**AGREEMENT OF UNDERSTANDING**

**BETWEEN**

**THE CITY OF JONESBORO**

**AND**

**THE TRAINFO CORPORATION**

**AND**

**THE ARKANSAS DEPARTMENT OF TRANSPORTATION**

In Cooperation with the
U.S. Department of Transportation Federal Highway Administration

RELATIVE TO:

Development and Implementation of a joint pilot project between the City of Jonesboro, the TRAINFO Corporation, and the Arkansas Department of Transportation under **Job 101237, TRAINFO Mobility Implementation (Jonesboro) (S)** (hereinafter called the "Project") to utilize new and innovative rail crossing technology funded by the Federal Highway Administration's (FHWA) Rail-Highway Crossing Safety Program.

**WHEREAS,** the City of Jonesboro (hereinafter called the "City") and the TRAINFO Corporation (hereinafter called the "Company") has expressed interest in partnering with the Arkansas Department of Transportation (hereinafter called the "Department") in a pilot project using rail crossing technology to study the impacts on rail highway safety, traffic congestion, and 911 emergency response times in the Jonesboro metropolitan area; and

**WHEREAS,** the FHWA Rail-Highway Crossing Safety Program administered by the Department has no match requirements and will be funded at 100% Federal-aid funds; and

**WHEREAS,** an oversight committee will be established to help guide the Project with representatives from the Department, the City, and FHWA; and

**WHEREAS,** the City and the Company know of no legal impediments to the completion of the Project; and

**WHEREAS,** Arkansas State Highway Commission Minute Order **2024-063** has authorized the Director to enter into any necessary agreements with the City and the Company for the Project; and

**WHEREAS,** the parties agree, unless specifically stated otherwise, that the provisions of this agreement are not intended to create or confer a third-party benefit or right in any person or entity, not a party to this agreement.

**IT IS HEREBY AGREED** that the City, the Company, and the Department, in cooperation with the FHWA, will participate in a cooperative program for implementation of the Project and will accept the responsibilities and assigned duties as described hereinafter.

**THE CITY WILL:**

1. Notify the Department in writing who the City's designates as its full-time employee to be in responsible charge of the day-to-day oversight of the Project. The duties and functions of this person are:
   - Oversee project activities, including those dealing with cost, time, adherence to contract requirements, and scope of Federal-aid projects;
   - Maintain familiarity of day-to-day project operations;
   - Make or participate in decisions about changed conditions or scope changes that require change orders and/or supplemental agreements;
   - Review financial processes, transactions, and documentation to ensure that safeguards are in place to minimize fraud, waste, and abuse;
   - Direct project staff, City or consultant, to carry out project administration and contract oversight, including proper documentation; and
   - Be aware of the qualifications, assignments and on-the-job performance of the City and consultant staff at all stages of the project.

2. Provide a representative to sit on an established oversight committee that shall review all results and implementation of any findings for a period of five years.

3. Assist in detailing the project scope and any changes in that scope, review all work products and exercise project oversight for a period of five years.

4. Prior to executing the work, submit change orders or supplemental agreements to the Department for review and approval for program eligibility.

5. Assume all maintenance and assume ownership of all equipment after a period of five years.

6. Retain total, direct control over the Project throughout the life of the improvements and **not, without prior approval from the Department**:
   - sell, transfer, or otherwise abandon any portion of the Project; change the intended use of the Project as approved;
   - make significant alterations to any improvements constructed with Federal-aid funds; or cease maintenance or operation of a project due to Project's obsolescence.

7. Indemnify and hold harmless the Arkansas State Highway Commission, the Department, its officers and employees from any and all claims, lawsuits, judgments, damages, costs, expenses, and losses, including those arising from claims before the Arkansas Claims Commission or lawsuits brought in any other legal forum, sustained on account of the operations or actions of the City, including any act of omission, neglect or misconduct of said City. Further, the City shall take no action to compromise the immunity from civil suits afforded the State of Arkansas, the State Highway

Commission, Arkansas Code 19-10-305, or the 11th Amendment of the United States Constitution. This obligation of indemnification shall survive the termination or expiration of this Agreement.

8. Assure that its policies and practices with regard to its employees, any part of whose compensation is reimbursed from federal funds, will be without regard to race, color, religion, sex, national origin, age, or disability in compliance with the Civil Rights Act 1964, the Age Discrimination in Employment Act of 1967, The Americans with Disabilities Act of 1990, as amended, and Title 49 of the Code of Federal Regulations Part 21 (49 CFR 21), Nondiscrimination in Federally-Assisted Programs of the Department of Transportation

**THE COMPANY WILL:**

1. Ensure all deliverables are supplied and addressed according to **Attachment A**: the TRAINFO Mobility proposal submitted to the City of Jonesboro on October 3, 2024 (hereinafter called the "Proposal").

2. Ensure all aspects of the service level agreement are satisfied according to Appendix B: Service Level Agreement of the Proposal.

3. Adhere to pricing according to Appendix D: Price Summary of the Proposal. Any price changes must be reviewed and approved in advance by Department staff.

4. Ensure the requirements of Appendix E: Rail Crossing Information System Spec. of the Proposal are delivered and addressed as proposed.

5. Indemnify and hold harmless the Arkansas State Highway Commission, the Department, its officers and employees from any and all claims, lawsuits, judgments, damages, costs, expenses, and losses, including those arising from claims before the Arkansas Claims Commission or lawsuits brought in any other legal forum, sustained on account of the operations or actions of the Company, including any act of omission, neglect or misconduct of said Company. Further, the Company shall take no action to compromise the immunity from civil suits afforded the State of Arkansas, the State Highway Commission, Arkansas Code 19-10-305, or the 11th Amendment of the United States Constitution. This obligation of indemnification shall survive the termination or expiration of this Agreement.

6. Assure that its policies and practices with regard to its employees, any part of whose compensation is reimbursed from federal funds, will be without regard to race, color, religion, sex, national origin, age, or disability in compliance with the Civil Rights Act 1964, the Age Discrimination in Employment Act of 1967, The Americans with Disabilities Act of 1990, as amended, and Title 49 of the Code of Federal Regulations Part 21 (49 CFR 21), Nondiscrimination in Federally-Assisted Programs of the Department of Transportation

**THE DEPARTMENT WILL:**

1. Maintain an administrative file for the Project and be responsible for administering Federal-aid funds.

2. Provide a representative to sit on an established oversight committee that shall review all results and implementation of any findings for a period of five years.

3. Assist in detailing the project scope and any changes in that scope, review all work products and exercise project oversight for a period of five years.

4. Make payments to the Company for its work and related equipment utilized on the Project.

5. Maintain accounting records to adequately support reimbursement with Federal-aid funds and be responsible for certification of all work in accordance with the contract.

6. Retain all records relating to inspection and certification, billing statements, and any other files necessary to document the performance and completion of work.

IN WITNESS WHEREOF, the parties thereto have executed this Agreement on this _____ day of _____, 2025.

Agreement of Understanding between:

The City of Jonesboro and, the TRAINFO Corporation, and the Arkansas Department of Transportation relative to:

Development and implementation of the TRAINFO Mobility Implementation Project.

Signatories

**THE CITY OF JONESBORO**

| | |
|---|---|
| Harold Copenhaver<br>Mayor | Date |
| Carol Duncan<br>City Attorney | Date |
| April Leggett<br>City Clerk | Date |

Agreement of Understanding between:

The City of Jonesboro and, the TRAINFO Corporation, and the Arkansas Department of Transportation relative to:

Development and implementation of the TRAINFO Mobility Implementation Project.

Signatories

**TRAINFO Corporation**

_____ _____

Neil Ternowetsy Date
CTO

Agreement of Understanding between:

The City of Jonesboro the TRAINFO Corporation, and the Arkansas Department of Transportation relative to:

Development and implementation of the TRAINFO Mobility Implementation Project.

Signatories

**Arkansas Department of Transportation**

_____ _____

Jared D. Wiley, P.E. Date
Director

**ARKANSAS DEPARTMENT OF TRANSPORTATION**

**NOTICE OF NONDISCRIMINATION**

The Arkansas Department of Transportation (ARDOT) complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, ARDOT does not discriminate on the basis of race, sex, color, age, national origin, religion (not applicable as a protected group under the Federal Motor Carrier Safety Administration Title VI Program), disability, Limited English Proficiency (LEP), or low-income status in the admission, access to and treatment in ARDOT's programs and activities, as well as ARDOT's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding ARDOT's nondiscrimination policies may be directed to Civil Rights Officer Joanna P. McFadden (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address: joanna.mcfadden@ardot.gov.

Free language assistance for Limited English Proficient individuals is available upon request.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

# TRAINFO

Proposal Title

## TRAINFO Mobility

Submitted To

City of Jonesboro, AR

Submission Date

October 3, 2024

Submission By

TRAINFO Corp.
1465 Buffalo Place
Winnipeg MB – R3T 1L8
Ph. 1-888-572-7746

# CONTENTS



## CONFIDENTIALITY STATEMENT

*This proposal contains information that is proprietary to, and is the property of, TRAINFO Corporation and/or its subcontractors. This proposal and its contents are confidential and shall not be transferred or communicated to any third parties without the prior written consent of TRAINFO Corporation.*

## INTRODUCTION

This document summarizes the proposed approach for the City of Jonesboro to deploy TRAINFO Mobility. Upon acceptance of the proposal, it will serve as the general terms for the TRAINFO deployment between the City of Jonesboro and TRAINFO.

## BACKGROUND & NEED

With over 50 rail crossings, the City of Jonesboro experiences significant traffic problems surrounding these crossings. The crossings are active more than 800 times per-day resulting in over 5,000 vehicles being delayed per-day with close to 300 hours of delay experienced (Figure 1). To address the traffic problems at grade crossings, the city is evaluating deploying TRAINFO Mobility.

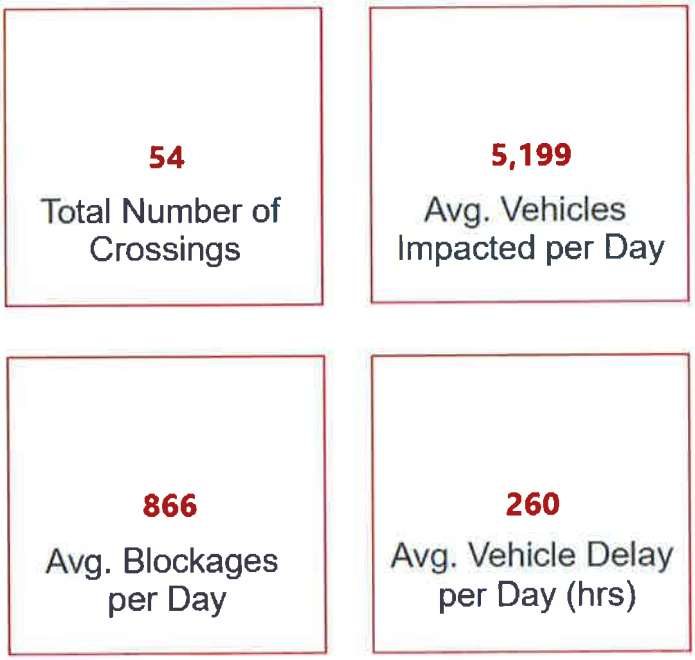


*Figure 1: Crossing Statistics for City of Jonesboro*

## PROPOSED SOLUTION

With its demonstrated ability to reduce traffic delay by over 30% and vehicle interactions with crossings by more than 20%, TRAINFO is proposing its Mobility solution to produce *Crossing Prediction* information, The information will be fed into strategically placed flashing beacons and DMS boards to inform motorists of the activity at the crossings and help them to route away and ultimately reduce the interactions of vehicle with active crossings. While not presently scoped, the Mobility solution will also allow the city to push data to their 911 systems, Waze and anywhere else they may choose. In addition, TRAINFO Mobility comes with Blockage Insights and Response Intelligence; these features of the TRAINFO Mobility will serve in providing analysis to support the development of grant applications. Figure 2 shows the equipment locations for the solution, while Table 1 details the information being produced for each crossing.

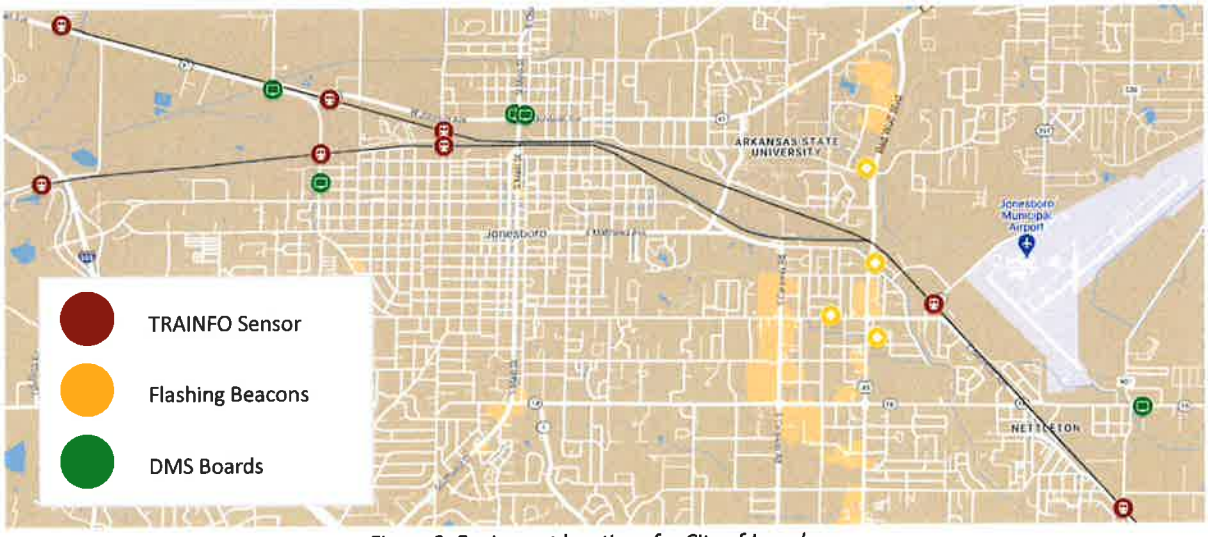


*Figure 2: Equipment locations for City of Jonesboro*

**Table 1: Description of the information uses**

| Crossing | Information | Integrations | Notes |
|---|---|---|---|
| Hanson Road | Crossing Prediction | DMS | Used to predict movements to Dan Ave crossing.<br>Prediction lead for movements from the West is expected to be roughly 3-minutes.<br>Prediction lead for movements from the East is expected to be under 2-minutes.<br><br>Due to the near by proximity of switches and turnouts, there is an increased risk of non-continuous train movements. These movements will not be predicted but will be identified. |
| Dan Ave | Crossing Prediction | DMS | |
| N Culberhouse St | Crossing Prediction | DMS | Used to predict movements to Dan Ave crossing. |
| W Parker Rd | Crossing Prediction | DMS | Used to predict movements to S Gee St crossing.<br>Prediction lead for movements from the West is expected to be roughly 3-minutes.<br>Prediction lead for movements from the East is expected to be under 2-minutes.<br><br>Due to the near by proximity of switches and turnouts, there is an increased risk of non-continuous train movements. These movements will not be predicted but will be identified. |
| S Gee St | Crossing Prediction | DMS | |
| S Culberhouse St | Crossing Prediction | DMS | Prediction lead for movements from the West is expected to be roughly 3-minutes.<br>Prediction lead for movements from the East is expected to be under 2-minutes.<br><br>Due to the near by proximity of switches and turnouts, there is an increased risk of non-continuous train movements. These movements will not be predicted but will be identified. |
| Airport Rd | Crossing Status | DMS | NA |
| Industrial Dr | Crossing Status | DMS | NA |

# DELIVERABLES

To provide the solution detailed in Figure 2, TRAINFO will supply the deliverables detailed in Table 2.

**Table 2: TRAINFO Deliverables**

| Item | Description | Quantity |
|---|---|---|
| TRAINFO Sensors – with camera module | TRAINFO sensor to collect rail crossing activity data (See Figure 2 for locations). | 7 Sensors |
| TRAINFO Sensor Solar – with camera module | TRAINFO sensor to collect rail crossing activity data (See Figure 2 for locations). | 1 Sensors |
| Ver-Mac - Full Matrix DMS - 45"X 80" - Permanent (B-548) | AC<br>Ver-Mac Mini Full Matrix Sign, Semi Permanent<br>45" x 80" display panel, 30 x 56 pixels<br>V-Touch NTCIP Touchscreen Controller<br>No batteries, No Solar. Includes power hook up and Z-mounting brackets | 5 Boards |
| Solar & Battery Kit - DMS Boards<br>(OPT-MS-PERM-SOLAR) | Panels, brackets and charge controller for permanent install DMS boards | 3 Kits |
| Flashing Beacon - Solar Power<br>(B-FLASHER SOLAR) | Solar control box with batteries (2 or 4 stealth)<br>IX30 modem<br>Webrelay<br>1 flashing beacon | 2 Beacons |
| Flashing Beacon - AC Power<br>(B-Flasher AC) | B-Flasher AC<br>AC control box<br>IX30 modem<br>Webrelay<br>1 flashing beacon | 2 Beacons |
| Data Plans | Data plans for new TRAINFO sensors. | 8 plans for 5-year |
| Tier 2 County License* | The Tier 3 County License - Minimum 6 TRAINFO Sensors and maximum of 10 TRAINFO Sensors - Includes DMS, 911 and Waze integration. Allows City of Jonesboro to produce information for the specified licensed crossings detailed in Table 1. The license will allow the city to share the produced data with any agency within the county and integrate into an 3rd party system willing to integrate. | 5-year** |

**License tiers can be seen in the Appendix A of this document*

# PROJECT AND FEE SCHEDULE

TRAINFO will deliver the proposed project following the schedule detailed in Table 3. Table 4 details the fee schedule required to deliver the project.

**Table 3: Deployment Schedule**

| Task | Description | Owner | Start Week | Duration (weeks)* |
|---|---|---|---|---|
| 1 | Contract Initiated | City of Jonesboro | 0 | 0 |
| 2 | Kick-off Meeting | City of Jonesboro and TRAINFO | 1 | 1 |
| 3 | Technical Install Meeting | City of Jonesboro and TRAINFO | 2 | 1 |
| 4 | Deliver TRAINFO Sensors | TRAINFO | 1 | 3 |
| 5 | Deliver DMS Boards and Beacons | TRAINFO | 1 | 8 |
| 6 | Install Hardware – TRAINFO Sensors | City of Jonesboro | 4 | 2 |
| 7 | Install Hardware – DMS Boards | City of Jonesboro | 9 | 4 |
| 8 | System Calibration | TRAINFO | 6 | 7 |
| 9 | License Activated | TRAINFO | 13 | 1 |
| 10 | Transition to Support | TRAINFO | 13 | 2 |

*Duration to be determined by Task Owner

**Table 4: Fee and Payment Schedule**

| Milestone | Description | Amount Due | Weeks After Contract |
|---|---|---|---|
| 1 | Delivered TRAINFO Sensors | $118,465 | 4 |
| 2 | Delivered DMS Boards Sensors | $134,000 | 9 |
| 3 | Activate License* | $92,000 | 15 |

*5 years of license is being purchased

# APPENDIX A: DEFINITIONS

Blockage Insights – TRAINFO proprietary methods for summarizing Rail Crossing Blockages.

Bluetooth Sensor – this is a sensor that is installed along a roadway to uniquely identify Bluetooth devices and determine the time that the device passed the sensor. When multiple sensors are installed along a roadway the travel time between sensors can be calculated.

Continuous Movements - A train traveling at a relatively continuous velocity near the max speed who is likely moving through a crossing.

Data Plan – a cellular data plan including a SIM card that is used to wirelessly transmit data from Train Detection Sensors and Bluetooth Sensors.

Data Portal – this is a website hosted by TRAINFO which provides the results of the Traffic Delay Study, including data and information about Rail Crossing Blockages and Travel Time Delays.

Information – the type of information produced in real-time that will be produced for a given crossing. Three classes of information exist:

- Crossing Status – the status of the crossing (i.e., active, or clear).
- Crossing Prediction – the information included in Crossing Status, but also includes predictions for when the crossing is expected to be occupied and for how long. Predictions only apply for trains with Continuous Movements.
- Congestion Analytics -the information included in Crossing Status, but also includes detail statistics on vehicle delay
- Traffic Prediction – the information included in Crossing Prediction, but also includes predictions on the travel time vehicles will expect to experience from a train with Continuous Movements until the queue recovers from the event.

Integrations – the integration of the data produced of by TRAINFO into external systems. Classes of integrations can include:

- ATMS – integration into automated traffic management systems for the purposes of managing traffic signal response plans
- EMS – integration into a system used by emergency (i.e. Computer Aided Dispatch software and tactical map) to provide situational awareness in the emergency response process.
- DMS – Broad term to describe the integration into a sign (i.e., beacons and dynamic message signs) management system.

Non-Continuous Movements – A train whose movement is unpredictable and there is little certainty of it moving with any continuity through the crossing. Trains exhibiting non-continuous movements are typically one performing switching, stopping, and shunting movements.

Rail Crossing Blockage – anytime it is illegal for a vehicle to traverse a rail crossing. This includes instances when flashing lights, bells, and gates are activated or when a rail vehicle is occupying the rail crossing.

Rail Crossing Location – the point where a roadway and railway intersect as uniquely identified by the Federal Rail Crossing Inventory Database.

System Maintenance and Support – Service provided by TRAINFO to support and maintain the deployments for a given customer.

Train Detection Sensor – this is TRAINFO's proprietary device that is installed next to rail crossings to determine when the crossing is blocked.

TRAINFO City/County License – an annual subscription for all departments within an agency to use TRAINFO's in accordance with the integrations purchased. The licensed has a tiered cost structure dependant on the number of TRAINFO sensors being deployed; the tiers are as follows:

| Tier | Min # of Sensors | Max # of Sensors | Annual Cost |
|---|---|---|---|
| 1 | 1 | 1 | $10,000 |
| 2 | 2 | 5 | $18,000 |
| 3 | 6 | 10 | $26,000 |
| 4 | 11 | 15 | $34,000 |
| 5 | 16 | 20 | $42,000 |
| 6 | 21 | Unlimited | $50,000 |

Travel Time Data – data sets that show the travel-time between a predefined origin and destination at a per-vehicles trip level.

# APPENDIX B: SERVICE LEVEL AGREEMENT

## Agreement Overview

This Agreement outlines the parameters of all services covered as they are mutually understood by the stakeholders. This Agreement does not supersede current processes and procedures unless explicitly stated herein.

This Agreement remains valid until superseded by a revised agreement mutually endorsed by the stakeholders, or until the customer no longer holds a valid TRAINFO license.

## Objective & Goals

The objective of this Agreement is to ensure that the proper elements and commitments are in place to provide consistent delivery of information.

The goals of this Agreement are to:

- Provide clear reference to service ownership, accountability, roles and/or responsibilities.
- Present a clear, concise, and measurable description of service provision to the customer.
- Match perceptions of expected service provision with actual service support & delivery.

## Periodic Review

This Agreement is valid from the contract execution date and is valid while the customer has an active TRAINFO license. This Agreement should be reviewed at a minimum once per year; however, in lieu of a review during any period specified, the current SLA will remain in effect.

The TRAINFO Account Manager ("Document Owner") is responsible for facilitating regular reviews of this document. Contents of this document may be amended as required, provided mutual agreement is obtained from the primary stakeholders and communicated to all affected parties. The Document Owner will incorporate all subsequent revisions and obtain mutual agreements / approvals as required.

## Service Agreement

The following detailed service parameters are the responsibility of the Service Provider in the ongoing support of this Agreement.

## Service Scope

The following describes the services provided for each product category TRAINFO Corp. provides. Please note, some services may be limited if the customers have opted out of any standard service item. Any items the customer has opted out of are noted in the *Deliverables* section of this proposal. In addition, service is limited to the following items and does not include third-party components sourced for the customer (i.e., Bluetooth sensors and DMS boards):

- TRAINFO Sensors
- TRAINFO County License
- TRAINFO software integrations

**TRAINFO County License**

License for use of the TRAINFO System to process sensor (train detection and Bluetooth) data to produce the following predictions:

- Predicted arrival time of a blockage at a crossing
- Predicted duration of a blockage at a crossing
- Predicted impact of blockages to traffic

Information produced is dependant on the availability of data to produce the information as dictated by the sensors installed and/or data provided by the Customer.
In addition, the license includes:

- Access to the TRAINFO data portal to review all data analysis.
- System configuration and remote deployment support for local installation.
- Cloud hosting of data for local installation (GovCloud (US-West) Region and backup running in GovCloud (US-East) Region).
- Implementation of sensor and server software version updates.
- Access to all API's and integrations developed by TRAINFO, as noted in the Deliverables section of the proposal.
- The ability to cost share a license between any agency within a geographical county at no additional cost so long as any additional crossings don't exceed the license tier detailed in the Deliverables section of this proposal.

## Customer Requirements

**Customer** responsibilities and/or requirements in support of this Agreement include:

- Payment for all support costs at the agreed interval
- Allow TRAINFO the use of customer corporate logos in TRAINFO content (i.e., press releases, websites, and case studies) for the purpose of announcing contracts, presenting benefits of the TRAINFO solution and other like cases.
- Provision of necessary traffic count data
- Reasonable availability of customer representative(s) when resolving a service-related incident or request.
- Provision of Tier 1 support. Tier 1 support is defined as the local support of all physical system equipment. Support items include, but are not limited to the following:
  - Installing equipment
  - Providing onsite support to troubleshoot hardware issues with a remote TRAINFO Tier 2 support representative.
  - Replacing equipment when necessary

## TRAINFO Requirements

**TRAINFO's** responsibilities and/or requirements in support of this Agreement include:

- Meet response times associated with service-related incidents.
- Provide appropriate notification to Customer for all scheduled maintenance. Appropriate notification is detailed in Table 4.
- Remote management and monitoring of the TRAINFO system (i.e., sensors and servers)
- Monitor and approve machine learning generated profiles
- System configuration and remote deployment support for local installation
- Provide Tier 2 support. Tier 2 support is defined as the remote support and response to all incidents causing service disruptions and degradation. Tier 2 support consists of remotely resolving Incidents and coordinating Tier 1 support to resolve Incidents.

## Change Management

TRAINFO Corp will implement system changes as required to ensure the provision of service for the duration of the engagement with the Customer. System changes are those items that require updates to the system infrastructure as a result of identified system Problems, definition of new requirements, and necessary maintenance. A description of the category of changes to expect as well as the associated scheduling and communication are outlined within Table 4.

**Table 4: Description, Scheduling, and Communication of Expected Change Categories**

| | Description | Schedule | Communication |
|---|---|---|---|
| **Regular Change** | Regular system upgrades and maintenance (i.e., patch updates to sensors and server). | Friday evenings through to Saturday mornings from 11:00pm to 5:00am CDT/CST. | 48 hours in advance of change. |
| **Coordinated Change** | Changes that require Tier 1 support. | Coordinated with the Customer. | 2 weeks in advance of change. |
| **Emergency Changes** | Emergency Changes to resolve imminent system failures. | Implemented at TRAINFO's discretion. | Communicated to the Customer upon completion. |

## Service Management

Effective support of in-scope services is a result of maintaining consistent service levels. The following sections provide relevant details on service availability and service response times.

### Service Availability

Service availability identifies those periods where TRAINFO support is available to provide service. Table 5 describes the availability periods and the means to contact support.

**Table 5: Service Availability Details**

| Service Availability | Telephone Support | Email Support |
|---|---|---|
| Monday to Friday (does not include Canadian holidays)<br>8:00am CDT/CST – 6:00pm CDT/CST | 1-888-572-7746 ext. 1 | support@trainfo.ca |

### Service Response Times

TRAINFO's service response times outline targets TRAINFO strives to achieve in terms of its response times to the reporting of Incident from customers and the submission of their requests. Incidents are identified as unexpected events causing degradation or disruption to service. Requests inquiries for non-failure related items, i.e., training requests, addition of new users to the data portal, and so on. Table 6 outlines TRAINFO's service response times.

**Table 6: Service Response Times by Priority**

| Priority | Response Time (During Service Availability Periods) | Definition |
|---|---|---|
| High | Less than 8 Hours* | Incidents that are causing disruption to services. |
| Medium | Less than 48 Hours** | Incidents that are causing degradation to services. |
| Low | Less than 4 Days** | Service requests. |

*During service availability hours

**Business days occurring during service availability hours

## Service Targets and Reporting

TRAINFO's service targets and the reporting of its performance against those targets is done to ensure customer needs are being met. Performance reporting is conducted on an annual basis during the SLA annual review. TRAINFO's service targets and penalties associated to not achieving those targets are outlined in Table 7.

**Table 7: Service Performance Targets and Associated Penalties**

| Support Type | Priority | Performance Target | Penalties |
|---|---|---|---|
| Incidents | High | Respond to all support inquiries within noted response time 95% of the time for no less than 10 months of the year. | 10% discount on annual license fee or future software purchases. |
| | Medium | Respond to all support inquiries within noted response time 90% of the time for no less than 10 months of the year. | 5% discount on annual license fee or future software purchases. |
| Requests | Low | Respond to all support inquiries within noted response time 90% of the time for no less than 10 months of the year. | 5% discount on annual license fee or future software purchases. |

# APPENDIX D: PRICE SUMMARY

TRAINFO

## City of Jonesboro AR - Full Scope 5 year of service

**City of Jonesboro AR**
300 South Church Street
City of Jonesboro AR United States
72401

**Ronnie Sturch**
rsturch@jonesboro.org
+18703367199

**Martin Hamrick**
mhamrick@jonesboro.org
870-932-2428

**Craig Light**
clight@jonesboro.org
870-932-2438

Reference: 20240612-104213335
Quote created: June 12, 2024
Quote expires: November 29, 2024

**TRAINFO**
1465 Buffalo P

Winnipeg, Manitoba R3T 1L8
Canada

**Prepared by: Neil Ternowetsky**
"Chief Technology Officer"
neil.ternowetsky@trainfo.ca

| | |
|---|---|
| **Total** | **$252,465.00** |

| PRODUCTS & SERVICES | QUANTITY | PRICE |
|---|---|---|
| TRAINFO Sensor-Solar | 7 | $69,965.00 for 5 years |
| TRAINFO Sensor-Base | 1 | $7,900.00 for 5 years |
| TRAINFO Camera Module | 8 | $16,000.00 for 5 years |
| Shipping | 8 | $1,600.00 for 5 years |
| County License - Tier 3 (6-10 sensors) | 1 | $18,200.00 / year after 30% discount for 5 years |
| Data Plans | 8 | $4,800.00 / year for 5 years |
| Flashing Beacon - Solar Power | 2 | $20,000.00 for 5 years |
| Flashing Beacon - AC Power | 2 | $14,000.00 for 5 years |
| Beacon Shipping | 4 | $2,000.00 for 5 years |
| Solar Panel and Mount - Beacon kit | 2 | $2,000.00 for 5 years |
| Ver-Mac - Full Matrix DMS - 45"X 80" - Permanent | 5 | $75,000.00 for 5 years |
| Solar & Battery Kit - DMS Boards | 3 | $13,500.00 for 5 years |
| DMS Shipping | 5 | $7,500.00 for 5 years |

| SUMMARY | |
|---|---|
| Annual subtotal | $23,000.00<br>after $7,800.00 discount |
| One-time subtotal | $229,465.00 |

| | |
|---|---|
| **Total** | **$252,465.00** |
| **Total contract value** | **$344,465.00** |

**Comments**

**Purchase terms**

# APPENDIX E: RAIL CROSSING INFORMATION SYSTEM SPEC

## DESCRIPTION

- The rail crossing information system will accurately detect a train's arrival, develop historical trends to predict train arrival, provide historical analytics, and interface with existing systems like traffic management centers, roadside signs, and emergency dispatchers.
- This system shall consist of furnishing, installing, and integrating a system to monitor the status of rail-crossings. The system shall not require a hardwired interface to the railroad signal controller.
- The system shall be capable of identifying the current status of a railroad crossing, specifically whether the warning devices are active or inactive. The system shall be capable of triggering a status message within ±5 seconds of a warning device status change from active to inactive or from inactive to active. The system shall maintain a history of detected warning device status changes and shall be capable of generating reports based on historical data.
- The system shall be capable of measuring the impacts of active crossings on motorists, emergency responders and other road users.

## SENSOR

- Field detection device must be able to detect warning system activations using video and/or acoustics.
- Field detection device must have a 24-hour UPS battery, POE Output of 17W @ 48V, nominal power consumption of <3W @ 12V, max power consumption of 7W @ 12V.
- Field detection device must have an option to power directly using existing power sources, with a power input of 120-240VAC, a wire that is 3 conductor copper multi-conductor cable 18 AWG and annealed stranded, a 15 AMP industrial graded male connector with 125 V 3-wire plug and PVC, a battery (12VDC @ 14Ah), a maximum weight of 30lbs, and a maximum dimensions of 14in x 12in x 6in.
- Field detection device must have an option to power using solar panels, with a panel rating of 175w @ 17.95 VMP, maximum panel dimensions of 52.2in x 26.3in x 1.38in, a maximum weight of 90lbs and a battery (12VDC @ 75Ah).
- Field detection device must have 4G LTE connectivity, an external integration interface of 10/100 Gigabit Ethernet with static or dynamic addressing, and location services including GPS/GLONASS/BeiDou/Galileo/QZSS.
- Field detection device must have overload surge protection between 105 to 150% rated output power, an over voltage surge protection between 14.49V and 18.63V, and a battery cut off of 10 ±0.5V.
- All field equipment shall be hardened, with an operating temperature range of -40 to +70 degrees Celsius. The vendor shall have an established product that is installed at least five (5) references.
- All work activity and equipment installation shall take place outside of railroad right-of-way.
- Field detection device must be CSA and FCC certified.
- Field detection device must receive firmware updates remotely.

## SOFTWARE

- The rail crossing information system supplier must have an existing network-based API and documentation to allow the city's traffic management and emergency response systems to receive all necessary crossing data.
- The rail crossing information system supplier must have the ability to integrate upon request into these types of systems (Waze, DMS, Tactical maps, ATMS, Mobile Apps, etc.)
- The rail crossings information system supplier must be able to provide support remotely.
- The rail crossing information system shall include a central server with tools to analyze crossing activation events including (duration analysis, spatial analysis by crossing, individual event data, rail segment statistics), real-time maps capable of displaying real-time and predictive blockage events, tools to analyze

the risk of emergency responders being exposed to active crossings, tools to analyze road segment congestion surrounding rail crossings caused by activity at the crossing including (detailed congestion statistics, the number of vehicles impacted, the amount of delay experienced per day, and a queue recovery analysis).

- Software must be able to ingest traffic count, 911 AVL, travel time (probe, Bluetooth and Connected Vehicle), rail crossing pre-emption and trespass data to support the generation of advanced analytics.

## INSTALLATION, TESTING AND SUPPORT

- Vendor must be capable of providing remote installation support for field monitoring stations.
- Vendor must be capable of activating and monitoring the system remotely.
- Vendor must be capable of remotely calibrating detection under 7-days to meet performance requirements.

## WARRANTY

- The supplier shall provide a one-year warranty for all components of the rail crossing information system. During the warranty period, technical support shall be available from the supplier via telephone within 2 business days of the time a call is made by a user.

## TRAINING

- The Vendor shall provide Go-live training, technical training.
- The Vendor shall provide quarterly training on request.

## PERFORMANCE / FUNCTIONAL REQUIREMENTS

- Capable of predicting train movements in compliance with US patent US10648827B2 and CDN patent 2928783.
- Calibration of train detection sensors completed remotely within 7 days of installation.
- Detect active rail crossings with $99.\overline{99}\%$ accuracy.
- Calculate duration of crossing activation events with ±5 second accuracy.
- Installed on public right-of-way without coordination with railroad companies.