform presents the typically complicated datasets in a simple interface that enables users to easily combine layers, analyze impacts, and download data all in a few clicks.

“Rather than keeping climate information to a few people, this significantly opens up to a larger audience and for different purposes,” said Mahesh Prakash, Senior Principal Research Scientist at CSIRO Data61, during the virtual demonstration to local stakeholders in June 2021, which was also attended by city government officials from Baguio in the Philippines, another AASCTF pilot city. The platform can clearly arm Makassar – and other cities – against future risks, protecting citizens, strengthening services, and ensuring livability.

IMPLEMENTING ACTIVITIES

TECHNICAL ASSISTANCE

2021 saw a considerable uptick in the number and diversity of AASCTF implementing activities in participating silver cities. AASCTF task teams have remained vigilant and adaptable in the delivery methods and modalities applied within and across pilot project activities, seeking where possible to alleviate or overcome the challenges and limitations wrought by COVID-19 throughout the reporting period (e.g., inability of experts to undertake field missions which impacted engagement and knowledge transfer/uptake activities, etc.).

In total six (6) city intervention task orders (see Figure 6) were operational in 2021. An additional three (3) city intervention task orders (Hue, Chonburi/EEC, Luang Prabang) were endorsed at the very end of the reporting period, though implementation activities would only commence on those in January 2022.



Figure 6. Location of all silver tier city intervention pilot projects ongoing in 2021.

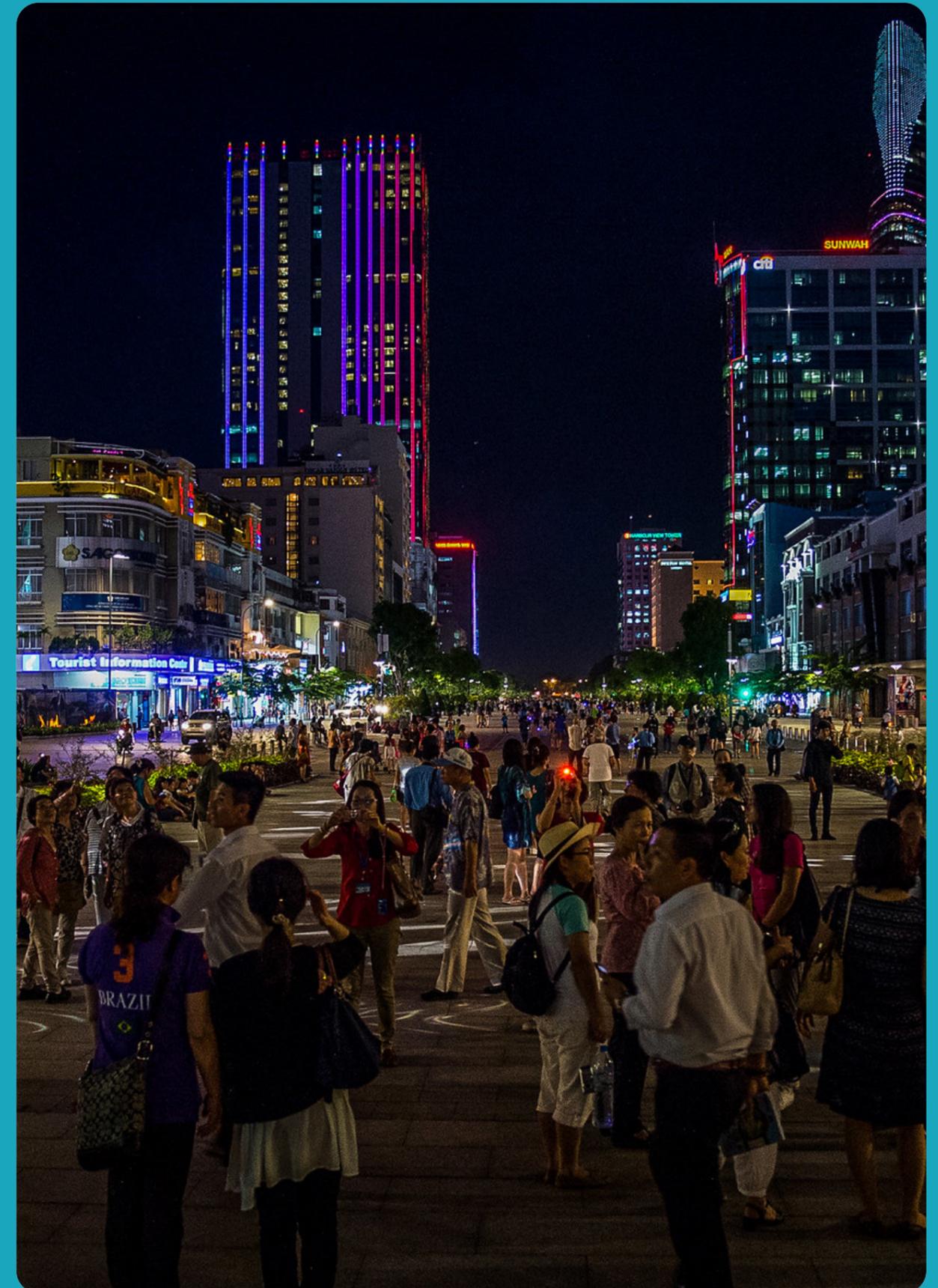


Photo: ADB.



Implementation of the *Makassar Strategic Urban Framework* city intervention task order, which commenced in August 2020, continued throughout the duration of the reporting period.

While originally planned to have a much more condensed implementation timeline, the AASCTF task team adjusted planning and engagement activities to accommodate, in particular, for the change in local government (i.e., change in mayor and heads of all local government agencies) which occurred in Q1/Q2 2021. Such accommodations were viewed as necessary to ensure adequate buy-in and ownership of the pilot project’s aims, activities and outputs.

Across the Fund’s three functional areas the Makassar task order’s specific objectives are as follows:

- **Planning systems:** The task order aims to deliver a smart and livable city plan that better supports the local government to identify potential strategies for achieving the city’s ambitious vision, while also utilizing digital tools to integrate citizen’s feedback in order to enhance planning processes toward more inclusive governance models.
- **Service delivery:** The task order supports the local government to collaborate smartly across agencies in order to prioritize investment decisions – that maximize the delivery of equitable benefits to all city inhabitants – in line with Makassar’s smart city vision and ambition.
- **Financial management:** The task order provides tools and understanding for Makassar local government to prioritize investment decisions based on data, evidence and demonstrated need.

Various smart solutions were pursued and delivered as part of the task order within the reporting period, all of which can be found referenced to-, and/or embedded within the final output, the **Makassar Livable City Plan (MLCP)**. The [Draft MLCP](#), delivered and endorsed in December 2021, is an online interactive report providing single point access to: urban situation assessment and development scenario summary analysis and findings, technical study reports (static MS Word and PDF versions), Prioritization Tool (PowerBI

dashboard, supported by back-end Excel-based prioritization analysis data), Stakeholder engagement platform (PowerBI dashboard, supported by back-end KoBo and Excel-based survey data), GIS mapping (downloadable interactive PDF), and CSIRO’s INDRA Climate Resilience Platform. The Final MLCP will be delivered and disseminated in Q1 2022.

In addition to the Ramboll-led task order supporting Makassar city as described above, AASCTF collaborated with:

- Future Cities Laboratory⁷, Singapore, between September 2020 and mid-2021, to analyze spatial data and design guidelines for robust post-COVID-19 cities in rapidly urbanizing Asia; and
- CSIRO, Australia, in the first half of 2021, to support the city’s climate risk profiling and visualization for better urban planning and more informed decision-making.

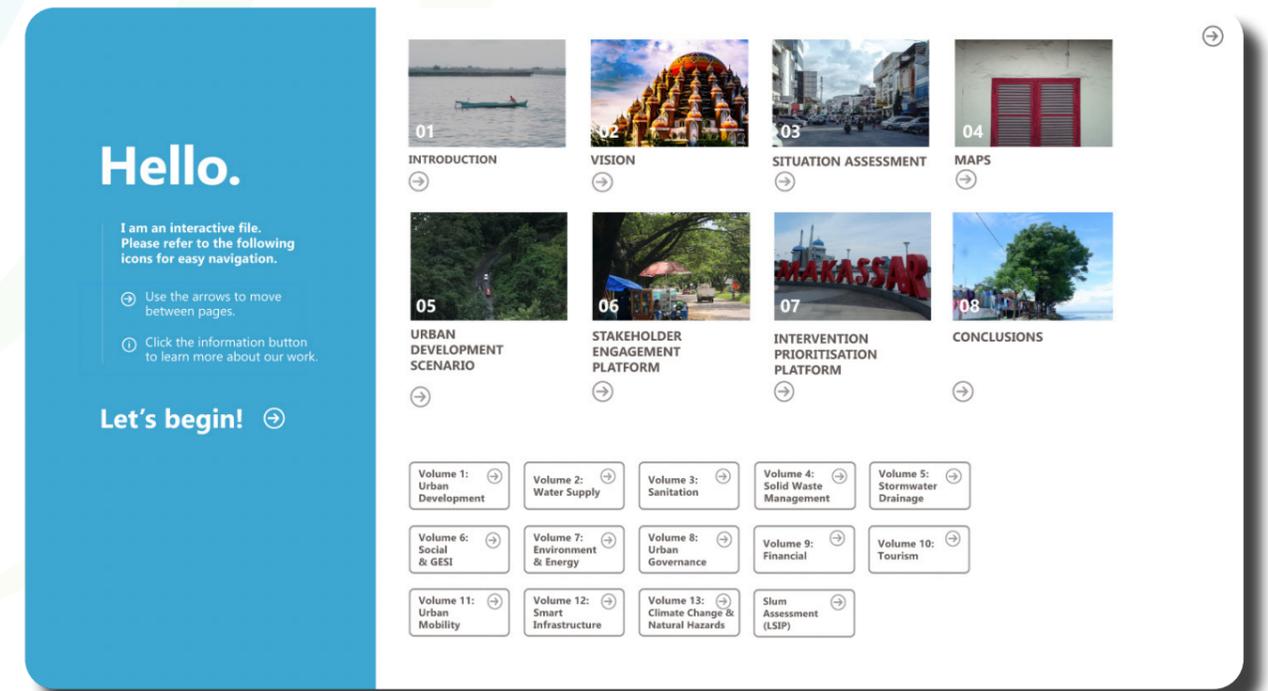


Figure 7. The Makassar Livable City Plan Interactive Report. In-progress version available [here](#).

⁷ Future Cities Lab homepage: <https://fcl.ethz.ch/>



Implementation of the *Baguio City Smart Flood Warning, Information and Mitigation System* city intervention task order, which commenced in August 2020, continued throughout the duration of the reporting period. While originally planned to be finalized within end-2021, a lack of historic water level data to properly calibrate the flood model, in addition to other mitigating factors, contributed to the recommendation by Ramboll (and subsequent endorsement by ADB) in early 2021 to extend the task order implementation period till end-2022.

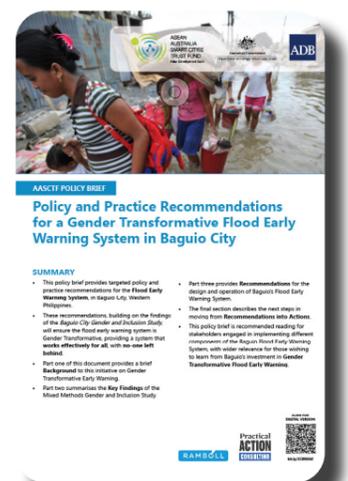
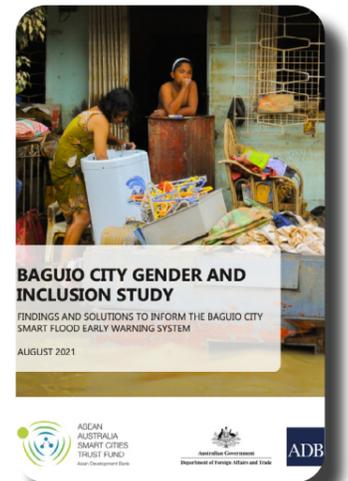
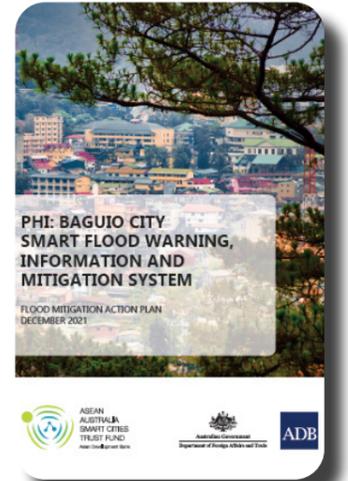
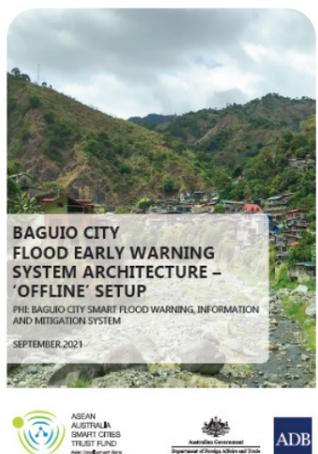
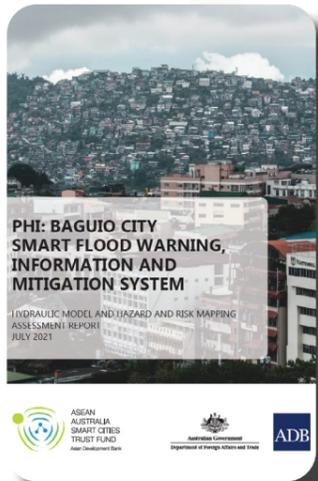
Despite the timeline extension, 2021 proved an intensive and productive period for the AASCTF task team. Adding to this, ADB endorsed, in April 2021, a complimentary GESI-focused city intervention task order for Baguio (*Gender Transformative Approach for Strengthened Development, Application and Replication of the Baguio City Flood Early Warning System*) intended to support and enhance the sought outcomes of the main Baguio task order. For the successful implementation of this task order, Ramboll joined forces with Practical Action Consulting.⁸

Across the Fund's three functional areas the Baguio (main and complimentary) task order's specific objectives are as follows:

- **Planning systems:** The main task order will support to establish and operationalize a smart flood early warning information system, a data dissemination and outreach plan and a high-level flood mitigation action plan; the latter providing the Baguio local government with a strategic roadmap outlining potential investment projects to reduce flood risks in Baguio, increasing urban resilience and triggering benefits and co-benefits of nature-based solutions. The complimentary GESI-focused task order will support to improve the understanding of decision-makers regarding drivers of gendered vulnerability and the implications of such in terms of varying FEWS needs within and between communities, as well as to link the needs of vulnerable and marginalized groups to considered and meaningful planning of preparedness and response actions.
- **Service delivery:** All outputs of both the main and complimentary task orders will inform the resiliency of infrastructure management, seeking as it does to improve representation and inclusion of marginalized groups in the FEWS operations.
- **Financial management:** Neither of the task orders explicitly address financial management aspects.

Various smart solutions were pursued and delivered as part of the two task orders within the reporting period, including:

- **Mixed Methods Gender and Inclusion Study** which applied Practical Action Consulting's UN-Women endorsed "Missing Voices" methodology and resulting outputs. The "Missing Voices" methodology of conducting phone interviews, to avoid drawing unwanted attention to interviewees, means that people are able to speak to the research team at times and places convenient for them, and without being inhibited by other household members or neighbours. In this way, the research team is able to hear candid and detailed accounts, often about subjects which, due to their sensitivity, are not heard about in wider community group discussions, such as issues of gender-based violence and menstrual hygiene in a disaster setting. This "Missing Voices" approach results in a much more nuanced understanding of how different gender groups experience floods and flood early warning systems that can inform the development of actions and procedures for gender transformative FEWS. The Final Mixed Methods Gender and Inclusion Study output was endorsed by ADB in August 2021.
- **Smart data capture and analysis** including the acquisition of Sentinel-2 satellite data to develop a land cover map, development of codes in "R" for the processing of historical rainfall data in Baguio, and the use of ArcGIS and QGIS (the two most commonly used and recognized geospatial software) underpinning all geospatial mapping and data analysis carried out in the delivery of the Hydraulic Model and Hazard and Risk Mapping Assessment Report (ADB endorsed in July 2021), the FEWS 'Offline' Setup Report (ADB endorsed in September 2021) and the Flood Mitigation Action Plan (ADB endorsed in December 2021).
- Ongoing setup of the online **MIKE OPERATIONS real-time modeling framework** to establish the FEWS in the project. MIKE OPERATIONS is a software product designed for model-based forecast services and for online operational control of water management systems. The AASCTF task order is using MIKE OPERATIONS as the main platform software for the design of the FEWS, where all other modelling components will be integrated (e.g., Mike Hydro River and Mike 21).



⁸ Practical Action homepage: <https://practicalaction.org/who-we-are/>



Implementation of the *Kaysone Enhanced Employment Service Platform with Matching Tool and E-Learning Modules (Phase 1)* city intervention task order, which commenced in October 2020, was finalized at the start of May 2021, upon delivery and ADB endorsement of the Pre-Feasibility and Pilot Concept Report (see Figure 8). Preceding the achievement of this final output was the delivery and endorsement of two other outputs, namely the Concept Workshop Report (ADB endorsed in January 2021) and the E-learning Sample Demonstration Workshop Report (ADB endorsed in March 2021).

Across the Fund's three functional areas the Kaysone task order's specific objectives were as follows:

- **Planning systems:** The task order did not explicitly address planning aspects.
- **Service delivery:** In the long run, following the implementation of the scoped Phase 2 pilot project, the intervention seeks to bridge the (soft) skills gap between the offering of formal and vocational education tracks versus the needs and required readiness of job applicants as demanded by various labour market employers.
- **Financial management:** The task order did not explicitly address financial management aspects.

Given that the task order was preparatory in nature, only the initial groundwork relating, in particular, to two key smart solutions were pursued and delivered as part of the task order within the reporting period including:

- Concept development for **gamification style e-learning** modules targeting the enhancement of soft skills for job seekers.
- Concept development for a **smart learning platform** to be designed and delivered as part of the scoped Phase 2 pilot project.

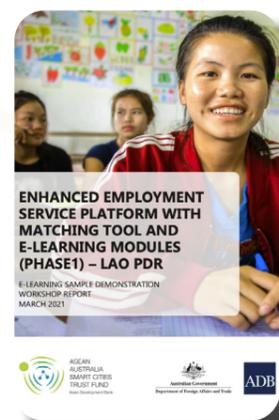


Figure 8. Pre-Feasibility and Pilot Concept Report – final Phase 1 task order deliverable.



Implementation of the *Penang Smart Mobility Micro-Simulation Model Development* city intervention task order commenced in May 2021, with an official project kick-off meeting held virtually on 15 June 2021.

Delays to task order implementation in 2021 were encountered as a direct consequence of a Mobility Control Order (MCO) that was in place for the first several months of the task order implementation period. The MCO restricted access of the local experts to the field and resulted in non-representative traffic flows which meant that the planned traffic count surveys which ideally would have started within the first month of project commencement, needed to be postponed till on-site traffic conditions returned to a near normal (i.e., pre-COVID) level. Finally, in Q4 2021, ground conditions were deemed suitable and the traffic survey was successfully conducted in November 2021. The first deliverable, Model Inception and Trial Model Report, was finalised and endorsed in December 2021.

Across the Fund’s three functional areas the Kaysone task order’s specific objectives are as follows:

- **Planning systems:** There are four main objectives of this task order related to improving the planning system for smart traffic policies in Penang, namely: (i) provide the authority with a micro-simulation model of Georgetown area to simulate different traffic policy options; (ii) better communicate implications of specific transport policies and/or solutions to key stakeholders; (iii) test/trial implications of different transportation schemes arising from previous planning exercises; and (iv) share knowledge and skills on digital tools to enhance/ improve smart mobility strategies.
- **Service delivery:** The objective of the micro-simulation traffic model is to empower the local government to improve the traffic policies in Penang by informing the decision-making process and simulating the impacts of different traffic policy choices. Further knowledge sharing and training activities aim at improving the cities’ capacity to deliver digital services in the field of smart traffic policies and solutions.
- **Financial management:** The task order did not explicitly address financial management aspects.

Within the reporting period initial progress was made toward the delivery of the following smart solution:

- **Smart Mobility Micro-Simulation Model** for both the pilot area as well as the larger Georgetown district which is also a UNESCO World Heritage Zone. VISSIM micro-simulation modeling software will be utilized to enable the local government to assess new transport solutions for Georgetown including sustainable mobility proposals such as the pedestrianization of streets, improved public transport and walking and cycling facilities. Additionally, the local government will be able to check and assess the implications of developer plans in the area, and thus improve the implementation and enforcement of transportation policies. 3D visualization model outputs of transport impacts, will furthermore greatly aid the city with regard to community outreach and dissemination activities, enabling clearer communication for effective and inclusive decision-making.

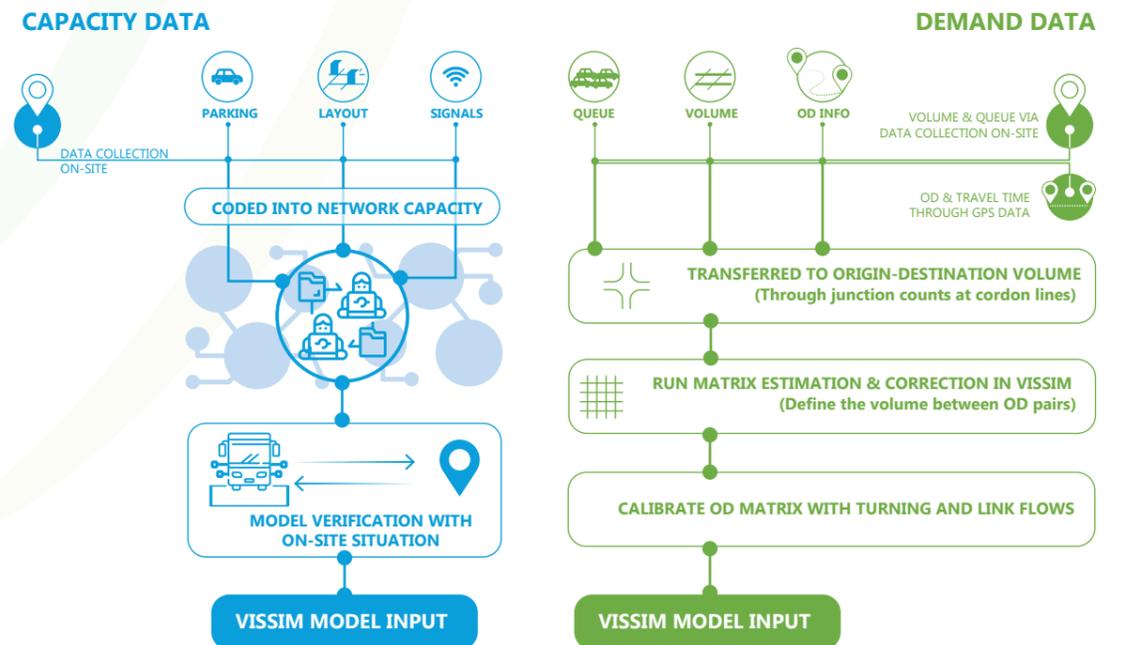
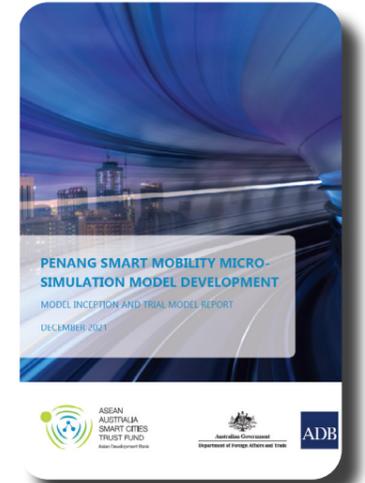


Figure 9. Penang city intervention model development methodology - data utilization approach.



BATTAMBANG, CAMBODIA

Implementation of the *Battambang Smart Solid Waste Financial Management (Phase 1)* city intervention task order officially commenced in May 2021. Following the inability of the team to gain field access in the initial months of the task order implementation period owing to governmental COVID-19 imposed travel restrictions, the project workplan was adjusted with very little activities undertaken prior to the project kick-off meeting on 20 September 2021.

In December 2021, the first stakeholder consultation and draft deliverable associated with the Waste Sector Diagnostics and Readiness Assessment was achieved.

Across the Fund's three functional areas the Battambang task order's specific objectives are as follows:

- **Planning systems:** The objective of the task order is to identify, assess and short-list smart tools and digital solutions to improve the quality and capacity of planning and monitoring within the waste management sector. The Phase 1 task order will contribute to a better understanding of current waste management practices in Battambang and to identification of the relevant needs, challenges and priorities of the waste sector. Further, the assessment and short-listing of potential solutions aims to provide the basis for implementing such via a subsequent Phase 2 task order.
- **Service delivery:** The task order aims to identify, assess and short-list smart solutions that can improve the delivery of waste management services in Battambang. These identified, assessed and short-listed solutions will have the potential to improve the waste management services in Battambang by e.g., increasing the amount of collected and recycled waste and improving the quality of facilities and equipment used for waste collection.
- **Financial management:** As part of this task order, the objective is to identify, assess and short-list revenue generating activities, such as digital payment solutions for waste collection services. These identified, assessed, and short-listed solutions will have the potential to e.g., increase revenues collected by the municipality, support better monitoring of payments and revenue flows, as well as simplify the payment processes for users.

Given that the task order is preparatory in nature, focus within the reporting period has been on initial setting out and analysis of potential smart solutions which could be further pursued and delivered as part of a subsequent Phase 2 task order, including:

- Ongoing analysis of **digital mapping tools for visualisation, monitoring and management of "hot spots" for required waste collection.** In particular, the AASCTF task team is investigating whether the associated digital platform for such can be expanded in terms of data categories and sources, in order to provide improved planning tools for waste management. This will require e.g., additional equipment for retrieving and storage of digital data (i.e., video and images captured by smartphones or drones), development of operational processes and guidelines, alignment of data governance with the platform provider, and internal training and capability building as regards the specific smart solution to be delivered.
- Ongoing analysis concerning the use of **digital payments for waste collection services** in Battambang. The analysis includes considerations for e.g., establishing a register of users subject to payments, data governance for the usage of digital bank payments, as well as assessment of required operational procedures including data interfaces with geospatial platforms in order to import and manage geolocated payment data in real-time.



Photo: AASCTF.



Figure 10. Overview the 10 pilot options across 6 themes that were presented and ranked during the Stage 1 Stakeholder Consultation Workshop in December 2021.

INVESTMENT GRANTS

In close collaboration with ADB project officers and participating cities, opportunities to finance physical investments (including works and goods) in select cities (i.e., gold tier cities⁹) continued to be explored during the reporting period.

DIRECT CHARGES

Activities under the City Resource Mobilization Tool (CRMT) Framework for Indonesian cities continued in the reporting period, with a Municipal Finance Template delivered in Q1 2021, and a CRMT and Pilot City Assessment Report delivered in Q2 2021. The project which seeks to help cities to develop (i) financial management and creditworthiness, and (ii) a strategy for resource mobilization and prudent borrowing to meet medium-term infrastructure needs, is set to be concluded within the first half of 2022.



Figure 11. Ambassador Will Nankervis from the #SmartIdeas4ResilientCities social media campaign. [Watch video.](#)

⁹ Note: currently named gold tier cities (Davao, HCMC and Luang Prabang) have been identified considering possibility of linking investment grants to ADB loans being processed, whereby there is some confidence at this stage that the investment grants can be achieved/utilized within the current fund period (mid-2024). However, gold tier city selection is subject to change, in particular in the case of any changes in loan processing.

INFLUENCING ACTIVITIES

COMMUNICATION & KNOWLEDGE SHARING

Social media

Following the development of AASCTF’s social media strategy and creation of accounts on Facebook, LinkedIn, Twitter, and YouTube in 2020, the Fund has continued to expand and grow its online following and increase engagement in these channels during the reporting period (Table 6).¹⁰ Regular posting has been sustained by having daily posts, delivering continuous presence online. Another key improvement this year has been the introduction of live tweets during notable events and webinars, such as the ASEAN Sustainable Urbanisation Forum, among others. The Fund is not only able to provide real-time updates and takeaways but is also able to leverage on the presence of other organizations and speakers to increase likes, retweets, and overall reach. Furthermore, the AASCTF team has become more intentional in promoting project updates and relevant news from the different AASCTF cities.

In 2021, the team also conducted its first social media campaign focusing on Urban October and the UN Climate Change Conference (or COP26). The campaign was a means to participate in these two global events and drive home the role of cities in addressing climate change. Called #SmartIdeas4ResilientCities, the campaign invited different people from the AASCTF community to share their views and solutions to achieve smart and resilient cities in a video format. A total of 17 people submitted videos, including urban development specialists from ADB, urban and sustainability experts from Ramboll, the Vice Mayor of Pakse City (Lao PDR) Bounnao Fongkhamdeng and Australian Ambassador to ASEAN Will Nankervis (see Figure 11). The campaign, which was held from early-October to mid-November (or until the end of COP26), raised engagement in the AASCTF channels, especially on LinkedIn.

Table 6. Overview of AASCTF social media platforms and basic statistics as of 31 December 2021.

	Facebook	Twitter	LinkedIn	YouTube
Handle	@AASCTF	@AASCTF	AASCTF	watchAASCTF
# of followers	1,063 followers, 1,019 likes	259 followers	815 followers	80 subscribers
# of posts	251 posts	584 tweets	343 posts	59 videos

¹⁰All AASCTF social media channels officially launched on 03 August 2020.

ASEAN Australia Smart Cities Webinar Series

During the reporting period, AASCTF pushed forward with the continuation of the ASEAN Australia Smart Cities Webinar Series (which first kicked off in August 2020) to facilitate the sharing of smart, digital solutions that are helping cities around the world to improve their planning systems, service delivery, and financial management. The final 4 webinars were rolled out over a 4-month period from February to May 2021, with each session utilizing interactive engagement tools such as audience polls, online Q&A, and digital evaluation forms. The webinar recordings and speaker presentations were also uploaded on ADB’s Knowledge Events repository and shared through AASCTF social media channels. Particular event details and links are provided in Table 7.

Table 7. An overview of KPIs on the 2021 sessions of the ASEAN Australia Smart Cities Webinar Series.

Webinar Title	Date	No. of Participants	Location of Participants	Nat/City Govt participation	Gender Balance of Speakers	Overall rating of webinar
Webinar #6: Next Practice Smart Mobility Lab	2 Feb 2021	102	23 countries	40%	25%	Extremely satisfied: 30%; Very satisfied: 50%
Webinar #7: Promoting Smart Tourism Recovery via Virtual Reality	2 Mar 2021	150	22 countries	21.7%	40%	Extremely satisfied: 47%; Very satisfied: 46%
Webinar #8: Digital Tools for Enhanced Community Engagement in Urban Planning	13 Apr 2021	142	22 countries	55%	67%	Extremely satisfied: 38%; Very satisfied: 58%
Webinar #9: Digital Payment Solutions for Smart and Inclusive Cities	11 May 2021	64	22 countries	66.7%	50%	Extremely satisfied: 42%; Very satisfied: 50%



Figure 12. Promotional material for the ASEAN Australia Smart Cities Webinar Series Part 6-9.

Digital solutions briefs

To elaborate on the specific digital solutions highlighted throughout the AASCTF webinar series and to maximize the learnings from the webinars, individual two-page briefs relating to each specific webinar topic have been developed. Within the reporting period four (4) briefs (see Figure 13) in total have been developed, circulated to all participants of the respective webinars, uploaded on ADB's Knowledge Events repository and shared through AASCTF social media channels. Aside from key learnings from the webinar, the brief sets out the opportunities, benefits and prerequisites for implementing the digital solutions from the webinar series and presents use cases which showcase real-world application of such best and next practice technologies in Asia and abroad.



Figure 13. AASCTF digital solutions briefs developed based on content and discussions from the ASEAN Australia Smart Cities Webinar Series Part 6 to 9.

AASCTF participation in regional/international events

In addition to the AASCTF-organised webinar series, the AASCTF team supported and/or took an active role in the execution of a number of high profile/high visibility regional knowledge sharing events within the reporting period. Details of the main events (e.g., webinars, conferences, etc.) in 2021 which featured participation and/or facilitation of the AASCTF team/activities are summarized in Table 8.

AASCTF also organized the [Knowledge Product Launch of the “Leveraging Data for Urban Design and Planning in Post-COVID Cities”](#) on 8 June 2021 in support of the development of the manual, which was funded by the AASCTF. Developed with focus on Makassar (INO) by the Future Cities Laboratory Singapore, with the support of Bapeko Makassar and Hasanuddin University, the manual serves as a guide for cities to leverage available data to enhance planning policies in the post-pandemic era. It also supplements the city’s ‘Makassar Recover’ program and supports their efforts to become a pandemic resilient city in the future, giving Makassar the tools and guidance needed to analyze data so they can transform their systems and services to best support the needs of residents.



Figure 14. Screenshot of AASCTF Knowledge Product Launch for “Leveraging Data for Urban Design and Planning in Post-COVID Cities” on 08 June 2021.

Table 8. Overview of key AASCTF supported regional/international events in 2021.

Date, Event [Organizer]	AASCTF Role/Contribution
17-18 Mar 2021, Southeast Asia Development Symposium (SEADS) 2021 [ADB]	<p>AASCTF organized and facilitated two sessions during SEADS 2021:</p> <ul style="list-style-type: none"> An open partner session on “Reinventing Smart Cities after COVID 19” which explored how a holistic approach to urban development, combined with a well-orchestrated policy implementation framework and the identification of appropriate digital solutions, are key to elevating livability and building the long-term resilience of cities. An [ADB’s developing member country (DMC) officials] invitation-only deep dive workshop, exploring opportunities and priorities for public-private partnerships in view of building back smarter. It was also at this workshop that the AASCTF Smart Cities Datathon 2021 was launched.
24-25 Jun 2021, CMEA-ADB Workshop on Sustainable Post-Pandemic Recovery [Govt. of Indonesia & ADB]	<p>AASCTF supported the organization of the webinar, which sought to share knowledge on good practices related to policy measures and initiatives undertaken/planned to be undertaken by different countries in responding to and recovering from the COVID-19 pandemic in a green, inclusive, resilient, and sustainable manner.</p>
06-08 Oct 2021, ASEAN Sustainable Urbanization Forum 2021 [UN-Habitat]	<p>AASCTF was invited to participate in the forum, which was an opportunity for representatives from AASCTF’s partner cities – Makassar (INO), Baguio (PHI), and Kaysone (LAO) – to showcase the relevant initiatives being implemented in each city as it relates to the ASEAN Sustainable Urbanisation Strategy (ASUS).</p> <ul style="list-style-type: none"> Makassar City Mayor Danny Pomanto participated in the thematic dialogue session on Inclusive and Equitable Growth: Digital Payment Solutions to Enhance Financial Inclusion. Representing Kaysone pilot project, Vice-President for Research and Post-Graduate Studies of Savannakhet University Dr. Sitha Khemmarath took part in the thematic dialogue session on Education: Support Digital Skills Development. Baguio City Planning & Development Coordinator and Officer-in-Charge of the City government Ms. Antonette Anaban participated in two separate thematic dialogue sessions, one on Urban Resilience: Develop Flood Management Systems, and a second special session on Promoting Gender Equality, Disability and Social Inclusion in Cities.
12 Oct 2021, Innovate4Cities Conference [UN-Habitat & the Global Covenant of Mayors for Climate & Energy]	<p>ADB Senior Urban Development Specialist and AASCTF program lead Joris van Etten delivered a keynote presentation focusing on the experiences and work of AASCTF, with focus on data management to improve cities’ decision-making, at the launch of the Smart Cities Innovation Lab - organized by UNESCAP in cooperation with ASEAN Smart Cities Network (ASCN).</p>
28 Oct 2021, Digital Trade Standards Webinar [ASEAN-Australia Digital Trade Standards Initiative]	<p>ADB and AASCTF’s Joris van Etten took part as one of the panelists, and delivered a presentation entitled “Enabling Smart Cities by Leveraging Standards”. Mr. van Etten shared how the trust fund has been developing a baseline to gauge smart city readiness and maturity among cities in the region, and the various potential entry points for AASCTF support.</p> <p>The ASEAN-Australia Digital Trade Standards Initiative is AASCTF’s sister program under Australia’s Department of Foreign Affairs and Trade.</p>

Project videos produced

During the reporting period, AASCTF has developed three videos showcasing specific AASCTF interventions in pilot cities. These videos have been uploaded on the AASCTF's YouTube channel, and disseminated through Facebook, Twitter, and LinkedIn.



Figure 15. Thumbnail image from AASCTF “Leveraging Data for Urban Design and Planning in Post-COVID Cities” video ([Indonesian](#) & [English](#)).

- Video on [“Digital Tools Help Students Reach the Labor Market in Lao PDR”](#) (released 28 June 2021) focused on the city of Kaysone Phomvihane’s pilot-testing of digital tools that will teach students the skills needed by the labor market, increasing business efficiency and enhancing economic growth. It serves as an overview of the output under Kaysone (LAO) city intervention task order for *Enhanced Employment Service Platform with Matching Tool and E-Learning Modules (Phase 1)*.



Figure 16. Thumbnail image from AASCTF [“Digital Tools Help Students Reach the Labor Market in Lao PDR”](#) video.

- Video on [“Penggunaan Data Spasial Untuk Perencanaan Kota Tangguh Pandemi”](#) (Leveraging Spatial Data for Pandemic-Resilient Cities) (released on 7 June 2021) focused on the “Design Research” approach taken in the development of the manual on “Leveraging Data for Urban Design and Planning in Post-COVID Cities”. Developed by the Future Cities Laboratory Singapore under the framework of AASCTF, the manual serves as a guide for cities to leverage available data to enhance planning policies in the post-pandemic era and was developed using spatial pandemic-related data from the city of Makassar in Indonesia to support resilient planning in the city and beyond. The [English version](#) of the video was released on 3 September 2021.



Figure 17. Thumbnail image from AASCTF [“Missing Voices No More: Integrating Gender Needs in Baguio’s Flood Early Warning System”](#) video.

- Video on [“Missing Voices No More: Integrating Gender Needs in Baguio’s Flood Early Warning System”](#) (released 22 November 2021) focused on the gender and social inclusion study that identified the most vulnerable communities in Baguio City in the Philippines and understand how they are particularly affected by floods, highlighting key findings and recommendations from the study. It serves as an overview of the output under Baguio (PHI) city intervention task order for *Gender Transformative Approach for Strengthened Development, Application and Replication of the Baguio City Flood Early Warning System*

Other multi-media/video products delivered in 2021 include:

- The [AASCTF Smart Cities Datathon 2021 teaser](#), which sought to promote the start-up challenge of the same name held Q2/Q3 2021.
- Storykit on [“Building Cities’ Resilience Beyond COVID-19”](#) (released 15 July 2021) which focused on the concept of “Next Practice” solutions and how its adoption facilitates cities to become smart, resilient, and livable.
- Storykit on [“Analyzing Pandemic Impact in Makassar to Strengthen Resilience”](#) (released on 6 September 2021), which is based on the Discussion Note on “Post-Pandemic Recovery and How it Alters AASCTF’s Focus on Scalability”.
- Storykit on [“Improving Financial Access for Female Micro-Entrepreneurs”](#) (released 20 September 2021), highlighted Aloï’s winning solution from the AASCTF Smart Cities Datathon 2021. Aloï’s loan insight software makes it easy for financial institutions to monitor if loans are being used for their intended purpose while helping microentrepreneurs build a credible digital footprint, enabling them to grow their business.
- The [AASCTF Introduction video](#), which highlights the benefits of participating in trust fund activities for cities. The video is currently being screened during city introduction workshops, with subtitles in [Khmer](#), [Bahasa Indonesian](#), [Lao](#), and [Vietnamese](#).



Quarterly newsletter

AASCTF developed the ASEAN Smart Cities quarterly newsletter as an additional outreach to its target stakeholders, and serves as a digest of AASCTF activities and stories during the period. Three issues (see Figure 18) of the newsletter were disseminated in 2021, which was sent to an average of 2,509 recipients (as of October 2021), consisting of DFAT headquarters and mission staff, ADB staff, city and national government officials, and various other individuals across diverse regions, sectors and industries who have become part of the AASCTF network by signing up to the Fund’s email distribution list.

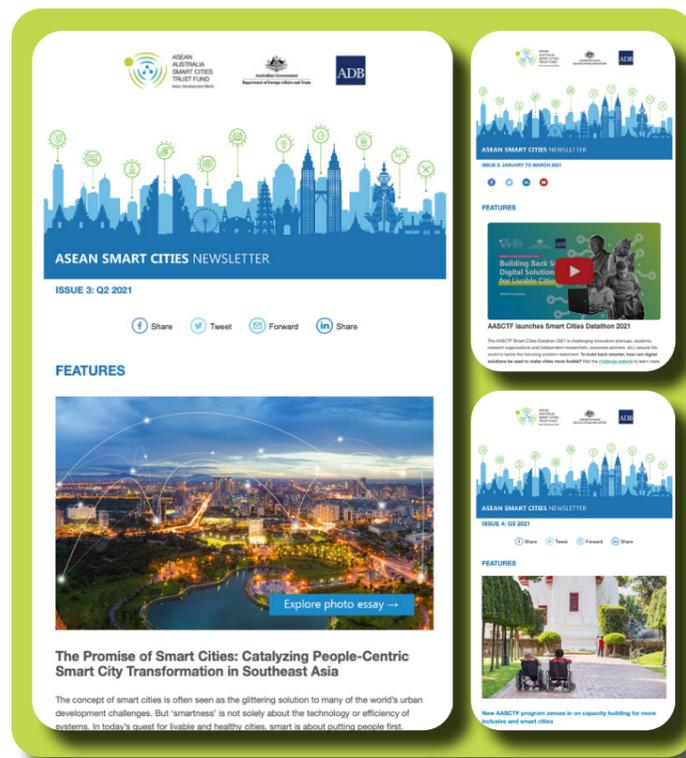


Figure 18. Thumbnail images from AASCTF quarterly ASEAN Smart Cities Newsletter.

AASCTF Datathon 2021

Adjusting to “the new normal” in the post-COVID era and creating a gender and socially inclusive resilient society requires new ideas and smart solutions. Through the Smart Cities Datathon, AASCTF challenged innovators around the world to build back smarter, asking for pitches of digital solutions that could be used to make cities more livable with a focus on one or more of the following:

- Access to urban services and amenities: How can we ensure that vulnerable groups get reliable access to urban services and amenities?
- Participation and influence in the decision-making process: How can we ensure that the voice of vulnerable groups will be heard and taken into consideration in policy discussions and decision-making?
- Improving financial access: How can cities digitally enhance their financial mechanisms to provide better support to vulnerable groups (e.g., loans, fintech smart payments, etc.)?

A total of 63 quality entries were received, with the top 10 shortlisted teams receiving further guidance from a diverse panel of mentors to help teams to improve their business case and idea pitch. After a second round of voting, the top 4 teams competed in a final pitching event, with the winner receiving US\$20,000 and the runner-up receiving US\$10,000.



THE WINNER: ALOI

Aloi (formerly Aeloi Technologies) is a fintech platform that provides digital fund-tracking software for financial institutions. Their software builds a digital financial footprint that helps de-risk micro business loans and decrease long-term interest rates. These loans are issued to entrepreneurs through digital tokens, which can only be spent at accredited vendors, thereby working like an automatic audit to ensure that funds are spent for business purposes. The US\$20,000 seed funding award from their AASCTF Smart Cities Datathon 2021 win allowed Aloi’s software product for Kathmandu’s Safa Tempo industry to grow in design, implementation, and usage in 2021. The seed funding also helped Aloi to strengthen their research on carbon financing for safa tempos to create a roadmap to gain carbon accreditation for electric vehicles in Nepal.



THE RUNNER-UP: ALAGA HEALTH

Alaga Health is the Philippines’ first digital health marketplace and service hub which uses blockchain-ready mobile & web applications with the aim to save the millions who die without seeing a health professional. The US\$10,000 seed funding award bolstered the capacity of Alaga Health to rapidly develop its digital health platform, laying the foundation for all its different interconnected features, and to expand its bookable services to clinic appointments, e-prescriptions, and laboratory tests. Beginning with web-based clinic management systems and mobile-based telehealth services on Android and iOS devices, the digital health social enterprise is now in the process of making all of its features available on every operating system and every device. Alaga Health is also enhancing their technical infrastructure to boost embedded capabilities to effectively handle thousands of simultaneous transactions through high-speed internet connectivity to ensure that health care services can be reliably conducted and provided across different countries and regions.

IMPACT STORY: PRIVATE SECTOR

Empowering women entrepreneurs driving change in Nepal, and soon Southeast Asia

Kathmandu in Nepal is a pioneer in green mobility. The city introduced safa tempos or three-wheeled electric minibuses back in the mid-90s. Battery-powered and zero-emission, the alternative public transport option offered a solution to the increasing air pollution in the city. At its peak in 2000, as many as 700 safa tempos were in operation, with around half of the vehicles driven or operated by women.

And yet, amid global clamor to shift to more sustainable mobility, this promising industry came to a halt. One of the factors in the decline was the high cost of maintaining or

upgrading the vehicle's battery from lead-acid to lithium-ion. Most women in the sector couldn't afford it. Many also lacked proof of income, credit history, and collateral that would allow them to loan from banks.

Enter Aloï (formerly Aeloi Technologies). The fintech startup focuses on the female safa tempo sector, providing them financial access by helping de-risk loans and decrease interest rates through their digital fund-tracking software. Simply put, loans are issued through digital tokens that can only be spent in accredited vendors, thereby ensuring that funds are spent for the safa tempo business.

This sound and sustainable business model earned Aloï a first place win at the AASCTF Smart Cities Datathon 2021. The competition challenged innovators in Asia to develop digital solutions that can be used to build back smarter and make cities more livable. It was a way to foster more private sector involvement in cities' pandemic recovery.

A safa tempo driver in Kathmandu gets ready for her daily route. At the peak of these vehicles' popularity in the late 90s, around half were driven or were owned by women.
Photo: Aloï



Sonika Manandhar (right), Founder and Chief Technology Officer of Aloï, with Devi Shrestha (left), a beneficiary of Aloï's Green Energy Mobility (GEM) product, which caters specifically to women safa tempo drivers and operators.
Photo: Aloï

Aloï was awarded US\$20,000 in seed funding, which enabled their Green Energy Mobility software to grow in design, implementation, and usage in 2021. This included the completion of 18 small loans (ranging from 40,000 NPR to 50,000 NPR or US\$415 to US\$515) and five large loans (worth 1,000,000 NPR or US\$8,317) for women drivers and operators. It also onboarded 18 vendors with offerings spanning driver training, garages, insurance, batteries, charging stations, and electric vehicle parts.

The funding also helped Aloï expand their research and create a roadmap on carbon accreditation of safa tempos. This will enable operators to receive carbon credits from international carbon markets.

Several doors have opened for the company due to the Datathon, and perhaps the biggest one thus far is entering Southeast Asia. Aloï has completed the setup of their headquarters in Singapore and has sought consultations with potential investment partners and venture capital firms in the region.

From empowering women to have flourishing businesses and reviving low-carbon transport in Kathmandu, Aloï could one day see this scaled up in other Asian cities. For AASCTF, that's a definite return on investment which could be replicated with more private sector collaboration.



REGIONAL NETWORKING

To better understand bronze tier city interests and needs for the purpose of informing the planning and design of future capacity development and [regional networking](#) activities under the Fund, eleven (11) introduction workshops (see Table 9) were successfully executed in 2021. These workshops were executed under the frame of the Regional (REG) task order for *Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities* which officially commenced June 2021.

Where introductory workshops were concluded, the AASCTF team thereafter liaised with city officials (and other stakeholders as relevant from the public and private sector) in order to:

- complete a web-based smart city needs assessment survey/questionnaire, including assessment of current levels of utilization and mastery of digital tools in the areas of planning, service delivery and financial management.
- establish a solid and defensible smart city (smart government) baseline.
- develop a peer network of AASCTF recipient bronze tier cities to foster increased exchange of knowledge and best practice in smart city development and implementation.
- Identify bronze tier cities having potential for graduation to silver and gold tiers within the fund program period.

Table 9. Overview of eleven (11) introduction workshops, incl. total of 215 participants (29% women).

#	City	Date	No. Participants	% Female Participation
1	Makassar (INO)	28 Jan 2021	-	-
2	Baguio (PHI)	27 May 2021	30	55%
3	Luang Prabang (LAO)	01 Jul 2021	22	9%
4	Coron (PHI)	08 Jul 2021	11	27%
5	Kaysone (LAO)	29 Jul 2021	26	31%
6	El Nido (PHI)	06 Aug 2021	18	55%
7	Pakse (LAO)	09 Sep 2021	19	11%
8	Poipet (CAM)	03 Oct 2021	31	10%
9	Bavet (CAM)	26 Nov 2021	27	19%
10	Hue (VIE)	03 Dec 2021	15	20%
11	Phan Thiet (VIE)	10 Dec 2021	16	20%

Likewise, the ongoing implementation of the Regional (REG) task order for *Smart Cities-Inclusive Cities Capacity Building Programme for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities* (see [program flyer](#)) will, among other things:

- support AASCTF city stakeholders to become better networked across the region.
- enable civil society actors to have more opportunity to engage with government to address exclusion and marginalization.
- showcase ongoing and upcoming initiatives to strengthen inclusion in cities and facilitate networking opportunities to support replication and potential upscaling of these initiatives.

CITY TWINNING

The [city twinning](#) activities conceptualized in 2020 were initiated and progressed in accordance with the agreed stepwise approach (see Figure 19) in two selected silver cities, Makassar (INO) and Baguio (PHI). Following needs assessment and exploratory dialogues with potential mentor cities, Makassar and Gold Coast (AUS) as well as Baguio and Perth (AUS) formalized the twinning arrangements by nominating a Twinning Coordinator. The role of the Twinning Coordinator for each city was to act as the main point of contact throughout the twinning process. Draft Twinning Plans were developed in both cases within the reporting period, to be finalized alongside the implementation planning of such in Q1 2022. Key focus areas of cooperation between the twinned cities have been identified as follows:

- Beneficiary city: Makassar (INO), and Mentor City: Gold Coast (AUS). Key focus of cooperation: Tourism, Climate Change and Livable & Smart Transport.
- Beneficiary City: Baguio (PHI), and Mentor City: Perth (AUS). Key focus of cooperation: Air Pollution and Water & Wastewater pipeline leak detection.

The overall aim of the AASCTF twinning program is for the beneficiary city to:

- Increase understanding of the complexity of smart city development;
- Develop new technical skills and knowledge; and
- Gain greater confidence through the exchange of best practices and lessons learned.

And for both cities (mentor and beneficiary) the overall aim is to develop mutually inspiring relationships, and to strengthen cross-cultural collaboration skills.

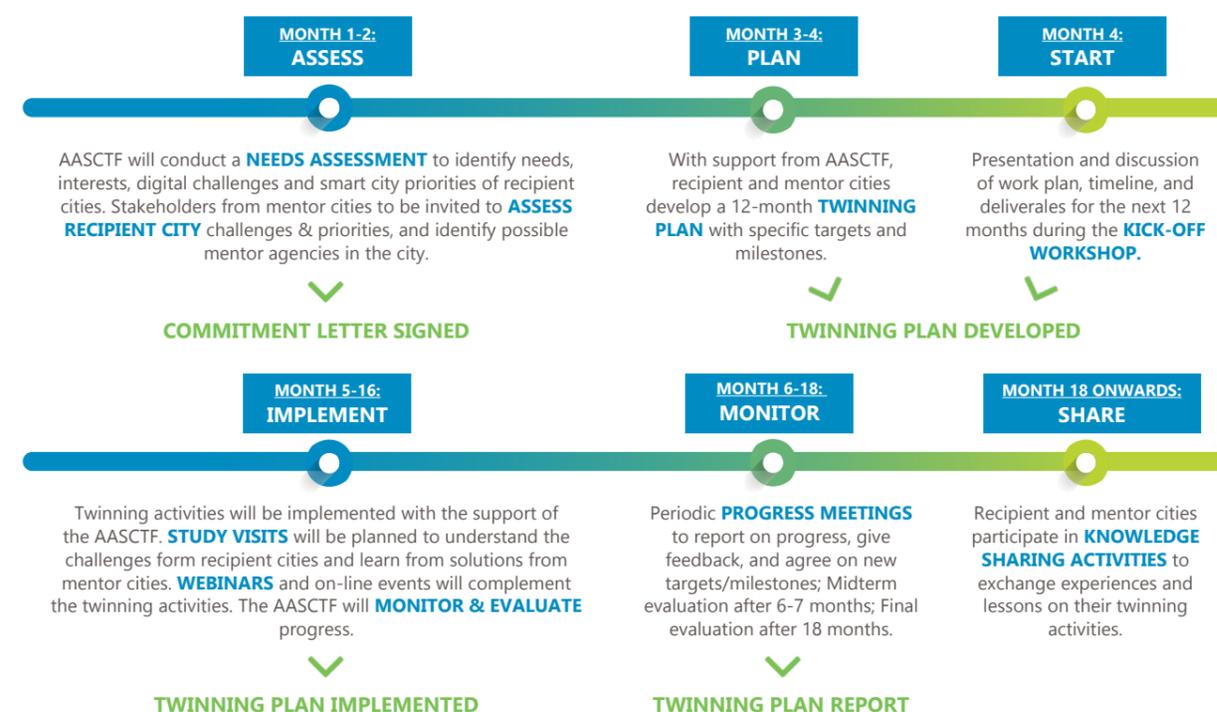


Figure 19. Steps in [AASCTF twinning](#) arrangements.

CAPACITY DEVELOPMENT

In silver tier cities, capacity development took place in the form of workshops and (in select cities) dedicated training programs/activities, spanning the duration of the reporting period.

In the city of Makassar, the AASCTF team pursued a number of smaller direct engagements and dialogues with city officials and other stakeholders, including via a 'Roadshow' Focus Group Discussion (Roadshow FGD) which was carried out in August 2021. The purpose and content of the Roadshow FGD meetings was to present urban development scenarios and potential interventions and seek direct feedback from Heads of Agencies during and after the meetings; feedback from which was then directly inputted to the Prioritization Tool. In addition, three (3) consultation workshops on the MLCP and Prioritisation Tool were held with city officials between September and December 2021.

With the final MLCP output being much more of a tool than a plan, the AASCTF team will at the conclusion of the project be providing the city with much more of a dynamic 'playground' for inclusive and smart urban planning, in the hopes that such will spur curiosity, exploration and ultimately innovation among the city officials themselves. Accompanying the development and ultimate handover of the MLCP tool, local government staff were introduced to and trained in navigating and interrogating the Prioritization Tool (PowerBI dashboard, supported by back-end Excel-based prioritization analysis data) as well as appreciating the data collection process and analytics associated with the Stakeholder Survey (KoBo-Survey Questionnaire and Excel-based survey data, and sampling theory and techniques).

In the city of Baguio, the following bilateral workshops between the AASCTF team and local government staff were held within the reporting period:

- Gender and Inclusion Study Findings and Recommendations Workshop (August 2021);
- Hydraulic Modelling and Risk Mapping Workshop (June 2021); and
- Flood Mitigation Action Plan Workshop: Development of NBS Typologies for Baguio City (November 2021);
- Data Dissemination and Outreach Consultation Workshop (December 2021); and
- From Recommendations to Actions for a Gender Transformative FEWS Workshop (December 2021).

Also, in Baguio further refinements to the On-the-Job (OTJ) Training Plan (initially conceptualised at the end of 2020) were made in line with concluding discussions around local government participant nomination and selection. In total five local government staff, those who will be responsible for the long-term operation and maintenance of the FEWS, will participate in the training. Recognising the need to supplement the OTJ training with a more classroom style training in FEWS, the AASCTF team joined forces mid-year with MIKE software development company and global leader in water environments, DHI¹¹, to conceptualise, elaborate and ultimately conclude on a combination of self-paced and instructor-led trainings, combined with mentoring and peer learning.

In Kaysone, a final stakeholder consultation workshop on the Phase 1 task order was conducted in March 2021. In addition to the presence of local government staff, the audience included private sector, university and vocational school faculty, as well as students.

In the city of Penang, despite being early in the project, informal training was initiated through a number of dialogue sessions with key local government staff, on the use of a Smart Mobility Micro-Simulation Model for a pilot area within the Georgetown district.

In Battambang, an interactive stakeholder consultation workshop was held in December 2021 in which the city waste sector diagnostics and readiness assessment was presented alongside a total of 10 proposed pilot intervention options. The participants supported in the ranking and prioritization of the 10 options supporting the team to narrow in on the preferred solutions to be further elaborated and proposed in the subsequent project stages.

Beyond the various silver tier city capacity development activities, each of the two regional task orders which commenced in 2021 have a particular focus on capacity building.

Under the *Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities* regional task order, a "crash course" in the AASCTF life-centric smart city concept and approach is facilitated, in a consolidated and interactive fashion, as part of the introduction workshops. Building this crash course curriculum out further, the AASCTF team has been progressing over the reporting period to develop a 3-part e-learning course with certification which will become live and freely accessible in 2022, to be made hosted indefinitely on ADB eLEARN website.¹²

Under the *Smart Cities-Inclusive Cities Capacity Building Programme for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities* regional task order, the groundwork, for the successful execution (in 2022) of a series of Inclusive City Dialogues (ICD) and a final Inclusive Cities Event, was laid. Ramboll has partnered on this task order with international non-profit organization The Asia Foundation¹³, and will utilize a political economy approach with the aim to initiate and facilitate learning dialogues across a broad range of stakeholders, including government and non-government actors, in order to increase awareness of- and galvanize action towards addressing the multiple ways in which the physical, social and political dimensions of cities can result in exclusion, disenfranchisement and discrimination when understood from the perspective of women, disabled persons and other marginalized groups. Specific capacity development outcomes sought in the design and implementation of the ICDs include that:

- city officials have a better understanding of social exclusion and how it can be addressed through strategies and planning; and
- government and international actors are more aware of politically feasible reforms for inclusive cities.

¹¹DHI homepage: <https://www.dhigroup.com/>

¹²ADB eLEARN homepage: <https://elearn.adb.org/>

¹³The Asia Foundation homepage: <https://asiafoundation.org/>

PROGRESS AGAINST DMF TARGETS

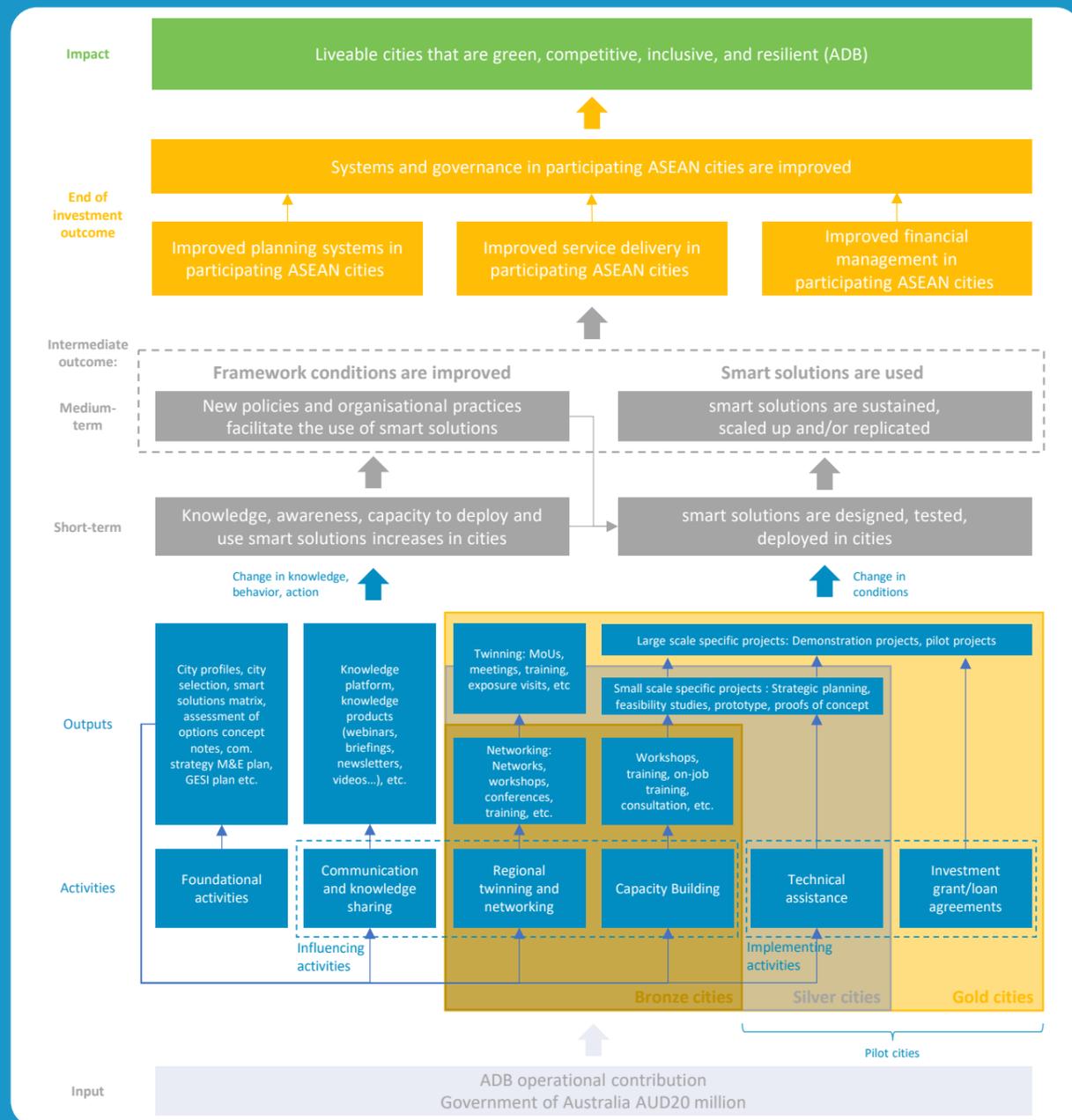


Figure 20. AASCTF Logic Diagram.

AASCTF M&E ECOSYSTEM

OVERVIEW

The operationalization of the December 2020 endorsed [Monitoring and Evaluation \(M&E\) Strategy](#), for which the logic diagram (as shown in Figure 20) is a central element, was in particular focus in 2021. An overview of the AASCTF M&E Ecosystem is captured in Figure 21.

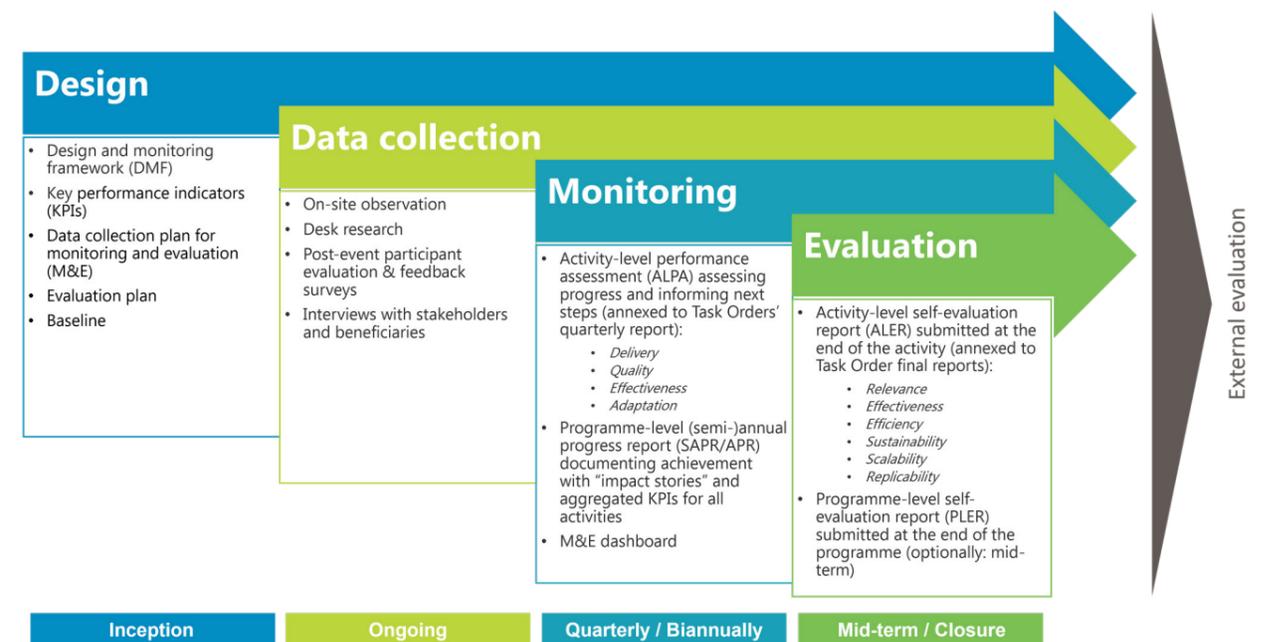


Figure 21. Overview of the AASCTF M&E Ecosystem.

PROGRESS TO DATE

The first Activity Level Performance Assessment (ALPA) template was prepared and rolled out in Q1 2021 as part of the quarterly progress reporting effort at task order level. The ALPA template was subsequently revised and streamlined by the AASCTF team in Q3 2021. In its current composition, the ALPA allows the systematic collection of task order specific indicators marking the progress against targets set out in the overall program Design and Monitoring Framework (DMF).

In Q4 2021 a plan for final task order evaluations alongside a plan for conducting an internal Mid-term Review (MTR) of the entire program during Q1 2022 has been prepared and accepted by ADB.

Tables 10-12 provide an overview of progress to-date against the DMF targets in each functional area. For a detailed definition on the indicators kindly refer to the [AASCTF M&E Strategy](#) (Section 3: Design and Monitoring Framework).¹⁴

¹⁴AASCTF M&E Strategy: <https://events.development.asia/materials/20210115/aasctf-monitoring-and-evaluation-me-strategy>.

Table 10. Functional Area A – Planning Systems.

Results chain		Objective		
Outcome		By 2025, Planning systems in participating ASEAN cities have improved		
Output		By 2024, Projects for improving planning systems in participating ASEAN cities have been implemented		
Indicator	Target	Value	Evidence	
Outcome # cities where emerging evidence shows that planning systems have improved	4	●		
Implementing activities				
Outcome # cities where smart solutions designed, tested and/or implemented for urban planning show potential for being sustained and/or scaled up	4	2 ●	Makassar Baguio	
Output	# cities where smart solutions were designed, tested and/or implemented to enhance urban planning systems	4	2 ●	Makassar Baguio
	# cities where smart solutions were designed, tested and/or implemented to enhance planning for climate resilience	2	1 ●	Baguio
	# cities where smart solutions were designed, tested and/or implemented to enhance planning for gender equity and social inclusion	2	1 ●	Baguio
Outcome # smart solutions designed, tested and/or implemented for urban planning that show potential for being replicated in other cities	4	1 ●	Digital Stakeholder Engagement Tool includes a Pilot Assessment to replicate the tool (Makassar)	
Output	# smart solutions designed, tested and/or implemented to enhance urban planning systems	8	3 ●	Digital Stakeholder Engagement Tool (Makassar) 'Smart and Livable City Plan' (Makassar) Flood Mitigation Action Plan (Baguio)
	# smart solutions designed, tested and/or implemented to enhance planning for climate resilience	4	2 ●	Smart Flood Early Warning System (Baguio) Flood Mitigation Action Plan (Baguio)
	# smart solutions designed, tested and/or implemented to enhance planning for gender equity and social inclusion	4	1 ●	Mixed Methods Gender and Inclusion Study (Baguio)
Influencing activities				
Outcome # cities where awareness, knowledge and/or capacity in urban planning has increased	8	9 ●	Attendees from the Intro Workshops in Baguio, Luang Prabang, Coron, Kaysone, El Nido, Pakse, Poipet, Hue and Phan Thiet responded, that their awareness, knowledge and/or capacity in urban planning had increased.	
Output # cities that took part in influencing activities for increased awareness, knowledge and/or capacity in urban planning	8	●		
Outcome # participants in influencing activities who consider that their knowledge and/or capacity in urban planning has increased	2,000	455 ●	Calculated for Webinars #1, #2, #3, #6, and #7 and Intro Workshop #2-10 on the basis of the % of respondents who rate the 'Overall webinar quality' 9-10 out of 10 or "agree/fully agree" that their 'capacity has increased'.	
Output	# participants who took part in influencing activities for increased awareness, knowledge and capacity in urban planning	3,000	908 ●	Calculated for Webinars #1, #2, #3, #6, and #7, and AASCTF Intro Workshops.
	# participants who took part in influencing activities for increased awareness, knowledge and capacity in urban planning for gender equity and social inclusion	500	●	

● Achieved ● In Progress ● Not started

Table 11. Functional Area B – Service Delivery.

Results chain		Objective		
Outcome		By 2025, Service delivery in participating ASEAN cities have improved		
Output		By 2024, Projects for improving service delivery in participating ASEAN cities have been implemented		
Indicator	Target	Value	Evidence	
Outcome # cities where emerging evidence shows that service delivery has improved	4	●		
Implementing activities				
Outcome # cities where smart solutions designed, tested and/or implemented for service delivery show potential for being sustained and/or scaled up	4	●		
Output	# cities where smart solutions were designed, tested and/or implemented to enhance quality and efficiency of service delivery	4	1 ●	Kaysone
	# cities where smart solutions were designed, tested and/or implemented to enhance services for women and vulnerable groups	2	●	
Outcome # smart solutions designed, tested and/or implemented for service delivery that show potential for being replicated in other cities	4	●		
Output	# smart solutions designed, tested and/or implemented to enhance quality and efficiency of service delivery	8	2 ●	Pre-feasibility study for enhanced employment service platform with (i) matching tool and (ii) e-learning modules using gamification is in progress (Kaysone)
	# smart solutions designed, tested and/or implemented to enhance services for women and vulnerable groups	4	●	
Influencing activities				
Outcome # cities where awareness, knowledge and/or capacity in service delivery has increased	8	●		
Output # cities that took part in influencing activities for increased awareness, knowledge and/or capacity in service delivery	8	●		
Outcome # participants in influencing activities who consider that their knowledge and/or capacity in service delivery has increased	2,000	156 ●	Calculated for Webinars #4, #5, and #8 on the basis of the % of respondents who rate the 'Overall webinar quality' 9-10 out of 10 or "agree/fully agree" that their 'capacity has increased'.	
Output	# participants who took part in influencing activities for increased awareness, knowledge and capacity in service delivery	3,000	278 ●	Calculated for Webinars #4, #5, and #8.
	# participants who took part in influencing activities for increased awareness, knowledge and capacity to enhance services for women and vulnerable groups	500	●	

● Achieved ● In Progress ● Not started

Table 12. Functional Area C – Financial Management.

Results chain	Objective			
Outcome	By 2025, Financial management in participating ASEAN cities have improved			
Output	By 2024, Projects for improving financial management in participating ASEAN cities have been implemented			
Indicator		Target	Value	Evidence
Outcome	# cities where emerging evidence shows that financial management has improved	2	●	
Implementing activities				
Outcome	# cities where smart solutions designed, tested and/or implemented for financial management show potential for being sustained and/or scaled up	2	●	
Output	# cities where smart solutions were designed, tested and/or implemented to enhance quality and efficiency of financial management	2	●	
	# cities where smart solutions were designed, tested and/or implemented to enhance financial inclusion for women and vulnerable groups	1	●	
Outcome	# smart solutions designed, tested and/or implemented for financial management that show potential for being replicated in other cities	2	●	
Output	# smart solutions designed, tested and/or implemented to enhance quality and efficiency of financial management	4	●	
	# smart solutions designed, tested and/or implemented to enhance financial inclusion for women and vulnerable groups	2	●	
Influencing activities				
Outcome	# cities where awareness, knowledge and/or capacity in financial management has increased	4	●	
Output	# cities that took part in influencing activities for increased awareness, knowledge and/or capacity in financial management	4	●	
Outcome	# participants in influencing activities who consider that their knowledge and/or capacity in financial management has increased	1,000	12 ●	Calculated for Webinar #9 based on respondents who rate the 'Overall webinar quality' 9-10 out of 10 or "agree / fully agree" that their 'capacity has increased'
Output	# participants who took part in influencing activities for increased awareness, knowledge and capacity in financial management	1,500	64 ●	Calculated for Webinar #9
	# participants who took part in influencing activities for increased awareness, knowledge and capacity to enhance financial inclusion for women and vulnerable groups	250	●	

● Achieved ● In Progress ● Not started



Photo: ADB.

FINANCIALS



Photo: ADB.

RESOURCE ALLOCATION

TECHNICAL ASSISTANCE

In May 2019, a technical assistance grant of US\$10 million was approved to support the Southeast Asia Urban Services Facility (SURF) in the implementation of various AASCTF activities. Table 13 provides an overview of all AASCTF technical assistance contracts executed up to the close of the reporting period.

Table 13. Overview of technical assistance contracts executed as of 31 December 2021.

Entity	Scope	Contract type	Contract Value	Contract Duration
Ramboll (Denmark)	Main Implementing Partner to AASCTF, Lead consultant on all Core and Task Team led activities	Firm (Sole Framework)	US\$8,999,870	25 Nov 2019 – 30 Jun 2024
		Resource Person	US\$15,000	22 Sep 2021 – 31 Mar 2022
Future Cities Lab (Singapore)	Development of Indonesia's Geospatial platform to support COVID-19 analysis in Makassar	Resource Person (x2)	US\$66,000	01 Oct 2020 – 31 May 2021
Atkins International (UK)	Development of complete sewer network designs for four (4) project cities	Resource Person (x2)	US\$59,400	11 Jan 2021 – 30 Sep 2021
CSIRO (Australia)	Design of an interactive web-based modelling tool/ platform for climate resilience	Resource Person (x2)	US\$66,000	15 Feb 2021 – 31 May 2021
Individual	support digital waste management planning	Resource Person	US\$33,000	15 Jul 2021 – 31 Mar 2022
Egis (France)	Implement an innovative, AI-driven, city-wide smart waste management system in Battambang	Firm	US\$147,359	23 Sep 2021 – 28 Feb 2022
Aeloi Technologies (Nepal)	AASCTF Datathon 2021 Winner (Fintech)	Individual Consultant	US\$20,000	17 Sep 2021 – 31 Jan 2022
Alaga Health (The Philippines)	AASCTF Datathon 2021 Runner-up (Digital Health)	Individual Consultant	US\$10,000	18 Oct 2021 – 31 Dec 2021
Individual	Development of a planning tool for Indonesia's Ministry of Finance which will show technology options in various specific planning scenarios with focus on circular economy	Individual Consultant (x4)	US\$72,743	15 Aug 2021 – 31 Mar 2022

INVESTMENT GRANTS

No investment grants were approved during the reporting period.

DIRECT CHARGES

Two direct charges were approved prior to the current reporting period, namely: (i) US\$0.075 million to support the Asian Livable Cities Forum on Digital Solutions for Livable Cities; and (ii) US\$0.195 million to support Credit Resources Mobilization Tool (CRMT).

No new direct charges were approved during the reporting period.

FUND FLOW

CONTRIBUTIONS

The indicative total contribution from the Government of Australia, through DFAT, for AASCTF is US\$13.94 million (A\$20 million). The contribution is to be released in tranches with its last tranche envisioned in Q4 2022. As of 31 December 2021, actual DFAT contribution received was \$9.37 million (A\$13,184,717).

COMMITMENTS

More than 70% of the expected total contribution from DFAT has been committed to date, including the US\$10 million for utilization by SURF; and \$270,000 for the two (2) direct charges.

DISBURSEMENTS

Of the US\$10.27 million committed, about US\$3.29 million (or 32% of committed amount, cumulative) have been disbursed as of 31 December 2021.

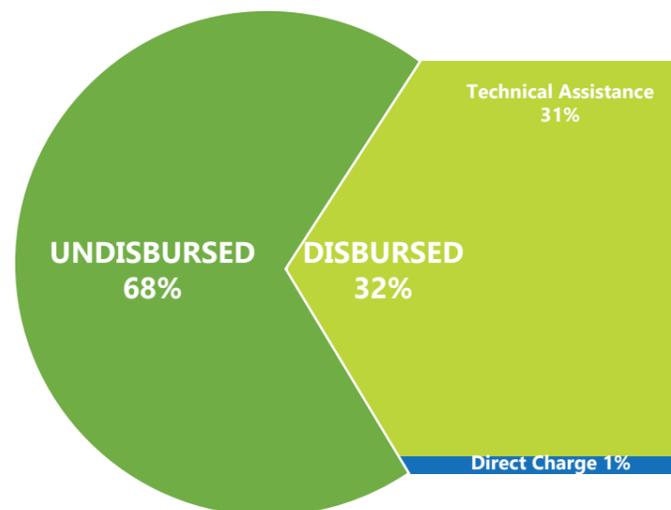


Figure 22 Disbursements as of 31 December 2021.

PROJECT TO DATE (PTD) CONTRACT AWARD

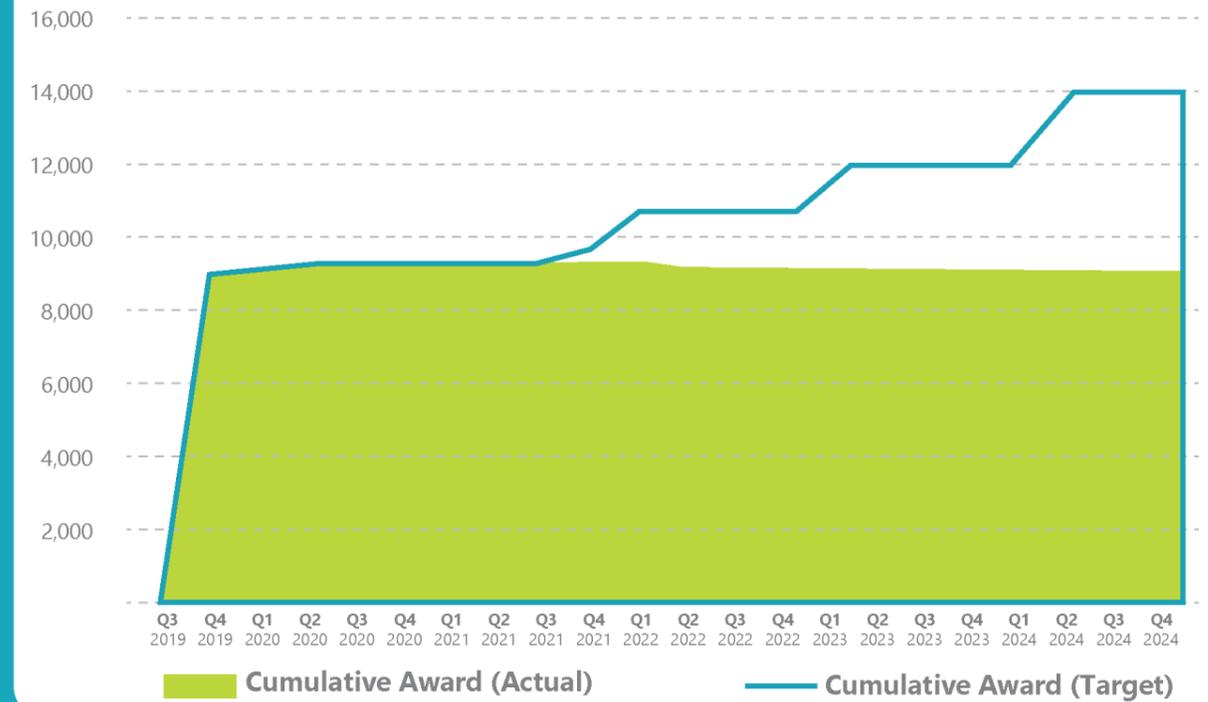


Figure 23. Total contract award to-date and forecast as of 31 December 2021.

PROJECT TO DATE (PTD) DISBURSEMENT

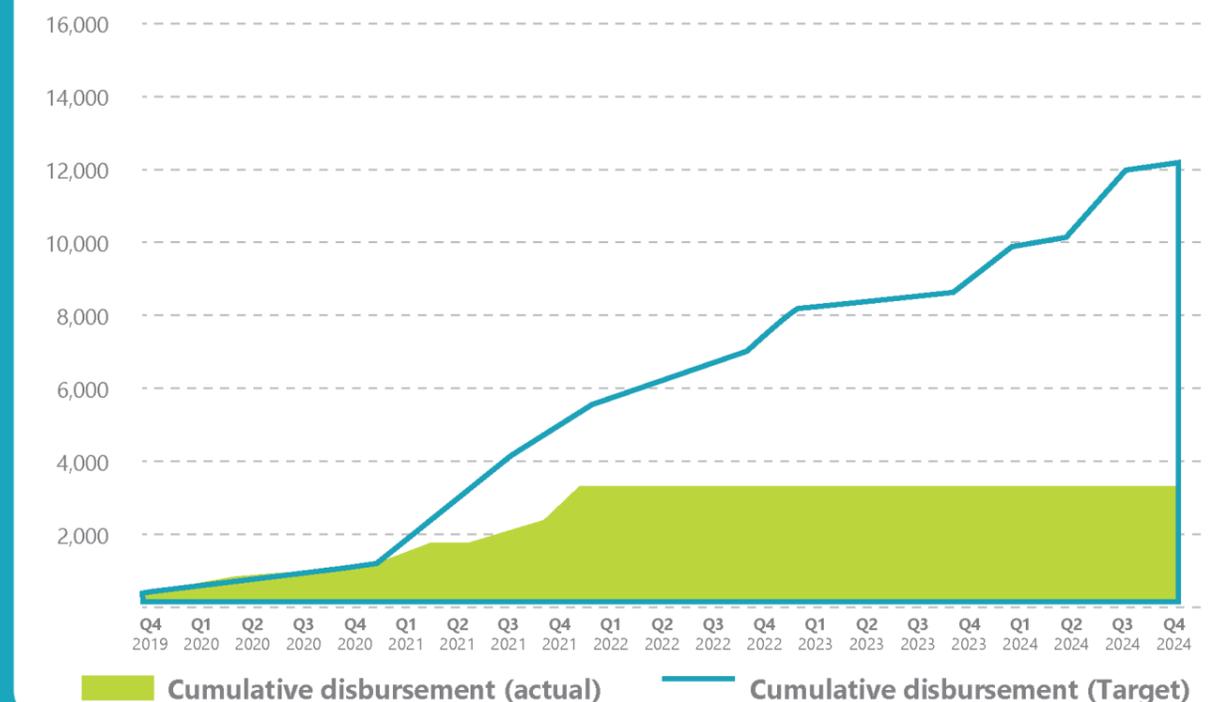


Figure 24. Total disbursements to-date and forecast as of 31 December 2021.

WORK PLAN FOR 2022

MILESTONES	2019			2020				2021				2022				2023				2024	
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Trust Fund Start-up																					
1	Establish Trust Fund																				
2	Engage and mobilize consultants																				
3	Prepare and approve frameworks																				
Foundational Activities																					
1	City Selection and Designation																				
2	Concept/Task Order Development																				
3	Overarching/Cross-Cutting Themes																				
Implementing Activities																					
1	Technical Assistance																				
2	Investment Grants																				
3	Direct Charges																				
Influencing Activities																					
1	Communication & Knowledge Sharing																				
2	Regional Networking																				
3	City Twinning																				
4	Capacity Development																				

Figure 25. Overall AASCTF program workplan

FOUNDATIONAL ACTIVITIES

CITY SELECTION AND DESIGNATION

No city selection activities are currently foreseen for 2022. Should a lack of traction or other issue arise within any of the selected participating cities, the AASCTF team will work closely with DFAT to determine the appropriate course of action, including a potential removal of a city from the AASCTF.

CONCEPT/TASK ORDER DEVELOPMENT

2022 will aim to conclude concept/task order development for all projects which were under development at the end of 2021 (see **Year In Review**).

Targets for achievement of task order endorsement, for the (4) new city intervention task orders and two (2) variations to existing city intervention task orders, is specified in Table 14.

Table 14. Targets for city intervention (silver tier) task order endorsement in 2022.

City	Project Title [NEW/VARIATION]	Target
Davao (PHI)	Davao Bus Driver Training & Technology Study – Pilot Preparation & Implementation Support [NEW]	Q2 2022
Chonburi/EEC (THA)	Smart Innovation Ecosystem and Smart City Investment Portfolio – scope variation TBC [VARIATION]	Q2 2022
Kaysone (LAO)	Smart Learning Platform with E-learning Modules (Phase 2) [NEW]	Q3 2022
Hue (VIE)	Smart Digital City Model for Master Planning – scope variation TBC [VARIATION]	Q3 2022
Battambang (CAM)	Smart Solid Waste Financial Management (Phase 2) [NEW]	Q3 2022
Ho Chi Minh City (VIE)	TBD [NEW]	Q4 2022

Furthermore, the target for achievement of the one (1) variation to an existing regional level task order under development at the close of the reporting period, is specified in Table 15.

Table 15. Targets for regional (bronze tier) task order endorsement in 2022.

City	Project Title [NEW/VARIATION]	Target
Regional (REG)	Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities – scope variation TBC [VARIATION]	Q2 2022

Aside from the above, some preliminary discussions on a potential variation/extension of the Makassar (INO) city intervention task order, with a possible focus on capacity building and monitoring of digital tools uptake and support to develop a digitization strategy were initiated at the end of the reporting period. All said, the AASCTF team will remain open to exploring new opportunities, as and when such needs/interests among and within participating cities do arise (budget and implementation timeline permitting).

OVERARCHING/CROSS-CUTTING THEMES

The AASCTF team will continue to operationalize the Fund's cross-cutting theme strategies and guidance documents underpinning the Fund's important work across all implementing and influencing activities in order to support and foster the development of a more inclusive, resilient, green and competitive ASEAN region.

The AASCTF monitoring and evaluation activities to be undertaken in 2022 – including the QPRs/ALPAs, final task order evaluations, internal program level mid-term review, and external program level mid-term review – are all expected to provide valuable lessons learned and identification of possible improvements to the focus, approach and/or delivery of the various activities in line with the Fund's three (3) cross-cutting themes (and targets thereof).



Photo: ADB.

IMPLEMENTING ACTIVITIES

TECHNICAL ASSISTANCE

All city intervention task orders which were under development at the close of the current reporting period are all presently foreseen to close within end-2022 (see Table 16). This is of course subject to change in the event of any unforeseen obstacles to implementation.

Table 16. Expected implementation timeline of ongoing city intervention (silver tier) task orders.

City	Project Title	Target
Makassar (INO)	Makassar Strategic Urban Framework	Aug 2020 – Mar 2022
Baguio (PHI)	Baguio City Smart Flood Warning, Information and Mitigation System	Aug 2020 – Dec 2022
	Gender Transformative Approach for Strengthened Development, Application and Replication of the Baguio FEWS	Apr 2021 – Dec 2022
Penang (MAL)	Penang Smart Mobility the Micro-Simulation Model Development	May 2021 – Aug 2022
Battambang (CAM)	Smart Solid Waste Financial Management (Phase 1)	May 2021 – Apr 2022
Hue (VIE)	Smart Digital City Model for Master Planning	Jan – Dec 2022
Chonburi/EEC (THA)	Smart Innovation Ecosystem and Smart City Investment Portfolio	Jan – Jun 2022
Luang Prabang (LAO)	Luang Prabang Integrated and Smart Tourism, Heritage and Urban Plan	Jan – Dec 2022

Implementation timelines for city intervention task orders which remain under development at the close of the current reporting period are subject to final endorsement and subsequent commencement date achieved. It is expected that all city intervention task orders, as currently conceptualized, will be fully executed within 2023.

Furthermore, both regional level task orders are foreseen to be fully executed within 2022 (see Table 17). Any potential further time/scope extension of the regional level task orders will be subject to review and discussion in the second half of 2022.

Table 17. Expected implementation timeline of ongoing regional (bronze tier) task orders.

City	Project Title	Target
Regional (REG)	Baseline Development and Capacity Building for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities	Jun 2021 – Dec 2022
Regional (REG)	Smart Cities-Inclusive Cities Capacity Building Programme for ASEAN Australia Smart Cities Trust Fund (AASCTF) Participating Cities	Aug 2021 – Sep 2022

INVESTMENT GRANTS

To the extent possible the AASCTF team will be working to fully conceptualize the targeted gold city investment grant projects within 2022, including commencement of procurement procedures where feasible.

DIRECT CHARGES

The City Resource Mobilization Tool (CRMT) framework for Indonesian cities, under development since 2020, is set to be finalized in 2022.

No other direct charge projects are currently foreseen to be undertaken within the remaining fund period.



Photo: ADB.

INFLUENCING ACTIVITIES

COMMUNICATION & KNOWLEDGE SHARING

AASCTF communication and knowledge sharing activities planned for 2022 include the production of three (3) project videos, highlighting specific innovation/smart solutions, findings/recommendations, and impact within ongoing task orders. Aside from project videos, the use of other forms of multimedia, such as story kits, and video blogs will be pursued, highlighting, among other aspects, AASCTF's overarching/cross-cutting themes.

The AASCTF team also intends to produce a promotional video for the Smart Data Management Webinar series, currently planned to be executed in the second half of 2022. Knowledge briefs to summarize important takeaways from these webinars will also be produced as supplementary materials.

The production of a variety of knowledge products to document/highlight AASCTF's progress and impact, such as blogs/thought pieces, brochures/flyers, articles, quarterly newsletters, as well as public outreach through daily social media posts, will also continue throughout the year. Furthermore, the AASCTF team will continue to seek out opportunities to participate in other regional conferences to share relevant project experiences and lessons learned.

REGIONAL NETWORKING

In Q1 2022, all remaining introduction workshops are targeted to be successfully executed.¹⁵ Introduction workshops will continue to be tailored to the specific needs and interests of the cities, as well as supporting AASCTF in the baselining and needs assessment, identifying the smart city readiness of the city officials and the interests and needs for further capacity development. The AASCTF bronze city baseline dashboard is furthermore expected to be delivered within Q1/Q2 2022.

In addition to various targeted capacity building activities, the AASCTF team is targeting to host its first regional networking conference in Q2 2022. All participating city staff and relevant stakeholders will be invited to partake in this virtual event. The main objective of the event will be to allow an open forum for knowledge sharing among and between of AASCTF participating cities; connecting peers across the region in order to build bridges on the basis of shared interests, needs and/or skillsets. Detailed planning and preparations for the event will take place in Q1 2022.

CITY TWINNING

City twinning activities in Makassar (INO) and Baguio (PHI) will move forward in 2022, starting with the finalization in Q1 of both cities Twinning Plans, which have co-developed and agreed by beneficiary and mentor city [Gold Coast (AUS) and Perth (AUS), respectively] alike. From Q2 it is expected that both twinning arrangements will be in full implementation mode which will continue for the remainder of 2022 and into 2023.

¹⁵Note: with the exception of Yangon, which is currently indefinitely paused.

CAPACITY DEVELOPMENT

Several targeted capacity development activities in both bronze and silver cities are targeted to be developed and executed within 2022. At the bronze city level specific knowledge sharing and capacity building activities, not least tailor-made workshops, webinars and e-learning modules, have been conceptualized and are to be developed on the basis of the topics identified during the smart city introductory workshops and associated needs assessment survey conducted largely in 2021.

The following regional capacity development activities are targeted to be implemented in 2022:

- Smart city introduction workshop for remaining Bronze cities**
 The short tailor-made 2-3 hour introduction workshop will continue to be rolled out across all remaining bronze cities in Q1 2022. Integral and successful interactive parts of the workshops using Mentimeter and KoBotoolbox for online questionnaires and interactive Q&A sessions will be continued, along with the smart city introduction course which will also be fully converted and expanded to a 3-part e-learning course housed on ADB eLearn homepage.
- Smart Cities – Inclusive Cities Dialogue Program**
 AASCTF (executed by Ramboll together with The Asia Foundation) will implement a series of multi-city Inclusive Cities Dialogues (ICD) consisting of three modules of 2 hours each, focusing on: (i) Access to infrastructure and services; (ii) Safety and Security; and (iii) Access to decent work. The program is targeting to include around 100 participants from both governmental and non-governmental agencies. The overall program objective is to increase awareness in inclusive urban governance to improve action towards addressing exclusion, disenfranchisement, and discrimination when understood from the perspective of women, disabled persons, and other marginalized groups.
- Smart Data Management Webinar Series & Guided Learning Program**
 To enhance learning across participating AASCTF cities, a 3-part webinar and curated learning program based around a central theme of “Data handling – from data collection to decision making” is set to be executed within the second half of 2022. The learning goals for the combined program, include: (i) an enhanced understanding regarding the importance of developing use cases to define data collection, and increase awareness of the methods for collecting data; (ii) an enhanced understanding of the significance of governance and security in smart cities, including increased awareness of the methods for protecting data, e.g., NIST, ISO 27001, GDPR, etc.; and (iii) an enhanced understanding concerning how to combine data with analytics for more well-informed decision-making, while also increasing awareness of the methods for processing and analyzing data, and potential pitfalls e.g., bias, limited data, etc.
- Thematic Workshops**
 Based on the bronze city needs assessments and smart city surveys conducted in conjunction with the introduction workshops and the alignment with the overall functional areas/cross-cutting themes of the AASCTF, tentatively four (4) targeted thematic workshops - two (2) on the topic of smart city financial management and two (2) on the topic of climate resilience and nature-based solutions - are planned to be rolled out in 2022. Both thematic workshops,

still to be fully conceptualized, will run as a combination of 1-2 short online workshops with case study analysis/preparation. The outcome of the thematic workshops will be an improved knowledge base and capability to identify and leverage opportunities for effecting positive and lasting change via smart solutions in participating cities.

- AASCTF Smart City Introduction Modules Development for ADB eLEARN**
 AASCTF will launch a smart city introduction course in 2022 which will be rolled out on ADB eLEARN platform. The course consists of three modules and is primarily designed for city planners and officials in Asia and the Pacific. The course is also relevant for other professionals engaged in urban services, development partners, researchers and students, and others who are interested in applying smart solutions and pursuing life-centered smart city development. The course demonstrates AASCTF’s life-centric approach to realizing truly smart cities, i.e., where data and technology are utilized to drive holistic and complex socio-technical-ecological systems informed decision-making to foster green, competitive, inclusive and resilient urban ecosystems where people and nature prosper. To bring these together in a practical application, the course centers on the application of ADB’s Smart City Analytical Framework which outlines the steps and analysis required to implement smart city projects. Participants will benefit from the case studies integrated throughout the course, as well as the various interactive features and end-of-module quizzes, in order to drive home the key takeaway messages and practical applications. By exiting the course with a better appreciation of pathways to achieving life-centric smart cities, participants of this course can help to bring their own cities closer to the desired goal of better quality of life for all citizens.



Photo: ADB.

The following city intervention level capacity development activities are currently targeted to be implemented in 2022:

- **Enhanced Capacity Building Program & On-the-Job (OTJ) Training in Baguio (PHI)**

The main objective of the enhanced capacity building program and OTJ training (executed by Ramboll together with DHI) is to ensure the long-term sustainability for the established FEWS by securing the required local capacity for operating and utilizing the FEWS as an active risk mitigation instrument beyond the timeframe of the pilot project. The enhanced capacity building program, comprising three (3) modules as overviewed in Figure 26, will be based on DHI's virtual eLearning platform tailored to the specific needs and requirements of the trainees containing a number of self-paced and instructor-led courses. The program will facilitate progressive learning ensuring each trainee successfully passes one level before progressing to the next level. Each session contains an evaluation module for the trainee to pass before obtaining a certificate for the specific learning track. The program will facilitate peer-to-peer (P2P) learning, OTJ training and mentoring, all of which will run in parallel with the implementation of the pilot project, from January to December 2022.

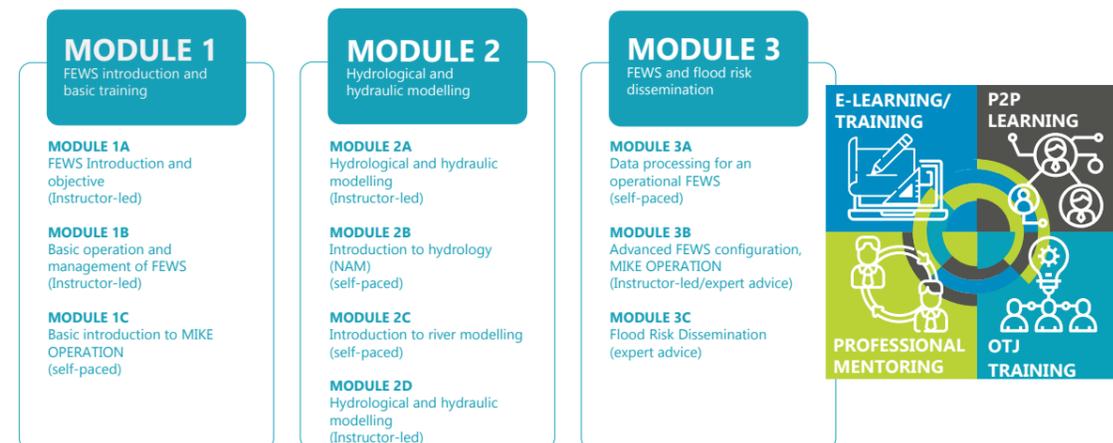


Figure 26. Overview of 3-part enhanced capacity building (e-learning/training) program for Baguio FEWS.

- **Accredited PTV VISSIM Training Course in Penang (MAL)**

To enhance the proper utilization and continued optimization of the calibrated PTV VISSIM micro-simulation model being developed for the historic city center, the city intervention task team will conduct a fully accredited PTV VISSIM training course for those engineers within the Penang local authority who will be tasked with operating and updating the model in the long-term. This training will be delivered by accredited experts from Ramboll and will take place in the handover phase of the project, around mid-2022. In addition to this final training, the engagement of key city officials in the actual development and calibration of the model will be a continuous activity throughout the project implementation period. It is also expected that the project will support extended knowledge sharing activities within and subsequent to the implementation period.

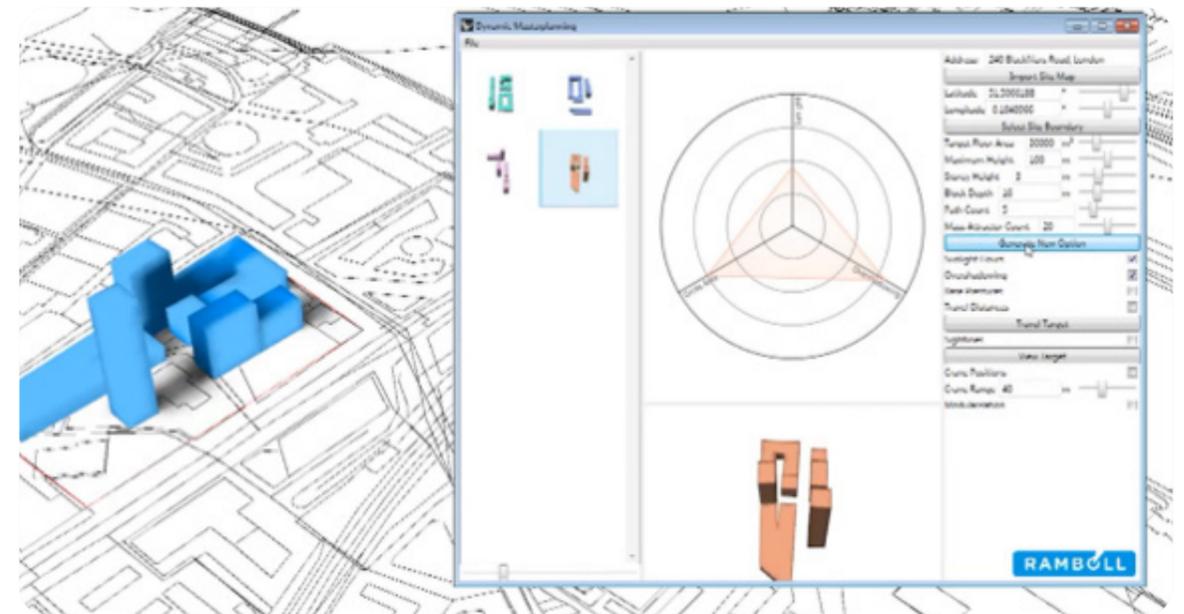


Figure 27. Example 3D dynamic master planning software, such as that to be applied in Hue (VIE) (Source: Ramboll).

- **Capacity Development of '3D City Model Superusers' in Hue (VIE)**

The current scope of the Hue city intervention task order, which may be expanded in 2022, has a focus on early identification of up to five (5) '3D City Model Superusers' which will be trained and capacitated under the project. This early identification/official nomination from the city government authorities will ensure sufficient knowledge transfer throughout the task order implementation period, to be concluded with the execution of a week-long model handover training workshop. The final output and model handover will furthermore include a training manual with all compiled training materials. The project also includes in the initial stage a rapid capacity/institutional assessment, which will, among other things, set out to identify potential gaps and further capacity development support required to optimize effectiveness and sustainability of the smart solution to be delivered.

- **Holistic Training Framework for Drivers of Advanced Bus System in Davao (PHI)**

The focus of the Davao task order will be on identifying advanced training systems to support the operator of the improved bus system via a unique implementation approach that will transform the network's sophistication. During the pilot phase, the AASCTF team will work closely with the local authority and other stakeholder groups to ensure adequate monitoring and gathering of learnings to inform the effectiveness of the selected training system. The specific value addition of this training-focused task order will be three-fold in providing: (i) an ability to standardize core training content while providing flexibility; (ii) an operational model that can be managed and maintained in the long-term by the local authority, if desired; and (iii) a holistic training framework/paradigm that actively supports the SDGs, particularly highlighting drivers' roles and attitudes that drive the achievement of accessibility targets.

RISKS AND MITIGATION



Photo: ADB.

Table 18. AASCTF risks and mitigation measures for remaining fund period.

Risk	Mitigation Measure
Change in political support of local governments	The cities selected to participate in AASCTF have significant collaborations with ADB (including ongoing/planned loans and grants). As such, ADB through the respective project officers, has a vested interest to maintain good working relationships with each of these cities and its political leadership. If on the other hand, cities showcase little commitment or interest to participate in the AASCTF funded activities, their participation in the Fund can, in coordination with DFAT, be terminated.
Delays in completing procedures required to implement investment projects	In many of the ASEAN countries, ADB cannot work directly with cities without proper endorsement by the national government. As the AASCTF uses an existing technical assistance facility for which countries have already provided No Objection Letters, technical assistance can start right away. However, for investment projects, other regulations govern ADB's ability to finance construction of pilots. Project officers responsible for selected countries will pro-actively collaborate with relevant national government agencies to ensure compliance with national procedures.
Economic disruption has changed the ability and willingness of the private sector to engage	Disruption has affected all economic sectors but at the same time has ushered greater opportunities for digital innovation in cities. Disruption exacerbates existing inequalities, and AASCTF will work to ensure gender, vulnerable communities and the informal sector are embedded as outcome beneficiaries in all proposed investments. In this environment, the AASCTF appears more relevant, and will guarantee to provide a platform for cities to exchange ideas with the private sector.
Lack of alignment with other DFAT priorities in country	Relevant DFAT project officers are kept informed of the project progress through distribution of AASCTF progress reports and regular exchanges with ADB project officers. In addition, DFAT project officers contribute to concept/task order development and support to establish relations and stakeholder consultations where relevant/possible.
Lack of data availability or permission to retrieve data	All project interventions are dependent on data and information. Lack of data and/or permission to retrieve data and information will lead to delays and can imply a less consolidated project or even that the project is not implementable. At the same time, in case data are not available, the Fund utilizes innovative ways to collect the data using online surveys, etc.
Delays incurred due to COVID-19 pandemic (and other shocks and stresses such as typhoons, etc.)	Travel restrictions have been in place for the majority of 2020 and 2021. This inhibits the ability to consult with cities and undertake activities (including scoping and implementation of task orders and capacity development activities). Preparation and implementation of task orders has continued, however, as has been experienced, there have been delays as a result of non-acceptance of proposed concepts that could have been ameliorated by the physical presence of international AASCTF team members. Notwithstanding, ongoing scoping activities are being conducted remotely through videoconferencing, electronic filesharing, etc. Furthermore, national AASCTF team members play an important role to facilitate scoping and implementation of AASCTF activities.
Alignment and direction of task order preparation due to COVID-19 pandemic	



ASEAN
AUSTRALIA
SMART CITIES
TRUST FUND
Asian Development Bank

ABOUT THE ASEAN AUSTRALIA SMART CITIES TRUST FUND

The ASEAN Australia Smart Cities Trust Fund (AASCTF) assists ASEAN cities in enhancing their planning systems, service delivery, and financial management by developing and testing appropriate digital solutions and systems. Digital solutions address vital cross-cutting themes such as social inclusiveness, gender equity & women's empowerment, climate change & environmental sustainability, and public-private partnerships. By working with cities, AASCTF facilitates their transformation to become more livable, resilient, and inclusive, while in the process identifying scalable best practices to be replicated across cities in Asia and the Pacific.



Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org



Australian Government

Department of Foreign Affairs and Trade

Department of Foreign Affairs and Trade
RG Casey Building, John McEwen Crescent
Barton ACT 0221 Australia
www.dfat.gov.au