ADDENDUM No. 1

RFP No. 24-58

Near-Miss Video Analytics System

Due: January 7, 2025 by 3:00p.m. (local time)

The information contained herein shall take precedence over the original documents and all previous addenda (if any) and is appended thereto. **This Addendum includes ten (10) pages.**

The Proposer is to acknowledge receipt of this Addendum No. 1, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the RFP Document should be included in submitted proposal:

- **Attachment C – Legal Status of Offeror**
- **Attachment D - City of Ann Arbor Non-Discrimination Declaration of Compliance**
- **Attachment E - City of Ann Arbor Living Wage Declaration of Compliance**
- **Attachment F - Vendor Conflict of Interest Disclosure Form of the RFP Document**

Proposals that fail to provide these completed forms listed above upon proposal opening may be rejected as non-responsive and may not be considered for award.

I. CORRECTIONS/ADDITIONS/DELETIONS

Changes to the RFP documents which are outlined below are referenced to a page or Section in which they appear conspicuously. Offerors are to take note in its review of the documents and include these changes as they may affect work or details in other areas not specifically referenced here.

Section/Page(s)	Change
Attachment B, Req C4	Replace with: “The system shall be able to integrate with traffic signal controllers using Network (SNMP, HTTP) communication and shall be compliant with NTCIP 1202.”

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II. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the RFP. Respondents are directed to take note in its review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

Question 1 – In Attachment B, System Operation Requirements, Requirement A4:
Could you clarify the term "Gap time"? Additionally, can you provide more details on the various conflict types referenced?

Answer 1 – For purposes of the near-miss video analytics systems, "gap time" is the time interval between two users at their closest point. The term "conflict type" in Requirement A4 refers to those types listed in Requirement A2.

Question 2 – In Attachment B, System Operation Requirements, Requirement A7:
Could you elaborate on the 30 object detection templates mentioned?

Answer 2 – An object detection template would be a pre-defined parameter or rule used to identify and classify objects, such as vehicles, pedestrians, etc. expected in a certain area of the video feed and helps track these objects over time as they move through the feed.

Question 3 – In Attachment B, System Operation Requirements, Requirement A13:
Could you provide further clarification on what is meant by “review video feeds”? Does this refer exclusively to video feeds capturing conflict events, or does it include non-conflict footage as well?

Answer 3 – This refers to analyzing video data collected from surveillance footage (whether streamed or archived) and could include conflict events or non-conflict footage.

Question 4 – Page 4 states that “Hand delivered bids may be dropped off…” Will the City allow hard copies to be delivered via mail carrier delivery service, or is it a requirement that someone from the vendor's team hand deliver the proposal package?

Answer 4 – Reference D. Sealed Proposal Submission on Page 5 of the RFP Document, delivery of submissions via mail carrier service would be acceptable. Note that the City will not be liable to any prospective offeror for any unforeseen circumstances, delivery, or postal delays and that postmarking on the due date will not substitute for receipt of the proposal.

Question 5 – Is the City open to new hardware installed in cabinets? If yes, would the City perform the installation, or would the City contract this out?

Answer 5 – No new hardware will be installed at the intersections as part of this project.

Question 6 – Are you open to leveraging new cameras, or is it a requirement that the system operates with existing cameras? To what degree will you favor solutions that leverage existing cameras? We have provided a short summary below of some of the functionality and benefits our solution can provide should the City be open to leveraging new cameras.

Answer 6 – The system should operate using existing cameras.

Question 7 – What are the specifications of the PTZ and GridSmart cameras including resolution, frames per second, and bitrate?

Answer 7 – The PTZ cameras are not used for detecting vehicles; they are only used for traffic observations. The PTZ cameras are not set up for recording and we do not grab any data with the PTZ cameras.

The Gridsmart cameras are a video detection camera that will be used for this project:

- *Image Resolution : 1280x960/1280x720 depending on model but most of our intersections are actually 720p.*
- *Image size : approx. 150kb*
- *Frames per second : Detection -10 Streams -10*

Question 8 – How many of Ann Arbor's cameras have higher than 1080p resolution?

Answer 8 – We do not have anything higher than 1080 right now.

Question 9 – There's an indication in Attachment B, C4 requirement that "The system shall be able to integrate with traffic signal controllers using Network (SNMP, HTTP) communication and shall support common traffic signal controller protocols such as NTCIP 1202 and AB3418." With this requirement, what use cases are expected to be implemented? If possible, please give a descriptive example and definition of each use case.

Answer 9 – Approximately 50% of the City's signals are operating on NTCIP. The rest are operating on ECOM. While the exact applications between the near-miss video analytics systems and the signal controllers are still to be determined, the capability to communicate for future system development is required.

Question 10 – Please confirm period of performance is two years.

Answer 10 – Yes, the period of performance is two years.

Question 11 – Are all protocols supported by the controller? If yes, does the City of Ann Arbor have a preference for a certain protocol?

Answer 11 – See response to question 9.

Question 12 – If NTCIP1202 is being used, is the controller compatible with both versions 2 and 3?

Answer 12 – The proposing vendor should reach out to Yunex, our signal controller vendor, for clarification on this.

Question 13 – Does the controller support SDLC for connection?

Answer 13 – Yes, all of the City's controllers can support SDLC connection. If it is not already set up, it can be.

Question 14 – Will Ann Arbor allow SDLC as a method?

Answer 14 – Yes, see response to question 13 for additional information.

Question 15 – Different cameras, both IP and analog, are listed as possible input to the near miss system. Fiber and Radio links are listed as potential network connections between the on-edge cameras and the central location where they would be accessed given no processing hardware is to be introduced to local cabinets. Given the mixed network capability, potential node delays, and mixed camera streams via the network comprised of both IP-based and analog camera system, how and between which points is the 200ms latency of requirement A6 being measured? Is it from the edge camera until the notification from the AI Near Miss system?

Or is it from the point that the digital stream is provided to the Near Miss from the City's video management system as input to the Near Miss detection system to the notification of a near miss or collision message is generated?

Answer 15 – The 200ms latency requirement specified in A6 is measured from the point that the digital video stream is provided to the near miss detection system from the City's servers until the notification of a near miss or collision is generated. If this cannot be met, the vendor should indicate such in their response. The City may work with the selected vendor if different latency thresholds are necessary.

Question 16 – Does the City of Ann Arbor have any dedicated hardware or software to determine latency between points on the network? Can the City clarify if tools for monitoring network latency and performance are in place, or if vendors need to provide such capabilities as part of their solution?

Answer 16 – Yes, the City has software in place to monitor network response time.

Question 17 – What types of messages for near miss, if any, are to be generated? Or is logging the event sufficient?

Answer 17 – A description of the event, along with the event type, should be included in the message notification.

Question 18 – What type of evidence or verification video clips are desired for confirmation of a near miss or collision to be stored in the off-premises system?

Answer 18 – Video footage captured by the system from the specific intersection camera should highlight the event in order to provide the City the ability to sufficiently review the event. The video should be accessible during testing/acceptance/evaluation. All video footage must remain the property of the vendor and stored on non-City servers.

Question 19 – What is the desired search response time for any video search requests that may be based on the data stored by this system?

Answer 19 – The vendor should indicate their proposed, reasonable search response time for video search requests as part of their response.

Question 20 – The RFP specifies that the system shall be compatible with Siemens m50 and m60 controllers. Since the RFP also specifies NTCIP 1202 and CalTrans AB3418 protocols, shall we assume that all controller SPaT data for any additional "layered" information regarding near miss collection points will be equipped from controllers that support NTCIP 1202 communications? If so, NTCIP V2.0 or V3.0? Will the NTCIP 1202 SPaT data be made available at the central location for the near miss detection input via the City's ITS network? If the controllers at the locations do not have NTCIP 1202 capability, is there a planned upgrade path to provide this in light of "no additional equipment in the cabinet" being added to monitor SDLC or other communications in accordance with the Siemen's specification?

Answer 20 – See response to Question 9 and Question 13.

Question 21 – The RFP requirement E1 states that the system shall be compatible with the City's ITS system. Please describe those attributes of concern for compatibility. Besides the communications protocols cited in C4, I1, and section F security requirements, what are the system interfaces that are required that may be considered unique to this installation?

Answer 21 – As stated in the RFP, no new equipment will be allowed in the traffic cabinets so the proposed solution must work with the equipment already present within the cabinets.

Question 22 – Please provide detailed specifications of the City of Ann Arbor's network infrastructure, including bandwidth, latency, security protocols, and supported communication standards (e.g., TCP/IP, V2X) to ensure compatibility with proposed solutions if not completely covered by the RFP language.

Answer 22 – All traffic network links are 1GB until it enters the backbone where it ranges from 25GB-100GB. The network supports all standard networking protocols. Latency is normally 1-5ms.

Question 23 – What legacy systems, cabinet detection equipment, communications capabilities not specified by the general specifications of the equipment cited in the RFP, namely models, upgrades, patches or other factors not in the default systems as cited should the offeror be aware of for compatibility issues?

Answer 23 – See response to Question 9.

Question 24 – Please clarify what is meant by meant by Requirement A7 which specifies that the system must support creating at least “30 object detection templates”. Should the offeror assume these are configurations for detecting and analyzing specific objects (e.g., vehicle or VRU types) or behaviors (e.g., pedestrian crossings, wrong way, encroachment), are to ensure flexibility and adaptability for diverse traffic scenarios? Besides typical attributes such as object classification, speeds, direction, detection rules, and thresholds for accuracy, etc., that are used for analysis and filtering of the object trajectory in the camera FOV for Near-Miss detection, are there any particular types of templates or attributes that should be highlighted by the offeror? Other than the RFP Near-Miss Analysis of Identifying near-collision scenarios by analyzing object interactions, what are other 29 traffic management or surveillance activities being considered in the set of default object detection templates? (e.g., Detecting and classifying vehicles at intersections, tracking pedestrian crossings, wrong-way or monitoring illegal lane changes, monitoring specific activities, such as jaywalking or illegal parking, stalled vehicles, etc.).

Answer 24 – See response to Question 2. There are no pre-defined templates or scenarios at this time. The vendor could reference the City’s Comprehensive Transportation Plan and crash dashboard to review identified dangerous driver behaviors in the community.

Question 25 – A preponderance of the cameras cited are Gridsmart cameras. What is the video resolution and frame rate to be delivered by these cameras to the Near Miss detection algorithm? What is the mounting height for each location? Can we assume that the Near Miss areas of interest are fully visible within the FOV for each respective location? Can we assume that the cameras can provide a real-time RTSP output, are enabled with a G2 type of processor and have the Performance+ or Streams module installed to allow for remote viewing of camera output via RTSP? If not, please clarify the model number of Gridsmart cameras and how the city is to provide multi-stream or multi-cast streams from these and other legacy cameras for the project.

Answer 25 – See response to Question 7. The City will share further information with the selected vendor.

Question 26 – What is the exact nature of the video streams being analyzed, namely, are the video streams from the cameras to be used and potentially stored primarily MP4, h.264, h.265 or another native format? Please provide a break-out by number or location if available.

Answer 26 – See response to question 7.

Question 27 – Does the city currently employee a video management system for all the input streams named in the RFP, and if so, what is the model and system version of the VMS?

Answer 27 – This system will not integrate with the City's existing VMS solution.

Question 28 – Is ONVIF position data for the PTZ cameras at the respective locations available as part of their RTSP or video streams? What version of ONVIF streams are supported?

Answer 28 – PTZ cameras are not being considered as part of this project.

Question 29 – In our reading of the RFP, we do not see a defined period of performance. A "Section 2.3" period of performance is referenced on page 45 (Grant page 10 of 30) item 10.4, but there does not seem to be a section 2.3 included in the document. Please clarify the anticipated period of performance or other budgetary constraints to be considered in response to the RFP.

Answer 29 – Period of performance is two years.

Question 30 – No videos are to be stored at or on the City's physical servers or other assets, but are to be moved to the offeror's cloud-based service provider. Per A11, is there a requirement to store reference video used to derive all of the statistics for this RFP? Or is there a need to continuously record and store video from each location to be considered responsive to this RFP?

Answer 30 – Continuous recording and storage of video from each location is necessary, but should be stored on off-premises, vendor-owned servers.

Question 31 – Who owns the data and the videos once the data and video are stored in the cloud? Who is responsible for maintaining the data? What is the required retention period of the data? Will the city or the contractor be responsible for responding to requests for data or videos by third parties?

Answer 31 – The ownership and maintenance of all data and video stored in the cloud as part of this project will be the sole responsibility of the vendor awarded the contract. The required retention period for the data and video is limited to the duration necessary to process the identified near-miss incidents. Once the processing and review is complete, the video data will be deleted.

Question 32 – If budget constraints preclude the implementation of the proposed solution across 30 or more locations IAW the SST description on page 15 of the RFP, is this section negated?

Answer 32 – No, the SST will be required regardless of scale of the deployed system.

Question 33 – Please clarify how the Federal Grant real property Terms and Conditions listed in Appendix A, B, and C, may apply to what appears to be a service contract with potential hardware and software to be provided as other direct charges with no real estate or construction efforts with their associated costs to be delivered as part of the project.

Answer 33 – The selected vendor will be responsible for complying with the presented Terms and Conditions.

Question 34 – Is there a DBE/WDBE requirement for this project?

Answer 34 – There is no DBE/WDBE requirement for this project.

Question 35 – Is this project to be considered a "professional services contract"? Or do the Terms and conditions as written in the sample RFP the only ones which will apply?

Answer 35 – The project will be awarded as a professional services contract.

Question 36 – What is the concept of operations concerning any near miss messages or notifications that are generated?

Answer 36 – A concept of operations was not completed prior to this solicitation.

Question 37 – What is the current video server or switch equipment currently used by the city?

Answer 37 – The City does not have a video server. Switch information will be provided with the selected vendor.

Question 38 – What is the definition of a "single vehicle near miss" per requirement A2?

Answer 38 – A "single vehicle near miss" may be defined as an event involving one vehicle coming into close proximity with an object different from the other classification types listed in requirement A2.

Question 39 – What is the city's definition of the near miss, in terms of TTC or PET criteria as stated in the requirements, for the other cases?

Answer 39 – The City does not have pre-defined criteria.

Question 40 – Can the submission date be extended due to the year-end holidays and conflicting dates with TRB?

Answer 40 – The submission date will not be extended. It remains January 7, 2025.

Question 41 – In reference to the requirement of 4 proposal hard copies to be mailed as well as a thumb drive with a PDF, can we submit this information electronically as we enter the year 2025?

Answer 41 – Electronic submittals will not be accepted. See also Question 4. Referencing D. Sealed Proposal Submission on Page 5 of the RFP Document, delivery of submissions via mail carrier service would be acceptable. Note that the City will not be liable to any prospective offeror for any unforeseen circumstances, delivery, or postal delays and that postmarking on the due date will not substitute for receipt of the proposal.

Question 42 – Is the City of Ann Arbor seeking real-time continuous monitoring with alerts? Or is it the desire of the city to review a set timeframe(s), e.g. 60-100 hours throughout a given week, showcasing near miss and other relevant data?

Answer 42 – The City desires real-time continuous monitoring with alerts, but if continuous monitoring is not realistic, the vendor should address this within their proposal.

Question 43 – If real-time continuous monitoring is sought, will there be latency specifications and requirements?

Answer 43 – See response to Question 15.

Question 44 – For the published addenda it notes the week of December 20th, would this be the week of the 23rd as the 20th is a Friday?

Answer 44 – The published addenda will be posted the week ending December 20th.

Question 45 – Can you please provide example use cases for the integration with the signal controllers?

Answer 45 – While the exact applications between the near-miss video analytics systems and the signal controllers are still to be determined, the capability to communicate for future system development is required. Also see Question 9.

Question 46 – Can an on-premise server retain image snapshots and short video clips of the Near Miss events?

Answer 46 – No images/video clips can be retained on on-premises servers per City of Ann Arbor policy.

Question 47 – Under Section I.A, we understand that the System will ingest video data from existing City-owned, operated, and maintained GridSmart detection cameras at locations. How many GridSmart cameras are deployed per intersection? Would it be possible to get the full list or number of deployed cameras?

Answer 47 – Specific inventory information will be shared with the selected vendor.

Question 48 – Under Section I.D, we understand that all proposals are due and must be delivered to the City on or before, January 7, 2025, by 3:00 p.m. (Local Time). Does the proposal submission need to be hand-delivered, or is electronic submission acceptable as indicated under Section I.A for questions?

Answer 48 – Electronic submittals will not be accepted. See also response to Question 4.

Question 49 – Under Section II.A, we understand that the City operates and maintains 162 traffic signals that are equipped with Siemens m50 or m60 traffic signal controllers. What version of software is running on these controllers? Will the city unify the software version on all controllers when the project kicks off?

Answer 49 – The exact applications between the near-miss video analytics systems and the signal controllers are still to be determined, and this information will be shared with the selected vendor, as applicable.

Question 50 – Under Section II.B, we understand that the vendor must not install new hardware at intersections. The vendor must also meet requirements and complete the work outlined below. If existing cameras have occluded views due to poles, trees, or other obstructions, will the City consider installing additional cameras to address these issues?

Answer 50 – Not at this time.

Question 51 – Regarding System Operations and Maintenance, we understand that the offeror shall provide a two-year warranty and two (2) years of maintenance and support for hardware. Does the warranty period begin on the date of hardware delivered or on the date of formal project acceptance?

Answer 51 – The warranty period begins upon the completion of the burn-in period.

Question 52 – Regarding System Installation and Integration, understanding that access to City systems for the purpose of System installation shall be governed by existing City IT security policies and procedures, will remote access using a VPN be permitted? If not, what are permitted remote access methods?

Answer 52 – The City will work with the selected vendor to provide video stream and signal status information as needed for this project. An IPSec VPN tunnel may be permitted. The City will work with the selected vendor to provide access the City's network as applicable.

Question 53 – Under Attachment B. A2, can you provide a precise definition of "single vehicle near-miss"? For example, does it refer to a situation where a vehicle comes into close proximity with road pavement or fixed road furniture?

Answer 53 – A "single vehicle near miss" may be defined as an event involving one vehicle coming into close proximity with an object different from the other classification types listed in requirement A2.

Question 54 – Under Attachment B. A6, with the requirements to detect a near-miss in under 200ms, is the expectation for the event to show up on the GUI in under 200ms or for a notification to be issued? If on the GUI, will there be some tolerance for network or report generation delays which might take a few more seconds?

Answer 54 – See response to Question 15.

Question 55 – Under Attachment B. A7, can you clarify the term "30 object detection templates"? Does it refer to pre-defined object classes, model templates, or detection configurations?

Answer 55 – An object detection template would be a pre-defined parameter or rule used to identify and classify objects, such as vehicles, pedestrians, etc. expected in a certain area of the video feed and helps track these objects over time as they move through the feed. See also Question 2.

Question 56 – Under Attachment B. A11, understanding that the City does not wish video to be stored on the City property, will there be an option to store event video evidence on the same server where the GUI is hosted?

Answer 56 – If the server is not located on City property, yes.

Question 57 – Under Attachment B. A13, are the "video feeds" raw, unprocessed fisheye video streams? or are they pre-processed (dewarped, with annotations, etc.) before being ingested by the system?

Answer 57 – The vendor will need to work with the Gridsmart camera capabilities.

Question 58 – Under Attachment B. B3, we understand that the system shall be capable of filtering reports by vehicle class or VRUs, by lane, by severity, and by movement". Could you clarify the phrase "by lane"? Does it refer to the lane where vehicles or VRUs are physically present, or does it refer to the lane associated with the identified conflict point?

Answer 58 – It refers to the lane associated with the identified conflict point.

Question 59 – Under Attachment B. C3, we understand that the system shall support the addition of new camera deployments. How many additional cameras are anticipated to be installed? Will the City allow procurement and installation of a supplemental server along with the new cameras, if required?

Answer 59 – The number of additional cameras are unknown at this time. Yes, procurement and installation of a supplemental server will be allowed, if required at that time.

Question 60 – Under Attachment B. D2, we understand that The system must be capable of predicting movement and intent that could lead to dangerous situations involving road users. Are there defined performance metrics or success criteria for evaluating the accuracy of predicted movement and intent?

Answer 60 – The system should provide metrics that quantitatively evaluate the accuracy of predicted movements and intent such as false positive rate and false negative rate.

Question 61 - If we have a subcontractor on our application to the City of Ann Arbor, should we also collect and submit their related documents for Attachment C, Attachment D, Attachment E, and Attachment F or can we assume those will not be necessary for the subcontract at submission time?

Answer 61 – One set of those forms from the primary entity submitting the proposal would suffice for the RFP process.

Offerors are responsible for any conclusions that they may draw from the information contained in the Addendum.