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Ghana Urban Mobility and Accessibility Project (GUMAP)

Evaluation Report

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Acronyms and Abbreviations

AMA	Accra Metropolitan Assembly
AFD	Agence Française de Développement (French Agency for Development)
DAC	Development Assistance Committee (OECD)
DoT	Department of Transport
DUR	Department of Urban Roads (of the MRH)
EPA	Environmental Protection Agency
EPFL	Ecole Polytechnique Fédérale de Lausanne
GAMA	Greater Accra Metropolitan Area
GAPTE	Greater Accra Passenger Transport Executive
GPRTU	Ghana Private Road Transport Union
GSS	Ghana Statistical Service
GUTP	Ghana Urban Transport Project
GUMAP	Ghana Urban Mobility and Accessibility Project
HTS	Household Travel Survey
KOICA	Korean Development Agency
KNUST	Kwame Nkrumah University of Science and Technology
IC	Implementation Consultant
ICT	Information and Communication Technology
LGS	Local Government Service
LTTA	Long Term Technical Assistance
LUSPA	Land Use and Spatial Planning Authority
LUTP	Leaders in Urban Transport Program
MCD	Metropolitan or Municipal Coordinating Director
MCE	Metropolitan or Municipal Chief Executive
MLGDRD	Ministry of Local Government and Rural Development
MMDAs	Metropolitan, Municipal and District Assemblies
MoF	Ministry of Finance
MoT	Ministry of Transport
MRH	Ministry of Roads and Highways
NDPC	National Development Planning Commission
OHLGS	Office of the Head of the Local Government Service
OM	Operations Manual
OSM	Open Street Map
PC	Project Coordinator
PPA	Public Procurement Authority
RCC	Regional Coordinating Council
RPF	Resident Project Facilitator
SC	Steering Committee
SDF	Spatial Development Framework
SECO	Swiss State Secretariat for Economic Affairs
SCO	Swiss Cooperation Office in Accra
TC	Technical Committee
TMC	Traffic Management Centre
URDU	Urban and Rural Development Unit (of the MLGDRD)
URD	Urban Roads Department (of an MMDA)

1 Background and context

SECO WEIN is the exclusive donor for the Ghana Urban Mobility and Accessibility Project (GUMAP), providing a USD 6 million grant designated for technical assistance. The primary counterpart in the project is the Ministry of Local Government, Decentralization and Rural Development (MLGDRD), serving as the project coordinator. The Ministry of Finance of Ghana (MoF) acts as the signatory of the Project Agreement on behalf of the Government of Ghana. GUMAP has been underway since 2017 and is anticipated to conclude by the end of 2024, following an extension of the execution period to finalize activities in technical studies and the investment measures component.

The primary beneficiaries of GUMAP, aside from MLGDRD, include selected local governments within the Greater Accra Metropolitan Area (GAMA) known as metropolitan and municipal assemblies (MMAs), the Greater Accra Public Transport Executive (GAPTE), the Department of Urban Roads (DUR), and the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi.

MLGDRD is assisted by the Implementation Consultant, Transitec Consulting Engineers (Transitec), who was contracted through an international competitive bidding process. Over the course of the project, the role of Transitec expanded to encompass the production side, incorporating the delivery of technical assistance and capacity building. Additionally, École Polytechnique Fédérale de Lausanne (EPFL) was engaged to support KNUST in developing master-level courses in urban transport.

1.1 Purpose, objectives, and scope

The Evaluation aims to furnish evidence on the project's progress toward achieving its intended outcomes, assess what aspects are successful and identify areas that may require improvement.

The main purpose of the mandate is to evaluate the performance of GUMAP against the six DAC evaluation criteria of relevance, coherence, efficiency, effectiveness, impact, sustainability, with a particular focus on the stock-taking of achieved results of the project against the objectives as reflected in the project logframe

The main target audience of this report is SECO WEIN.

1.2 Approach and methodology

The methodology employed a triangulation process to ensure the validation of findings from various sources:

- A comprehensive desktop review of project documents, encompassing agreements, the logical framework, progress reports, studies, and technical outputs.
- Conducting a field mission involving face-to-face interviews with beneficiaries and development partners, integral to GUMAP evaluation.
- Virtual interviews with key informants, including representatives from Transitec, World Bank, and the Nordic Development Fund.

2 GUMAP project description

2.1 Project objectives and expected outcomes

The expected outcome (Overall objective level) of the project is improved accessibility and mobility in the Greater Accra Metropolitan Area.

Towards this objective, GUMAP has two thematic foci, namely 1) the improvement of integrated urban mobility planning and public transport operations and regulations in GAMA, for which the beneficiaries are GAPTE and the MMAs of Accra, Tema, Ga West, Ga East, Ga Central, and La Nkwantanang-Madina; and 2) the improvement of traffic planning and management in GAMA, for which the beneficiaries are the mentioned MMAs, DUR, and KNUST.

In the thematic focus 1, the project aims to reach the following outcomes:

Integrated mobility planning

- Outcome 1.1. Beneficiaries are able to assess urban mobility and accessibility performance and issues in GAMA as well as formulate integrated solutions and action plans (second level outcomes 1.1.1 to 1.1.5 and related outputs)

Public transport operations and regulations

- Outcome 1.2. Public transport operations and regulations. The beneficiary MMAs, at least, have gained the competence and have undertaken key actions for efficiently organizing, regulating, enhancing, monitoring and supervising urban public transport operations in their territory (second level outcomes 1.2.1 to 1.2.5 and related outputs)

- Outcome 1.3 GAPTE has gained the competence and has undertaken key actions for guiding and coordinating the MMAs in conducting their activities in urban public transport and for enhancing and monitoring urban public transport operations overall in GAMA (second level outcomes 1.3.1 to 1.3.2 and related outputs)

In the thematic focus 2, the project aims to reach the following outcomes:

- Outcome 2.1. The departments of urban roads of the Accra, Tema, Ga West, Ga East, Ga Central, and La Nkwantanang-Madina MMAs as well as DUR (MRH) are able to assess traffic and parking issues at the metropolitan and assembly levels, formulate solutions and prepare plans (including, whenever possible, for a more efficient sharing of available public space among all modes of transport), implement corrective measures, and monitor results (second level outcomes 2.1.1 and 2.1.2 and related outputs)

- Outcome 2.2. KNUST students have acquired needed skills in urban planning and mobility (second level outcomes 2.2.1 and related outputs)

2.2 Project components

2.2.1 Component 1 - Mobility Planning

Consisted of the provision of a technical assistance and the preparation of supporting technical studies with capacity building support in the form of workshops, training sessions, study tours and at least one conference on urban mobility and accessibility in Ghana's main cities, as well as the provision of office equipment, hardware, and software, as required, for the project beneficiaries.[1]

The budget for this component was 27% of the total (according to the Inception Report) and 21% (GUMAP Budget and disbursements to 30.9.2023, provided by SECO to the evaluation consultant).

Activities budgeted under this component included:

- Long term Technical Assistant for improving integrated urban mobility planning and public transport operations and regulations
- STTA mobility planning
- Local project facilitator including amendments 1 (29.12.2022) and 2 (31.12.2022)
- Short term technical assistance on urban mobility governance issues in GAMA
- Short/medium term technical assistance for the completion of data bases and maps of public transport routes and passenger flows in GAMA
- Short term TA on urban mobility and accessibility data needs, data collection methodologies and implementation, storage, and processing
- Short term technical assistance for developing citizen and stakeholder participatory processes for urban mobility and accessibility
- Study of the potential for increased patronage for Aayalolo services and accelerated move to the financial breakeven point
- Design of a pilot scheme for the transition of selected trotro routes to scheduled services, analysis of trotro passenger trips and travel time, and study of the socio-economic aspects of public transport operations
- Study of the improvement of road use regulations and the facilitation of enforcement
- Study of freight transport
- Preparation of a preliminary plan for trotro fleet modernization
- Collection of urban mobility and accessibility data (Households; Origins-Destination)
- Communication campaign + DUT involvement (sic)

- Training and study tours
- Training and study tours (Transitec)
- Training and study tours (including organization of a national conference)

[1] As it is described in the Inception Report by Transitec, dated June 2017

2.2.2 Component 2 - Traffic Management

Consisted of technical assistance and the preparation of technical studies, and workshops, training sessions, and study tours; as well as the provision of office equipment, hardware, and software, as required, for the project beneficiaries.[2]

The budget for this component was 26% of the total (according to the Inception Report) and 24% (according to GUMAP Budget and disbursements to 30.9.2023, provided by SECO to the evaluation consultant).

Activities budgeted under this component included:

- Long term Technical Assistant for improving traffic planning and management
- Local project facilitator including amendments 1 (29.12.2022) and 2 (31.12.2022)
- Short term technical assistance for improving traffic data collection and mapping, improving traffic management, improving parking management and improving the enforcement of traffic and parking laws and regulations by the Police
- Preparation of local area traffic and parking plans: Tema and Nkwantanang-Madina
- Preparation of local area traffic and parking plans in Accra Metropolitan Assembly and Ga West
- Preparation of local area traffic and parking plans in Ga East and Ga Central
- Pilot implementation of the recommendations of the STTA for improving traffic data collection and mapping, traffic regulation, and parking management

- Training and study tours
- Training and study tours (Transitec)
- Training and study tours (local)

2.2.3 Component 3 - Investment Measures

Consisted of two subcomponents, namely 1) the identification, detailed engineering, and material implementation of small scale, low cost, high benefit infrastructure improvements on urban mobility and accessibility. Although initially the improvements were to be directed towards public transport, they consist of traffic junction improvements, measures to promote walkability and to reduce conflicts between pedestrians and vehicles; and 2) the supply of automatic and mobile traffic counters to monitor traffic on main urban roads.

The budget for this component was 20% of the total (according to the Inception Report) and 20% (according to GUMAP Budget and disbursements to 30.9.2023, provided by SECO to the evaluation consultant). Budgeted activities include:

- Design of investment measures and supervision of works
- Supervision of works - integrated with design (sic)
- Works - 6 junction improvements

[2] Ibid

- Supply of Automatic Traffic Counters[3]

2.2.4 Component 4 - KNUST/EPFL Twinning

Consists of support from EPFL to KNUST for the formulation of a curriculum for a master's program in urban planning and mobility, develop courses for the program and relevant case studies, and set up a joint research platform on urban mobility in Ghana. The budget for this component was 8% of the total (according to the Inception Report) and 7.3% according to actual GUMAP budget made available by SECO. Budgeted activities include:

- EPFL Development of new master's program

2.2.5 Component 5 - Project implementation support

Consist of activities directly related to project implementation. The budget for this component was 14% of the total (according to the Inception Report) and 26.9% according to actual GUMAP budget made available by SECO. This budget line includes Contingency which has changed from 5% in the Inception Report to 0.03% in the actual budget. Budgeted activities include:

- Support to MLGRD through the provision of office equipment and logistics for meetings and carrying out project management
- Provision of an implementation consultant to assist MLGRD and project beneficiaries in project definition, management, procurement, financial management and disbursement, monitoring, and evaluation
- Project financial audits.

[3] According to Daov Tech, a Transitec subcontractor, the supply consisted initially of 30 counters, which was subsequently dropped to 15, to be deployed in 6 MMAs.

3 Appraisal of GUMAP against OECD DAC criteria

The following sections provide an analysis of GUMAP against DAC criteria. The results suggest a satisfactory overall performance, with the project achieving positive outcomes and delivering a comprehensive series of outputs in a complex environment. Of particular note is its highly satisfactory performance in terms of relevance and coherence.

Exhibit 1 - Summary table of appraisal by criteria

Overall	Satisfactory
Relevance	Highly satisfactory
Coherence	Highly satisfactory
Effectiveness	Satisfactory
Efficiency	Satisfactory
Impact	Satisfactory
Sustainability	Satisfactory

3.1 Relevance

The thematic relevance of the Ghana Urban Mobility and Accessibility Project (GUMAP), including a strategic and operational approach to mobility and a high-performing public transport system, is highly satisfactory.

The public transport sector has been self-regulating and self-organising since the early 1980s with no level of government engaged in planning or managing public transport activity.[4] GUMAP has introduced key mobility concepts and provided a wealth of information and knowledge through various technical studies and capacity development activities in a bid to enhance the effectiveness of public transport institutions. While GUMAP's outputs have been well-received and have addressed some information gaps, it remains unclear how government entities have specifically incorporated them to influence policies, plans, or projects,[5] although this evaluation was informed that discussions at the management level regarding potential actions are ongoing.[6] The lack of a clear strategy for the utilization of GUMAP's products raises questions about the extent to which institutional readiness was considered in project design.

Ministry of Local Government, Decentralization, and Rural Development. According to the Ministry of Local Government, Decentralization, and Rural Development (MLGDRD), the project has been largely successful as it brought previously unavailable diagnostics and perspectives on urban mobility, raising pertinent issues that impact its functionality to the strategic attention of the central government. The Chief Director noted that GUMAP played a crucial role at a point when the Ghana Urban Transport Project (GUPT)[7] had concluded,

[4] SSTAP. 2023. Study of an institutional model for the management of urban mobility in the Greater Kumasi Metropolitan Area. Diagnostic Report

[5] It should be noted that for several interviewed beneficiaries, the term 'strengthening' institutions commonly implies receiving financial support for day-to-day operations.

[6] This includes, according to Transitec, work on sector governance carried out in 2017 and a follow up conference in November 2017.

[7] The UTP was jointly funded by the World Bank, Agence Francaise de Development (AFD), the Government of Ghana, and the Global Environment Facility Trust Fund at the cost of USD 95 million.

ensuring the continuity of efforts to avoid losing momentum. MLGDRD expressed satisfaction with the quality of the technical studies, stating that they have equipped the ministry to better fulfil its mandate of providing policy direction in urban mobility for Metropolitan, Municipal, and District Assemblies (MMAs) and other stakeholders.

Departments of Transport at MMAs. According to the interviewed staff at the Department of Transport (DoT) of participating MMAs, GUMAP has, in their own words, "kept them alive." The DoTs, initially created under GUTP in 2015 to assist the Assembly in transport planning, particularly appreciate the provision of equipment and supplies by GUMAP, which has facilitated the continuity of their daily office activities.

Informants from Accra, Tema, Ga East, and Ga West expressed a positive opinion about the technical studies and training provided by GUMAP. Noteworthy mentions include the local traffic and parking management study, household travel survey, and traffic data collection, along with training sessions on road safety regulations and traffic management. However, there is a recognized challenge in translating this acquired knowledge into the coordinated daily activities of the Assemblies.

Acknowledging GUMAP's contribution to improved coordination, MMAs recognize the initiation of meetings among heads of various transport departments to share ideas and address common problems, a practice not observed before the project. Despite these positive steps, the consistent view expressed by the DoTs is the need for operational strengthening to better execute their mandate.

The Accra Metropolitan Assembly views GUMAP as a crucial and relevant intervention that has significantly enhanced the direction of urban mobility. The various components of the project are well-conceived, aligning with the overall plan of the Assembly's urban transport medium-term development plans.

In Tema, the Metropolitan Chief Executive emphasized the relevance of the project to the Assembly, noting its role in raising awareness about the importance of urban mobility in the city's functionality. The DoT has been integrated into the activities of the Economic Development sub-committee of the Executive Committee of the Assembly. At a technical level, the DoT highlighted the significance of GUMAP in capacity enhancement through technical sessions and training in transport planning and traffic management, among other areas.

The DoT in Ga West attests that GUMAP has transformed the department's orientation, positioning it to offer crucial advice to the Assembly's management in decision-making related to urban mobility. In Ga East, GUMAP has played a pivotal role in enabling the DoT to identify traffic measures, junction improvements, and terminal management issues more clearly.

Department of Urban Roads. From the interview with the Department of Urban Roads (DUR), it can be inferred that GUMAP is generally relevant from a thematic perspective, although it did not read as a priority for the key informant. The Department specializes in engineering and other functions related to urban road design, construction, and maintenance for MMAs. Perhaps because DUR is accustomed to the implementation of large-scale road infrastructure projects, there is a perception that the limited size road junction implementation measures may not have generated additional knowledge.

The DUR is responsible for deploying mobile traffic counting devices, even though the data collected will be utilized by the Ministry of Transport. This setup necessitates extra administrative effort and coordination between various government entities, potentially hindering the efficiency of device utilization from DUR's viewpoint.

GAPTE. The Chief Executive of GAPTE, involved since the entity's inception, deems the project generally relevant. However, a critical observation made is that GUMAP has not effectively addressed GAPTE's principal challenge—the lack of financial means. Originally intended as a public transport planning and regulatory entity, GAPTE has transformed into an operator with limited influence in the overall mobility landscape of the Greater Accra Metropolitan Area (GAMA), deviating from its initial conception. When asked about areas for improvement, the Chief Executive emphasized the crucial need for regular funding for GAPTE, stating that consistent financial support would significantly contribute to addressing the organization's challenges.

Box 1: GAPTE

GAPTE, established in 2014, operates as a company limited under participating MMDAs in GAMA. It was originally intended to serve as an inter-MMDA coordinating body for public transport, aiming to streamline the regulation of urban public transport services. Original responsibilities included citywide network and infrastructure planning in collaboration with MMDAs and overseeing the implementation of a proposed Bus Rapid Transit (BRT) system as part of the Ghana Urban Transport Project (GUTP).

Due to institutional challenges and a lack of coordination, coupled with the inability to establish dedicated lanes crucial for the effectiveness of the BRT system, the implementation shifted to a Quality Bus System (QBS). In 2017, 245 to 300[8] modern Scania buses were procured by the Ministry of Transport through a sole-source arrangement, a modality that Transitec deemed unusual. The procurement process faced challenges as the cost per unit exceeded the projected amount, with GAPTE indicating an anticipated cost of USD 80,000 per unit and an actual payment of USD 250,000 per unit. Furthermore, while the system was initially designed for 80 buses, many more were purchased, indicating a significant deviation from the original plan.

Initially funded by GUPT, GAPTE faced a shift in financial responsibility after 2016, requiring the generation of its own resources through the operation of the procured buses. The actual revenues from the Aayalolo bus system, however, amounted to only 20% of the anticipated income, resulting in reported losses since its inception, as highlighted by the media.[9] This financial strain eventually led to the collapse of GAPTE in 2018, attributed to insufficient revenues and a lack of subsidies. To mitigate losses, GAPTE adopted a strategy of operating Aayalolo buses exclusively during peak hours to optimize capacity. Additionally,

[8] There are different published and expressed views on the actual number of purchased buses
[9] https://citifmonline.com/2017/12/new-gapte-board-charged-to-investigate-aayalolos-indebtedness/

in an effort to generate income, the organization started providing shuttle services for corporate and educational organizations within Greater Accra.

As of today, GAPTE has around 15 staff members, none of whom possess skills related to the original regulatory and planning mandate. The initial concept envisioned financial support for GAPTE from GAMA Assemblies; however, none of the authorities interviewed has entered into such an agreement due to the very limited fiscal resources at disposal of MMAs and the lack of national budget transfers for working expenses. The buses are experiencing underutilization and deterioration, with some units, including those sent to Takoradi, appearing to be semi-abandoned.

Image source: TV 3 Ghana. Aayalolo Buses Abandoned and Rotting Away. You Tube https://www.youtube.com/watch?v=98Hu7JNyHh0, accessed 15 November 2023

3.2 Coherence

The coherence of GUMAP with the urban mobility sector strategy of Ghana, the Swiss cooperation strategy for Ghana and the development portfolio of SECO WEIN is highly satisfactory.

GUMAP is coherent with the National Transport Policy (NTP) of 2020 which indicates that creating competent transport authorities equipped to plan and regulate transport services in their locality is a key policy objective, as well as the integration between transport planning and land use planning.[10] GUMAP is also coherent with the National Urban Policy Framework which in 2012 had identified that weak urban transport planning and traffic management is one of the key problems facing urban development.[11]

GUMAP is coherent with the priority policy actions identified by the Africa Transport Policy Program, including establishing an efficient and responsible system of governance capable of anticipating needs, guiding public action and ensuring the integrated management and development of urban transport systems; minimizing the need for individualized motorized journeys through appropriate land use, planning and management; maintaining or increasing the modal shares of public transport and non-motorized transport such as walking and cycling; and improving the efficiency and safety of transport modes while minimizing their environmental footprint.[12]

While GUMAP aligns with the mandate of DoTs and MMAs to prepare Spatial Development Frameworks guiding development activities, the extent to which GUMAP's outputs have influenced MMAs development frameworks remains unclear

GUMAP's road improvement investment measures are coherent with the activities of the DUR's Medium Term Plans. MLGDRD has indicated nevertheless preference for a more

[10] Ministry of Transport. 2020. National Transport Policy
[11] Ministry of Local Government, Decentralization, and Rural Development. 2012. National Urban Policy Framework
[12] SSTAP. 2018. Policies for Sustainable Accessibility and Mobility in Urban Areas of Ghana https://www.ssatp.org/sites/ssatp/files/publication/SSATP_UTM_FinalReport_GHANA_1.pdf

holistic approach introducing “complete streets”[13] concepts and the provision of infrastructure in larger intervention areas beyond the current scope of 50m from the junction. The coherence of the traffic counters investment measure will depend on downstream coordination between various government entities. DUR is the owner of the traffic counters although the information collected is of use for the Ministry of Transport, and through the Ministry, for the DoTs.

The focus on GAPTE was redirected and it has not played a strategic role in GUMAP (see box 1). GUTP envisioned that private sector operators would be responsible for providing buses of specified quality for operations along designated routes, based on a route license issued by the regulator. However, the government's intervention in purchasing buses, which took place before the start of GUMAP, represented a deviation from the original plan of GUTP, and resulted in the loss of the element of private sector initiative and investment in passenger transport, undermining the GUTP’s goal of improving mobility.

The new master's programs in transport planning and road and transport engineering developed by Kwame Nkrumah University of Science and Technology (KNUST) in partnership with Ecole Polytechnique Fédérale de Lausanne (EPFL) are coherent with the policy framework insofar that they shift the focus away from an infrastructure-based approach towards a more integrated approach of urban mobility and urban development.

The project is coherent with SECO WEIN’s approach to mobility and with the approach to technical assistance as a path for infrastructure financing and a driver for visible change. Mobility is a new topic for SECO in Ghana, but its thematic alignment with the SCO objective of improving framework conditions for socioeconomic development in the country is evident. While the macroeconomics division provided input on indicators, there are no specific linkages to other projects, apart from the fact that GUMAP's results are related to the overall SCO objective

3.3 Effectiveness

This evaluation considers that the overall effectiveness of GUMAP in achieving the objectives against the logframe is satisfactory.

The majority of the technical studies and capacity building under outputs 1 and 2 are well-positioned to be completed by the first quarter of 2024. Seven outputs are on track, five outputs have already been achieved, and only one output is currently identified as being at risk. This achievement is noteworthy considering the substantial number of studies and training activities in GUMAP.

However, the situation is different when it comes to achieving outcomes. For both thematic components, (1) improved integrated urban mobility planning and public transport operations and (2) traffic planning and management, results are uneven. One outcome has been achieved and two are on track, but the remaining nine outcomes are in a different situation. Three are delayed, two are at risk, and four outcomes will not be achieved either because the

[13] Complete streets: Streets that are designed for all uses as per actual local demand, including all modes of mobility as well as street vending, trees, street furniture etc. Source: World Bank. 2018. Walking and its links to transportation

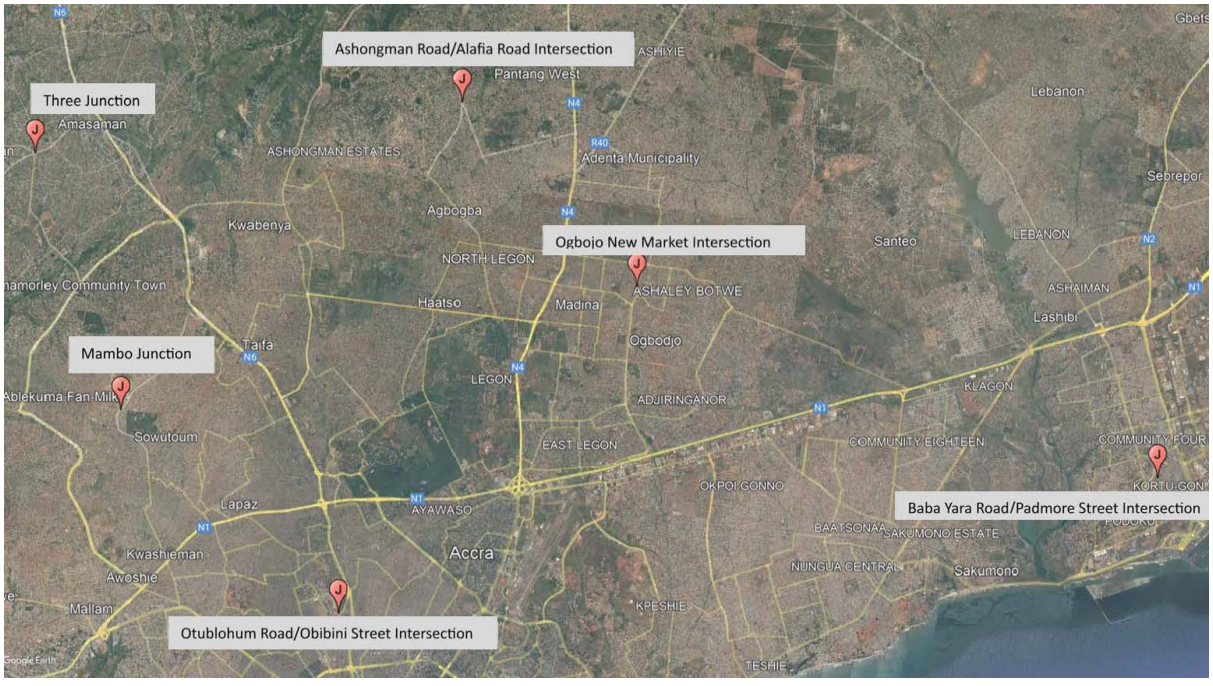
outcome has been deemed no longer relevant, or because there is insufficient information to verify their achievability.

The challenges that GUMAP is facing in achieving broader project outcomes may indicate a prioritization of operational success over the usability of products. The project adopted a pragmatic approach, focusing on delivering a range of high-quality technical studies and capacity-building activities. However, it may have overlooked the introduction of an overarching strategic vision for mobility and a strategic approach to mobility planning, including the necessary advocacy for fundamental urban mobility and public transport concepts. In addition, GUMAP's original logframe might have been ambitious and potentially overestimated the ability to measure impact. The logframe was adjusted to reflect that GAPTE ceased to be a critical element of GUMAP due to its shift toward an operator role.

The implementation of small-scale investment measures, component 3, involving junction improvements in six Assemblies, is experiencing a delay of approximately one year. As reported by MLGDRD, this delay is attributed to challenges encountered during the detailed design phase. Daov Tech, a subcontractor of Transitec, cited delays in receiving comments as a contributing factor. The improvement projects are under the supervision of the Department of Urban Roads (DUR) and are now anticipated to be completed by the third quarter of 2024. To accommodate this delay, a no-cost extension has been granted, extending the project timeline until the end of 2024.

The road junction improvements are geographically dispersed across the six MMAs, providing the advantage of covering a broader area of Accra and potentially benefiting more road users. However, the dispersion of the budget limits the impact of a more transformative approach to road junction design. This includes considerations such as placing greater emphasis on non-motorized means of transport, introducing complete street concepts, and prioritizing road space for public transport.

Exhibit 2 - Location of junction improvements



Source: Daov Tech

Exhibit 3 - Junction improvement design examples:

Baba Yara Road/Padmore Street (left); Ashongman - Alafia (right)

Source: Daov Tech

DUR is also overseeing another investment measure, which involves the supply, installation, and training for the operation of 15 Automatic Traffic Counters which will be fully mobile. Tender documents for this subproject have been prepared and have received no objection. As of the time of writing this report, the subproject is in the request for quotations phase. It is anticipated that a single contractor will be awarded the contract for supplying the counters. According to Daov Tech, the completion of this activity including deployment and training is expected by November 2024. Transitec indicates that the traffic counters will need to be carefully operated but will not need regular maintenance.

Regarding Component 4, the master's program resulting from the collaboration between EPFL and KNUST has exceeded the envisioned target set in the logframe, benefiting a significantly larger number of individuals. Each of the three courses, Traffic Demand Modelling, Traffic Flow Modelling, and Intelligent Transport System, has been taken by over 200 students. In total, approximately 600 students have successfully completed course requirements, surpassing the initial target of 16 students. These courses were integrated into two programs: the MSc in Road and Transport Engineering and the MSc in Transport Planning. Each course spanned 40 hours over three weeks.

The participants in the program were diverse, representing eight different countries. Among them, 30% were non-Ghanaian, and 40% were female. Participants came from various academic backgrounds, including engineering, planning, geography, statistics, and mathematics. The cohort included individuals from the Ministry of Roads and Highways, DoT staff, including those in Accra and Kumasi, and academics from technical universities. As part of the component's activities, five professors were trained, further contributing to the success and impact of the master's program.

3.4 Efficiency

The use of resources in GUMAP can be considered as satisfactory at the time of writing this report.

As of September 2023, the disbursement rate stands at 60% across all budget lines, with a more specific disbursement rate of 80% when focusing on studies and capacity development

activities within components 1, 2, and 4. It's important to note that this calculation excludes the budget earmarked for financing the investment measures. The current disbursement rate signals an effective allocation and utilization of funds, positioning the project favourably to achieve full disbursement within the designated timeline. The finalization of studies and capacity activities is anticipated by March 2024, while the completion of the implementation of investment measures is expected by November 2024.

The budgets for components 1, 2, 3, and 4 underwent reductions to accommodate an increase in the budget allocated to the IC (component 5). The IC budget experienced a notable surge from the initially stated 14%, as outlined in the Inception Report, to 26.9%,[14] as evidenced by the document titled "GUMAP Budget and Disbursements to Date (30.9.2023)." SECO has clarified that this augmentation is attributable to the extension of the project period, initially scheduled from 2016 to 2020. The extension of the implementation period from 4 to 8 years resulted in an increased budget allocation for project management time at the expense of substantive activities, may be interpreted as indicative of inefficiency.

Exhibit 4 - Comparative of budget per component

	IR	Budget
Component 1	27	21.4
Component 2	26	24.4
Component 3	20	20
Component 4	8	7.3
Component 5	14	26.9
Contingency	5	0.03
Total	100	100

Providing a detailed opinion on budget allocation and expenditures per each budget line would require an in-depth analysis carried out once the project is closed. At this point, it can be observed that GUMAP entails a considerable number of contracted activities, including 16 studies and instances of capacity development[15] in addition to the investment measures across 6 MMAs. This is indicative of a procurement-intensive project, which, in general, can potentially face efficiency challenges.[16]

Several key informants mentioned the importance of further considering local context in the studies in components 1 and 2. The evaluation has used the number and value of the contracts

[14] A very rough estimate of the budget allocated to an implementation consultant could be in the range of 10% to 25% of the total project budget. The Global Environmental Facility caps project management costs at 10%. Source: Global Environmental Facility. 2010. Rules and Guidelines for Agency Fees and Project Management Costs. https://www.thegef.org/sites/default/files/council-meeting-documents/C.39.9_Fees_and_Project_Management_Costs%2C_October_20%2C_2010_4.pdf

[15] In addition, there were 4 activities that were cancelled (005, 007, 008 and 100) and one activity (001A) which was disbursed only 25% for a total of 21 activities. Source: Transitec.

[16] Although the relationship between procurement intensity and efficiency is not inherently negative, some potential efficiency issues in procurement-intensive projects may include lengthy procurement cycles especially in contexts of complex procurement regulations, bureaucracy, or challenges in vendor selection; risk of cost overruns, as delays can lead to increased project costs, affecting overall efficiency; and more contract management efforts including stakeholder coordination to overcome lack of communication or collaboration among project teams, vendors, and regulatory bodies.

awarded to Ghanian firms or individuals as a proxy to understand if the perception expressed by key informants could generally hold.

In total, 6 out of 16 activities were fully or partially subcontracted to Ghanian firms. This would represent around 38% of the number of activities, which is lower than comparators such as the Integrated Urban Development Project in Souse, Tunisia, where 63% of the activities were contracted to local firms or individuals.

More specifically, based on the information from the budget sheet as of 30.09.2023 and a summary table provided by Transitec to this evaluation, 2 out of 16 activities for both component 1 and component 2 were fully contracted to local Ghanian consulting firms.[17]

- Component 1: About 4% of the total budget for component 1 was utilized for contracting a Ghanaian firm, Vision Consult, which was responsible for producing a study of freight transport (activity 009).

- Component 2: The Building and Road Research Institute of Ghana (BRRI) was contracted to produce local area traffic and parking plans for Tema and Nkwantanang-Madina (activity 014B) which is about 6% of the budget allocated for this component,

In addition, 4 activities in components 1 and 2 had Ghanian subcontractors, namely activity 011, awarded to CIC Africa; and activities 013, 014B, 014C, awarded to Daov Tech.

In terms of the value of the contracts, information made available by Transitec shows that the distribution between international and Ghanian service providers was quite balanced as about half to the total contract value was awarded to firms or individuals based in Ghana.

Exhibit 5 - Distribution of the value of the contracts

Component	International (Transitec + others)	Ghanaian
1. Urban Mobility and Public Transport Regulation	70%	30%
2. Traffic and Parking Management	65%	35%
3. Investment Measures	10%	90%
4. EPFL-KNUST partnership	No response from KNUST	

Source Transitec for components 1-3

For component 4, the budget of USD 440,527 was allocated to EPFL to develop a Master's degree program in partnership with KNUST. This evaluation sought information from KNUST regarding the breakdown of this amount, but no response was received.

[17] As a reference, in the Integrated Urban Development in Sousse, financed by SECO, out of 41 contracts, 23 were awarded to Sousse-based consultants, 3 to national consultants (based in Tunis), and 15 to international consultants (based in Switzerland, France, and Morocco).

Regarding the investment measures (component 3), the amount allocated to design and supervision of works is about 20% of the implementation budget of the road junction and the supply of traffic counters, which is in the range of industry standards.[18]

3.5 Impact

The impact of GUMAP is satisfactory.

At the ministry level, GUMAP has significantly enhanced the attention given to urban public transport issues. Locally, technical staff at the DoTs in Accra, Ga West, Ga East, Ga Central, and Madina MMAs have augmented their understanding of urban mobility, supported by a comprehensive body of studies that can serve as valuable reference points for the development of urban mobility policies and projects. Heads of DoTs consistently express increased preparedness to fulfil their roles, attributed to a heightened understanding of mobility facilitated by GUMAP. Additionally, GUMAP has positively impacted the daily operations of the DoTs by providing essential office equipment.

GUMAP is recognized for the high-quality content and knowledgeable trainers, but interviewees share the perspective that the focus on concepts could have been supplemented with clearer action plans following the workshops. Key informants have noted challenges in translating acquired concepts in components 1 and 2 into practical implementation at the level of MMAs. Technical gaps in converting studies into operational initiatives and an unclear linkage between studies and concrete actions are cited as obstacles. Moreover, there is a perceived need for strengthened political support to drive changes in the status quo of urban public transport. It can be inferred from the interviews that political support to urban mobility requires further pedagogy at the executive level.

MLGDRD expressed a preference for maximizing local content to enhance ownership of GUMAP products, and key informants from DoTs and DUR have expressed that further adaptation of the produced content to suit the specific context is necessary in GUMAP's capacity development activities. There is a consensus among interviewed beneficiaries that further contextualization could be achieved through the inclusion of further local content in the generation of studies, designs, and reports; and through increased involvement in the tasks of the study.

Nevertheless, there are indications that efforts were made to enhance local content in technical studies and capacity-building activities. Transitec reports that Terms of Reference (ToRs) for studies underwent review and approval by the Technical Committee to ensure contextual relevance. Proposals submitted by consultants were also reviewed and validated to ensure the active participation of DoTs in the planned activities. However, DoTs have expressed that their engagement and input into the studies were insufficient.

[18] The standard cost of design and construction supervision as a percentage of the total construction budget can vary depending on factors such as project complexity, size, location, and the scope of services required. Additionally, market conditions, the availability of skilled professionals, and regional differences can impact cost percentages. However, some general industry standards and guidelines can be considered. Combined design and construction supervision costs typically fall in the range of 15% to 25% of the total construction budget.

While the correlation between the use of Ghanian consultants and increased local content is speculative, it is reasonable to assume that involving more Ghanaian firms would enhance contextualization. Based on the information at hand, it seems that the ratio of the number of contracts or subcontracts awarded to local versus international consultants for activities in components 1 and 2 might be lower than in a comparable project in Sousse, Tunisia, financed by SECO and also executed by Transitec. However, in terms of value of the contracts, there is an overall balance between international and Ghanian firms or individuals.

Regarding training, Transitec delivered the first module of the Traffic Management training (component 2), and, at the suggestion of MLGDRD, KNUST was tasked with organizing modules 2 and 3. During the proposal review, the Technical Committee emphasized that the content of the modules should be tailored to address the current on-the-ground situation.

In the evaluation sheets for module 1A, participants recommended an increase in local content while also acknowledging the valuable nature of the Dakar case study. For module 2, a specific question about the "relevance of case studies" was introduced in the evaluation sheet (absent in module 1's evaluation sheet). A review of a sample of 5 evaluation sheets included in the Q3 2023 report shows that the average rating on this question was 4 out of 5. While the sample size may limit firm conclusions given the 38 training participants, it generally indicates satisfaction with the relevance. However, for module 3, the question on the "relevance of case studies" was omitted.

In relation to component 3, interviews suggest that beneficiaries placed a higher emphasis on the physical and investment size of the road junction improvements rather than recognizing the potential process improvements associated with undertaking these investment measures. Significantly, the decision by the Technical Committee to allocate the intervention measures budget among six junctions, aiming to include at least one small-scale demonstrative project in each of the six primary project beneficiary MMAs, involved trade-offs.

According to the DUR, the small scale of the road junction improvements raises concerns about their visibility. This prompts considerations about potential limitations on the perceived impact and effectiveness of these improvements. The trade-off between showcasing small-scale projects in various MMAs and achieving a substantial impact on road junctions highlights a tension between demonstrative visibility and the scale needed for significant process enhancements. Addressing these concerns may involve a careful reassessment of the balance between the number of projects undertaken and the desired magnitude of impact for each road junction improvement.

The impact of traffic counters in enhancing urban mobility is contingent upon seamless coordination between the DUR, who serves as the data owners, and the data users, including the Ministry of Transport and DoTs. The evaluation did not uncover evidence of a well-defined and structured data supply protocol, a crucial component essential for the practical application and utilization of traffic counter data. Addressing this gap may involve developing and implementing a formalized data supply protocol, fostering collaboration between data owners and users, and enhancing communication channels to ensure the seamless exchange of valuable information. This can contribute to a more integrated and data-driven approach to urban mobility improvement initiatives.

It is premature to evaluate the impact of Component 4, which involves formulating a curriculum for a master's program in urban planning and mobility. However, the substantial number of professionals who have gained specific knowledge and credentials is promising, suggesting a positive trajectory toward an overall enhancement of urban mobility practices in Ghana.

One of GUMAP's intended outcomes was for the GAPTE to evolve into an effective mobility planning institution for the GAMA. However, this objective has not been realized, as GAPTE lacks the competence to perform key functions related to organizing, regulating, enhancing, monitoring, and supervising urban public transport operations in GAMA. An institutional study for the GAPTE board, produced under GUMAP, has not led to subsequent actions.

3.6 Sustainability

The sustainability of the benefits derived from GUMAP can be deemed satisfactory. However, continued support is important to assure sustainability as the institutional bodies are not yet ready to guide and manage integrated urban mobility planning and efficient public transport operations.

GUMAP has significantly enhanced the visibility, technical capabilities, individual skills, and overall functionality of the DoTs. There is however more to do, as local authorities are not sufficiently equipped to manage urban transport independently. Assemblies still have a limited understanding of the significance of DoTs' mandates in planning and management and its impact on overall urban development, often perceiving them primarily in a fleet management role.

While GUMAP has been crucial for the sustenance of DoTs, there is a concern that technical and operational support may cease after the completion of the project. Ensuring the continued effectiveness of DoTs beyond GUMAP requires a fundamental shift in financing strategies, emphasizing the need to reduce reliance on international cooperation projects for recurrent costs.

From a technical perspective, DoTs have identified room for improvement in their level of engagement in data collection and analytics during the preparation of various GUMAP products, which would foster greater ownership. To enhance applicability, there is a recognized need to incorporate more practical and locally relevant content into technical materials and knowledge activities. This approach is seen as a way to improve the overall impact and sustainability of the project.

Concerning GAPTE's sustainability, it is considered a complex challenge, and ensuring its continuity falls beyond the scope of GUMAP.

The sustainability of the six road junction investment measures in MMAs relies on a clear allocation of maintenance responsibility to DUR or the Assemblies, coupled with their ability to allocate OPEX budgets for it. Similarly, the sustainability of the traffic counters investment

measure is contingent on their usage and, consequently, on effective coordination among DUR, the Ministry of Transport, and DoTs.

The benefits derived from the master's degree program, including the training of instructors, the establishment of a network with EPFL, and the creation of a new cohort of professionals, are anticipated to materialize in the medium term and are likely to have a lasting impact. The courses have now been integrated as compulsory components for master’s degrees, solidifying their place within university programs. An ongoing request for international accreditation is in progress, and the case studies developed as part of the program will be utilized with other municipalities, further extending the reach and influence of the program.

4 Appraisal of achievements on outputs and outcomes against the project logframe

4.1 To what extent have the objectives of the project (outputs and outcomes), as defined in the project logframe been attained or are likely to be attained?

Several output objectives have already been achieved, and there is a high likelihood that the remaining objectives will also be attained. However, when it comes to outcomes, it is anticipated that approximately half of them will be achieved. This suggests a positive trajectory for the project's tangible deliverables while acknowledging some challenges or uncertainties in achieving broader, strategic outcomes.

4.2 Additional questions

4.2.1 Were there so far unexpected (positive or negative) results related to the project?

GUMAP comprised nearly 20 technical studies and capacity-building activities. In an administrative environment where procurement processes were slow and, at times, required to be repeated, it can be inferred that the project design did account for such complexity.

4.2.2 What was the impact of Covid-19 on the project?

Covid-19 had a negative impact on the project's timeframe, as activities were paused which prevented missions from international members of the consulting team, especially in 2020-21. This delay affected the implementation period, although it did not handicap the project. However, it made establishing working relationships between consultants and beneficiaries more challenging at the time, as videoconferencing was still incipient as a work modality. The changes in study schedules and consultants' missions due to Covid-19 have led to increased administrative workload for the Implementation Consultant (IC).

4.2.3 How were/are the project partners suited for the setup and implementation of GUMAP? To what extent did they fulfil their designated roles and benefit from the project? Should other institutions (including ministries) have been/be involved and how?

MLGDRD was well-suited to take on the role of the lead agency, given its focus on decentralization and mandate to support and coordination with Assemblies. Despite the acknowledged significance of GUMAP for MLGDRD, engaging with the ministry can be challenging due to a perceived emphasis on self-benefits or advantages, making the process more cumbersome. MLGDRD's procurement capacity proved to be insufficient, posing a potential obstacle for project completion within the expected timeframe. This led to the extension of the role of Transitec from an implementation consultant to a technical assistance provider.

The Department of Urban Roads (DUR) brings significant experience in implementing investment measures similar to road junction improvements. However, this experience did not prevent delays in the project, as reviews of construction documentation took longer than expected. DUR is accustomed to managing road projects of much larger scale, so a small intervention of around USD 1 million could have been perceived as a lower priority.

While some MMA's DoTs may consist of one-person offices, often primarily engaged in managing an Assembly's fleet of vehicles, and might not be the decision-makers, these

departments play a central role in implementing on the ground a sustainable mobility approach in Ghana. GUMAP has benefitted DoTs by providing them with a foundation of information, technical references, skills, and equipment.

According to a key informant, GAPTE did not benefit from GUMAP.

4.2.4 How did/do SECO and the Swiss Cooperation Office in Ghana fulfil their intended roles?

SECO fulfilled its role with pragmatism, prioritizing the maintenance of project functionality. This decision may to an extent have been influenced by the recent experience of the GUTP, which had its implementation performance rated as unsatisfactory by the World Bank. The SECO team kept the project alive in a challenging environment, and without previous experience in the urban mobility sector in Ghana. Despite some unintended consequences, if the project can be completed successfully, it would have allowed SECO to acquire valuable situation management knowledge and establish a reputation for reliability, which could be leveraged for potential future interventions.

The Swiss Cooperation Office provides essential support on the ground, is well-informed and in contact with beneficiaries and development partners.

4.2.5 In retrospective, how adequate was the decision to extend Transitec's mandate from implementation consultancy services to project implementer for technical assistance and some capacity building? How useful was the introduction of a resident project facilitator from Transitec.

The decision was pragmatic, but, according to the beneficiary, there were trade-offs. By the end of 2019, only 2-3 GUMAP assignments were active, falling short of the expected 10-12 as per project planning. Several factors contributed to the delay. Human resources assigned by MLGDRD were limited, and there was a low capacity in urban mobility and limited experience in tendering processes. The project, designed back in 2015 with several different components to be contracted, could be considered as procurement heavy. This challenge was exacerbated by the limited availability in the local market of the professional profiles required and difficulties in attracting international senior-level expertise to the site. These constraints resulted in a slow tendering process, and, in many cases, it could not be successfully completed for consulting services mobilization

After consideration, SECO proposed a restructure which consisted in assigning Transitec a framework contract for technical assistance in addition to the Implementation Consultant (IC) role which was contracted though a competitive bidding process. Moreover, Transitec was asked to provide a local facilitator to address coordinate gaps, on a daily basis, on site. The intent was to speed up project delivery by involving Transitec in production. SECO considered that the restructuring was the only option to avoid delays in the procurement of consulting services and keep the project functional, and time has proven the decision right from an operational efficiency perspective.

The role of Transitec was expanded from an implementation consultant to a provider of technical assistance in three out of four GUMAP components (with the fourth being the EPFL-KNUST partnership) from the end of 2019. The firm implemented specific measures to maintain a separation of roles. Staff involved in the implementation consultant contract were

not engaged in production, except in a limited number of instances where consultants from the implementation consultant team were shifted to production. Transitec key informants vividly described this separation as a 'bamboo fence,' where roles were distinct but not as rigid as one might expect from a Chinese wall.

The restructuring has raised concerns about ownership and sustainability, particularly in terms of the blurred lines between the roles of the IC and the consulting services provider, as perceived by MLGDRD. Transitec, as the consulting services provider, was also evaluating its own work. This situation has created an atmosphere of suspicion regarding the firm's activities, impacting the perception of the depth of IC work, according to MLGDRD.

In the perception of MLGDRD, the restructuring resulted in a reduction in staff time allocated to quality control and a diminishing depth of IC work, consequently leading to slower reviews. In their feedback on the draft evaluation report, Transitec noted that the project's quality control remained rigorous throughout implementation. They highlighted the thoroughness of the reviews conducted by the IC on each draft report prepared by Transitec's production teams as evidence of this.

Transitec faced challenges in navigating this complex situation, potentially requiring additional administrative efforts to manage and address concerns related to roles, responsibilities, and the quality control process. The perceived impact on the depth of IC work and the potential administrative challenges emphasizes the critical importance of clear communication and well-defined roles during project restructuring to uphold trust and ensure operational efficiency.

The resident facilitator role was introduced in 2019 to assist MLGDRD in the procurement process and in project coordination. It was believed that face-to-face interaction would enhance efficient support and knowledge transfer. Key informants noted the usefulness of this addition, but pondered about whether the budget could have been better utilized if the facilitator had been stationed at the Ministry's premises rather than at the consultant's own office.

4.2.6 *Taking into account that the initially planned BRT in Accra has not been completed and seems to be abandoned, to what extent has a link to infrastructure financing been established by the GUMAP?*

GUMAP has not brought certainty of downstream investment, but there is an assumption that the availability of technical studies and enhanced capacity would create the conditions for linking identified projects to finance. Moreover, the initial project documents did not state a linkage to finance for a particular project or establish a predetermined path to financing sources as an outcome. According to SECO, GUMAP’s products were not intended to prepare a specific project but to improve the conditions of an MMA to prepare a project.

4.2.7 *With regards to the overall project management (including for components which are not yet completed), the following additional questions should be addressed:*

What are the main challenges, shortfalls, lessons learnt and best practices of the interventions?

The lack of capacity within MLGDRD to expedite procurement processes posed a significant challenge for GUMAP. To address this issue, externalizing procurement was chosen by project managers to alleviate bottlenecks. However, this approach did not embed capacity-building within the Ministry, potentially setting the stage for similar obstacles in future projects.

Stakeholders from various beneficiary groups expressed a perception of insufficient engagement in the preparation of studies and noted that capacity-building activities lacked contextualization. The early disengagement of Transitec's local partner and the consolidation of the IC and technical assistance functions in a single firm may have contributed to a perceived distance from stakeholders' perspectives. While the introduction of a resident facilitator positively impacted project operations, it appears that this measure did not fully address the perception of disengagement among beneficiaries.

How effective and efficient are the organizational set-ups, implementation mechanisms and working relations? What is working well, what can be improved and how?

The organizational set-up of the project presents challenges due to its high number of beneficiaries, including two ministries, MLGDRD and Roads. While the inclusion of many beneficiaries can offer advantages such as policy influence and widespread impact, it introduces complexities related to focus, decision-making pace, and coordination. Key informants suggest that the current structure of GUMAP is functional but not optimized for maximum efficiency.

MLGDRD requested to handle procurement independently rather than relying on a procurement unit supported by an IC. The project, initially designed in 2015, involved a substantial number of studies to be contracted. This, coupled with limited procurement experience, led to execution delays, placing the project at risk. The perspective of Transitec is that by 2019, the list of activities could have been revisited to align with the absorption capacity of the beneficiary.

While the individual products produced by the project exhibit high quality, but the overall strategic thread among them was somehow missing. Furthermore, the application of these products by beneficiaries has been deemed insufficient. The absence of a comprehensive uptake strategy from the project's onset might contribute to usability issues. Addressing these concerns and enhancing strategic alignment and usability could contribute to the overall success of the project.

How effective and efficient are the project coordination, the communication channels, the flow of information and the decision-making processes between the various project stakeholders? What is working well, what can be improved and how?

According to MLGDRD, communication between the Ministry, SECO, and Transitec could have been more effective. The perception is that Transitec was in direct communication with and directly reporting to SECO, creating a sense of being outside the decision-making process, although the Ministry is required to issue payment requests for SECO to proceed with payments.

Regular Steering Committee meetings were not held, but SECO believes that having more of them would not necessarily have improved the project's operational performance.

The Technical Committee had frequent meetings and additionally convened for significant decision-making processes, including the selection of investment measure locations, approval of proposals for new activities and training, and the review of ToRs for studies to ensure contextual relevance. The committee comprised representatives from various entities, namely the MMA's Department of Transport (DoT) and Urban Roads Department (URD), the Ministry of Transport (MoT), the Department of Urban Roads (DUR), the Ghana Private Transport Executive (GAPTE), and the Ghana Statistical Service (GSS). MLGDRD chaired these meetings and was responsible for preparing the minutes. Based on the agenda's specific focus, relevant agencies like the Land Use and Spatial Planning Authority (LUSPA), the Environmental Protection Agency (EPA), the National Road Safety Authority (NRSA), among others, would also participate.

MLGDRD acknowledges that the situation has recently improved with the introduction of trilateral meetings about six months ago, a joint idea with SECO.

4.2.8 *Would an application to manage trotro services and allow customers to book these via their mobile phones would make sense in Accra and in other cities in Ghana in the framework of future activities and if not, why?*

Launching a trotro management app in a market characterized by complete deregulation and limited maturity of public transport services poses significant challenges. Several potential obstacles must be navigated, including:

- Resistance from informal operators. Informal providers displayed a lack of interest when approached about the app during the evaluation. The reluctance to embrace a mobile app in a market accustomed to deregulation is a prevalent challenge in the transportation industry. In contexts where centralized control has historically been absent, and operators are accustomed to a high degree of autonomy, the introduction of a system perceived as a form of control may face considerable resistance.

- Operational fragmentation and associated unpredictable routes and schedules. The presence of numerous independent trotro operators with varying levels of organization, coupled with the absence of fixed schedules and routes, constitutes fundamental challenges that the app must address

- Uncertain political support and regulatory ambiguity. The absence of incentives to subject informally run trotros to scrutiny, particularly when certain groups have financial interests in the business, can lead to conflicts of interest. The uncertainty surrounding political support for the app raises concerns, as it could potentially impact the business interests of those involved. Additionally, the absence of clear regulations or guidelines for implementing a trotro management app requires political support for development.

- Unclear ownership and business model. Given the perceived lack of political interest, it is unclear if the ownership of the app might be vested in a government or public agency responsible for transportation. A private company or entrepreneur would be the natural owner if the emphasis is on creating a commercially viable venture, but the trotro business is fragmented, has not shown a significant appetite for it, and has a legacy of preference for cash transactions. A collaboration between a public entity and a private company (PPP) would require a model for a large-scale project and a consistent regulatory framework

- Affordability concerns. There may be concerns about the cost of implementing the app and how these may be passed on to trotro riders. If the app does not guarantee a lower price that the existing system, it will be likely not used.

- Data privacy concerns and security may arise among operators and users.

Points to build on for a potential trotro app include developing digital literacy from users, as demonstrated by the adoption of fintech applications,[19] the high market penetration of smartphones, and the emergence of ride-sharing apps such as Uber. The scope of this evaluation did not include a further market readiness study, which would assess the demand from trotro users for a trotro management app.

The reasons for discontinuing the development of a trotro app in GUMAP are likely to encompass the challenges outlined above. From the perspective of this evaluation, these hurdles continue to be relevant. Should there be interest in resuming the project, it is essential to first gain a comprehensive understanding of the challenges mentioned above. Addressing these obstacles is a prerequisite before delving into the exploration of design and technology options.

4.2.9 What were/are the critical factors to successfully implement and finalize the project?

The technical studies appear to be progressing as planned and are anticipated to be completed in the first quarter of 2024.

The timely completion of the investment measures hinges on the prompt approvals from the Ministry of Local Government and Rural Development (MLGDRD) and the Department of Urban Roads (DUR) at various milestones within the procurement and contracting process, as well as approvals during the construction phase.

Establishing predetermined dates for the Technical Committee to convene and make decisions throughout 2024 will establish a consistent rhythm of decision-making, thereby minimizing the potential for delays.

[19] In 2021, 67% of Ghanaians used some form of fintech applications–mobile money and/or internet banking. Source: World Bank. 2023. Ten Facts About Digital Technology Adoption in Ghana, https://blogs.worldbank.org/africacan/ten-facts-about-digital-technology-adoption-ghana

4.2.10 *What are the recommendations of the consultant for future project implementation in terms of operational structure, procedures and roles and responsibilities?*

The recommendations for future project implementation include:

Streamline procurement

- Package project activities to minimize procurement requirements

Introduce an overarching strategic product

- Develop an umbrella strategic product that engages the political level, providing a cohesive framework for individual project components including studies and training

Focus on a smaller number of key beneficiaries

- Reduce the number of beneficiaries, placing a stronger focus on Metropolitan Municipal Assemblies (MMAs) and the Ministry of Local Government, Decentralization, and Rural Development (MLGDRD) in a coordinating role

Avoid fragmentation of investment measures

- Avoid diluting the impact of investment measures by concentrating the budget on fewer interventions as this will enhance the demonstration effect and potential impact

Conduct readiness assessments

- Prior to implementation, conduct institutional readiness assessments to identify technical and procedural gaps, especially those related to procurement, and proactively address challenges

Prepare an uptake strategy

- Develop an uptake strategy for studies to be embedded in binding instruments of MMAs. This will contribute to the outcomes of studies to be integrated into the operational frameworks of the involved entities

Design on-demand capacity building

- Design capacity-building initiatives associated with specific policy instruments that an MMA has committed to do, defining activities right from the beginning. For instance, provide training on topics like parking management when an MMA commits to preparing a binding parking policy or plan

Further clarify the nature of "support"

- Clearly articulate that "support" does not imply financial assistance for recurrent costs. This clarification is essential to avoid potential misunderstandings and ensure a shared understanding of the nature of assistance provided[20]

[20] However, as highlighted by Transitec, the notably low salaries of civil servants should prompt consideration for providing monetary incentives to staff involved. Without such rewards, maintaining the engagement and attention of the staff may prove challenging.

Annex – Assessment against logframe

Legend

No progress	
At risk	
Delayed	
On track	
Achieved	

Thematic focus (1): Improvement of integrated urban mobility planning and public transport operations and regulations in GAMA

Result/Indicator	Baseline	Target	Achievements to date	Assessment Status
Integrated urban planning				
Outcome 1.1 The six beneficiary MMAs, at least, as well as GAPTE are able to assess urban mobility and accessibility performance and issues in GAMA as well as formulate integrated solutions and action plans				
1.1.1) Number of formal meetings reported in the printed media held with senior MMAs decision makers and civil society in order to present policy notes on key mobility topics (public transport, non-motorized transport, traffic, parking, medium term infrastructure investment priorities, freight transport, etc.)	0	5	1. A press briefing on the Household Travel Survey (011) was held on July 19th, 2023. This was carried by over 10 media outlets covering print, electronic media. 2. Ghana Urban Forum hosted by MLGDRD (October 31 – November 1st 2022) brought together practitioners, governments, opinion leaders, civil society and Ghanaian citizens to disseminate the GAMA Freight Study, Mapping of Trotro Routes and Passenger Volumes and Socio-economic Study of the Trotro Industry. Additional meetings held but not covered in the media: 3. High-level event organized by MLGDRD and GAPTE on 16 November 2017 to present the Policy Note on "Improving the Governance and Financing of Urban Mobility and Accessibility in GAMA – Issues and Options to Move Forward". This event was attended by about 80 participants, including representatives from the main concerned ministries as well as decision makers from the MMAs and representatives from civil society. 4. The strategies and action plan in the "GAMA freight traffic study: Diagnostic study and mitigation measures" were presented and discussed at a large stakeholder workshop held in February 2021. Links to media reports are in footnote[21]	Delayed – 2 formal meetings reported, and 2 other held but without evidence of media reporting
1.1.2) Integrated multimodal urban mobility policy	GAMA wide strategy	GAMA integrated multimodal policy	The preparation of an Urban Mobility Vision and Strategy for GAMA has been underway (starting with preparatory stages)	On track

[21] Links to media reports:https://gna.org.gh/2023/07/local-government-ministry-to-commence-household-transport-survey/; https://www.myjoyonline.com/household-travel-survey-to-kick-start-to-ensure-efficient-transportation-system/; https://www.ghanaiantimes.com.gh/local-govt-ministry-launches-household-travel-survey/; https://dailyguidenetwork.com/household-transport-survey-begins-july-24/; https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Local-Government-Ministry-to-conduct-Household-Transport-Survey-1808027; https://www.graphic.com.gh/news/general-news/local-government-ministry-commences-household-travel-survey.html; https://citinewsroom.com/2023/07/local-govt-ministry-to-commence-household-travel-survey-from-july-24/

Result/Indicator	Baseline	Target	Achievements to date	Assessment Status
note for GAMA prepared by GAPTE.	focused only on infrastructure has been produced with Korean assistance	note has been presented to stakeholders	since the 2Q 2022 and is planned to be presented to stakeholders at a Forum to be organized by MLGDRD at the end of GUMAP.	
1.1.3) Number of main indicators of accessibility and mobility for GAMA for which objectives are set and monitored annually and in the long term		At least 5 indicators, for example: • Average speed of cars and public transport vehicles • Traffic (number of vehicles/hour) on some key corridors • Population satisfaction with their accessibility and mobility • Number of road crashes and traffic fatalities • Total number of public transport vehicles registered	Two indicators have been included in the District Assembly Performance Tool (DPAT) starting in 2022. These include reporting on: • Identified and compiled public transport routes and public transport terminal register within each assembly. • Road safety interventions within an assembly Work is ongoing with MMAs and DUR to formalize indicators concerning traffic. The traffic survey (Activity 015) will provide a baseline and the automatic traffic counters will enable the MMAs and DUR to monitor traffic on a regular basis. A data base and a recording process for all indicators is under preparation (Activity 001B).	Delayed (2 out of 5 indicators formalized) It is unclear which is the institution in charge of annual monitoring
1.1.4) DoTs are made part of the Physical Planning Committees and Development Planning Committees in the 5 beneficiary MMAs			The reconstitution of the Statutory Sub-Committees at the Assemblies to include DoT representation on the committees is yet to be achieved. This may be at risk by the end of the project life.[22]	At risk
1.1.5) Number of MMAs that contribute significantly to the funding of GAPTE's working expenses and percentage of these expenses thereby covered.	GAPTE costs are covered by operation of Aayalolo buses	3 MMAs / 30 %	Interviewed MMAs have not signed contribution agreements with GAPTE. There is no further information in available reports about MMA's involvement in the funding of GAPTE's working expenses.	At risk. There is no evidence of MMAs' intention to contribute to GAPTE
Public transport operations and regulations				
Outcome 1.2 The six beneficiary MMAs, at least, have gained the competence and have undertaken key actions for efficiently organizing, regulating, enhancing, monitoring and supervising urban public transport operations in their territory **Outcome 1.3** GAPTE has gained the competence and has undertaken key actions for guiding and coordinating the MMAs in conducting their activities in urban public transport and for enhancing and monitoring urban public transport operations overall in GAMA				

[22] According to Transitec, MLGDRD intends to engage the Office of Local Government Service to make a case for the inclusion of DoTs in the Physical Planning Committee. An identified opportunity is for DoTs to present GUMAP studies to the Physical Planning and Development Planning Committees to demonstrate the relevance of DoTs.

Result/Indicator	Baseline	Target	Achievements to date	Assessment Status
1.2.1) and 1.3.1) Number of bus routes with scheduled services that have been identified and studied at prefeasibility level and accepted by all stakeholders, including especially the public transport operators' association	0	5	As indicated by Transitec: The indicators listed in 1.2.1), 1.3.1), and 1.2.2) are no longer relevant due to the change in focus in the reorganization of trotro services from the creation of scheduled services on some specific pilot routes towards the efficiency improvement of services provision. Survey results (Activity 006) inform that scheduled services, by themselves, would only result in a limited improvement in travel time for the users. This improvement would require major adjustments from public transport operators and does not constitute a priority for public transport users at this time.	No progress (activity discontinued)
1.2.2) Number of bus routes for which improvements to the routing and/or the terminals have been designed and implementation has started, which together reduce total passenger travel time by 15% or more	0	5	1.2.1) and 1.3.1), 1.2.2) no longer relevant due to the change in focus from scheduled services to improved operational services. Originally, it was expected that the bus route improvements referred to in this indicator would be implemented as part of the small investment program. It was however decided during GUMAP's implementation to focus this program on other types of investments, notably small works for improving pedestrian safety in a number of pilot intersections.	No progress (activity discontinued)
1.2.3) Number of MMAs with development measures (including for improving governance) in the sector of public transport	0	6	Development measures in the sector of public transport: • The formalization of DoTs • Transport indicators have been included in the DPAT. • DoT coordination meetings and capacity building efforts are undertaken periodically to improve public transport management in the various MMAs.	Delayed 3 of 6 development measures can be identified
1.2.4) Number of annual reports issued by Accra, Tema, Ga West, Ga East, Ga Central, and La Nkwantanang-Madina MMAs presenting a comprehensive assessment of public transport performance and improvements during the past year	Annual reports prepared by AMA, TMA, GEMA, GWMA in 2013	Annual reports by all 6 MMAs for 2021 and 2022	There is not information or data for this outcome It is likely they may be captured in MMAs annual Progress reports which have been requested	Could not be verified
1.2.5) and 1.3.2) Number of persons having access to improved public	0	100 000	It is not possible at this stage to make a quantification. There is no baselined data available to determine if achievement is possible.[24]	Could not be verified

[24] The improvements in the governance of the trotro sector brought about by GUMAP will eventually promote investment especially in trotro fleet development and renewal which will benefit the many

Result/Indicator	Baseline	Target	Achievements to date	Assessment Status
transport services[23]:				

Thematic focus (2): Traffic planning and management

Result/Indicator	Baseline	Target	Achievements to date	Assessment Status
Improvement of traffic planning and management in GAMA				
Outcome 2.1 The Departments of Urban Roads of Accra and Tema Metropolitan Assemblies can assess traffic and parking issues at metropolitan and local levels, formulate solutions and prepare plans (including whenever possible for a more efficient sharing of available public space among all modes of transport), implement corrective measures and monitor performance.				
2.1.1) Number of traffic and parking improvement plans prepared and adopted by the MMAs	0	6	Six Local Traffic Plans and Parking Plans have been completed. Adoption depends on the availability of funds at Assemblies	On track. Partially achieved as plans have been prepared but not adopted by Assemblies
2.1.2) Number of small-scale infrastructure improvement (intersections, specific facilities) identified and implementation of which has been included in the MMAs activities plans and executed.	0	6	Technical studies have been completed for 6 small scale improvements in Accra, Madina, Tema, Ga West, Ga East and Ga Central. These are in procurement phase and expected to be executed during 2024.	Delayed according to original timeframe
Outcome 2.2 KNUST students have acquired needed skills in urban planning and mobility				
2.2.1) Number of students having passed urban planning and mobility courses' exams	0	16	600 students have completed 3 courses (Traffic Demand Modelling, Traffic Flow Modelling and ITS, including exams) on urban planning and mobility. Source: Interview with KNUST	Achieved

captive users of public transport. In addition, the improvements in traffic management brought about by GUMAP's component 2 as well as the junction improvements will help reduce congestion and therefore decrease the travel time of trotro passengers. The numbers of beneficiaries of these improvements are expected to be high. Source: Transitec

[23] The indicator will be measured based on ridership on the routes where public transport services have been improved (restructured routes, newer vehicles, shorter waiting time, higher frequency etc.).

Outputs

Strategy of Intervention	Key Performance Indicators	Achievements to date	Assessment Status
OUPUTS	**OUTPUT INDICATORS**		
THEMATIC FOCUS 1: IMPROVEMENT OF INTEGRATED URBAN MOBILITY PLANNING AND PUBLIC TRANSPORT TIONS AND REGULATIONS IN GAMA **Beneficiaries:** *GAPTE and the Accra, Tema, Ga West, Ga East, Ga Central, and La Nkwantanang-Madina MMAs*			
Integrated urban mobility planning			
Related to outcome 1.1: • Studies of accessibility needs of the population, passenger demand, and operators' capability have been carried out	• Studies are finalized	3 finalized studies: • Databases and maps of public transport routes and passenger flows in GAMA • Study of public transport operations and performance and transition to scheduled services in GAMA • Study of Freight Transport Ongoing studies: • Household Travel Survey has been completed and the final report is expected to be issued by December 2023. This survey will be a major source of information regarding the population's accessibility needs and travel demand.	On track
• Key staff of GAPTE, the MMAs, and other stakeholders have been trained formally and on-the-job	• 40 persons have been trained	30 persons were trained for 10 days by Institute for Transport Studies (ITS, UK-Leeds) under component 1 (October and November 2022) 32 participants were trained in a three-day course on the "Introduction to Traffic and Parking Planning tools and studies" (February 27- March 4, 2023) About 20 staff of the MMAs DoTs benefitted from three one-day seminars on the methodology, organization, and processing of public transport route surveys as part of the Completion of databases and maps of public transport routes and passenger flows in GAMA About 30 stakeholders attended on-the-job training sessions on urban mobility planning and public transport regulations as part of the missions of the consultant for urban mobility, Dayo Mobereola (terminated end of 2021)	Achieved
• An urban mobility database is put in place and populated according to an established protocol	• Database is in place	An inventory of existing data, organization of a data base, and definition of key performance indicators is expected to be completed by March 2024	On track
• Urban mobility monitoring and assessment methodologies for GAMA are formulated	• Sound methodologies are ready	According to Transitec: How to carry out monitoring and assessment of urban mobility performance in GAMA will be demonstrated as part of Activity 001B, but there is not enough time to translate this into formal methodologies	At risk
Public transport operations and regulations			
• Related to outcome 1.2: Studies for improving the bus and taxi networks and the public transport terminals have been carried out	• Studies are finalized	Studies have been completed and final report to be delivered soon	On track

Strategy of Intervention	Key Performance Indicators	Achievements to date	Assessment Status
• Related to outcomes 1.2 & 1.3: Key staff of GAPTE, the MMAs, and other stakeholders have been trained formally and on-the-job	• 40 persons have been trained.	Training in public transport policies and planning was shared with the training in urban mobility planning described in outcome 1.1	Achieved
• Related to outcome 1.2 & 1.3: A database (inventory, mapping, and passenger volumes) of public transport is partly in place	• Data base for main public transport routes is operational	This data base is part of the urban mobility data base related to outcome 1.1, which is planned for completion in March 2024.	On track
• Related to outcomes 1.2 and 1.3: A plan is prepared for trotro fleet modernization	• Plan is finalized	The plan for trotro fleet modernization is under preparation and is planned for completion in early 2024.	On track
THEMATIC FOCUS 2: IMPROVEMENT OF TRAFFIC PLANNING AND MANAGEMENT IN GAMA **Beneficiaries***: The Accra, Tema, Ga West, Ga East, Ga Central, and La Nkwantanang-Madina MMAs, DUR and KNUST*			
• Related to outcome 2.1: Systems and procedures have been designed for data collection, storage, and processing for traffic and parking analyses	• Design of sound systems and procedures is completed	Final report for this activity is expected for December 2023.	On track
• Related to outcome 2.1: Pilot studies have been carried out for improving traffic related public transport infrastructures, traffic safety, parking management, and traffic regulation	• Studies are finalized	Local Area Traffic and Parking Plans for Tema, Madina, Accra, Ga West, Ga East, Ga Central Final Reports were submitted to the MLGDRD in August 2021, December 2021, May 2023, May 2023, September 2023, and October 2023.	Achieved
• Related to outcome 2.1: Pilot investment measures to improve the capacity and safety of the street network have been initiated	• Studies for these measures have been completed and implementation started	Studies have been completed to identify and design pilot measures to improve six intersections (one in each beneficiary MMA) and implementation of these pilot investments has started. with the procurement process.	On track
• Related to outcome 2.1: Key staff of the MMAs, the regional office of DUR (MRH), and other stakeholders (including the police) have been trained formally and on-the-job	• 50 persons have been trained.	Training in traffic management and parking: • 42 participants were trained in Introduction to Traffic and Parking Planning tools and studies (Module 1B, 8-12 May, 2023) • 38 participants were trained in Traffic Management and Parking Scheme for Local Area (Module 2, August 7-11, 2023) • 38 participants were trained in Urban Road Mobility Strategy Implementation through Road and Auxiliaries Design (Module 3, September 25-29, 2023).	Achieved
• Related to outcome 2.2: New courses have been designed at KNUST for urban planning and mobility, and teachers have been trained	• 2 new courses have been designed and 5 professors have been trained	3 new courses have been designed and 6 professors trained	Achieved

Annex - List of individuals and institutions interviewed

[redacted] **OCTOBER 2023 TRANSITEC** (via videoconference)				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	
[redacted]	[redacted]	[redacted]	[redacted]	

11TH OCTOBER 2023 MINISTRY OF LOCAL GOVERNMENT, DECENTRALIZATION AND RURAL DEVELOPMENT				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

11TH OCTOBER 2023 DEPARTMENT OF URBAN ROADS, HEAD OFFICER				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

11TH OCTOBER 2023 GREATER ACCRA PASSENGER TRANSPORT EXECUTIVE (GAPTE)				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	[redacted]

12TH OCTOBER 2023 TEMA METROPOLITAN ASSEMBLY				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

2.	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

12TH OCTOBER 2023 DAOVETEC CONSULTING FIRM				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	[redacted]

13TH OCTOBER 2023 AFD				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

13TH OCTOBER 2023 AFRICAN DEVELOPMENT BANK				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

20TH OCTOBER 2023 WORLD BANK				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

20TH OCTOBER 2023 ACCRA METROPOLITAN ASSEMBLY, GHANA				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

20TH OCTOBER 2023 GA EAST MUNICIPAL ASSEMBLY, GHANA				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**

1.	[redacted]	[redacted]	[redacted]	[redacted]

20th OCTOBER 2023 GA WEST MUNICIPAL ASSEMBLY				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	[redacted]

30TH OCTOBER 2023 WORLD BANK (via videoconference)				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	

2ND NOVEMBER 2023 NORDIC DEVELOPMENT FUND (via videoconference)				
No	**NAME**	**INSTITUTION**	**DESIGNATION**	**CONTACT**
1.	[redacted]	[redacted]	[redacted]	