

**TCR Validation Report**  
August 2022

# Promoting Smart Systems in ADB's Future Cities Program

Reference Number: TCRV-2021-45  
Project Number: 49049-001  
TA Number: 9170



*Raising development impact through evaluation*

## ABBREVIATIONS

ADB	–	Asian Development Bank
CDIA	--	Cities Development Initiative for Asia
DMC	--	Developing Member Country
DMF	–	design and monitoring framework
FCP	--	Future Cities Program
GSA	--	Greater Suva Area
IED	–	Independent Evaluation Department
MIP	--	Management Improvement Plan
NGO	--	non-governmental organization
TA	–	technical assistance
TCR	–	technical assistance completion report
TLTB	--	iTaukei Land Trust Board

## NOTE

In this report, "\$" refers to United States dollars.

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## TECHNICAL ASSISTANCE COMPLETION REPORT VALIDATION REPORT<sup>1</sup>

### 1. PROJECT DATA TA No. 9170

<b>TA Name</b>	Promoting Smart Systems in ADB's Future Cities Program	<b>Approval Date</b>	05 Sep 2016	<b>Approved (\$)</b>	2,000,000.00
		<b>Signing Date</b>	05 Sep 2016	<b>Revised (\$)</b>	2,500,000.00
<b>Country</b>	Regional	<b>Planned Completion Date</b>	31 Dec 2018	<b>Disbursed (\$)</b>	2,395,424.00
		<b>Actual Completion Date</b>	22 Mar 2021	<b>Undisbursed (\$)</b>	104,576.00
<b>Department</b>	Sustainable Development and Climate Change Department	<b>TA Type</b>	TRTA ( ) KSTA ( ) PATA ( ) CDTA ( ) RDTA (✓) PPTA ( ) RETA ( )	<b>Source of Funding</b>	Japan Fund for Poverty Reduction, High-Level Technology Fund
<b>Sector and Subsector</b>	Multisector			<b>Executing Agency</b>	Asian Development Fund

ADB = Asian Development Bank, CDTA = capacity development technical assistance, KSTA = knowledge and support technical assistance, PATA = policy advisory technical assistance, PPTA = project preparatory technical assistance, RDTA = research and development technical assistance, RETA = regional technical assistance, TA = technical assistance, TRTA = transaction technical assistance.

### 2. DESIGN AND MONITORING FRAMEWORK AND RESULTS

<b>Objective</b>	The technical assistance (TA) aimed to enhance operational knowledge of promoting pro-poor smart solutions with emphasis on poverty reduction and inclusiveness in five pilot cities: Bandung, Greater Suva Area, Mandalay, Tbilisi, and Ulaanbaatar. It endeavored to achieve this aim by developing knowledge and learning products; facilitating partnerships between cities; and conducting pre-feasibility studies on smart solutions to enhance and leverage city and business investments, and citizens' potential.
<b>TA Rationale</b>	Most of Asia's gross domestic product is generated in urban areas, and the efficiency of its cities is important for the region's long-term productivity. City infrastructure needed to become "smarter" and more resilient. By applying digital systems, sensors, and data management, municipal governments can deliver more efficient infrastructure services, improve transparency, and enable more inclusive service and city planning. Smart systems refer to smart technologies, infrastructure systems, utilities, and intelligent approaches to providing infrastructure and other social services.

Results Levels	Indicators	IED Comments on the Evaluability of Indicators
<b>Outcome</b> Smart city knowledge and good practices targeting pro-poor initiatives enhance ADB's FCP projects	By 2018, at least three cities have initiated urban planning or policy on promoting smart city development (2015 baseline: NA)	Evaluable. However, "initiated" appears to be an easily achievable target. Also, the "pro-poor" element of the outcome was not covered by the indicator.

<sup>1</sup> Team members: C. Ramos-Galacgac (initial reviewer), M. Andersson (validator), and J. Twigg (evaluator).

<b>Output 1</b> Cities are engaged in understanding, identifying, and sharing best practice pathways toward smart infrastructure for future livable cities, with an emphasis on pro-poor initiatives	By 2018 (2015 baseline: NA): 1a. Smart city groups (comprising government, business, and NGO representatives) established in at least four cities	Evaluative. However, “established” appears to be an easily achievable target.
	1b. At least three twinning arrangements implemented between cities and/or service providers	Evaluative
	1c. Smart city diagnostics undertaken in 5 cities	Evaluative
	1d. Smart city management improvement plans developed in 5 cities	Evaluative
<b>Output 2</b> Integrated smart infrastructure projects, emphasizing pro-poor initiatives, conceptualized with concrete funding modalities	By 2018 (2015 baseline: NA): 2a. At least 1 smart investment pre-feasibility study conducted in each of at least three cities	Evaluative
	2b. At least one business investment opportunity identified	Evaluative. However, “identified” appears to be an easily achievable target.
	2c. Financing mechanisms and modalities identified for at least one city	Evaluative
<b>Output 3</b> Smart city knowledge products and smart city networks developed	By 2017: 3a. At least two knowledge products and/or case studies produced on operationally relevant topics (2015 baseline: 0)	Evaluative
	3b. At least 100 web downloads of each knowledge product (2015 baseline: 0)	Evaluative. However, web downloads of TA-supported products were not under the control of the TA.
	3c. Knowledge of at least 100 senior developing member country (DMC) officials, of whom 25% are women, on smart city development enhanced (2015 baseline: NA)	Evaluative, but could have been more specific if enhanced knowledge was defined in terms of pre- and post-tests, surveys, or feedback.
	3d. 2017 Asia Smart City Conference increases city representation by 50% (2015 baseline: 21 cities)	Evaluative

### 3. PERFORMANCE ASSESSMENT

#### Relevance

Item	Highly Relevant	Relevant	Less than Relevant	Irrelevant
TCR Rating		✓		
TCRV Rating		✓		
IED Rationale	The TA design and results chain were sound, and the output statements and performance indicators were generally well crafted. However, the TA lacked output and outcome indicators to demonstrate its pro-poor and inclusive orientation. The resource allocation was reasonably commensurate with the expected output and outcome. The mobilized additional funding was mainly to finance additional activities. However, the TA barely explained its importance and the reason for selecting the five pilot cities (many cities met the criteria that were set out in TA documents). The choice of the TA type, i.e., research and development TA (RDTA) was appropriate.			

	<p>In terms of strategic alignment, the TA was part of an umbrella TA, Establishing the Future Cities Program (FCP) in the Asia and Pacific Region. The TA was aligned with ADB's Strategy 2020, which promotes environmentally sustainable city development, and with the midterm review of this strategy, which emphasized a need for ADB's actions to be innovative, inclusive, integrated, and operationally relevant. It was consistent with ADB's Urban Operational Plan, 2012–2020, emphasizing pro-poor support, sustainable and livable cities, and knowledge solutions. The TA remained relevant beyond the TA completion by being in line with ADB's Strategy 2030 (Operational Priority 4 Making Cities More Livable). Two extensions of the completion date were processed and revisions to the TA scope and implementation arrangements were made twice to enhance the relevance of the TA for the selected FCP cities and make effective use of additional mobilized funds (see details under Efficiency).</p> <p>This validation therefore assesses the TA relevant.</p>
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### Effectiveness

Item	Highly Effective	Effective	Less than Effective	Ineffective
TCR Rating		✓		
TCRV Rating		✓		
<b>Evidence of Outputs Achieved</b>	<p>All TA outputs were achieved, although some later than planned; this validation has the following observations on the evidence of TA results presented (details in Appendix 2):</p> <p>Output 1: Smart city groups (comprising government, business, and NGO representatives) were arranged in four cities. It was unclear, though, if these were permanently established. At least three twinning arrangements were implemented for Ulaanbaatar and Greater Suva Area (GSA). It was also unclear, however, which cities and/or service providers Ulaanbaatar and GSA were twinning with. Smart city diagnostic reports were prepared for five cities.</p> <p>Output 2: Smart investment pre-feasibility studies were conducted in three cities; a business investment opportunity was identified in Fiji; and a financing mechanism for land lease operation was identified in GSA in Fiji.</p> <p>Output 3: Various (more than two) knowledge products were produced on relevant topics, albeit of other kinds than originally intended (due to drafts of the intended knowledge products not being fit for publication; knowledge events were instead organized, and articles, blogs, a working paper, and a video were produced and shared). Each knowledge product had more than 100 web downloads. More than 100 senior DMC officials, of whom at least 25% were women, reported improved knowledge on smart city development (supporting documentation should have been provided to clearly capture enhanced knowledge, e.g., through surveys); and the city representation was increased by more than 50% at the 2017 Asia Smart City Conference. This was, however, not clearly articulated in the TCR.</p>			
<b>Evidence of Outcomes Achieved</b>	<p>Urban planning or policy on promoting smart city development was initiated in three cities, although pro-poor or inclusive focus was not demonstrated. The TA contributed to strengthening the smart city content of ADB's investment portfolio and proposed smart solutions.</p>			

<b>IED Rationale</b>	All the TA outputs and outcomes were achieved, although they were delivered later than originally planned. As noted above, more details on the achievements reported could have been provided for some outputs. This validation assesses the TA effective.
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### Efficiency

Item	Highly Efficient	Efficient	Less than Efficient	Inefficient
<b>TCR Rating</b>		✓		
<b>TCRV Rating</b>		✓		

<b>IED Rationale</b>	<p><b>Process efficiency</b></p> <p>The completion date was extended twice by a total of 24 months: (i) in December 2018 by 12 months to 31 December 2019 to allow the completion of ongoing and additional activities (continued engagement in Fiji and extended partnership with the City of Yokohama), and (ii) in October 2019 by another 12 months to 31 December 2020 to allow the completion of additional activities related to output 2 (completing the preparations for pilot implementation of the online leasing platform in Fiji; related stakeholder consultations; and education activities for greater public involvement in city development). Minor changes in TA implementation arrangements were approved in October 2019 and April 2020; both mainly related to activities in Fiji. In April 2020, an increase in the TA amount by \$0.5 million (a grant from the High-Level Technology Fund at ADB) was also approved for the development of an online platform and related capacity building in Fiji. The TA Supervising Unit had high turnover, with four project officers leaving their posts during the period of 4 years. However, the TCR noted that this turnover did not impact implementation efficiency.</p>
	<p><b>Cost comparison</b></p> <p>The TA had good fund utilization at 96%. The TCR could have explained why no funds were allocated to training, seminars, and/or conferences in the original budget despite the inclusion of capacity building activities in the original TA design (output 3c). An amount for training (i.e., \$80,000) was only allocated in 2020 when additional financing was obtained for the TA. However, only about 40% of this amount was used. The reason for this could also have been explained in the TCR. The TCR indicated additional funding support from ADB Institute for output 3d.</p> <p><b>Socioeconomic benefit</b></p> <p>Regarding value for money, the actual TA expenditures of about \$2.4 million are considered reasonable compared to the contribution to the development concern.</p> <p>In summary, the TA generated substantial knowledge, and overall fund utilization was adequate. Implementation was extended by 24 months, giving a total implementation period of 4.3 years (with 25% additional financing). This validation assesses the TA efficient.</p>

Criterion	Weight	Rating Value	Weighted Rating
Relevance	0.35	2	0.70
Effectiveness	0.35	2	0.70
Efficiency	0.30	2	0.60
<b>Overall Assessment</b> (weighted average of above criteria) <sup>2</sup>			<b>2.00</b>

<sup>2</sup> Each sub-rating is assigned a numerical value: e.g., highly relevant = 3, relevant = 2, less than relevant = 1, and irrelevant = 0. The compound criterion for performance rating is: highly successful (overall weighted average greater than 2.30), successful (overall weighted average greater than or equal to 1.65 and less than or equal to 2.30), less than successful (overall weighted average greater than or equal to 0.75 and less than 1.65), unsuccessful (overall weighted average is less than 0.75).

### Overall Rating

Item	Highly Successful	Successful	Less than Successful	Unsuccessful
TCR Rating		✓		
TCRV Rating		✓		
<b>IED Rationale</b>	<p>The TA was aligned with ADB's Strategy 2020, and it was consistent with ADB's Urban Operational Plan, 2012–2020. The design and results chains were sound, and output statements and performance indicators were generally well crafted, although they did not capture the TA's pro-poor or inclusive orientation. The TA outputs were achieved within the revised budget (utilization rate of 96%), while some later than planned. Knowledge about smart city and good practices were enhanced in FCP cities, and the TCR stated that the proposed smart solutions would benefit the poor. Three cities have initiated urban planning or policy on promoting smart city development, meeting the outcome indicator. Considering the compound rating, this validation rates the overall performance of the TA successful.</p>			

### 4. SUSTAINABILITY

Item	Highly Likely	Likely	Less Likely	Unlikely	NA
TCR Rating		✓			
TCRV Rating		✓			
<b>IED Rationale</b>	<p>The five project cities secured post-TA support, some through ADB-supported project preparations while some other through bilateral and government funding for the rollouts of the TA activities. The TA outputs for Mandalay, Tbilisi, and Ulaanbaatar contributed to the preparation of investment projects with anticipated ADB funding. In Fiji, the initiative in GSA was institutionalized in the government agency, and a separate cybersecurity review was commissioned as preparation for the rollout of a digital platform developed under the TA. Continued support for the related land leasing process was incorporated in ADB's country partnership strategy for Fiji, 2019–2023. This validation assesses the TA results likely sustainable.</p>				

### Lessons Learned

(1-3 implementation, 4-7 development results, 8 others)

Criteria	TCR Self-Assessment <sup>3</sup>	IED Comment
1. Design and/or planning	<p>The TA complemented other regional TA projects to achieve a more holistic and focused impact, as well as add value to existing and planned investment projects by integrating smart solutions. Close collaboration with ADB's Thematic and Sector Groups supported FCP cities to move towards more innovative approaches in implementing smarter infrastructure and systems, with emphasis on pro-poor and inclusive initiatives. The initial TA design was enhanced through delivery of solid demonstration projects building on initial ideas and concepts.</p>	<p>Description of what was done; not formulated as a lesson for future TAs.</p> <p>Proposed lesson: Broad collaboration within ADB (applying the "One ADB" approach) during TA project design and implementation can significantly enhance TA outcomes.</p> <p>Additional lesson: Demonstration of a pro-poor, inclusive orientation requires output and outcome indicators explicitly measuring the extent</p>

<sup>3</sup> Please select (using a ✓ or other indicator) relevant sub-categories and then supplement with narrative from the TCR.

		to which TA products incorporate pro-poor concerns.
2. Implementation and/or delivery	Strong management support from both government counterparts and resident missions are key driving forces to the TA's success. For Fiji, the government invested their own technical, financial, and human resources that actively contributed to the success of the proof of concept and its potential scalability beyond GSA.	Weak lesson (Strong government support is always important).
3. Management (staffing, including consultants)	Timely recruitment and fielding of consultants combined with rigorous project supervision ensured quality and on-time implementation and completion of TA deliverables. Travel restrictions due to coronavirus disease meant that the team needed to quickly adapt to remote work to ensure sustained engagement with key participants, especially during the final year of TA implementation.	Weak lesson (timeliness is always important); mainly a description of what was done; not formulated as a lesson for future TAs.
4. Knowledge building	<input type="checkbox"/> Awareness <input type="checkbox"/> Technical product <input type="checkbox"/> Adoption or uptake <input checked="" type="checkbox"/> Building institutional or system capacity <input type="checkbox"/> National or sector practice (guidelines) <input checked="" type="checkbox"/> Policy, legal standards <input type="checkbox"/> Academic literature Establishing effective partnerships is a key success factor. In collaboration with the ADB Institute, DMC participation to the Asia Smart Cities Conference in Yokohama increased. Knowledge events are better co-organized with government partners such as Smart City Innovation Marketplace with Yokohama City (a city twinning event) and Smart City Challenge with Fiji's Ministry of Tourism, Trade and Industry (a hackathon event to generate innovative and bankable ideas). The Package B consulting firm failed to sufficiently deliver outputs, prompting Urban Sector Group to provide supplementary support in publishing knowledge products, set to be released in 2022. It is advisable to receive writing sample on related subject during the recruitment phase to ensure consultant's ability to produce quality output.	An adequate lesson statement drawn from the TA.
5. Stakeholder participation	Project selection for the TA was highly participatory. Smart city groups were consulted in all five cities through workshops and high-level meetings to prioritize the three cities included under Phase 2. Additional financing enabled	Mainly a description of what was done; not formulated as a lesson for future TAs.  Proposed lesson:

	conduct of extensive stakeholder consultations to validate usability of the blockchain-based digital platform for customary lands among end-users in Fiji.	Stakeholder consultations are important in the selection of TA content and the double-checking of TA results.
6. Partnership (and cofinancing)	<p>(✓) Internal to ADB (✓) External to ADB (may also include ADB)</p> <p>The TA was designed to be implemented in partnership with FCP and the close collaboration was key to successful TA implementation. In Bandung, the TA groundwork served a good basis for the Gender Thematic Group to utilize the <i>ur-scape</i> platform to demonstrate gender-sensitive approaches to urban planning. The TA also enhanced networking with partner institutions. In Tbilisi, additional experts were mobilized to conduct a project preparation study under Cities Development Initiative for Asia (CDIA) Trust Fund, and to undertake capacity development on urban transport through funding support from Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH.</p>	<p>Description of what was done; not formulated as a lesson for future TAs.</p> <p>Proposed lesson: Partnership with entities both internal and external to ADB can significantly enhance a TA project.</p>
7. Replication and scaling up	<p>(✓) Replication (✓) Scaling up</p> <p>Replication to other DMCs is highly likely. The <i>ur-scape</i> platform that was first applied in Bandung is currently being replicated by FCL in other Indonesian cities. The mode of support in Tbilisi in the form of embedding transport advisors within the city transport department was replicated by CDIA in Yerevan, Armenia. Scaling up the digital platform for customary lands management to include key government offices involved in the land leasing process such as Ministry of Lands, Ministry of Local Governments in Fiji is highly feasible.</p>	Mainly a description of what was done; not formulated as a lesson for future TAs.
8. Post-TA financial resources	<p>(✓) ADB (✓) Government ( ) Private Sector ( ) Other</p> <p>All five cities secured post-TA support. Outputs for Mandalay and Ulaanbaatar were linked to ADB operations (see Footnote 6). In Bandung, supplementary funding from the Swiss State Secretariat for Economic Affairs enabled further iterations of <i>ur-scape</i> to be rolled out in Makassar, Semarang, Palembang. In Tbilisi, CDIA complemented the TA with grant funding to move the initiative forward to a full investment project by ADB (see</p>	Mainly a description of what was done; not formulated as a lesson for future TAs.

	video). In Fiji, the initiative in GSA was institutionalized in the government agency and ready for full roll-out and implementation.	
9. Others	Due to the sensitive nature of customary lands in Fiji, no TA support was extended to cover a critical work component on cybersecurity. Upon ADB's strong advice, however, the iTaukei Land Trust Board (TLTB) commissioned a separate cybersecurity review as part of their counterpart funding and in-kind contribution in preparing the readiness of the digital platform rollout.	Description of what was done; not formulated as a lesson for future TAs.

### TCR Quality Assessment (Reviewer's Assessment)

TCR Quality	TCRV				IED Comment
	HS	S	LS	US	
<b>Coherence of TCR (25%)</b>		✓			The TCR is coherent, i.e., logical, well written and organized, and easy to understand.
<b>Quality of Data (25%)</b>		✓			Adequate. However, some of the described evidence of results achievement could have been further elaborated—e.g., feedback from workshops and other events could have been substantiated through direct measurement of learning, follow-up surveys, and/or event evaluation forms.
<b>Quality of Lessons Learned (50%)</b>			✓		While many lessons were drawn from the TA, some of them were weak (i.e., always important), and many of them are descriptions of what was done, leaving it to the reader to deduce what the lessons were—i.e., they were not worded as lessons, and they could have been stated more clearly).
<b>Overall TCR Quality (weighted as per performance)<sup>4</sup></b>			✓		Although written well and coherent, the TCR had minor data limitations. The formulation of some lesson statements needed improvement.
<b>Further IED Action (e.g., in-depth evaluation)</b>		N	Reason:		
<b>Other Remarks</b>					

<sup>4</sup> Each sub-rating is assigned a numerical value: e.g., highly satisfactory = 3, satisfactory = 2, less than satisfactory = 1, and unsatisfactory = 0. The compound criterion for the TCR quality rating is: highly satisfactory (overall weighted average greater than 2.30), satisfactory (overall weighted average greater than or equal to 1.65 and less than or equal to 2.30), less than satisfactory (overall weighted average greater than or equal to 0.75 and less than 1.65), and unsatisfactory (overall weighted average is less than 0.75).

### Attachment 1: Description of the Technical Assistance

The technical assistance is described in the technical assistance completion report.<sup>1</sup>

### Attachment 2: Design and Monitoring Framework

The design and monitoring framework is in the technical assistance report.<sup>2</sup>

#### Planned and Actual Achievements of the Technical Assistance

Performance Indicators	Planned	Actual	Reasons for Variance
<b>Outcome</b> Smart city knowledge and good practices targeting pro-poor initiatives enhance ADB's FCP projects	By 2018, at least three cities have initiated urban planning or policy on promoting smart city development (2015 baseline: NA)	<b>Achieved.</b> In Phase 1 (Project Scoping), smart city diagnostics and management improvement plans were developed for five cities: Bandung, Indonesia; Mandalay, Myanmar; Suva, Fiji; Tbilisi, Georgia; and Ulaanbaatar, Mongolia. In Phase 2 (Project Implementation), the TA scope was narrowed down to three priority cities to initiate urban planning or policy on promoting smart city development and explore possible investment opportunities, and financing mechanisms and modalities as follows: <p>a) Bandung, Indonesia: The TA provided recommendations on a data-driven and integrated participatory planning system for the urban planning department. ADB collaborated with the Future Cities Laboratory of the Singapore-Eidgenossische Technische Hochschule (ETH) Centre to develop an interactive spatial planning support tool called <i>ur-scape</i>, which was adopted by the city;</p> <p>b) Tbilisi, Georgia: The TA provided technical and advisory support to Tbilisi City Hall's Transport Department where advisory services with recommendations were offered to the Department of Transport including technical briefing notes for key decision makers and technical support for priority bus routes; and</p> <p>c) Greater Suva Area, Fiji: The TA provided (i) advisory services to the Ministry of Local Governments in formulating a strategy for</p>	Achieved

<sup>1</sup> Asian Development Bank (ADB). 2021. *Technical Assistance Completion Report: Promoting Smart Systems in ADB's Future Cities Program*. Manila. <https://www.adb.org/sites/default/files/project-documents/49049/49049-001-tcr-en.pdf>

<sup>2</sup> ADB. 2016. *Technical Assistance for Promoting Smart Systems in ADB's Future Cities Program*. Manila. <https://www.adb.org/sites/default/files/project-documents/49049/49049-001-tar-en.pdf>

		<p>shared digital services across councils within the GSA and (ii) technical support to the TLTB for the test demonstration of a land price index based on historical lease transactions and to create a blockchain-based digital platform for customary lands management.</p> <p>Additional funding created a Phase 3 (Project Implementation - Fiji) that is focused on deepening the TA support in GSA including the initial demonstration of the digital platform to other government agencies involved in the leasing process for customary lands in Fiji.</p>	
<p><b>Outputs</b> 1. Cities are engaged in understanding, identifying, and sharing best practice pathways toward smart infrastructure for future livable cities, with an emphasis on pro-poor initiatives</p>	<p>By 2018 (2015 baseline: NA):</p> <p>1a. Smart city groups (comprising government, business, and NGO representatives) established in at least four cities.</p>	<p>1a. <b>Achieved.</b> Project consultants were fielded in Phase 1 to work with local offices and resident missions in the five cities and organize scoping meetings with stakeholders from the public and private sectors, local NGOs, and international organizations, including the Embassy of Japan. Stakeholder consultation workshops were attended by at least 20 representatives from local and national government, private businesses, trade associations, intergovernmental organizations, and civil society (including women’s associations). These consultation workshops formed the basis for establishing smart city focus groups in four cities (Bandung, GSA, Tbilisi, and Ulaanbaatar) and taking key smart city project ideas forward for Phase 2 implementation. Follow-up stakeholder events led by the City of Yokohama helped in further establishing the smart city groups in Ulaanbaatar and GSA.</p>	<p>Achieved. However, it is unclear if the groups will be permanently established.</p>
	<p>1b. At least three twinning arrangements implemented between cities and/or service providers.</p>	<p>1b. <b>Achieved.</b> At least three twinning arrangements from Ulaanbaatar and GSA with approximately four dedicated missions conducted for city twinning exploratory discussions were successfully facilitated by this TA with co-financing from the City of Yokohama as mentor city. Activities included reciprocal visits to learn from the mentor city and/or organization in various fields of smart city development. The TA covered travel and out-of-pocket expenses but not staff time cost.</p>	<p>Achieved. However, it is unclear which cities/service providers Ulaanbaatar and Greater Suva Area were twinning with, and if these twinning arrangements are of a permanent character (exploratory discussions are not the same as</p>

			having fully implemented twinning arrangements)
	1c. Smart city diagnostics undertaken in 5 cities.	1c. <b>Achieved.</b> Smart city diagnostics reports prepared for five cities, namely: Bandung, Mandalay, GSA, Tbilisi, and Ulaanbaatar. Stakeholders were actively engaged in Phase 1 (project scoping phase) to gather information regarding city challenges and priorities and potential smart city solutions. The city visits and interviews were complemented by independent desktop research into local and national government policy and legislative documents, programs by the Embassy of Japan, international donor agencies, and civil society activities.	Achieved
	1d. Smart city management improvement plans developed in 5 cities.	1d. <b>Achieved.</b> The Management Improvement Plans (MIPs) were a key element of the smart city diagnostics prepared for the five cities: Bandung, Mandalay, GSA, Tbilisi, and Ulaanbaatar. MIPs developed for each city were based on the information gathered during stakeholder engagement and technical research by the consulting firm. Under Phase 3 extension, further support was extended to Fiji's Ministry of Local Government to formulate a policy paper for promoting shared digital services across city councils and the Ministry of Lands to conduct a rapid assessment to determine opportunity areas for digital transformation in their current systems related to the customary land leasing process.	Achieved
2. Integrated smart Infrastructure projects, emphasizing pro-poor initiatives, conceptualized with concrete funding modalities	By 2018 (2015 baseline: NA):  2a. At least 1 smart investment pre-feasibility study conducted in each of at least three cities	2a. <b>Achieved.</b> A smart city investment pre-feasibility study was identified in all five cities and conducted in three cities. A total of five projects per city was identified, based on criteria such as value for money, practicality, pro-poor and gender equality impacts, financial resources required, alignment with existing city and ADB strategies, technical innovation, and relevance to local needs. A pre-feasibility study and proof-of-concept and demonstration projects were conducted in: i) Bandung—customized and centralized visual data platform for better urban planning; ii) Tbilisi—integration of intelligent transport systems in the city transport strategy; and iii) GSA—digital transformation of land records including data analytics, process innovation, a	Achieved. However, no information is provided on the pro-poor and inclusive characteristics of the projects.

		prototype for blockchain technology application, and a ready-to-launch version of a “minimum viable product” of the digital platform.	
	2b. At least one business investment opportunity identified	<p>2b. <b>Achieved.</b> One business investment opportunity was identified for Fiji. The TA facilitated discussions between Fiji Roads Authority and WeGo Secretariat/Gabotech based in Korea to explore business-to-city twinning on smart streetlights and traffic light monitoring for Suva City.</p> <p>A multi-stakeholder hackathon event, “Smart City Challenge,” was held in July 2018 in cooperation with Fiji’s Ministry of Industry, Trade and Tourism, which actively promoted smart solutions. The winning team received entry into the Government of Fiji’s Young Entrepreneurship Scheme Program, which awarded mentorship and grant funding of up to \$10,000 for scaling up of the business idea.</p>	Achieved
	2c. Financing mechanisms and Modalities identified for at least one city	<p>2c. <b>Achieved.</b> A blockchain solution was co-created with Fiji’s TLTB and developed as part of a digital platform built to manage customary land lease operations in Fiji. The digital platform will be available for TLTB to maintain and scale up as they deem fit, and ready-to-operate using their own corporate budget. In addition, the TA facilitated the conduct of workshops (the first in 2018 and second in 2019) in GSA to help create a platform for linking members of Yokohama Partnership of Resources and Technologies/Yokohama Urban Solutions Alliance with business entities and government agencies in Fiji under the Memorandum of Agreement between ADB and City of Yokohama and with support from the Embassy of Japan.</p>	Achieved
3. Smart city knowledge products and smart city networks developed	<p>By 2017:</p> <p>3a. At least two knowledge products and/or case studies produced on operationally relevant topics (2015 baseline: 0)</p>	<p>3a. <b>Achieved.</b> Knowledge products delivered under the TA included an exhibition booth for the ADB Digital Development Forum 2018, an article, a blog, a special feature in a working paper series, and a video. The expected knowledge product under output 3 was not published as it failed to meet ADB publications standards despite numerous revision attempts. As an alternative, the Urban Sector Group would supplement and publish knowledge products about the TA outputs and outcomes in Fiji in 2022.</p> <p>Knowledge-sharing sessions in ADB were organized and attended by an average of</p>	<p>Achieved, albeit through other products than the kind originally intended.</p> <p>This refers to a possible publication more than one year after the TA completion date.</p>

		30 participants per session: Opportunities for Smart Systems in Urban Governance: A Scan of 5 Cities (Aug 2017), Modernizing Land Administration to Enhance Development: Experiences from Fiji and the Philippines (Jan 2018, joint session with Governance TG), What Makes a City Smart? Cocreating a “One ADB” Smart City Approach (Feb 2018), Using Big Data to Improve Urban Planning: Experiences from Indonesia (May 2018), and Smart Approaches to Land Registry Systems in Fiji (Dec 2018). Feedback based on the session discussions was generally positive.	The mentioned feedback could have been supported with concrete evidence; e.g., through follow-up surveys, or event evaluation forms.
	3b. At least 100 web downloads of each knowledge product (2015 baseline: 0)	3b. <b>Achieved.</b> Published knowledge products under the TA had a total of 781 downloads and 3,136 views broken down as follows: article (422 views), blog (1,239 views and re-published by Fiji Times), working paper series (1,257 views and 781 downloads), and a video (218 views). The TA also featured prominently in a video (1,032 views) produced by the Cities Development Initiative for Asia on Tbilisi.	Achieved, although with the caveat noted under 3a above.
	3c. Knowledge of at least 100 senior DMC officials, of whom 25% are women, on smart city development enhanced (2015 baseline: NA)	3c. <b>Achieved.</b> At least 100 senior DMC officials, of whom at least 25% were women participants, reported improved knowledge of smart city development through city workshops and international events. As reflected in the event proceedings, the DMC officials’ knowledge about smart city development was enhanced through their participation in the Asia Smart Cities Conference (Yokohama), World Urban Forum (Kuala Lumpur), Digital Development Forum (Manila), World Cities Summit (Singapore), and the Asia-Pacific Urban Forum (Penang). The ADB Annual Meeting 2019 showcased the Fiji outputs from this TA in the seminar Digital Solutions for a More Livable Future in Asia and the Pacific. Delivery of technical training programs and mentoring sessions conducted in Fiji relative to customary lands management were organized, such as consultations to validate the usability of the beta version of the blockchain-based digital platform with various end users. The training of eight TLTB champions who were further subjected to over 100 test cases and recorded a 94% pass rate demonstrated capability to train the wider TLTB organization on the use of the digital platform.	Achieved. The mentioned reporting could have been supported with concrete evidence; e.g., through follow-up surveys or event evaluation forms. Self-reporting is not a reliable or complete measure of enhanced knowledge.

	<p>3d. 2017 Asia Smart City Conference increases city representation by 50% (2015 baseline: 21 cities)</p>	<p>3d. <b>Achieved.</b> The TA facilitated the participation of at least 50 city representatives, equivalent to more than 100% increase from the 2015 baseline, at the annual Asia Smart Cities Conference hosted by the City of Yokohama from 2017 to 2019. This was made possible with additional funding support from ADB Institute.</p>	<p>Achieved</p>
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ADB = Asian Development Bank, DMC = developing member country, FCP = Future Cities Program, GSA = Greater Suva Area, NGO = nongovernment organization, TA = technical assistance, TLTB = iTaukei Land Trust Board  
 Sources: Asian Development Bank (ADB). 2016. *Technical Assistance for Promoting Smart Systems in ADB's Future Cities Program*. Manila; and ADB. 2021. *Technical Assistance Completion Report: Promoting Smart Systems in ADB's Future Cities Program*. Manila.