Global Smart City Partnership Program

WORLD BANK GROUP

GLOBAL SMART CITY PARTNERSHIP PROGRAM PHASE 1 COMPLETION REPORT

A FOUNDATION FOR STIMULATING SMART URBAN TRANSFORMATIONS

KWPF
KOREA-WORLD BANK PARTNERSHIP FACILITY

Ministry of Land, Infrastructure and Transport

GLOBAL SMART CITY PARTNERSHIP PROGRAM PHASE 1 COMPLETION REPORT

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Abbreviations & Acronyms

AFR	Africa
AI	Artificial Intelligence
ASA	Advisory Services and Analytics
BBL	Brown Bag Lunch
CASA	Central Asia South Asia
DD	Digital Development
DT	Digital Twin
ECA	Europe and Central Asia
EFO	Externally Funded Output
EOI	Expression of Interest
FCI	Finance, Competitiveness, and Innovation
GPURL	Global Practice for Urban, Disaster Risk Management, Resilience and Land
GP	Global Practices
GSCP	Global Smart City Partnership Program
GSURR	Global Practice for Social, Urban, Rural and Resilience
IFC	International Finance Corporation
ISO	International Standards Organization.
JIT TA	Just-in-time Technical Assistance
KSB	Knowledge Silo Breaker
KWPF	Korea-World Bank Partnership Facility
ML	Machine Learning
MOLIT	Ministry of Land, Infrastructure, and Transport of Korea
MOU	Memorandum of Understanding
NRW	Non-Revenue Water
NUDP	National Urban Development Program
OLC	Open Learning Campus
OS	Operational Support
PA	Programmatic Approach
PPP	Public Private Partnerships
Q&A	Question and Answer
R	Round
SCAI	Smart Cities & AI
TTL	Task Team Leader

List of Tables and Figure

EXECUTIVE SUMMARY

The Global Smart City Partnership Program (GSCP) was launched in February 2018 through a partnership between the World Bank and the Korean Ministry of Land, Infrastructure, and Transport (MOLIT). The vision set for the GSCP is to make the best use of data, technologies, and available resources to improve city planning, management, and service delivery, to engage citizens, and to enhance accountability. The program aims to support the World Bank Group (WBG) teams and clients in two primary ways: to develop smart city best practices and solutions for sustainable urban development and to enhance the capacity of planning and implementing smart city investment projects. The program supports these objectives through two main components: (i) Just-in-time Technical Assistance (JIT TA) and Operational Support (OS) and (ii) Knowledge Sharing and Dissemination.

Over the past three years, the program has received interests from 64 teams through four rounds of call for proposals, resulting in 28 proposals supported. The program has offered JIT TA to stimulate client readiness and OS to design and implement smart city project components. Both types of support have been provided via a pool of experienced smart city experts. Overall, the program has engaged with teams in six regions—most notably Europe, Central Asia (ECA), and Africa (AFR), which cover two thirds of support—and six Global Practices (GPs), including Urban, Digital Development (DD), Governance, Transport, Finance, Competitiveness, and Innovation (FCI), and International Finance Corporation (IFC).

Knowledge, capacity building, and best practice transfer have been delivered through a variety of channels, such as Brown Bag Lunches (BBLs), Webinars, Study Tours, Workshops, and, more recently, e-Learning and Virtual Knowledge Exchange on smart cities. In total, the program has delivered 45 knowledge sharing activities on a diverse range of topics, all of which have attracted substantial interest.

Deeper analysis of the program portfolio reveals that the projects supported by GSCP have covered both national-level and city-specific interventions. Several have sought to develop smart city approaches, frameworks, and solutions that can be disseminated at scale. These projects can be categorized into two broad groups: the larger, which encompass front-end smart city strategy, planning, and institutional capacity building (60% of the portfolio), and the smaller, which address theme specific interventions. COVID-19 response and recovery has also been incorporated in many of these projects, mainly leveraging the potential that data introduces for strengthening recovery planning.

On the supply side, expert skill sets are largely concentrated on digital skills (56% of the experts in the pool), with some strategy and planning skills (22%). This potential mismatch between demand and supply indicates that the program can strengthen the link between strategic planning skills and technological expertise (i.e. generic IT), by mobilizing more experts with working knowledge of city administration.

For assessing the impact of the program, the quality of selected deliverables (12 projects out of 28) was reviewed. The type of projects supported by GSCP varied widely—some tackled a city-specific smart city strategy or masterplan, others related to national city programs, and the rest focused on specific solutions. Thematically, institutional enablers such as leadership commitment, citizen engagement, and monitoring—all of which are vital for smart city projects—were not sufficiently built into the scope of work reviewed. This is an area for future focus. Almost all projects reviewed were supported by international case studies, which project teams think can provide a useful stimulus for client action. Systematically capturing these case studies, both on the global scale and from the GSCP portfolio, will add an important asset to the next phase of the program.

Calculated in the number of expert time input, whether and how much the program is providing value for money is difficult to evaluate given markedly different client contexts and varying degrees of support. Yet the assessment shows that committing high expert resources does not necessarily result in greater value. This finding reinforces the recommendations made by the GSCP team, task teams, and experts to address some of the weaknesses in the program operation, most notably, heavy transaction costs of managing multiple individual consultant contracts.

Nonetheless, feedback gathered through surveys of participating task teams and experts and follow-up dialogue clearly show that the program has been delivered in an overall effective manner and has added client value. There is an increasing interest from project teams and clients to engage in the program and to recommend it to others. Valuable feedback received from this process will help develop the program operationally and strengthen its impact moving forward, primarily in three main areas.

First, the program can cultivate active and quality demand. What has clearly emerged is a lack of knowledge within the WBG teams and among clients of the breadth of what 'smart city' means. It involves a combination of establishing the digital foundations across the entire city landscape, supporting the several infrastructure and service domains within a city, and applying digital solutions to many cross-cutting institutional enablers. The program in its next phase can consider shaping demands through a structured approach to smart cities and upstream engagement with participating teams.

Second, operational optimization is necessary for scaling up the program's coverage and impact. A systematic communication and reporting mechanism that involves the GSCP team, task teams, and experts is recommended. Working with a tiered, focused pool of experts can also enhance efficiency of management as well as the quality of support.

Third, improved knowledge management can contribute to stimulating interest, shaping demand, and meeting various knowledge needs. This includes capturing a variety of project experience by way of structured case studies and developing a well-designed online platform for the program.

Through strong partnership with MOLIT, GSCP successfully mobilized additional resources and the program will continue under Phase 2, which has already commenced with the launch of a 5th call for proposals in April 2021. Incorporating the recommendations from this report, the GSCP Phase 2 (GSCP2) will provide larger and longer levels of expert support to improve outcomes. More broadly, the Phase 2 will be a prime opportunity to make impacts at scale by developing consistent smart city frameworks, approaches, and tools and capturing structured evidence-based case studies to stimulate client interest and build confidence.

INTRODUCTION

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Cities are where problems find solutions and challenges and opportunities meet. With agglomerations of trade, learning, and innovation, cities are the engines of economic growth and higher productivity. Cities are also centers of major challenges: aging populations and growing demand for advanced services, younger, rapidly growing populations, global competition, economic restructuring, pressures on public finance, increasing premiums for knowledge and innovation, and climate change, to name a few. Further, the global pandemic of COVID-19 has exacerbated and added new dimensions to these existing challenges in cities around the world.

Interest in smart cities is motivated by the drive to maximize cities' potentials while addressing pressing challenges. The concept of smart cities refers to an approach to making the best use of data, technologies, and available resources to improve city planning, management, and service delivery, engage citizens, and enhance accountability. Advancing smart solutions and leveraging data-driven innovations can enhance the efficiency and quality of urban management and public service delivery. Moreover, they can open new opportunities for both national and local governments to engage more directly with citizens, the civic society, and the private sector in a more participatory way.

BOX 1. WHAT IS A "SMART CITY"?

'Smart City' is an increasingly common but often loosely understood term. It is generally considered to include (i) 'how digitalization on its own can transform outcomes,' and, (ii) 'how digitalization enables broader city infrastructures and services to transform.' In many settings, the definition of a 'smart citiy' is misunderstood, focusing almost entirely on technology while diminishing the equally important aspects of engaging with cross-cutting urban challenges and creating wide-scale impacts.

> **A Smart City should be described as one that:**
>
> **...dramatically increases the pace at which it improves its sustainability and resilience,**
>
> **...by fundamentally improving (i) how it engages society, (ii) how it applies collaborative leadership methods, (iii) how it works across disciplines and city systems, and (iv) how it uses data and integrated technologies,**
>
> **...in order to transform services and quality of life for those in and involved with the city (residents, businesses, visitors)**
>
> **ISO Working Definition, 2015**

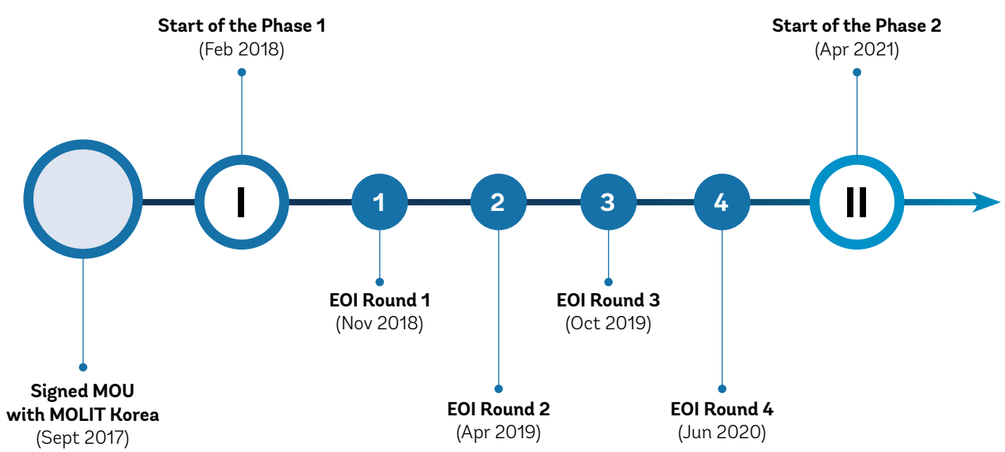
The International Standards Organization's (ISO) working definition of 'smart city' provides a more holistic perspective that encapsulates all aspects of what a 'smart city' really is, focusing on both the human and the technological powers that work together to enable transformation. The ISO definition underlines this duality of powers by positioning digitalization as one mean toward an end, a key distinction from the misinterpretation of digitalization as an end in itself inferred by several other definitions through their early emphasis on technology.

The Global Smart City Partnership Program (GSCP)'s working definition of a 'smart city' is "an approach to making the best use of data, technologies, and available resources to improve city planning, management, and service delivery, to engage citizens, and to enhance accountability." This definition is broadly consistent with ISO and highlights the importance of planning and accountability.

Mainstreaming the smart city approach has become critical for the World Bank Group (WBG) to realize Sustainable Development Goals. To advance the smart city agenda in the WBG operations and client engagement, the Korea-World Bank Smart City Partnership Program was launched in February 2018 by the Global Practice for Urban, Disaster Risk Management, Resilience and Land (GPURL) at the World Bank in partnership with the MOLIT. After running for three years, the first Phase of GSCP is ending and this report intends to capture the collective learning from those involved in the program. As the program continues into Phase 2, the findings of this report will help improve the program operation and impacts going froward. Figure 1 captures the 3-year evolution of the program and its transition to Phase 2.

Following this introduction, Section 2 of this report introduces the program overview, summarizing its background, objectives and components, and operational modality. Section 3 analyzes the nature of client demand and the fit between demand and supply based on expertise provided by the program. Section 4 examines the quality of deliverables produced as well as the efficiency of the current program support system. Section 5 presents feedback from participating WBG Task Team Leaders (TTLs) and experts. Finally, Section 6 considers the program impact and lessons learned from Phase 1.

FIGURE 1: GSCP PROGRAM EVOLUTION



GSCP PROGRAM OVERVIEW

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2.1 Background

The Korea-World Bank Smart City Partnership Program (P166893), more widely known as the Global Smart City Partnership Program (GSCP), was launched through a long-standing partnership between the World Bank and Korea. A Memorandum of Understanding (MOU) was first signed on June 2, 2015, whereby the Bank and MOLIT agreed to collaborate through a dedicated program on smart cities. The First MOU Work Plan was agreed on September 6, 2017, listing three pillars of activities: (i) development of a global smart city knowledge portal, (ii) support for just-in-time technical assistance, and (iii) support for smart city knowledge exchange. The updated MOU Work Plan signed on February 18, 2020, set forth the intention of collaboration for planning joint knowledge products, leveraging and utilizing the existing capacity and resources, and delivering positive impacts in developing countries.

The program was created as a subtask under an umbrella Smart Cities Programmatic Approach (PA1, P160290). Replicating and scaling up some of the early efforts to develop a smart city framework and approaches for developing countries, the GSCP aimed to reach more client countries by supporting clients in enhancing the capacity of planning and implementing smart city projects with Korean and global smart city best practices and networks of practitioners and experts. The second Smart Cities Programmatic Approach (PA2, P174218) was launched following successful mobilization of additional funds from MOLIT and the current program was migrated to be included under PA2, becoming the GSCP Phase 1 (or GSCP1). GSCP1 closed on May 31, 2021 and is succeeded by the GSCP Phase 2 (GSCP2, P174433), which will continue until December 29, 2023.

2.2 Program Objectives and Components

The objective of the Global Smart City Partnership Program is to support the WBG teams and clients to develop smart city best practices and solutions as a building block for sustainable urban development, as well as to enhance the capacity of planning and implementing smart city initiatives and investment projects. In support of the program's objectives, two components were established:

- **Component 1:** Just-in-time Technical Assistance (JIT TA) & Operational Support (OS); and
- **Component 2:** Knowledge Sharing and Dissemination.

As the program's name indicates, partnership with leading smart cities and global technical experts is at the core of the program design. Acknowledging that the program budget alone was not sufficient to produce meaningful impacts, extensive partnership-building and knowledge-sharing activities were planned to bring in in-kind contributions from partners. Both components are driven by demand from the WBG teams and clients and are implemented with collaborations with respective client governments, smart city experts and partners, and leading smart cities and institutions (Figure 2).

FIGURE 2. GSCP LINKS FOUR PLAYERS IN THE GLOBAL SMART CITY NETWORK

Component 1: Just-in-Time Technical Assistance & Operational Support

Component 1 offered two types of support to the WBG teams at various stages of preparing and implementing projects and engagements with smart city elements: (i) JIT TA (up to 5-10 working days of expert time) and OS (up to 30-45 working days).[1] The program called for expression of interest (EOI) through four rounds, resulting in a total of 64 EOIs submitted, from which 47 EOIs were selected, and 28 were supported to full completion. Table 1 provides further detail and Annex 1 presents the detailed list of 28 projects supported.

TABLE 1: GSCP PROGRAM EOI AND SUPPORT STATISTICS

ROUND	CALL FOR EOI OUT	SELECTION CLEARED	# EOIS RECEIVED	# EOIS SELECTED	JIT TA	OS	PARTNERSHIP	# EOIS ACTIVE
Round 1	Nov 2018	Dec 2018	19	11	8	3	-	8
Round 2	Apr 2019	Apr 2019	8	7	4	3	-	4
Round 3	Oct2019	Nov 2019	21	14	8	6	-	5
Round 4	Jun 2020	July 2020	16	15 (16)*	5	8	2	11
Total			**64**	**47** (48)	25	20	2	**28**

** Two JIT TA EOIs from South Africa were merged into one per the Advisory Committee advice 1.*

[1] Under the COVID-19 situation, the GSCP team increased the level of support (in terms of expert days) by 50 percent.

Of the initial 47 selected EOIs, 18 projects (38%) have been dropped or carried over to Phase 2 due to lack of response from the field, change of engagement or project scope, or COVID-19 impacts. The resulting portfolio is shown geographically in Figure 3. This shows the location, EOI call round number, and type (e.g. JIT/OS).

Phase 1 of the GSCP program has covered all six regions and six Global Practices (GPs) at the WBG. By region, 65 percent of the activity is in the AFR and ECA regions (Figure 4). By sector, 75 percent of the support has involved the Urban and Digital Development GPs (Figure 5). Section 2 will present deeper analyses of demands as expressed through EOIs.

FIGURE 3: GSCP PROGRAM CITIES

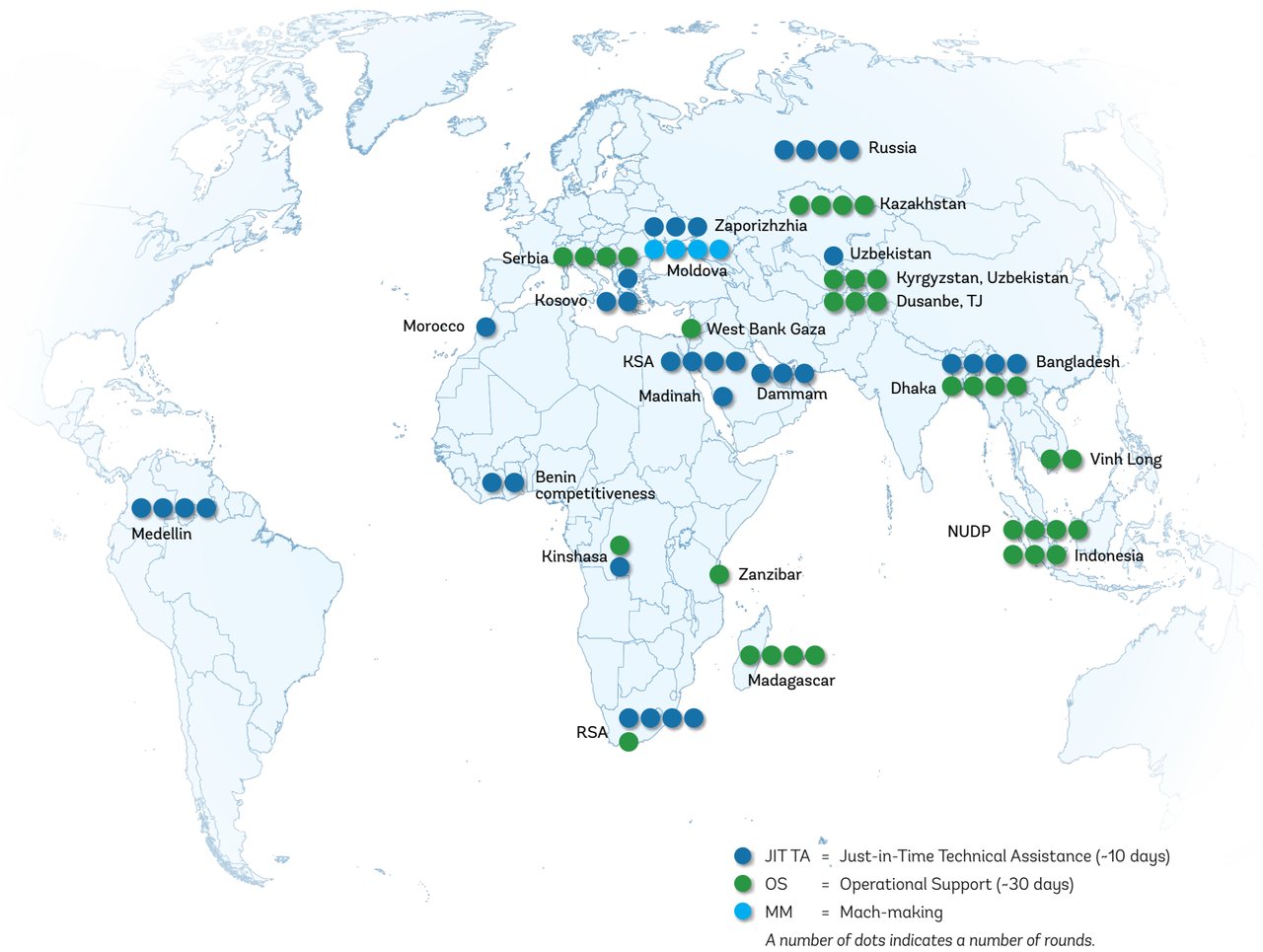


FIGURE 4: EOI & ACTUAL SUPPORT BY WORLD BANK REGION

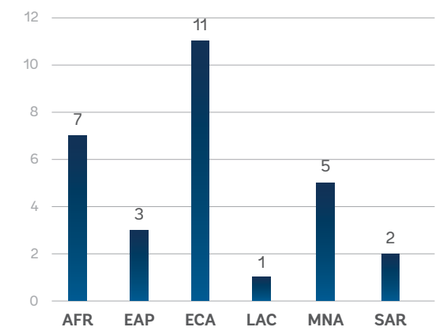
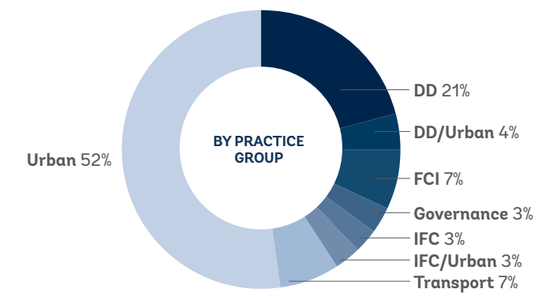


FIGURE 5: GSCP SUPPORT BY PRACTICE GROUP



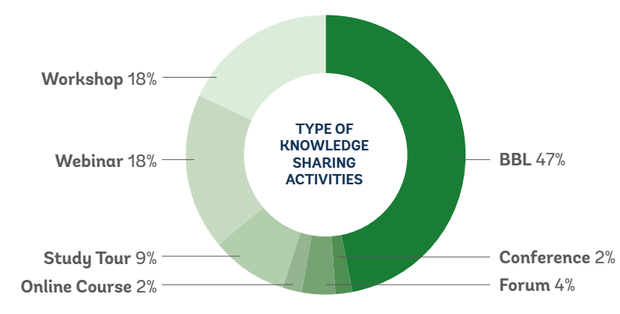
Notes: AFR = Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and Caribbean; MNA = Middle East and North Africa; SAR = South Asia Region; DD = Digital Development; FCI = Finance, Competitiveness and Innovation

Component 2: Knowledge Sharing

Accessing quality knowledge is at the core of any successful program; indeed, knowledge sharing on the new topic such as smart cities was the genesis of the GSCP. Even before the start of the program, Smart Cities Knowledge Silo Breaker (KSB)[2] was established in 2015-16 as the main platform for sharing and disseminating knowledge across the WBG and externally.

The GSCP1 has convened global knowledge and best practices across sectors. From February 2018 to May 2021, there have been 45 knowledge sharing activities of various kinds (Figure 6) organized by GSCP alone or co-organized with other institutions and groups (see Annex 2 for the full list of knowledge sharing activities). Brown Bag Lunches (BBLs) or face-to-face events of 60-90 minutes have been supplemented by Webinars in 2020 following COVID-19. There have been 29 BBLs/Webinars in total, most of which were for the internal audience.

FIGURE 6. TYPE OF KNOWLEDGE SHARING ACTIVITIES UNDER GSCP



[2] Knowledge Silo Breaker (KSB) is a community of practice at the GPURL.

They have covered a broad set of very pertinent themes, which have been adjusted over time to cater to needs and market changes (Figure 7). Early on, BBLs focused on a broader perspective regarding smart city foundations before evolving to include a variety of more focused themes. The main topics of focus changed, for example, from Technology, Public Private Partnerships (PPP), Mobility, and Investment in 2019 to a clear COVID-19 response and smart city sustainability focus in 2020-2021. BBLs usually provide short, one-way presentations with a brief Question and Answer (Q&A) session and offer participants an opportunity to stay up to date with smart city market developments. The vast majority of BBLs have been held in DC, with a few in Korea. Participation (in DC) has on average been around 30-35 people, of which 30-40 percent tend to be regular participants. An online link is provided for virtual participants, representing less than 10 percent of total participation.

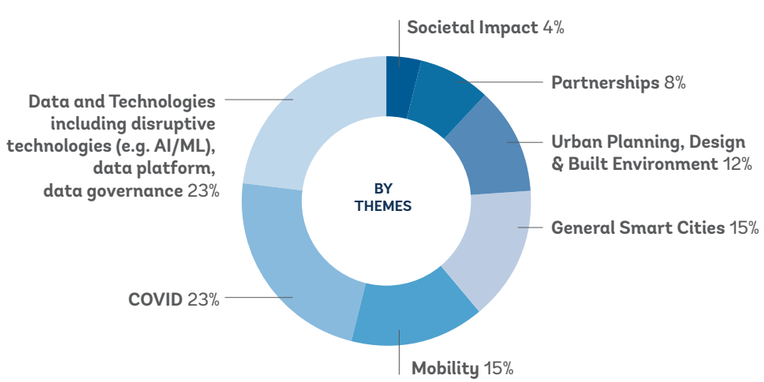
The Program has also supported more broad-based knowledge sharing activities, namely 8 Workshops, 4 Study Tours, 2 Forums, 1 Online Course, and 1 Conference. 75 percent of these activities were external, involving client countries and cities as well as leading cities and experts. The content ranged from smart city fundamentals to deep technology such as Artificial Intelligence (AI) and Machine Learning (ML).

The study tours were organized in different countries such as Korea, Spain (Barcelona), and the Netherlands during 2018-2020. The study tour to Switzerland was cancelled when the pandemic hit in March 2020. In total, more than 100 WBG staff and senior government officials participated in these study tours. These knowledge exchange programs consist of deep-dive style workshops, expert input, peer-to-peer exchanges, high-level meetings, networking activities, and site visits. They have brought together smart city practitioners and experts around the globe to share best practices, policies, and technologies in the field of smart cities, forging a global network across the groups and strengthening relationships with clients in support of shaping and ensuring quality projects.

Recognizing the impact of COVID, the GSCP launched the e-learning course on Smart Cities in the World Bank Group Open Learning Campus (OLC) in November 2020. The self-paced course was followed by a facilitated course that took place from February 1 to March 5, 2021. The success of the e-learning course led to the co-hosting of a Virtual Knowledge Exchange with the OLC on Smart Cities for Sustainable Development, from April 13 to May 4, 2021. These e-learning courses provided a more structured and curated expert-led program of learning. A total of 1,155 participants from 134 countries enrolled in the Virtual Knowledge Exchange consisting of four webinars covering the themes of Green, Smart, Development, and Vision.

Knowledge activities under Component 2 of the program created synergy with just-in-time and operational support under Component 1 by enabling the WBG teams and their clients to exchange knowledge and experiences, benefit from case studies and lessons learned, and connect with each other. Moving forward, dynamic knowledge sharing activities will continue to help the GSCP team capture new knowledge, ensure consistency, identify knowledge gaps, and support more teams on their knowledge needs. Moreover, the program can invest more in the online knowledge sharing and learning platform, building on the success of the OLC training courses.

FIGURE 7. THEMES COVERED BY BBLS/WEBINARS ORGANIZED BY GSCP



2.3 GSCP Program Operations

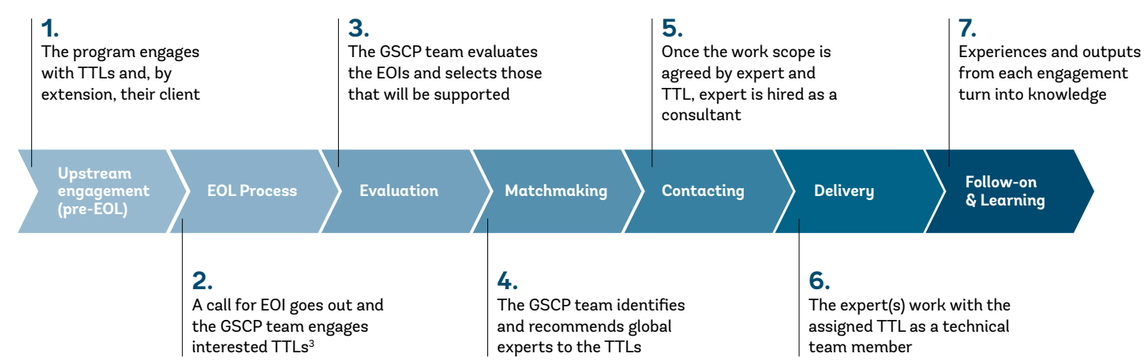
The operation of the program, particularly for JIT TA and OS, goes through an interactive process summarized below (Figure 9).

EOI Evaluation. EOIs have been scored against the evaluation criteria, including: clear technical linkage to smart city agenda, existing local/national smart city initiative, value-added to project, and GPURL engagement. Continuing engagement and COVID-19 agenda were added as extra considerations for selection in the fourth round. The selection results have been reviewed by the Advisory Committee set up to oversee and guide the program and cleared by GPURL Management.

Matchmaking and Contracting. Over years, the GSCP team has identified and databased global experts in various technical areas through external partners and Bank teams. The program recommends global experts deemed fit for selected EOIs and pairs them with WBG TTLs; then, once the TTLs accept the offer to work with them, global experts and TTLs discuss a detailed work scope, outputs, and logistics. Based on the agreed terms of reference (TOR), global experts are hired as consultants of the GSCP and are deployed to relevant project teams. The program funded experts' time and travel before COVID-19 and increased the number of days for EOIs selected under Round 4 as travels were restricted due to COVID-19.

The following sections will examine the delivery of the program in depth, assessing the demands from the teams, quality of program outputs, and efficiency of the program's support system.

FIGURE 8. GSCP JUST-IN-TIME TA AND OPERATIONAL SUPPORT (OS) PROCESS



[3] For the 4th Call for EOIs, the Korea Agency for Infrastructure Technology Advancement (KAIA) was contracted by the program to support expert identification and mobilization.

DEMAND AND SUPPLY ANALYSIS

3

3.1 Demand Analysis

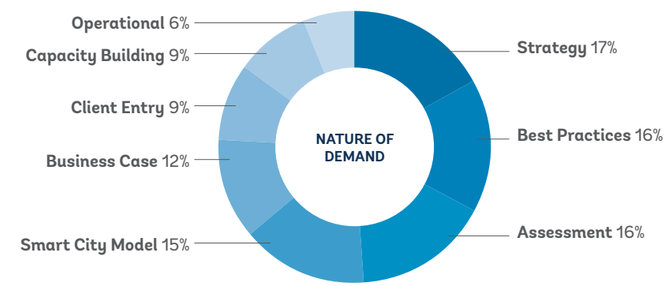
A vital element of the program is understanding the wants and needs that underpin the support provided. This section focuses on analyzing the nature of client demand. To inform this analysis, all submitted EOIs and TORs developed for the selected EOIs were reviewed to build a picture of the nature of demand as intended at the outset of the process. The analysis also involved recognizing the post-project feedback showing that the scope was, at times, adjusted during delivery.

This analysis of demand is one step removed, relying on the TTL's interpretation of the client's real need. As a result, it is difficult not only to gauge how well the client understood the meaning of 'smart city,' but also to understand what their ambitions were. TTLs' own views of 'smart city' may also vary and may not be aligned with those of the clients, indicating that there is considerable scope to better capture the understanding of, and needs for, smart cities by both the client and the TTLs.

Based on key words in the documents (EOIs and TORs), a range of core purposes have emerged (Figure 9), with one EOI/TOR potentially presenting several purposes.

- Develop a (national/local) **Strategy**
- Access **Best Practices**
- Perform an **Assessment**
- Develop a Smart City **Model**
- Build the **Business Case**
- **Client** relationship / entry
- Support **Capacity** building
- **Operational** improvement

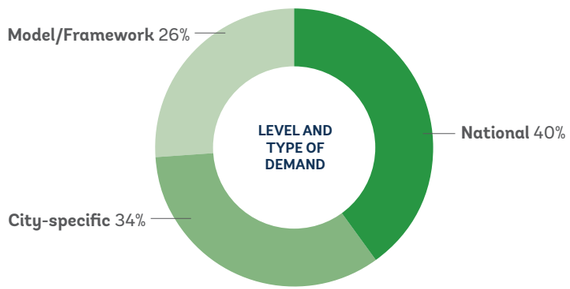
FIGURE 9. NATURE OF DEMAND



Developing a strategy, accessing best practices, performing some form of (baseline) assessment, and developing a model are strong themes, representing 60 percent of the demand picture.

The analysis also examined the scale at which the ambition operated. Did the project seek to address a national or regional policy challenge? Was it explicitly seeking to develop a model or framework that could support replication? Or was it more of a city-specific project? The result is shown in Figure 9, in which projects were selected for only one of these categories.

FIGURE 10. LEVEL AND TYPE OF DEMAND

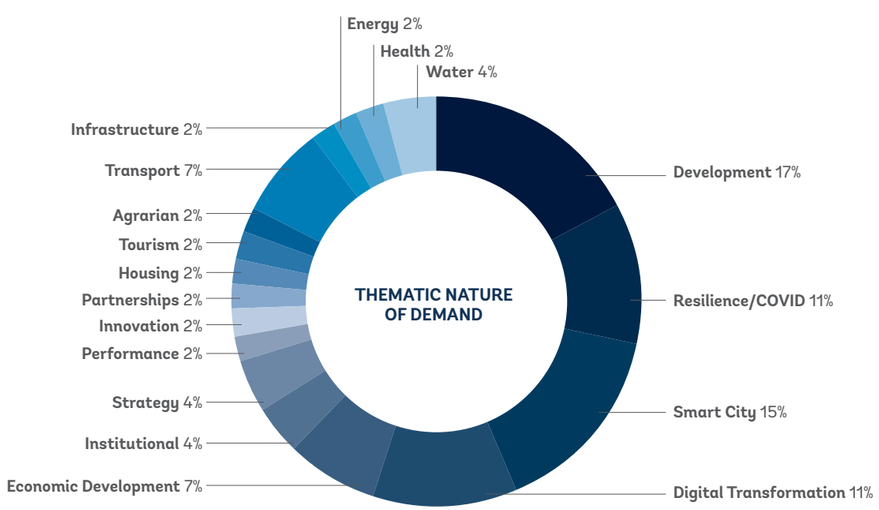


National level requests (40%) included developing a national solution for data management (e.g. digital twins). A third (34%) involved the development, testing, roll-out of a smart city model or framework, which, in most cases, involved collaboration across a group of representative cities, typically with links to a national-level public agency. The rest (26%) involved city specific activities.

The EOIs and TORs of 47 project initially selected were reviewed to assess what sectors or themes were in greatest demand, focusing more on what was stated in the TOR objectives and deliverables. Using key words and stated intent, this analysis is coarse, as it is influenced by a variety of depths of capture in the TOR and requires some interpretation in reading the various documents. For example, a TOR/EOI may state a desire to improve infrastructure or services without explicitly citing the nature or sector of that service. The analysis is, however, still informative. Figure 11 shows the coverage, also indicating the effect of dropped EOIs (in red). Here, a TOR could cite several different themes of interest.

- A quarter of the demand (26%) specifically calls for 'smart city' or 'digital transformation' (the two being seen to be very similar in nature).
- 22 percent focus on activities related to urban development planning and strategy.
- Institutional matters, represented by keywords such as strategy, institutional, economic development, performance, innovation, and partnerships, are significant, constituting some 33% of the total.
- 11 percent explicitly deal with resilience and/or COVID response and recovery.
- 40 percent address a variety of topics, such as the surprising proportion of only 6% focusing on transport, an area that is usually a topic of much greater consideration in smart city activities.

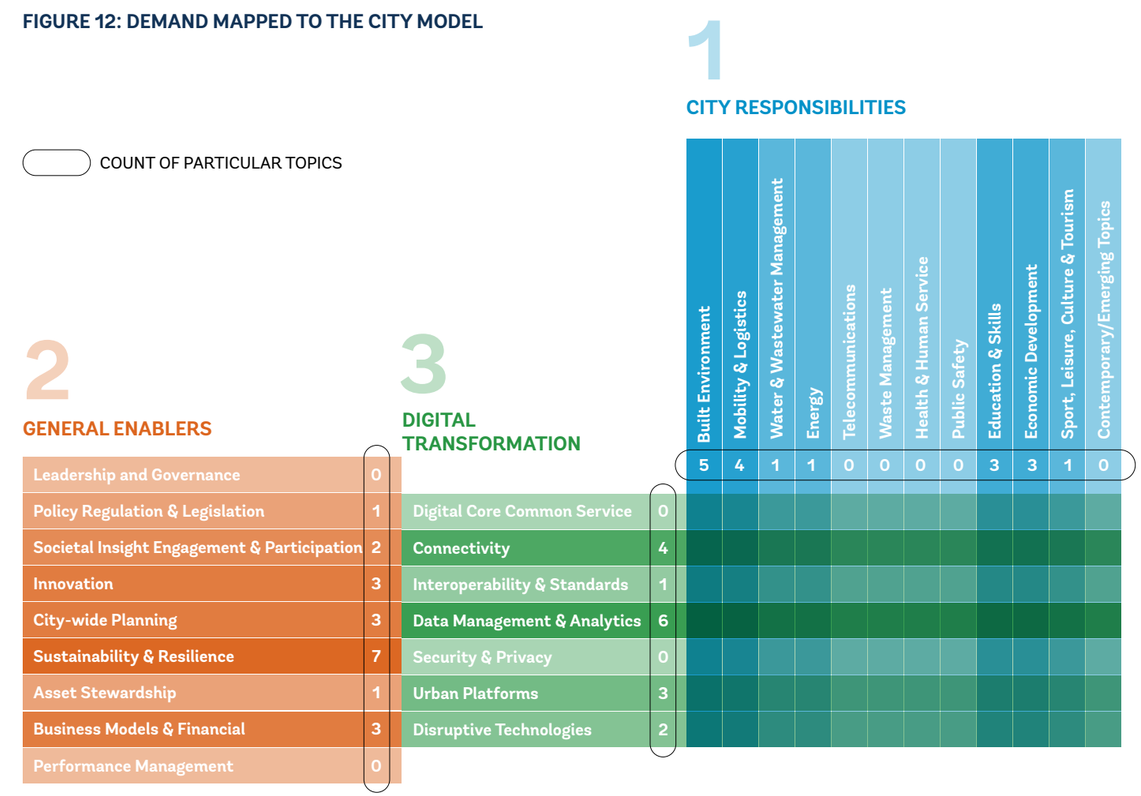
FIGURE 11: THEMATIC NATURE OF DEMAND



A second analysis has been made, mapping demand to a pragmatic model for considering smart cities (Figure 12). This model unpicks a smart city into three areas: City Responsibilities (or City Infrastructure and Services), General/Institutional Enablers, and Digital Transformation. Each area includes specific sub-elements and the latter two areas are cross-cutting. All areas and elements benefit from the application of modern technologies and data in different ways, however.

This analysis helpfully draws out more nuances around the nature of the digital transformation agenda than the prior analysis. Data management and analytics feature prominently (including exploration into the world of AI/ML), although, notable, the basic digitization of core common government services is not overtly addressed. This is likely due to a lack of understanding by the client and TTLs of necessary capabilities and steps in a smart city development model or their wish to skip potentially unnecessary steps (as digital micro-payments or mobile connectivity have proven in the past, for example) by seeking to address disruptive topics. Connectivity features strongly, which is an expected and healthy desire as a foundation for a smart city. Urban data platform, being the technical architecture that underpins much of data management, also features notably. While privacy and (cyber)security do not emerge as topics, they have become a growing concern as cities digitize and therefore warrant more attention.

FIGURE 12: DEMAND MAPPED TO THE CITY MODEL



3.2 Matching Supply to Demand

GSCP has mobilized and worked with a pool of 25 global and local smart city experts. 80 percent of the experts have been Korean (aligned with the donor country) and 20 percent European and others. Most are from the private sector, with smaller proportions from the government and academia (Figure 13).

Final demand in the portfolio of 28 projects that were actually supported and completed, excluding those dropped for various reasons, has a significant focus towards urban development/planning and strategy (22%), with institutional needs in general representing 33 percent. Digital and smart city represents 26 percent of need. Reviewing expert skill sets on the supply side reveals a somewhat different picture, with digital skills representing 56 percent of the skills inventory. Strategy and planning skills, at 22 percent, may match the planning and strategy needs. COVID-specific skills/experience feature similarly in both the demand and supply profile. Detail is provided for both demand (final demand of the projects that progressed) and supply in Figure 14 and 15.

A potential mismatch between demand for overall city planning and institutional development and heavy supply of digital skills indicates that the program can strengthen the application of technology to a city setting beyond mobilizing technological expertise (i.e. generic IT)) or complement such skills with working knowledge of city administration. Closer and more in-depth engagement between clients, task teams, and experts will produce open and communicative working environments that will ensure fuller coverage.

FIGURE 13: EXPERT POOL AND PROFILE

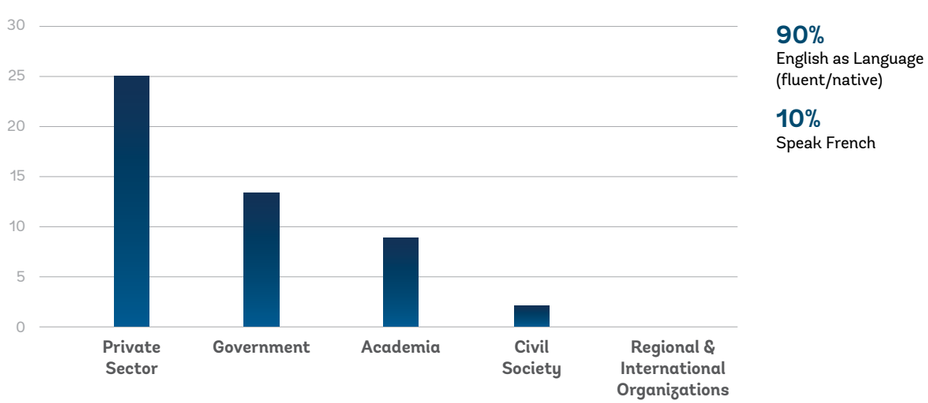


FIGURE 14: DEMAND

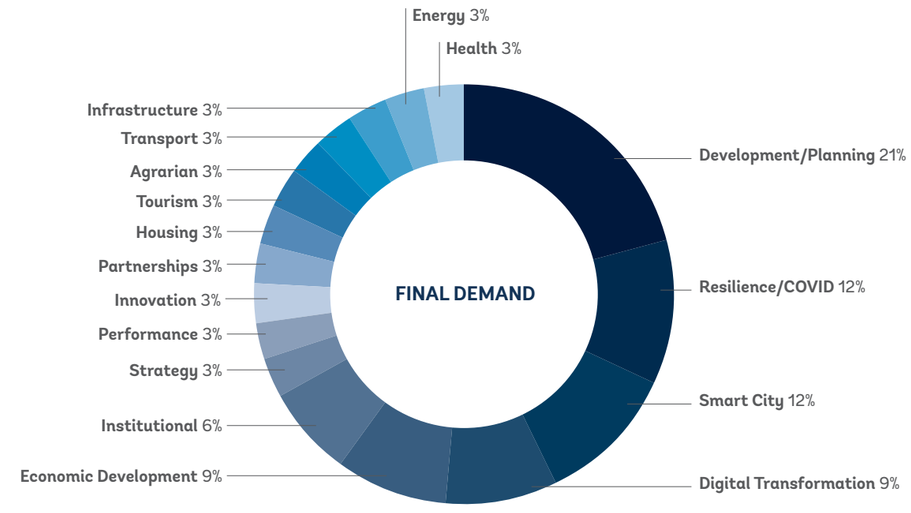
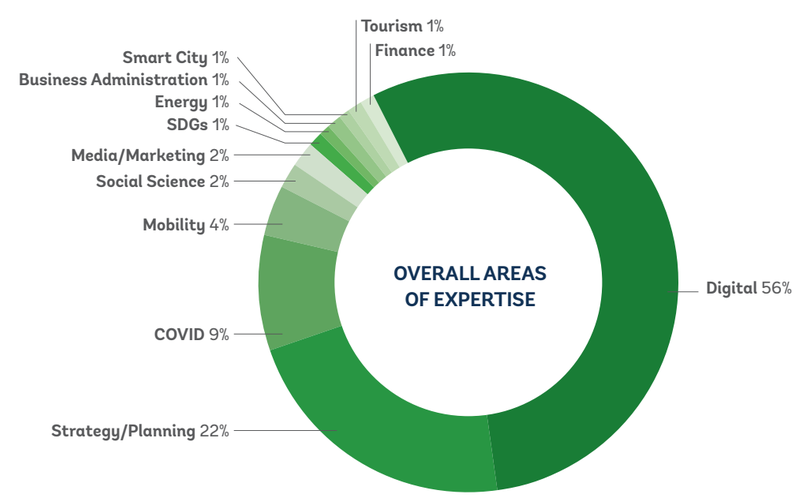


FIGURE 15: SUPPLY



EVALUATION OF DELIVERABLES AND DELIVERY MODALITY

4

4.1 Project Deliverables

Selected deliverables were reviewed to understand more the nature of what has been produced, assess alignment between what was intended (TOR) and what was actually delivered, identify potential for best practice capture, evidence replicable tools and approaches, and get a sense of the quality of outputs and potentially value for money. According to the TTL and expert surveys (see Section 5), the majority of projects have delivered technical notes or reports (80-90%) and presentations to the WBG team and/or client (50-60%) as core outputs. Table 2 lists 12 projects for which deliverables were reviewed with the EOI call round (R), type of support (OS/JIT), and expert support in number of days.

TABLE 2: SUMMARY OF PROJECTS FOR WHICH DELIVERABLES WERE REVIEWED

PROJECT	SUMMARY
Belgrade Smart City Roadmap *1R-JIT-16d*	Conduct an assessment of the city to support its journey to being smart and green, based on both desk research and survey/interview of city officials. Identify what is missing and develop a smart city roadmap to close the identified gaps. Develop a smart city model / framework that can inform the Western Balkans urban development program.
South Africa Competitive Cities *1R-OS-5d*	Review current smart city approaches in two South African cities, and more broadly in the country, notably connecting smart city and digital economy. Engage multiple client disciplines to clarify what smart city means and help make the case for the approach by bringing in international experiences.
Zanzibar City Lab *2R-OS-30d*	Conduct an assessment, inform through international benchmarking, and draw a business case and operations manual for a city innovation lab in support of the Zanzibar Inclusive Growth project.
Vietnam Vinh Long Urban Development *2R-OS-23d*	Participate in project preparation missions to present international experiences, trends and lessons learnt on smart city that are relevant to cities in Vietnam; lead discussions with the client on scoping of smart city components within the project; provide inputs to Project Concept Note on sections related to smart city; develop an action plan and budget costs to support the case.
Digital Central Asia South Asia (CASA) Program *3R-OS-20d*	Support smart city capacity building for officials in the Central & South Asia region (4 countries) through sharing international best practices. Develop specific technical solutions and recommendations that can provide models to support replication across the region; and in doing so identify and address barriers to progress.
Indonesia National Urban Development Program *3R-OS-15d*	Review and improve (through best practices and technical expertise) the TOR to acquire national spatial/aspatial planning databases/systems that connect across administrative tiers.
Bangladesh Dakar North Upgrade *4R-JIT-29d*	Provide technical and procurement support and recommendations to improve citizen service delivery in the target neighborhood and strengthen city management capacity (also in the context of post-COVID recovery).
Indonesia Digital Twin *4R-OS-45d*	Support national government in assessing the current state of cadastre data and land use management, and readying national and local bodies to move to Digital Twin for 3D cadastre and geospatial solutions. Perform a grounded bottom-up assessment to base the model and recommendations on local needs and realities informed through international benchmarks. Also address the potential for Digital Twin (DT) use in buildings to support COVID response and recovery.
Kazakhstan Smart Cities & AI (SCAI) *4R-OS-30d*	Provide detailed technical advice to the Government of Kazakhstan and city of Aqtobe to support the design of a national and city-level smart city framework and design for the successful implementation of the SCAI program.
Serbia Boost Local Infra Development *4R-OS-45d*	Support the set-up of a national call for interest for COVID-Mobility infrastructure investments to support green future responses, covering 10-15% of the total 145 national Municipalities, specifically focusing on community-driven mobility initiatives. Also address municipality criteria and clustering, prioritization, and funding concepts.
South Africa Non-Revenue Water (NRW) *4R-OS-10d*	Provide sectorial technical expertise to support major reduction of non-revenue water. Assess status of current water losses. Develop a pilot strategy and action plan. Bring in relevant international best practices. Recommend smart solutions. Recommend procurement, financing, and deployment options.
Medellin Smart City Masterplan *4R-JIT-15d*	City/metro-area wide masterplan mobilizing a core team of 6 people to help sustain post-completion, engaging 50 cross-organizational staff; deliver a unique strategic framework and roadmap; detail 50 initiatives across multiple themes (including quick wins); digital capture of the interdependent portfolio of initiatives; supported by 10 city-to-city deep dive experience sharing sessions.

4.2 Review of Submitted Deliverables

In total, 800 pages of 41 deliverables from 12 projects in report and presentation format were reviewed. Some of the presentations covered input/in-process/case studies, rather than solely final deliverables. In fact, 3 of 12 projects were still in-process at the time of review, but reports tended to be final deliverables. Reports submitted were of variable quality, but the sample size is too small to draw strong conclusions. Although representing 30 percent of the total GSCP portfolio, the submitted deliverables provide a useful and representative basis for analysis. Several observations are made:

(i) **The projects supported by GSCP varied widely in kinds**. Two were similar in tackling a city-specific strategy or masterplan (Belgrade and Medellín), naturally lending themselves to comparison and suggesting potential scope for common methods. Four were related to national city programs (South Africa, Digital CASA, Kazakhstan SCAI, Serbia Infrastructure) and likely had various common base elements; the specific nature of the task and the contexts of the countries/cities were considerably different, however, making comparison between them less relevant. While the context and needs of each project are unique, seeking patterns and commonalities where feasible can help lead to greater levels of cross-reference and fertilization of approaches, methods, tools, and solutions. It is through such a process that learning, capacity building, and large-scale impact can be achieved.

FIGURE 16: THEMATIC FOCUS OF THE 12 PROJECTS ANALYZED

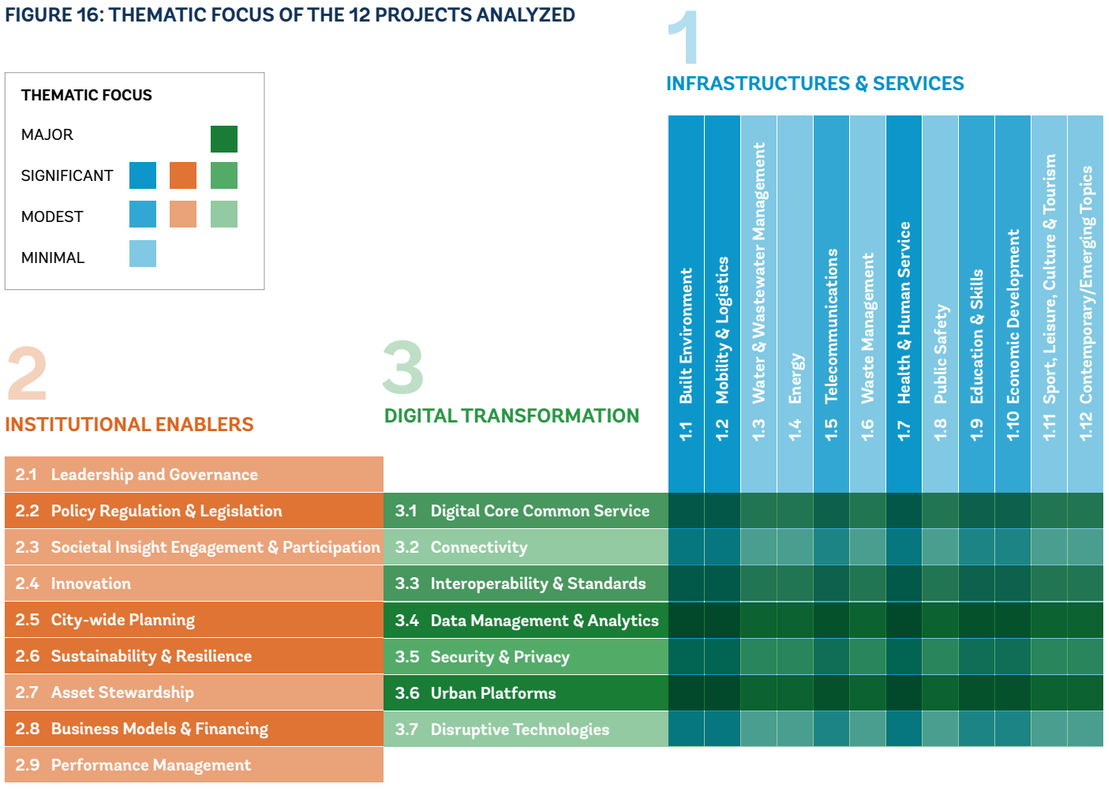
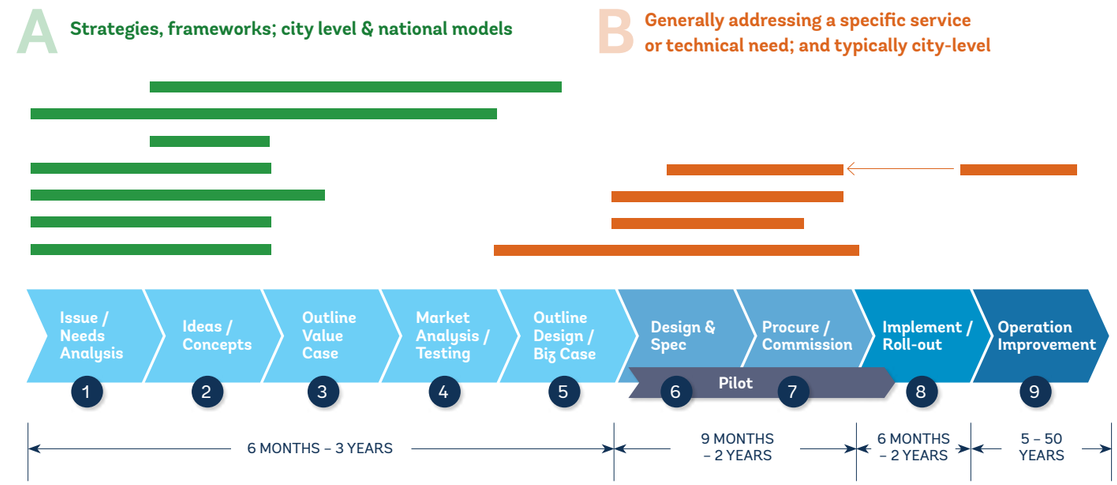


FIGURE 17: LIFE-CYCLE STAGE SUPPORTED BY PROJECTS



(ii) **Themes** within this subset (30%) of projects from the total portfolio are broadly **similar in focus and scope to the demand analysis of the overall portfolio** discussed earlier. Figure 16 shows this analysis, which is based on review of the deliverables and assigns a rating between minimal (0) and major (3) to every topic within each project.

It is known that for smart city projects to be successful there are several criteria that are considered vital, particularly those relating to institutional enablers such as leadership commitment, societal engagement, and monitoring.[4] Yet these three aspects tend not to be built into the scope of the projects supported by GSCP, which leaves delivery of these vital topics to the local client. This may risk successful delivery.

(iii) Projects appear to **operate in two areas of the project value chain**. First are those that are developing a strategy, exploring options, or developing a framework/model—these are generally broader and more exploratory in nature (group A in Figure 17). Although they do open opportunities, most either struggle to develop an investment case for action or fail to meet the timeframe of GSCP support that allows for program monitoring. This first group primarily addresses either/both city and national agendas, while the second group (group B in Figure 17) tends to be city-specific, often focusing on a single challenge with a narrower scope and more technical nature. It is the missing middle steps that the program may consider strengthening in order to connect upstream and downstream work.

(iv) **All projects reviewed were supported by international case studies** (except for the 2 projects in process). Sharing of good practices was explicitly requested in almost all TORs. Case studies can provide a very useful stimulus for action as was observed in discussions with TTLs: "*client-to-client sharing is the best stimulus, where expert follow-through helps drive things to action.*" In most projects, it appears that case studies were shared by the experts and were biased toward the purview and experience of the assigned expert. A coarse review of the selected cases and level of detail provided indicates that the majority are adequately captured as coherent stories (albeit at times brief, particularly for clients wishing to go back to the material to review and learn).

[4] Many learned papers highlight this, such as, for example, the European Smart Cities Marketplace Smart City Guidance Package (2019). *Source:* https://smart-cities-marketplace.ec.europa.eu/news-and-events/news/2019/smart-city-guidance-package

(v) **The many case studies presented by experts offer a valuable source of insight, if systematically collated and curated.** These should then be appropriately structured to ensure that they provide a sufficiently informed basis for use elsewhere by other parties and can be fully contextualized to the local client's needs. The program may consider the following improvements:

i. have access to a wider pool of geographically diverse case studies;

ii. ensure capture in a consistent structured fashion;

iii. ensure cases are more tuned to client needs and nature of intervention; and

iv. where feasible, seek to have cases told by the originating city/entity.

(vi) **The extent to which deliverables are client specific differs considerably**. Logically, the more extensive the assignment (in time/days), the more specific and tailored to the client challenge the deliverables should be. While this dynamic is observed to an extent, many of the deliverables appear rather generic. This could be the result of modest length of assignments and limited number of days in general, both of which leave the expert with limited opportunity to get fully acquainted with the client's circumstances. Parallels can be drawn between these assignments and those of typical advisory firms, the latter being generally longer, and considerably larger in terms of deployed resource.

(vii) **Client involvement and mobilization varies.** Most assignments appear to involve client presentations (one-way communication). Some explicitly call for and/or result in client interactive workshops (two-way), but these represent a minority of assignments. While the number of clients engaged was not stated by most projects, a few highlighted significant levels of engagement (over 50-100 people participating in the process). Local ownership should be cultivated to sustain action proposed through an injection of high-end content.

(viii) **Findings and Recommendations, follow-up statements, and action plans in general appear somewhat light in nature**. Again, this could be a function of the modest level of time support and/or the interim nature of some deliverables submitted. Ensuring that clients move to action is an important element of any support and offers a useful basis for ongoing WB staff follow-up.

(ix) **Are clients and the World Bank getting Value for Money?** This is clearly an important yet complex question to address. Deliverables submitted from the dozen projects have been evaluated as carefully as possible, using a specific set of criteria that includes:

a. **Richness of Content**—how broadly and deeply did the assignment and deliverables delve based on the scope set?

b. **City Specificity**—to what extent was the output focused on clearly and explicitly addressing the city's/client's context and real needs (vs. generic materials)?

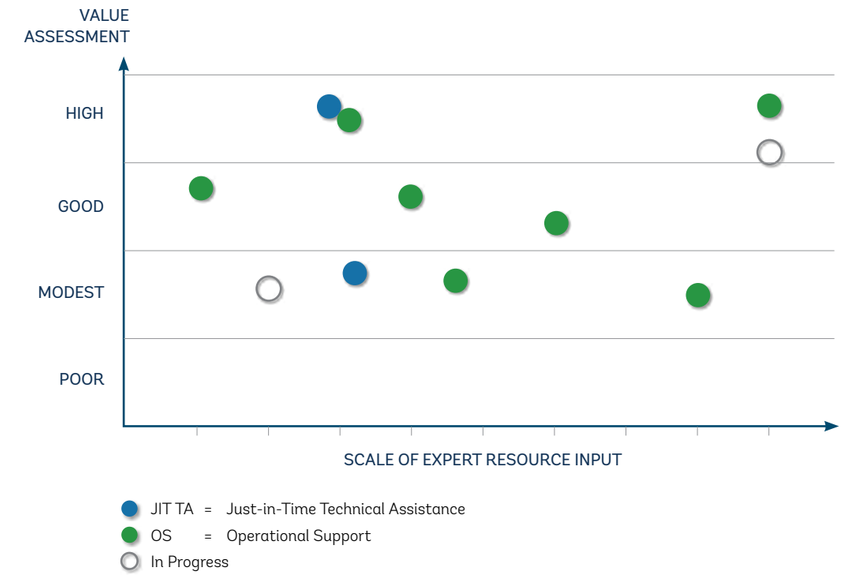
c. **Output Quality**—an expert judgement based on material submitted

d. **Stimulus for Action**—did the engagement mobilize client staff and/or provide specific actions that would help build and sustain momentum?

e. **Replicability**—to what extent can the output as captured and/or case study support replication locally in country, or globally to other countries?

This analysis comes with considerable caveats, particularly as the client contexts all differ markedly. The level of resource input for each client was also included, as it varies considerably, ranging from 4 to 45 days (a 9-fold range). It should also be noted that different experts were assigned to the projects whose deliverables were assessed. Figure 18 shows a mapping of expert resource input, against an equally-weighted aggregated assessment of the above 5 criteria (scored at scale of 1-5). A wide spread of results shows that committing high expert resource does not necessarily result in greater value.

FIGURE 18: VALUE FOR MONEY (INDICATIVE) ASSESSMENT



(x) **Some notable approaches and deliverables are observed.** Some projects have offered very specific or more general approaches and tools that could be replicated either locally by the client or by the Bank teams. Some lend themselves to be good candidates as case studies, either on discrete topics (e.g. water) or more general themes (e.g. smart city strategy).

a. **Indonesia National Urban Development Program (NUDP)**—a strong project approach and framing for e-Government and GIS systems evaluation

b. **Indonesia Digital Twin**—addressing a highly contemporary topic, with a case study inventory, best practices, tools, and insights

c. **Kazakhstan SCAI**—the smart city masterplan framework (of South Korea case), and initiative template

d. **Serbian Infrastructure**—the clustering of municipalities is of relevance to many country/regional contexts

e. **Medellin Smart City Masterplan**—the strategic framework, digital portfolio management approach, various smart city methods and tools, and project management aids

All the above offer strong candidates for **case studies**. Others within this pool of a dozen projects offer potential as case studies, although they would require further materials, investigation, and discussion. Candidates from the overall portfolio of 30 projects should be added to this inventory.

4.3 Program Delivery

In addition to the quality of deliverables, the efficiency of the program delivery modality is also evaluated across the seven steps identified in Section 2.3. Consultations with the GSCP team are summarized in the table below, capturing what has worked well (strength) and what has been weak in the process (weakness). While TTLs and experts evaluated the program as being productive and cost-effective, the current operational modality is resource intensive for the GSCP team. Several operational improvement opportunities have emerged, which will be discussed in Section 6.

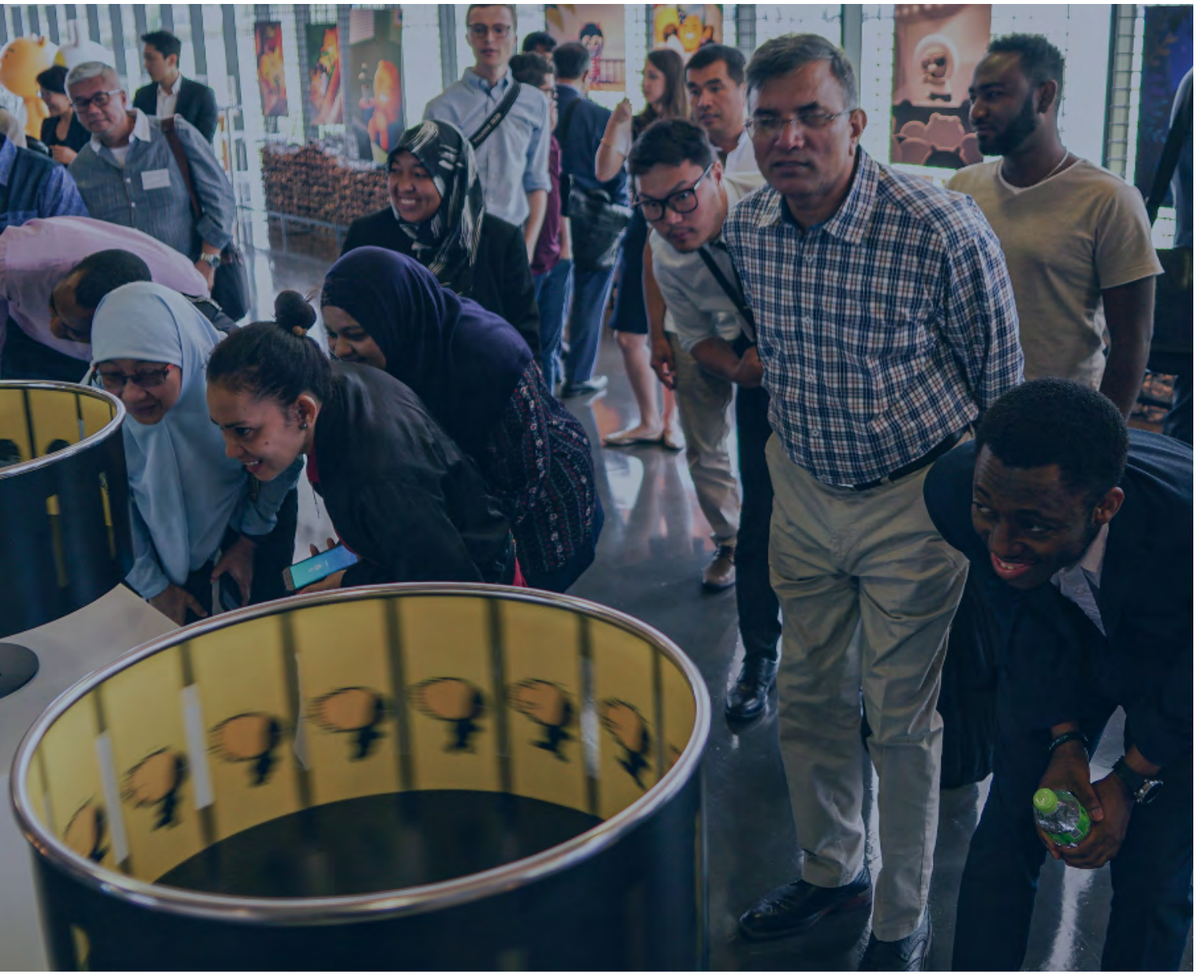


TABLE 3. GSCP EVALUATION OF THE PROGRAM OPERATION

UPSTREAM ENGAGEMENT	Strength	• An active and growing community of practice
	Weakness	• Limited GSCP team visibility of TTL and client needs • Limited TTL Smart Cities knowledge • Lack of comprehensive Smart City projects stocktaking
EOI PROCESS	Strength	• A wide range of demands through an open call across the WBG
	Weakness	• Lack of strategic guide or structured approach by GSCP • TTL's limited Smart City understanding
EVALUATION	Strength	• Consideration of regional and GP diversity • Management's involvement through the Advisory Committee
	Weakness	• Absence of other GPs in the evaluation process
MATCHMAKING	Strength	• Overall good fit (based on the survey responses)
	Weakness	• Hard to meet a wide range of demand – it takes time and efforts to find relevant experts • Deeper upfront engagement with each TTLs and experts missing
CONTRACTING	Strength	• Use of a flat rate, fixed number of days helps with efficiency
	Weakness	• Transaction cost is high on the GSCP (time for contracting) • Flat rate not ideal for attracting talents • Fixed number of days not adequate for many projects
DELIVERY	Strength	• Client specific scope, quality experts, satisfied client/TTL
	Weakness	• Lack of consistency in approach (little quality control) • Poor capture of deliverables • Fragmented resource pool to manage time
FOLLOW-ON AND LEARNING	Strength	• Program's value addition
	Weakness	• Lack of impact metrics • Lack of online platform for knowledge sharing and communications • Limited capture of case studies/lessons learned

PROGRAM EVALUATION

5

5.1 TTL Survey & Feedback

56 TTLs have been involved throughout the program in some capacity (i.e. EOI process, TOR development, project delivery). A survey of all TTLs was carried out in February 2021 to assess the program's performance in multiple dimensions: why the TTL sought to participate in the program; to what extent the GSCP helped and how they were satisfied with the expert resource provided in terms of resource and performance/the deliverables produced; what challenges they encountered; how likely the TTLs are to participate again or recommend the program to others; what they recommend to the GSCP team for change; and the impact the program had for the TTL and client (Annex 6.3 for the survey questionnaire and detailed results).

The program received structured feedback from 16 TTLs. The key messages from the survey are:

The GSCP program is working

- An average overall satisfaction rating of 4–4.6 (out of 5) across 5 themes: GSCP team coordination (4.6), timeliness of support (4.0), fit of expert (4.2), clarity of program process (4.4), and communication (4.4) with the GSCP team
- The program is delivering client insight, and helping alignment across the city

And it is adding value

- Rated 4.1out of 5 for achievement of objectives
- 63% of TTLs see smart city as relevant to their client and 50% cite that their involvement was because of specific client request. Additionally, a third felt that they would benefit from additional human/financial resource to support their project
- Overall satisfaction with the assigned expert (an average of 4–4.4 across 7 themes) was noted, as well as a recognition of the usefulness of deliverables produced, level of knowledge provided, and responsiveness of experts. A desire to work on improving the expert's understanding of the client's environment (3.9) was also noted, however.

Task teams are keen to do more

- 100% rated the desire to do more at 4 (42%) or 5 out of 5 and 70% would recommend the program to others

However, the program can provide a bit more resource to be more impactful

- No TTLs felt the resource was too much. 56% felt it was about right and 44% felt it was too little

Two focus group discussions were held with TTLs in March 2021 to elaborate on the feedback received and develop emerging ideas on potential improvements. Overall, TTLs experienced challenges due to lack of client knowledge of smart city and/or lack of a common meaning of 'smart city' as well as limited time support from the program. They noted that the Bank TTLs are also insufficiently informed or unclear about smart cities and struggled to shape TORs appropriately. Some TTLs noted that language—both written (deliverables) and spoken communications—has also presented some challenges. Although 90% of experts record that English is their first non-native language (Figure 14 above), understanding a language is different from effectively communicating through a deeper grasp of cultural norms in different parts of the world.

In view of these challenges, TTLs recommended that experts be properly onboarded and that more days be allocated to each assignment and over a longer timeframe.

5.2 Expert Survey & Feedback

A survey was also run within the expert community. 16 responses were received. The main conclusions are consistent among experts and with those of TTLs.

The World Bank is getting a committed, quality, good-value deal from the experts, trading well off its brand

- Experts seem committed to the World Bank missions
- The task fits experts' personal ambitions
- Satisfaction overall is good
    - An overall positive average experience (4.0), with 'remuneration' (3.25) and 'potential to improve direction of process and next steps' (3.6) scoring lower
- Delivery quality is viewed as solid/high (4.0)
- Experts would do it again (62% rating their desire at 5; average at 4.4) and would recommend that others engage (although somewhat less enthusiastically than the comparable TTL desire to recommend to others)

Remuneration is not the strongest incentive

- The rational for engaging is personal (professional advancement, desire to contribute to Bank operations, relationships). No one elects to do this for good monetary return.

Timeframe is tight for completing an assignment and yielding meaningful results

GSCP team held follow-up one-on-one meetings with selected experts during March 2021. A check-in workshop with the Korea-based experts was also organized by KAIA on March 24, 2021. This has validated, emphasized, and enriched the survey findings below:

- First-time consultants should be supported in the Bank onboarding process, including the payment claim system and Bank terminology
- In some cases, either/both TTLs and clients were insufficiently ready for the support, potentially resulting in changes to scope or ad hoc requests
- The program should focus more on developing common smart city definitions and standards
- Because experts had varying degrees of client engagement, it would help to engage clients more directly
- Gaining early access to client smart city data and materials is critical
- Quality control of experts and deliverables is required and TTL feedback to experts is desired
- Efficiency and consistency could be aided by common templates, improved communications, and expert-to-expert exchanges
- COVID-19 has understandably diverted client focus and client interaction has become challenging

The above feedback indicates that improvement in overall program management including proper onboarding, efficient communication, systematic quality control, and an increase in timeframe and rates would lead to better quality output.

PHASE 1 LESSONS LEARNED AND MOVING FORWARD WITH PHASE 2

6

6.1 GSCP Phase 1 Program Achievements and Impact

Overall, the Phase1 of the program played a catalytic role for bringing in additional resources and knowledge by building an extensive partnership with leading smart cities and global technical experts. These partnerships have enabled the program to support a considerable portfolio of clients with 29 engagements or projects. It has also undertaken extensive knowledge sharing and capacity building activities (45 interventions addressing a topic that is increasingly important and prominent in urban development activities: how to the power of digitalization to create 'smart cities.' Further, the COVID-19 pandemic has only heightened the growing recognition by cities and other public bodies of the importance of data and technologies. Below are some of the program achievements and impact of Phase 1.

Considering the program's vision, the projects have certainly addressed data, technologies, and planning. The focus has been lighter on service delivery, citizen engagement, management, governance, and accountability. All are required to function in harmony for a city to be truly productive, and further attention could be placed on addressing these topics through capacity building and effective methods. Regarding its goals, the program has made significant progress on capacity development, but more work is required on consolidating best practices and solutions.

The program is viewed as a success from the user community (TTL/clients) and has provided valuable learning for further city development—a potential opportunity that users have welcomed. Many of the projects involve either national and/or city-cluster activities or the development of frameworks/models within a demonstrator city that will provide proof points for wider dissemination. This aligns well the goals of the program.

The program has also provided an avenue to bring together different Practices within the Bank under a common agenda, although more can be done to strengthen the holistic nature of how smart city is considered (i.e. well beyond technology) in order to support further engagement across Bank Practices. Most importantly, this 3-year experience has established a solid and successful foundation for expansion in a market that is increasingly poised to act on delivering smart sustainable urban development.

Overall, the Phase1 of the program played a catalytic role for bringing in additional resources and knowledge by building an extensive partnership with leading smart cities and global technical experts.

6.2 Emerging Insights and Lessons Learned

Program Scale and Coverage

A 'clean sheet' approach to demand capture has both positive and negative implications. The freedom in the EOI process to request a wide range of support—so long as it broadly aligns with the overall program's vision and goals—provides an open landscape for TTLs/clients. It provides the basis, in theory, from which real demand will emerge, so best practices and methods, therefore, can be developed to serve that demand. There have been circumstances, however, in which clients' wants and needs differ substantially or are ill-informed, often due to varying levels of understanding of what 'smart cities' means. These misunderstanding can cause clients to misconstrue what data and technology can offer a city, leading to potential inefficiencies and/or missed opportunities.

There is scope to cultivate active and quality demand. Given the combination of the breadth of understanding of what 'smart city' means, natural entropy in this fragmented market, and the now significant experience of where smart city solutions can add value, seeking to respond to an open call may not be the most effective approach. The program may consider a more deterministic or hybrid model where demand is more shaped or priorities are selected. More attention up front in the program process and access to online knowledge about the program are both warranted to better engage and equip TTLs, for example, with a clearer view of the scope of 'smart city.' More upstream engagement with project teams will also help better gauge client readiness and shape needs, which will facilitate more interest in the program, reduce drop-out/carry-over between EOI and TOR, and strengthen the quality of projects.

The program may consider scaling up its coverage, regionally and the across the level of operations (national and city). 31 projects have been undertaken over the 2-year operations (i.e. post creation) of the program, covering around 20 countries. There are a considerable number of countries that have remained untouched, each of which will require both national interventions and city-specific proof points. The program should consider influencing national-level policies, frameworks, programs, and interventions if it is to have more than a city-specific impact. Regionally, 65% of activities have taken place in AFR and ECA. Given urbanization forecasts for the world, Africa (9 projects) must be a place of continued attention, Latin America (1 project) warrants increased focus, and other territories will also need further support. Expanding coverage is a strategic choice and it is evident that the direction of current worldwide needs calls for significant scale-up in some form.

For scaling up, the program should diversify external partnerships and strengthen internal partnerships with multiple Global Practices (GPs). This may help the program to cultivate and shape demands on smart cities in other practices and regions less familiar with the program. Building a structured knowledge base on smart cities, as recommended below, can be a concrete action in the next step. Further, the program may consider activities contributing to its scale-up, such as, for example, taking stock of the World Bank Group smart city engagements (e.g. rapid portfolio review) or supporting development of a common conceptual and diagnostic framework such as a smart city assessment toolkit (SCAT).

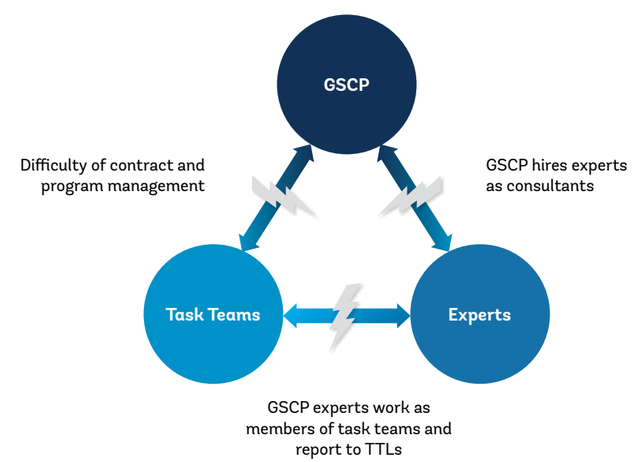
Operational Optimization

The GSCP program process is functional, but there is certainly scope for optimization, notably on expert resourcing and delivery timeframes. With the current model, there are high transaction costs (86 consultants engaged over the 3-year period across two components), with modest sized individual engagements. This limits the efficiency and effectiveness of the program and the ability to scale. Further, the use of fixed rates for experts may limit the access to and sustained engagement of the necessary quality of expert resource.

Challenges arising from the three-party contractual relationship (Figure 19)[5] **can be mitigated**. In the current delivery modality, the GSCP Team has struggled to keep track of progress and remain in the loop to provide adequate support and harvest knowledge. Participating task teams could not manage experts time/schedule and performance directly, as experts were contracted by the program. Experts, who are working with the teams while claiming payments from the GSCP team, have experienced challenges in accommodating task teams' schedule and needs, while also running the risk of working more than/out of the agreed scope. The program may consider introducing a systematic communication and progress update mechanism involving all three parties.

Expert Pool. As the program grows, a larger and more diverse pool of experts will be required. Experience has clearly shown that transaction efforts are high, so a tiered and more focused pool of experts would be preferable, with a core group of more known and conditioned experts, ad hoc (regional) generalists, and topic specific subject matter experts identified and at hand to fill peaks and tackle specific needs. For new experts, the on-boarding process must be made as efficient and comprehensive as possible. For Phase 2, the program will experiment with a core team of experts providing broad-based advisory services, while complementing this model with a wider set of specialized expertise and skills.

FIGURE 19: THREE-PARTY RELATIONSHIP



[5] GSCP is supported by an Externally Funded Output (EFO) from MOLIT and co-financing through a child grant from the Korea-World Bank Partnership Facility (KWPF). Hence, funds cannot be on-granted to selected teams and instead the program has supported time and travel of consultants hired by the GSCP team.

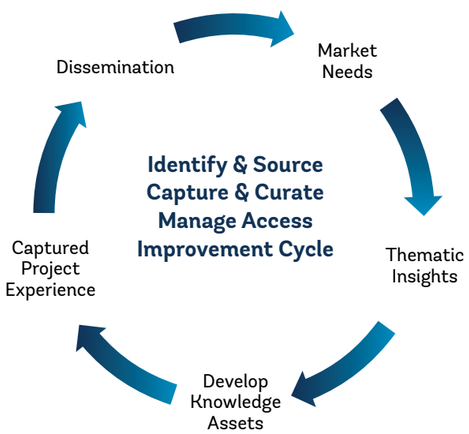
Knowledge and Communications

There are clear opportunities to structure and strengthen the management of knowledge. This first phase of the GSCP program featured more hands-on knowledge sharing and peer-to-peer learning, which has been effective both for clients and Bank teams. Phase 1 experience has also highlighted the need for generating knowledge resources (e.g., guidelines, approaches/methods/tools, case-studies, etc.) that can be readily accessed to best effect. The diversity of deliverables indicates the very limited re-use of materials, which a thorough knowledge platform would support. Clearer guidance and stronger quality assurance of deliverables at the program level will increase consistency, improve quality, and strengthen scope for scale impact—all of which will fulfill the whole knowledge cycle (Figure 20).

There is potential to expand knowledge sharing from the program, particularly by capturing a variety of project experience by way of structured case studies. More than half a dozen potential case study candidates have been identified from the portfolio of Phase 1 project deliverables that have been reviewed. City clients respond well to understanding what others have done. It helps inform, stimulate ideas, and de-risk decisions. This is of particular importance for smaller cities that generally have lower levels of capacity and limited access to knowledge in the market. Case studies will need to be captured in a consistent and informative manner, with summaries that are clear, brief, and engaging. A template to support this in the short term would ensure that the essence of each experience is consistently captured, particularly focusing on local market context, client need, intervention, goal set, and impact delivered. Initially, a pragmatic approach can be taken to capture an initial inventory, from which more elaborate and technologically-enabled curation can be considered.

In addition to what has been covered in knowledge sharing activities under GSCP1, there are still many topics that could be addressed. Most notable are two broad areas. The first is how data and modern technologies can underpin improvements in specific city infrastructures and services—to date, only mobility and built environment have been addressed. The second is how digitization can improve institutional enablers (like performance, societal engagement and collaborative policy making, evidence-based (data) policy, spatial planning, leadership dashboards, and other governance processes).

FIGURE 20: KNOWLEDGE CYCLE



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Market messaging is important to stimulate interest that can then lead to demand. Nothing works better than success, so the capture of case studies that include both positive, visible client feedback (e.g. a vocal Mayor) and tangible financial investment scale will provide essential assets to support the advancement and scale-up of the program. The new GSCP logo is now agreed and provides a foundation for forward communication plans. For GSCP Phase 2, there will be well-designed on-line platform that will:

(i) Support the knowledge management cycle, providing access to Methods and Tools and Case Studies;

(ii) Facilitate the EOI/TOR process to establish an ongoing portfolio of appropriate projects; and

(iii) Offer a platform for dynamic and engaging content (e.g., blogs, statistical updates).

As GSCP Phase 1 closes, Phase 2 of the program is simultaneously starting with the 5th Call for EOIs that was announced for April 5-23, 2021. The lessons learned and recommendations from GSCP Phase 1 as captured in this report will be put to an immediate use as the GSCP team moves forward with expert mobilization and matching and then further into full implementation of the program. The GSCP team is looking forward to continuing to make progress on the 'smart cities' agenda by optimizing its operation and expanding its support to more countries and themes.

ANNEXES

GSCP1 Portfolio

R	TYPE	TITLE	PROJECT	COUNTRY	REGION	GP
1	JIT	City Institutional Strengthening Program IIII (Madinah)	P168709	Saudi Arabia	MNA	Urban
1	JIT	Digital CASA - Uzbekistan (Tashkent)	P166615	Uzbekistan	ECA	DD
1	JIT/OS	Kinshasa Multisectoral and Urban Resilience Project	P161602	DRC	AFR	Urban
1	JIT	Morocco Municipal Performance Program	P168147	Morocco	MNA	Urban
1	JIT	Potential RAS on Smart City Astana Development following a recent request from Astana Mayor Office	N/A	Kazakhstan	ECA	DD
1	JIT	Western Balkans Urban Partnership Program (Belgrade)	P165780	Serbia	ECA	Urban
1	OS	Competitive Cities and more enabling business environment (TF) & South African Urban RAS (II)	P160668	South Africa	AFR	FCI
1	OS	Third Municipal Development Project (MDP3)	P159258	West Bank and Gaza	MNA	Urban
2	JIT	Benin Competitiveness and Investment Project	N/A	Benin	AFR	FCI
2	JIT	Smart villages to support Kosovo's digital economy	P164188	Kosovo	ECA	DD
2	OS	Vietnam Scaling up Urban Upgrading Project	P159397	Vietnam	EAP	Urban
2	OS	Zanzibar City Innovation Lab	P165128	Tanzania	AFR	Urban
3	JIT	KSA SMNUR-2: SAUDI ARABIA URBAN DEVELOPMENT AND MANAGEMENT PROGRAMMATIC RAS (Pillar 4) (Dammam)	P172246	Saudi Arabia	MNA	Governance
3	JIT	Zaporizhzhia Smart City	43181(IFC)	Ukraine	ECA	Urban
3	OS	Digital CASA - Tajikistan (Dusanbe)	P171382	Tajikistan	ECA	DD
3	OS	Digital CASA (Central Asia-South Asia) regional program	P160230	Kyrgyzstan, Uzbekistan	ECA	DD
3	OS	National Urban Development Project (NUDP)	P163896	Indonesia	EAP	Urban
4	JIT	Local Government COVID-19 Response and Recovery Project	P174937	Bangladesh	SAR	Urban
4	JIT	Designing a Smart City Strategy and Action Plan for Medellin	N/A	Colombia	LAC	IFC LAC Cities
4	JIT	FY21 Russia ASA: Smart Regions and Smart Cities (title TBC)	P174545	Russia	ECA	DD
4	JIT	KSA SMNUR-2: Saudi Arabia Urban Development and Management Programmatic RAS - Pillar 2	P172246	Saudi Arabia	MNA	Urban
4	JIT	Technical Support for Smart City/Technology-Driven COVID-19 Response	N/A	South Africa	AFR	IFC Infra / Urban
4	MM	Moldova: Adapting Chisinau's Public Transport to COVID-19	N/A	Moldova	ECA	Transport
4	OS	Dhaka North Neighborhood Upgrading Project (DNNUP)	P173022	Bangladesh	SAR	Urban
4	OS	Integrated Urban Development and Resilience Project for Greater Antananarivo	P159756	Madagascar	AFR	Urban
4	OS	Program to Accelerate Agrarian Reform (One Map Project)	P160661	Indonesia	EAP	Urban
4	OS	Serbia Local Infrastructure and Institutional Development Project	P174251	Serbia	ECA	Transport
4	OS	Smart Cities and Artificial Intelligence (SCAI) Program	P170270	Kazakhstan	ECA	DD/Urban

GSCP1 Knowledge Sharing Activities

#	TITLE	TYPE	DATE	INTERNAL/ EXTERNAL
1	OLC Virtual Knowledge Exchange (KE) series on Smart Cities for Sustainable Development	Virtual KE	12-Apr-21	External
2	ICT-based response to COVID-19: Solutions and experiences from Korea -organized jointly with Korea WBG office	Webinar	28-Jan-21	External
3	Pathways to Sustainable Urban Development - session at the Asia Smart City Conference (organized jointly with TDLC)	Forum	18-Jan-21	External
4	Data, Privacy & The Cities of Tomorrow: Data Governance in an Age of Disruptive Distributed Technology (organized jointly with Transport GP)	Webinar	20-Nov-20	Internal
5	Smart City Live 2020 Side Event: Reinventing Cities with Technology after COVID-19 – Unpacking Ideas from Japan - organized jointly with TDLC	Forum	17-Nov-20	External
6	Smart City Fundamentals eLearning Course (Open Learning Campus)	Online Course	1-Nov-20	External
7	Follow up Live Discussion on Amazon Web Services Public Sector and World Bank Programs in Response to Covid-19	Webinar	28-May-20	Internal
8	Amazon Web Services Public Sector and World Bank Programs in Response to Covid-19	Webinar	20-May-20	Internal
9	Smart Technologies as Tools to Support Responsible Recovery After COVID-19 (Follow up with Swiss partners)	Webinar	30-Apr-20	Internal
10	Bloomberg Associates Helping Cities Go Digital in the Face of the Coronavirus	Webinar	22-Apr-20	Internal
11	Smart City Innovations to Overcome COVID 19 in Swiss Cities	Webinar	16-Apr-20	Internal
12	The Korea Innovation 2020 : Thematic Workshop on Smart Cities & MOLIT-WBG Joint Smart City Workshop	Workshop	18-Feb-20	External
13	Harnessing the Power of SoftBank's Unique Ecosystem of AI and IoT Solutions to Answer Smart Cities Needs Globally	BBL	16-Jan-20	Internal
14	Using Data to Enhance Women's Mobility in Cities - organized in collaboration with Urbanscapes KSB	BBL	14-Jan-20	Internal
15	City Solutions Workshop	Workshop	20-Nov-19	External
16	Barcelona Smart City Study Tour	Study Tour	18-Nov-19	Internal
17	How to Build Partnerships with Korean Institutions: Experience from the Global Smart Cities Partnership Program with KWPF team	BBL	8-Oct-19	Internal
18	3rd Korea Smart City Study Tour	Study Tour	2-Sep-19	External
19	Mobility Insights at Swisscom	BBL	15-Aug-19	Internal
20	Meet the ITS Innovation & Technology Lab	BBL	30-Jul-19	Internal
21	Disruptive Technology Solutions in Bank Operations	BBL	17-Jul-19	External
22	4th Joint Workshop for Smart Sustainable Cities, ICT applications and e-Government (organized jointly by WeGo, MOLIT, MoIs, NIA)	Workshop	15-Jul-19	External

#	TITLE	TYPE	DATE	INTERNAL/ EXTERNAL
23	PPP Framework and Strategy for Smart City Development	BBL	9-Jul-19	Internal
24	BBL: Smart Cities for Indonesia	BBL	26-Jun-19	Internal
25	Netherlands Smart City Study Tour	Study Tour	17-Jun-19	External
26	Smart Cities and Sustainable Development: What Do Academics and Practitioners Say? With RSA (Regional Science Academy)	Workshop	21-Mar-19	Internal
27	FIWARE community, standards and components for platforms of choice for Smart Cities with FIWARE for Initiatives for Cities	BBL	18-Feb-19	Internal
28	No one at the wheel: driverless cars and the road of the future	BBL	11-Feb-19	Internal
29	Data platforms for Smart Cities: Experience & Lessons from Korea- organized jointly with WBG Korea office	BBL	19-Nov-18	Internal
30	Machine Learning for Cities: From Key Concepts to Smart City application	Workshop	19-Nov-18	Internal
31	7th Asia Smart City Conference in Yokohama	Conference	13-Nov-18	External
32	Smart City Expo World Congress and City Solution Workshop in Barcelona - organized jointly with TDLC	Workshop	13-Nov-18	External
33	The Smart City: Yes, But Where to Start? Introduction of the new Smart City Guide with AFD (Agency of French Development)	BBL	4-Oct-18	Internal
34	2nd Korea Smart City Study Tour	Study Tour	17-Sep-18	External
35	Digital Town: Blockchain Solutions for People-Centric Cities	BBL	17-Jul-18	Internal
36	3rd Joint Workshop for Smart Sustainable Cities and e-Government (organized jointly by WeGo, MOLIT, MoIs, NIA)	Workshop	9-Jul-18	External
37	Innovation through Urban Design & Science: MIT Senseable City Lab - organized jointly by Smart Cities and Urbanscapes KSBs as part of the Sustainable Urban Infrastructure and Services GSG Speaker Series.	BBL	14-Jun-18	Internal
38	Smart City. Just city	BBL	4-Apr-18	Internal
39	How to Build Smart Cities for All - organized jointly with the Disability-Inclusion Development KSB, Safe and Inclusive Cities KSB	BBL	1-Apr-18	Internal
40	Smart City White Paper: How can the WBG help cities make the most of digital technologies?	BBL	21-Feb-18	Internal
41	How Smart Cities improve the quality of life?	BBL	20-Feb-18	Internal
42	The Morgen Stadt Model: Driving Sustainability through Innovation	Workshop	15-Feb-18	Internal
43	Urban Growth Scenario Modelling and its Application to Jordan	BBL	14-Feb-18	Internal
44	Reimagining Cities from the Internet Up: What would a 'smart city' look like, as imagined by Sidewalk Labs	BBL	5-Feb-18	Internal
45	Housing Inequality: An Intergenerational Perspective - Organized jointly with the Affordable Housing KSB.	BBL	Feb-18	Internal

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