

Volume D - Quality Measurements

Part 1 - Quality of the Proposed System (Total 70% of the Quality score – 70 points)

The following table will be used for evaluating the Bidder's Proposed System. The content refers to sub-requirements of the SOW, it however does not replace or diminish the Winning Bidder's obligation to comply fully with all requirements of the entire SOW.

SOW Section & Sub-Section – refers to the SOW section where the requirement is described

Title – refers to the title of the specified section.

Evaluation Criteria – refers to the criteria that will be used to evaluate the compliance of the Bidder, considering the compliance of the existing System only.

Document: When the term "document" is used, the Bidder is obligated to include a comprehensive description which specifies the degree to which the Proposed System complies with the requirements outlined in the relevant section of the SOW which are evaluated and scored as part of this Volume D. In the Proposed System Compliance Table (Volume C of the Tender Documents) the Bidder must make reference to such document in the relevant section. Bidders should note that the Compliance Document requested in Volume C may be more extensive than the document submitted for the purpose of scoring according to this Document D, e.g. in cases where the relevant sub-section of the SOW contains additional requirements in comparison to those requested to be described for the purpose of evaluation and scoring herein.

Scenario: When "scenario" is stated, the Bidder is required to demonstrate its current System compliance during an interview with the Company, as described in the Terms of Tender (Volume A). Such demonstration shall be conducted, to the extent reasonably possible, on an operational (production) system and may be presented either through a live demonstration or, where a live demonstration is not feasible due to the nature of the scenario, through a pre-prepared simulation or recorded demonstration, provided that such simulation faithfully reflects the System's actual capabilities and performance. Additional scenarios will involve the validation of the Bidder's declaration to ensure that it complies with the minimal requirements outlined in Section 3.5, items #1-7, of the Terms of Tender (Volume A).

Scales – refers to a detailed explanation of the score-giving process for the section.

#	SOW Section	Sub-Section	Title	Evaluation Criteria	Scales	Maximum Points
1	4.6	4.6.2	Traffic metrics and LOS calculation	<p>Document: The Bidder is required to provide a list of the metrics that have been incorporated into the system in accordance with the table in sub-section 4.6.2.</p> <p>Scenario: Presentation of the metrics incorporated in the System in three different traffic links.</p>	<p>2 points - Basic metrics: Inclusion of core traffic performance measures-speed, travel time, and traffic volume.</p> <p>3 points - Advanced metrics: Inclusion of higher-level measures- congestion and pedestrian crossing time interval.</p>	5
2		4.6.4	DSS module	<p>Document: The Bidder is required to provide a detailed explanation about how the DSS module recommends the best traffic light plan when user wants to manually change the traffic plan from a given directory of traffic light plans. The explanation shall include the user input to the module and how the DSS supports the user to select the best fitting traffic plan for Signalized Intersections connected to a green wave with or without breaking the green wave. If the DSS module is AI-enabled, the Bidder shall describe which AI model is used and what data is provided to the model.</p> <p>Scenario:</p> <ul style="list-style-type: none"> • Demonstrating how the DSS module assists the user in the selection of a traffic light plan which is superior to the existing one, in order to reduce congestion during a specific movement or phase of a Signalized Intersection. • Demonstrating how the DSS module assists the user in the selection of a traffic light plan superior to the current one in Signalized Intersections that operate in a green wave, in order to reduce congestion during a specific movement or phase. 	<p>0 points – no DSS module</p> <p>2 points - DSS module exists for a single Signalized Intersection.</p> <p>2 points - The DSS module supports selection of best fitting plan for intersection in green wave.</p> <p>2 points – The DSS module is AI-enabled to support selection of the most suitable solution.</p>	6
3	4.7	4.7.2	User display and control	<p>Document: The Bidder is required to provide a description of the user interface configurability as well as the infrastructure and tools employed in its development, including the GIS tool.</p>	Up to 6 points - for configurability capabilities	13

				<p>Scenario: Presentation of the following screens:</p> <ol style="list-style-type: none"> 1) Traffic situation picture display – ability of choosing different layers, ability to zoom in and out, ability to measure distances, ability to expand data on objects (Outstation Devices status, traffic entities metrics) and controlling capabilities over cameras (camera PTZ and zooming). 2) Signalized Intersection display – real-time visualization of Intersections including its inventory data, operational status, metrics, LOS and events. 3) Informative dashboards – at least 3 graphic dashboards showing traffic metrics, LOS, events and Incidents at a defined route and area within a specified time frame. 4) Event and Incidents interface – ability to choose events from the TSPD and expand their information over a floating window, ability to edit properties of the event, ability to filter events based on different properties. 5) Administration interface – customization capabilities which can be performed by system engineers and traffic engineers: interfaces control, user authorization setting rules for notifications and metrics thresholds. 6) Playback and replay – system capabilities to display historical data (Section 8.2). 	<p>1 point - for each display (section lines 1 to 5). 2 points - for playback capabilities (section line 6).</p>	
4	4.8	4.8.4	Reading Traffic Light Timing Plans and detectors plans from files generated by traffic light planning software	<p>Scenario: Demonstrating the ability of the system to read Traffic Light Timing Plan files produced by traffic light planning software (Inbar, LISA, TransEM, Crossing) and upload the information to the Traffic Light Timing Plans directory.</p>	<p>0 points – none or 1 point - for each supported software</p>	4
5		4.8.18	Priority module	<p>Document: The Bidder is required to provide the following information in order to assess the system's prioritization support:</p> <ul style="list-style-type: none"> • Description of how the system prioritizes public transportation or other road users. 	<p>2 points – DSS is considering priority traffic parameters. 2 points – Providing built-in tools to analyze the prioritization.</p>	4

				<ul style="list-style-type: none"> • Description of how priority capability is integrated in the DSS module for manual selection. • Description of how a user can enforce and revoke the priority detector state. • Description of tools the system provides to analyze the prioritization. 		
6	4.8.19	Centralized adaptive traffic management module		<p>Document: The Bidder is required to provide a description of the adaptive traffic management module in the SIM module including:</p> <ul style="list-style-type: none"> • How the centralized adaptive traffic management module controls and manages Signalized Intersection at real-time. • How the module manages a network of Signalized Intersections including green wave. • How the centralized adaptive traffic management module supports public transportation prioritization. • The traffic data needed to run the module on a Signalized Intersection. • The traffic data needed to run the module on a network of Signalized Intersections. • How the centralized adaptive traffic management module reacts to directives from users. (For example, users want to prioritize specific routes because of a public event). • How the centralized adaptive traffic management module supports pedestrians to cross safely or with minimum delay. • Devices the centralized module needs to be installed at the Signalized Intersection level. For example: <ul style="list-style-type: none"> • Description of the detector's layout at the intersection and type of detectors needed for implementing the adaptive traffic management module. • On site compute devices. • Description of the required protocol functionality (list of messages) between the proposed system and the traffic light controller needed for the adaptive management. • The largest number of Signalized Intersections which are managed through the centralized adaptive traffic management module in a single installation of the system + the name of the city where this installation exists. 	<p>3 points – The centralized adaptive traffic module control and manages at least 50 Signalized Intersections in a single control center.</p> <p>3 points - The centralized adaptive traffic supports public transportation prioritization.</p> <p>2 points - The centralized adaptive traffic automatically adjusts Signalized Intersections to users' directives.</p> <p>2 points –The centralized adaptive traffic module measures and minimizes pedestrian delay at the curb to allows safe crossing for pedestrians needing more time to cross.</p>	10

				<ul style="list-style-type: none"> Any other information needed for the implementation of the module. 		
7	5	5.1.1	MUTC internal HLA	<p>Document: The Bidder is required to provide a scheme and description of the MUTC software architecture, including explanation of the interfaces between the modules including the interface with the databases, clients and the usage of integration services.</p>	<p>3 points: loose coupling between layers. 2 points: loose coupling between functional modules. 1 point: integration of off-the-shelf modules.</p>	6
8		5.5	Cyber security	<p>Document: The Bidder is required to provide documents which assess its compliance with the secure development guidelines, OWASP Top 10, SANS Top 25, and SSDLC. Relevant documents for the assessment:</p> <ul style="list-style-type: none"> Organization secure development procedures Reports from independent security auditors that verify compliance with the standards. Results of SAST and penetration tests that were conducted on the proposed system that will serve as the foundation for the MUTC. 	<p>4 points: Compliance with mandatory secure development standards guidelines (see section 1.6.1). 1 point: Compliance with recommended standards and guidelines (see section 1.6.2). 1 point: Presenting SAST results. 1 point: Presenting penetration tests results.</p>	7
9	6	6.5	Clients	<p>Document: The Bidder is required to provide specification documents that outline the interface between the MUTC servers and the client station, with indication of all software, if any, that is required to be installed on the client station.</p>	<p>0 points – Rich client only or 2 points – Mixed client customization (rich and thin) or 3 points – Thin web client only</p>	3
10	8	8.7	Hybrid configuration (cloud deployment)	<p>Document: The Bidder is required to provide evidence of system deployments in a cloud-based configuration, either fully cloud-based or hybrid. For each relevant site, the Bidder must specify the configuration deployment layout, the name of the site or control center, the number of Signalized Intersections managed, the cloud service provider used, and the site's operational start date.</p>	<p>0 points – no deployment in cloud, only on-premise or 2 points - Limited offline data analytics deployment in a hybrid or full-cloud deployment, without real-time</p>	8

					<p>ingestion and without any real-time impact on traffic control decisions or signal operations.</p> <p>or</p> <p>4 points - Limited operational deployment in a hybrid or full-cloud deployment, covering a small number of Signalized Intersections (less than 20) or limited functionality.</p> <p>or</p> <p>6 points - Operational hybrid or full-cloud deployment in production, managing traffic in one or more sites, covering more than 200 Signalized Intersections.</p> <p>+2 points -Proven SaaS model with full multi-tenant cloud deployment, supporting multiple customers/sites with scalable infrastructure.</p>	
11		9.2.5	Prediction of traffic flow, metrics and LOS	<p>Scenario: Demonstration of the predicted traffic flow, metrics and LOS over 10, 30 minutes and 1-hour periods. The Bidder shall explain the prediction method.</p>	<p>0 points – No prediction capabilities</p> <p>or</p> <p>2 points – Short time interval only (10 minutes)</p> <p>or</p> <p>3 points – 10-30 minutes ahead</p> <p>or</p>	4

					4 points – 10-60 minutes ahead	
Total						70

* **Note re quality points for Chapter 9 of the SOW (workloads)** - it is clarified that Bidders that choose, for purpose of receiving the quality points in line 11, to demonstrate the compliance of their existing System with the sub section 9.2.5 of Chapter 9, will not be eligible for payment for such capabilities demonstrated and scored, as part of a Change Order that the Company shall issue if it decides to exercise such workload (with the exception that the Company shall pay the Bidder's direct costs for third party licenses and for maintenance, associated with such scored capabilities).

Part 2 – Evaluation of the Bidder's quality (Total 30% of the Quality score – 30 points)

The evaluation will be based on the following criteria:

#	Main Content	Evaluation Criteria	Maximum Points
1	Bidder's international experience	<p>For Systems successfully installed and implemented in metropolitans located in countries other than the Bidder's country of incorporation, and which meet all requirements of the Threshold Condition in Section 3.6 of the Tender:</p> <ul style="list-style-type: none"> • In relation to Section 3.6.1 – Systems that meet the minimal requirements listed in items #1–#6 of Section 3.5 - 2 points for each System, up to a maximum of 8 points. • In relation to Section 3.6.2 – Systems that meet the minimal requirements listed in item #7 of Section 3.5 - 1 points for each System, up to a maximum of 2 points. 	10
2	Bidder's suitability for providing the services	<p>Impression considering Bidder's experience in MUTC projects, and the suitability of the Proposed System and infrastructures to the Company's present and future needs, according to the following considerations:</p> <ol style="list-style-type: none"> 1. Bidder's Ability to Address the Company's Functional and Operational Needs – Up to 5 points. 	20

		<p>Extent to which the Bidder demonstrates the ability to meet the Company’s functional needs as defined in the Tender, including operational management, traffic control, monitoring, reporting, and decision-support functions, with minimal gaps or need for custom development.</p> <p>This criterion shall also consider the Bidder’s capability to support ongoing operation, support and maintenance, and to enable effective deployment across multiple traffic management centers and evolving operational environments.</p> <p>2. Bidder’s Technical Approach and Engineering Capability – Up to 5 points.</p> <p>Quality and suitability of the Bidder’s proposed technical approach for the MUTC environment, including system architecture, integration capabilities, use of analytical and AI-based components, compatibility with existing infrastructure and external systems, and compliance with applicable standards and regulations.</p> <p>This criterion shall reflect the Bidder’s engineering capability to design scalable, maintainable, secure, and reliable solutions suitable for large-scale and multi-site deployments</p> <p>3. Bidder’s Experience, Delivery Capability, and Global Track Record – Up to 10 points.</p> <p>Extent of the Bidder’s proven ability to develop, deliver, test, support, maintain, and sustain similar systems throughout their lifecycle, including availability of qualified resources, local presence, and relevant project experience.</p> <p>This criterion shall also consider the Bidder’s international experience, including deployment of similar systems across multiple countries and large-scale environments, its capability to support global rollouts, as well as its service readiness, knowledge transfer approach, delivery capability, including its ability to support and adhere to the proposed delivery timelines, and the overall professionalism, credibility, clarity, and consistency of the Proposal.</p>	
Total			30