

Request for Proposal

**Traffic Enforcement,
Automated Red Light and
Speed Detection Camera
Systems and Office Services**

RFP No. 04-2024

September 13, 2023

Redacted Technical Proposal

Prepared for:

Howard County, Maryland

**Submitted by:
Verra Mobility**

1150 North Alma School Road

Mesa, Arizona 85201

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www.verramobility.com



**VERRA
MOBILITY**



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The following proposal may contain proprietary and trade secret information including but not limited to processes, unique features, instructions, and conceptualizations that are the sole property of Verra Mobility. Pages containing such information that may be exempt from public disclosure are identified by the red "Proprietary and Confidential" stamp.

The descriptions of the Verra Mobility solutions and services included in this proposal are based on our current practices. We strive to improve the solutions and services that we deliver to our customers, and as a result, we reserve the right to modify our solutions and services from time to time so long as we continue to meet the terms and conditions of our agreement with you.

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1. Technical Proposal Cover Page

2.3.1.1 Technical Proposal Cover Page

Our completed Technical Proposal Cover Page has been uploaded to Howard County's PlanetBids portal in the field called "RFP Required Forms."

2. Contractor's Qualification Information

2.3.1.2 Contractor's Qualification Information

Our completed Contractor Qualification Information Form has been uploaded to Howard County's PlanetBids portal in the field called "Contractor Qualification Information Form."

3. Affidavit

2.3.1.3 Affidavit

The required Affidavit Form has been uploaded to Howard County's PlanetBids portal in the field called "RFP Required Forms."

4. Executive Summary

Verra Mobility focuses on making life safer, easier, and more connected for our customers and the communities we serve. As a global leader in smart transportation, we work alongside our customers and behind the scenes to relentlessly develop technology solutions to solve complex transportation challenges. We seamlessly connect people, technology, and data across the smart mobility ecosystem.

The Verra Mobility team has thoroughly reviewed Howard County's program objectives and relevant legislation to ensure our solution meets these requirements. Based on our experience and expertise, we have provided a brief description of the important issues involved in the implementation of this effort.

Current Provider of Red-Light Program



Verra Mobility has been honored to provide Howard County with its current red-light program since 2011. As such, we understand the County's needs, and this experience has allowed us to gain knowledge our competitors do not have. We have an intricate familiarity of your current environment and program, which allows us to leverage existing infrastructure where possible to complete upgrades and install new sites in a timely manner. We offer the lowest risk implementation for this program with no need to transition to an untested supplier.

A core offering of our proposal is the continuity of our ongoing success – providing the right people to support your needs. That is why we have proposed Denise Andrieux, Account Manager, to head your program. Denise has worked with Howard County for several years, and this experience will allow her to seamlessly continue to work to meet the County's current and future needs.

As your incumbent provider with consummate knowledge of your current program and future goals, no company is better positioned to promptly deliver services to the County than Verra Mobility. Our team is local, in place, and brings knowledge of the program on day one.

Continued Use of Verra Mobility's Back-Office System

Another benefit of working with Verra Mobility is that you are already familiar with our robust back-office system (BOS). The overall use of the platform, including evidence package generation and reporting, will be the same user experience as the current red-light safety camera program for both red-light and speed enforcement programs. Already knowing how to use the BOS will save the County precious time and resources because users currently understand and use the system.



This BOS is already providing you with a secure, web-enabled way to track your system, create evidence packages, and generate reports. This easy-to-use system automates many

portions of the County's enforcement process from event capture to citation prosecution, thereby increasing efficiency and reducing operating costs. The system has been designed and proven to enable end-to-end processing of traffic incident events for enforcement programs across the United States.

Continuing to use the Verra Mobility BOS prevents any unforeseen delays or risks involved in implementing a new system. Knowing that event images and data will continue to be securely and wirelessly transferred from the camera systems to the BOS will provide peace of mind.

Continuity of Subcontractor Services



Verra Mobility uses a subcontracting team that currently provides service to Howard County and has been accountable to us from day one. Agreements with these businesses are already in place. Your Account Manager, Denise Andrieux, has previous experience collaborating with them and has a thorough understanding of their services. This familiarity will allow for maximum performance and

communication throughout the program.

Additionally, among these subcontractors are two minority business enterprises (MBEs), which make up a considerable portion of the amount we spend on subcontracting services.

Future-Looking Technology

Verra Mobility is proposing the latest cameras with crystal-clear imaging. This equipment is one unit that will be used for both red light and speed, providing the County with everything you need. We are positioned to provide an immediate technology upgrade of your red-light program, with site survey activity already completed. We are also ready for installation of a speed program should we be honored to be chosen for that initiative. Verra Mobility strives to improve the solutions and services that we deliver to our customers, and as a result, we reserve the right to modify our solutions and services from time to time so long as we continue to meet the terms and conditions of our agreement with you.



Verra Mobility continually partners with leading cities and government organizations around the world to pioneer innovations in smart transportation. We provide a variety of avenues to support new technology initiatives, and these opportunities are afforded to all our customers. The following are a few such examples of how we incorporate industry and customer feedback into new product initiatives:

New Feature and Product Pilots – Whether developed based on market feedback and industry trends or partnership with specific customers, Verra Mobility partners with agencies to evaluate technologies in a live but controlled environment. In such activities, Verra Mobility's product, technical, and operations experts work with local personnel to plan, implement, and evaluate new technologies. Verra Mobility then captures the findings and publishes them in the form of a findings report and/or case study. Depending on the customer environment and solution to be evaluated, Verra Mobility seeks the most fitting agencies to partner for this type of program.

Research Surveys, Interviews, and Focus Groups – Through the development of new products and features, Verra Mobility seeks user feedback from industry experts on the solution, specifically evaluating solution fit, usability, and overall performance. Users of Verra Mobility solutions are especially valuable to this process as they serve as the bridge between the solution and the transportation network. While not required, Verra Mobility encourages and welcomes all users of our products to engage in such activities.

Industry Thought Leadership – As a world leader in automated photo enforcement, Verra Mobility actively engages in and leads industry conversations with intelligent transportation and safe mobility trade associations and events. This includes presenting results, learnings, and benefits of new technologies being evaluated across the globe. Typically, these efforts pertain to new feature and product pilots being pursued with agency partners. In such instances we invite our customers to partake in such events to assist in presentations during technical and plenary-style sessions, be available on the trade show floor to answer questions from other cities and municipalities, speak with the press and/or industry analysts, and support educational webinars or other digital reference activities.

Please see the following all-encompassing Traffic Enforcement, Automated Red Light and Speed Detection Camera Systems and Office Services proposal for details on each portion of our offering. We have uploaded all documents to your PlanetBids portal in accordance with your instructions.

We look forward to discussing how we can upgrade and improve your existing services as well as implement new equipment and processes to ensure up-to-date and future-looking red-light and photo enforcement systems.

5. Experience and Knowledge of Services

2.3.1.4 Sufficient detail that demonstrates experience and knowledge of the services to be provided that minimally includes:

American Traffic Solutions, Inc., doing business as Verra Mobility, and our affiliates support red-light and speed safety cameras in communities across the country, including approximately 7,500 red-light, speed, stop-arm, and bus lane safety cameras for nearly 275 communities and school districts across the United States and Canada. In the U.S. alone, we, together with our affiliates, process more than 4 million photo enforcement events per month from U.S.-installed camera systems, and we send approximately 1.4 million potential violations per month to our customers for their review and decision.

Verra Mobility has grown to be the country's premier red-light and speed safety camera provider in many large size cities and counties. A few examples include Osceola County, Orlando and Tampa, Florida; Norfolk, Virginia Beach; New York City, Nassau County and Yonkers, New York; Baltimore and Baltimore County; Washington, D.C.; Clayton County, Georgia; Montgomery, Alabama; Memphis, Tennessee; Baton Rouge and New Orleans, Louisiana; Chandler, Mesa, and Scottsdale, Arizona; Colorado Springs, Colorado; San Francisco, California; Seattle and Spokane, Washington; and Falls Church, Virginia.

Our strong history with clients has led to an over 95% renewal rate.

With a commitment to reducing crashes and saving lives on major highways and city roads, Verra Mobility focuses on collaboration and partnership to develop innovative solutions for communities across the world. As a result, we can offer more predictable product roadmaps that reflect local and global trends, a higher quality product, and improved performance.

These benefits result in reliable and consistent performance in our products and overall solutions that are more effective, affordable, and safe to the communities in which we operate. Our technology is innovative and stable, and our programs are proven, efficient, and focused on effective outcomes and customer service. It is this dedication to our client partnerships that allows Verra Mobility to ensure our products are continually evolving with leading-edge technology for the betterment of the programs we support.

5.1 Company Overview

2.3.1.4.1 A brief overview of the company/firm.



Traffic Electronics Corporation was incorporated in 1992, and in 2003, after a change in control, changed their name to American Traffic Solutions, Inc., to begin operating as a photo enforcement company. In 2018, the American Traffic Solutions relaunched as Verra Mobility.

In 2021, VM Consolidated^[1], Inc., parent company of American Traffic Solutions, Inc., acquired Redflex Holdings Limited to accelerate its portfolio of innovative transportation solutions that it can offer to communities around the globe looking to build safer cities. Our One Verra Mobility team provides enhanced solutions, expanded operational support, and the combined experience of two of the most seasoned companies in the photo enforcement industry.

Today, Verra Mobility is an established leader in developing and implementing intelligent traffic management products and services. We also develop and operate a wide range of platform-based solutions. These include red-light camera, speed camera, and school bus stop-arm camera systems, all of which use advanced sensor and image capture technologies that enable the active management of state and local motorways.

Verra Mobility continuously drives the latest innovations within the ever-evolving smart mobility industry. Our core competency is supporting national road safety camera programs of all sizes. Unlike many of our competitors, we function as an integrator of third-party technology and developer of our own proprietary solutions – both of which support our end-to-end turnkey programs. As a result, we can offer more predictable product roadmaps that reflect local and global trends, a higher quality product, and improved performance.

Our red-light and speed cameras have proven to enhance safety. For example, in their 2022 reports^[2], New York City's Department of Transportation stated that:

- > The average daily number of red-light running violations issued at camera locations has **declined by over 77%**.
- > There has been an **80% decline** in right-angle crashes at signalized intersections.
- > Rear-end crashes at signalized intersections were **down by 61%**.
- > Speeding in school zone fixed camera locations has **dropped 73%** on average.

Financial Stability

Verra Mobility is a long-term service provider with more than 20 years of experience in the industry. We offer the size, scope, and stability of a company whose ultimate parent company was recently recognized and added to the S&P SmallCap 600 index with programs in the US, Canada, Europe, Asia, and Australia. For Howard County, this means having a partner who will be able to serve your enforcement needs now and into the future with no interruptions.

^[1] VM Consolidated, Inc., direct parent company to American Traffic Solutions, Inc. acquired Redflex Holding Limited (now known as Redflex Holdings Pty Ltd) in June 2021. American Traffic Solutions, Inc. and Redflex Holdings Pty Ltd and their subsidiaries operate as one business unit of Verra Mobility Corporation, our ultimate parent company. Verra Mobility Corporation is a public company registered with the U.S. Securities and Exchange Commission with its shares traded on Nasdaq under the trading symbol VRRM.

^[2] Sources: <https://www.nyc.gov/html/dot/downloads/pdf/nyc-red-light-camera-program.pdf> and <https://www.nyc.gov/html/dot/downloads/pdf/speed-camera-report.pdf>

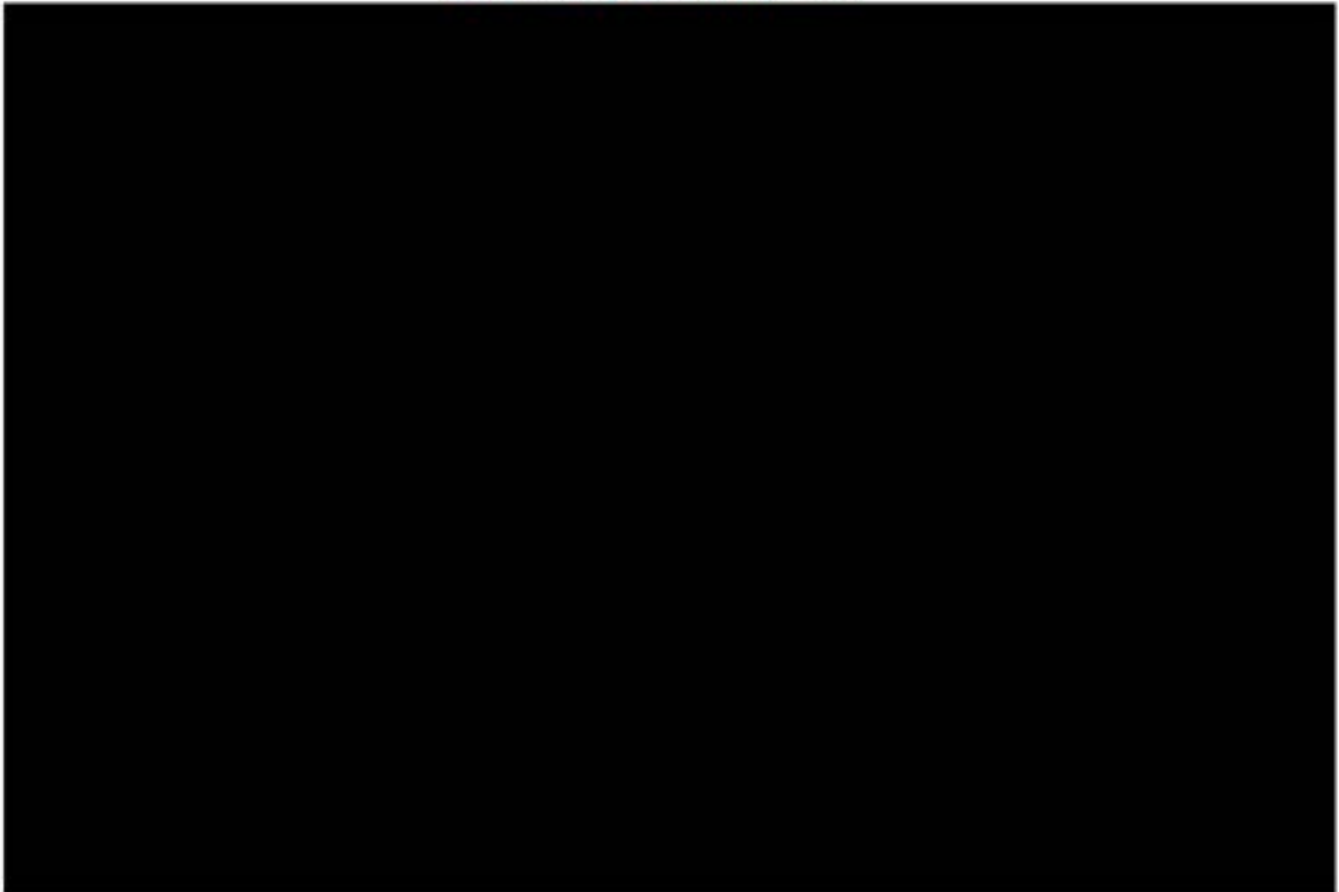
5.2 Project Summaries

2.3.1.4.2 Summaries of at least two projects (a maximum of two pages for each summary) similar in size and scope. Include an overview of the project, outcomes, successes, challenges, etc.

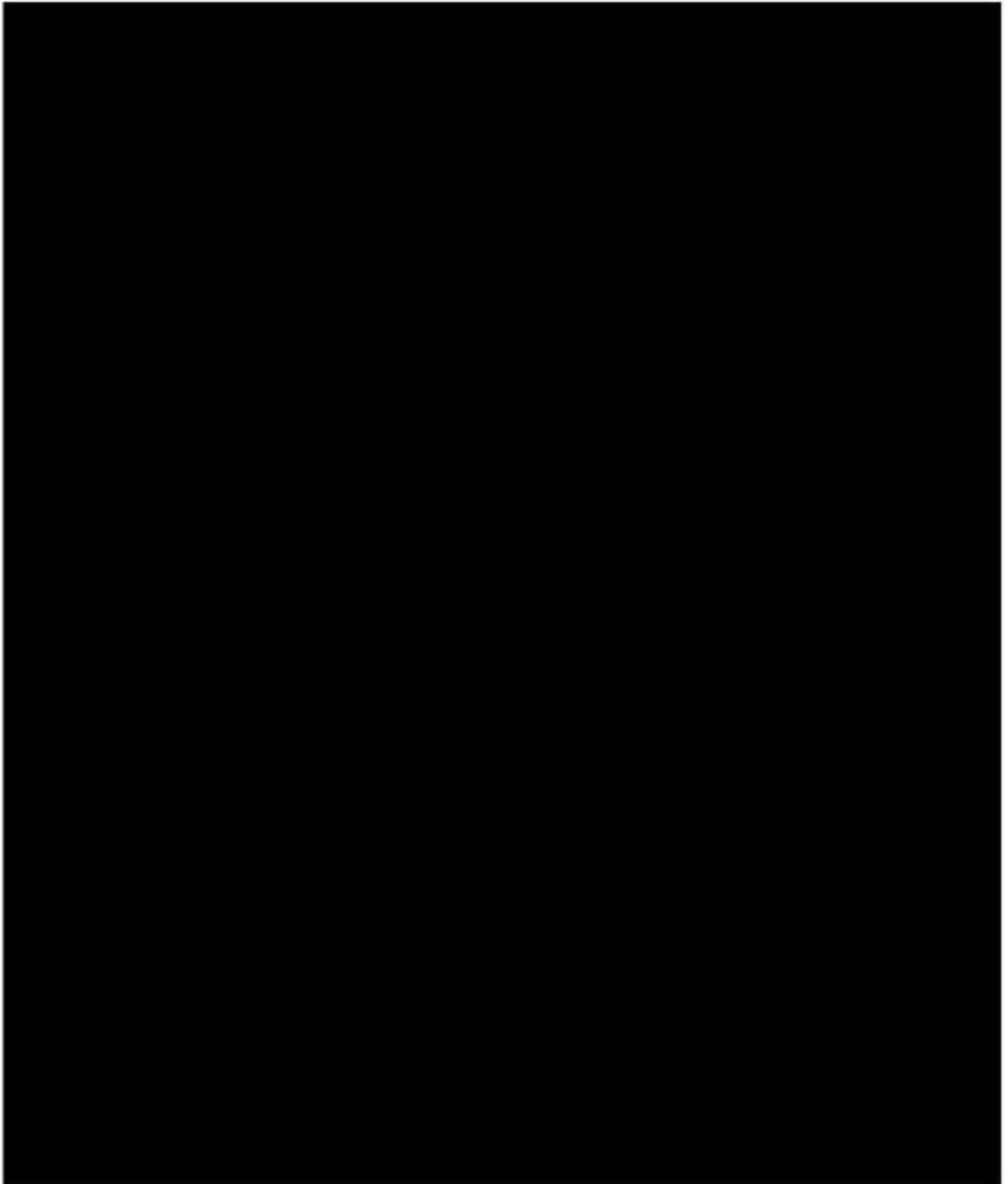
Verra Mobility is a leading speed and red-light safety camera provider. We support more programs and cameras than any other photo enforcement vendor in the US. This means that for Howard County, Verra Mobility is the only company who has unparalleled experience and years of hands-on knowledge of how to deliver and support a road safety camera program in the region.

In addition to our current work with Howard County, our footprint throughout the country includes red-light and speed safety camera programs in many large-size cities and counties. A full listing of current clients is provided in the following map.

Verra Mobility National Experience



Verra Mobility has worked with many nearby similar-sized projects with the same services provided, including the following municipalities:

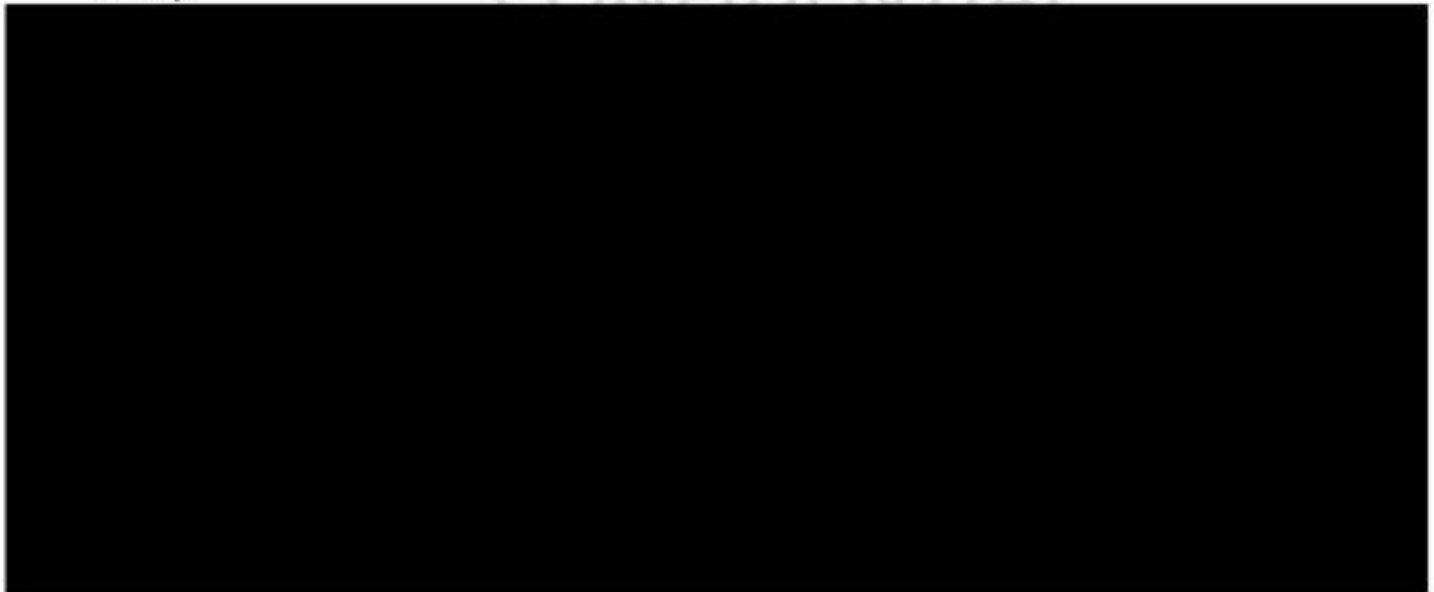




5.2.1 Program Statistics for Jurisdictions Similar in Size

Please see the program statistics for two projects similar in size and population to Howard County.

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5.3 Plan and Approach to Required Tasks

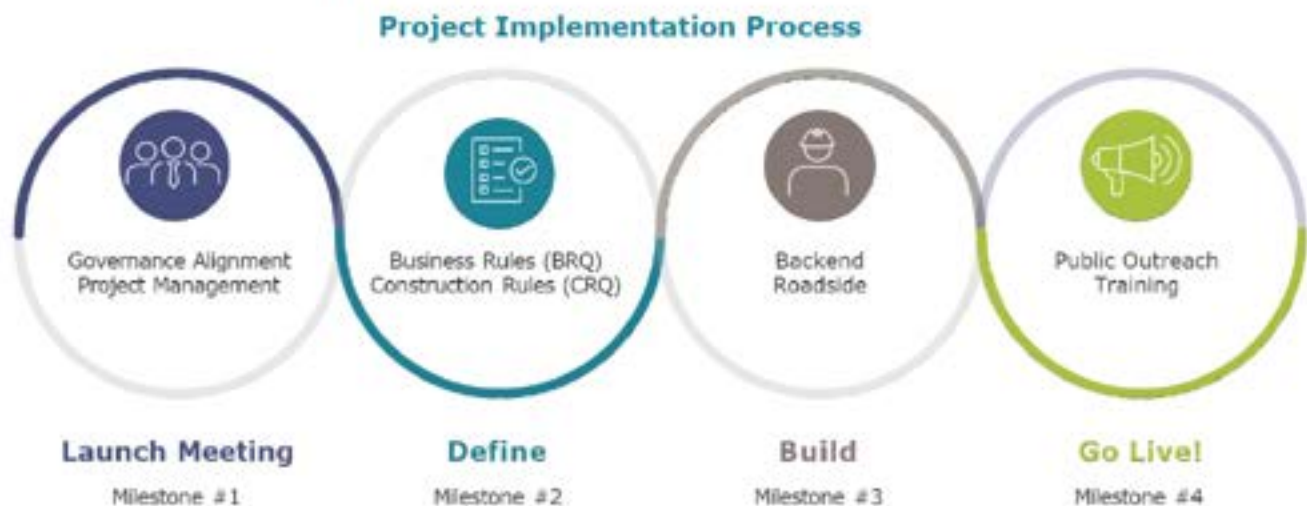
2.3.1.4.3 A proposed plan and approach for completing each of the required tasks including the individuals who will be assigned to complete the tasks.

Verra Mobility brings decades of experience working with clients similar in size to Howard County, allowing our firm to hone our processes used on our photo enforcement programs. We also have intricate knowledge of your current environment and program, which allows us to leverage existing infrastructure where possible and to complete upgrades and install new sites in a timely manner.

The following list outlines our proven project management approach and the major milestones that Verra Mobility will achieve to implement our proposed traffic enforcement, automated red-light, and speed detection camera solution. We will work closely with the County and other agencies, as needed, to ensure a successful project in the following ways:

- > Review and finalize the project plan
- > Refresh existing business rules for the red-light safety camera program and speed detection
- > Review and finalize the camera sites for upgrades and expansions
- > Obtain approval on the site plans and acquire permits as required
- > Validate and modify existing notices and outgoing correspondence for the program as needed
- > Continue to support the County's public awareness campaigns for camera programs
- > Schedule and conduct the training for County staff

Four primary milestones drive the implementation process. While our skilled teams work to set up and solve the intricacies involved in constructing the safety program, the County's insight and collaboration is essential to program success.



Launch Meeting – Milestone #1

Immediately following contract execution, Verra Mobility's designated Project Manager, Denise Andrieux, will schedule an initial project kickoff meeting with key members of our Project Team and key County and police personnel. During the project kickoff meeting, our team will provide an overview of the project and identify roles and responsibilities of all stakeholders involved in managing the implementation of your upgrades and expansion opportunities.

Define – Milestone #2

We will discuss and review the schedule established for the project plan. We will work with the County to review and update the red-light and speed program's business rules to ensure continued compliance with legislation as well as any new contractual documents.

With the possible expansion of new locations, we will also look to refresh the construction rules requirements to ensure an efficient process and continued compliance with state and local engineering regulations.

Verra Mobility will use our standard and accepted project management methodology to plan, monitor, and complete the implementation of the County's program. This includes preparation and maintenance of work plans with implementation timelines for all items in the scope of the project including dependencies on County resources and other third parties.

Build – Milestone #3

Site Analysis

Site Selection

Our site selection process and analysis tool is a unique and proven model that can quickly evaluate an approach for high influencing conditions attributable to incidents. The result of the model can directionally indicate violation potentials at maturity of the site. This data, coupled with incident historical violation and crash data provided by the client, efficiently and accurately supports the process to pinpoint locations that can benefit the most from our red-light safety and speed camera solutions.

Site Surveys

We will conduct camera-site visits and will document key inputs so that the necessary site plans can be designed.

Site Design and Permit Acquisition

In addition to utilizing, as needed, highly qualified local vendors and subcontractors for various activities, Verra Mobility has a fully integrated and equipped in-house design and engineering team of surveyors and Computer Aided Design (CAD) technicians under the supervision of Chirantan Kansara, who is a Licensed Professional Engineer (PE) in the State of Maryland with 15 years of relevant design experience.

Chirantan and the Design and Engineering team will design engineering plans to adhere to local guidelines and specifications required for construction permitting. This team will collaborate with our in-house construction staff and/or subcontractors on drawing review, provision of final drawings for the approved sites, and the necessary requirements for submission as prescribed by the County.

Camera Site Construction and System Installation (only for new approaches)

After the County approves the intersection/design plans and upon receipt of the required permits, we will begin site construction and system installation. Whereas Verra Mobility will have overall responsibility for the installation of the camera systems, we will work to

construct the camera sites. Together, we will ensure safe and continuous traffic flow during all phases of installation.

System Installation (only for existing approaches)

Verra Mobility will have overall responsibility for the removal of the existing camera systems and installation of the upgraded camera systems, and we will ensure safe and continuous traffic flow during all phases of this process.

Deployment and Testing

During this phase, Verra Mobility tests each camera system and program process and validates all violation detection and image capture processes and protocols prior to the system go-live date. Testing includes all hardware, software, and service components to help ensure a maximum number of violations are captured and to reduce false triggers and image degradation issues.

Back-End Setup

Verra Mobility will obtain an updated list of the County's authorized personnel who will need access to the back-office system (BOS) to see if any new users need to be added to or current users removed from the current system. We will also ensure the new program remains with our processing system, which will conform to the County's red-light and speed safety camera program business rules. We will work with the County on the review of all current and the creation/approval of any new notices and correspondence that will be used for the County's program.

Go Live – Milestone #4

Public Awareness Program Development

We are proud to offer our clients the very best creative and inventive thinking when developing public relations and outreach strategies to promote traffic safety initiatives. Our keen understanding of communications coupled with our knowledge of issues surrounding photo-enforcement technology enable us to successfully define and carry traffic safety messaging. Verra Mobility will work with the County to communicate information about the red-light safety camera program to its citizens and neighboring communities, as well as for speed enforcement. We will assist the County with the development of brochures, social media outreach, press releases, FAQs for the County's website, and public service announcements.

We will also help the County communicate that their program has been adopted to save lives in the community in the following ways:

- > Draft letters to the editor or articles for publications to help raise awareness about the program
- > Provide system images and graphics, program taglines, and logo examples
- > Media ideas, tips, and offers to help share information regarding the program
- > Ideas and themes for outreach and education, as well as media pitches
- > Information about Maryland-specific and key road safety camera industry news

- > Coalition building and ally outreach
- > Opinion editorial drafting and placement

Account Manager

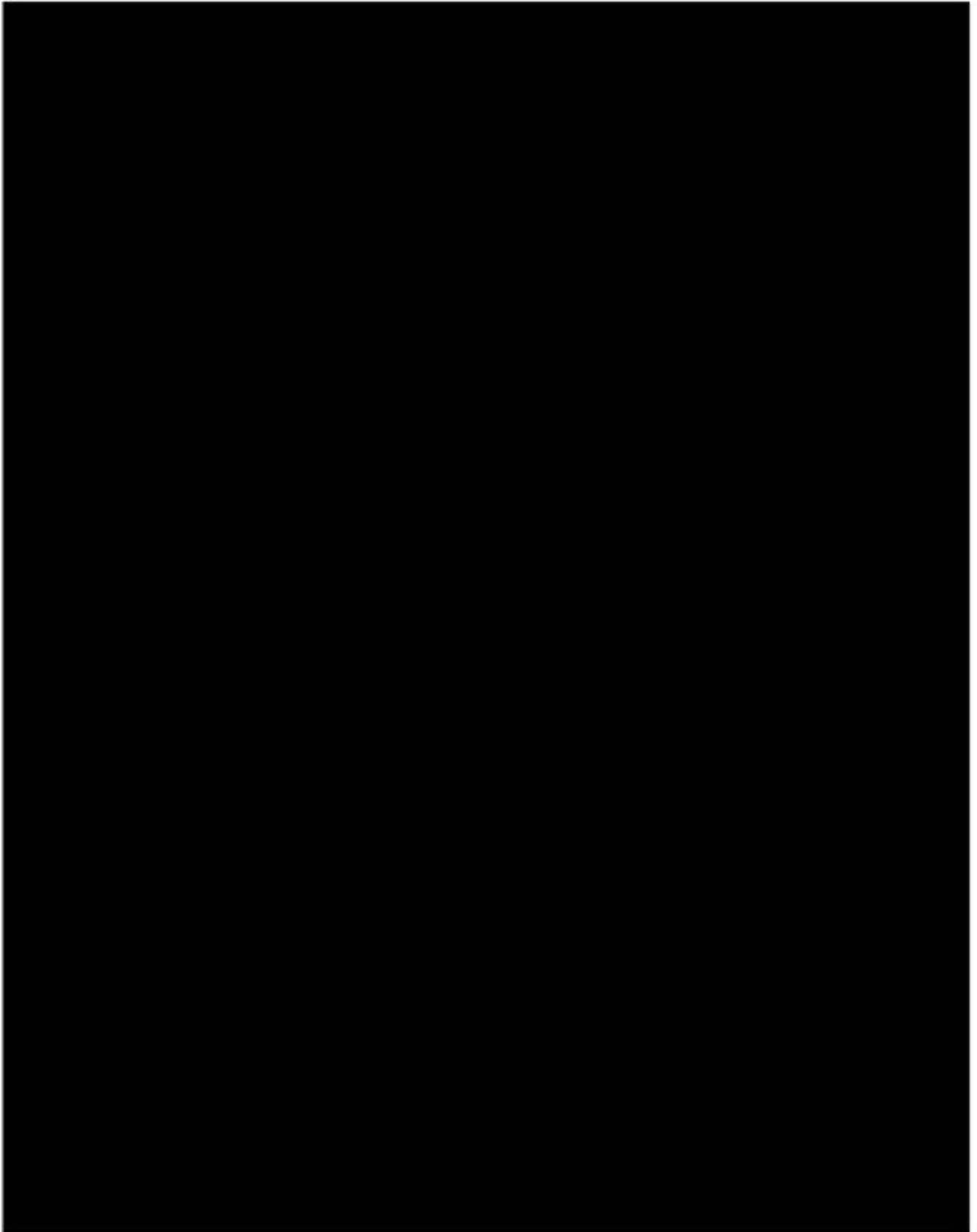
The Account Manager we have designated for this project is Denise Andrieux, who has 20 years' experience managing road safety camera programs. She has worked with Verra Mobility for 14 years and will be your single point-of-contact throughout the implementation process. For full details of her experience and background, please see her resume in section 5.5, *Resumes of Key Personnel*.

Staffing for Howard County Projects

Verra Mobility's current staffing levels for Howard County include the following positions:

- > One (1) Account Manager
- > One (1) Supervisor
- > One (1) Lead Processor
- > Four (4) Processors
- > Two (2) Field Services Technicians

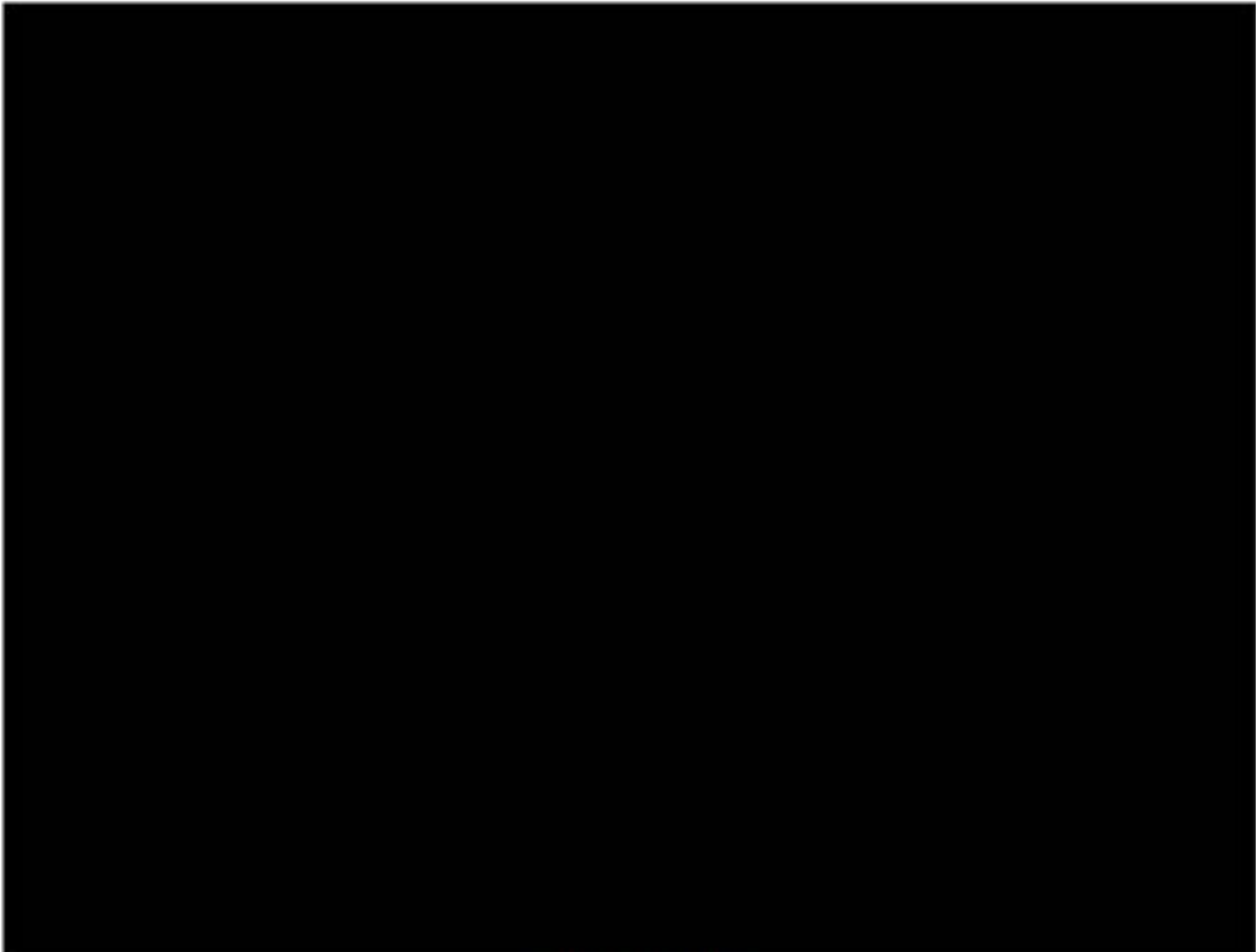
If we are fortunate enough to be awarded the County's speed project, we would need to add one or two additional processors depending on the expected volume after discussions with the County.



5.4 Project Schedule

2.3.1.4.4 The proposed project schedule including methods and procedures as to how the schedule will be maintained.

As a provider with local and national support resources in place, Verra Mobility offers the lowest risk implementation for this program with no need to use a different supplier with a lesser understanding of your environment. The following chart is our milestone project schedule for full design, construction, and implementation.



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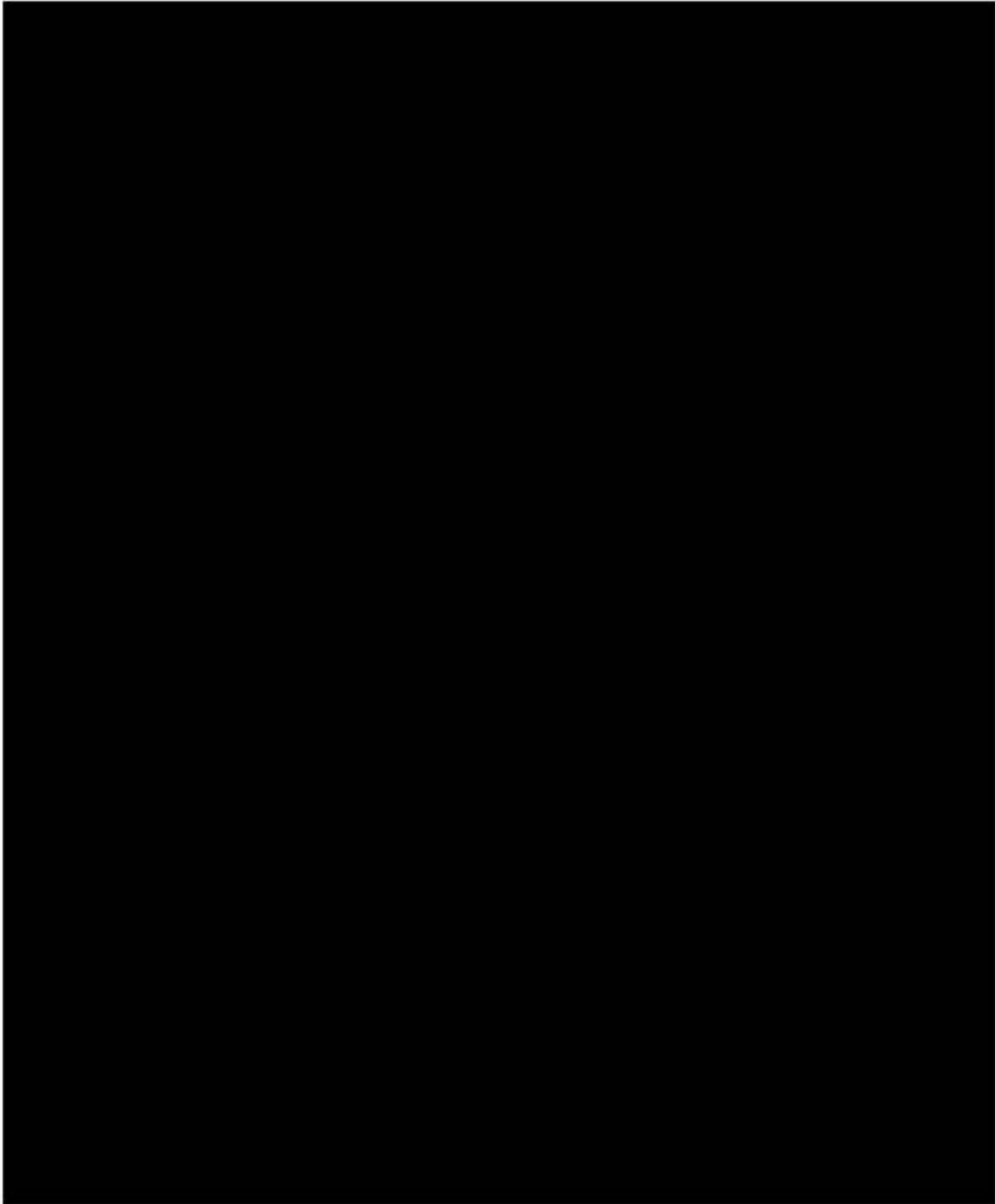
For full details of the project milestones, please see section 5.3, *Plan and Approach to Required Tasks*.

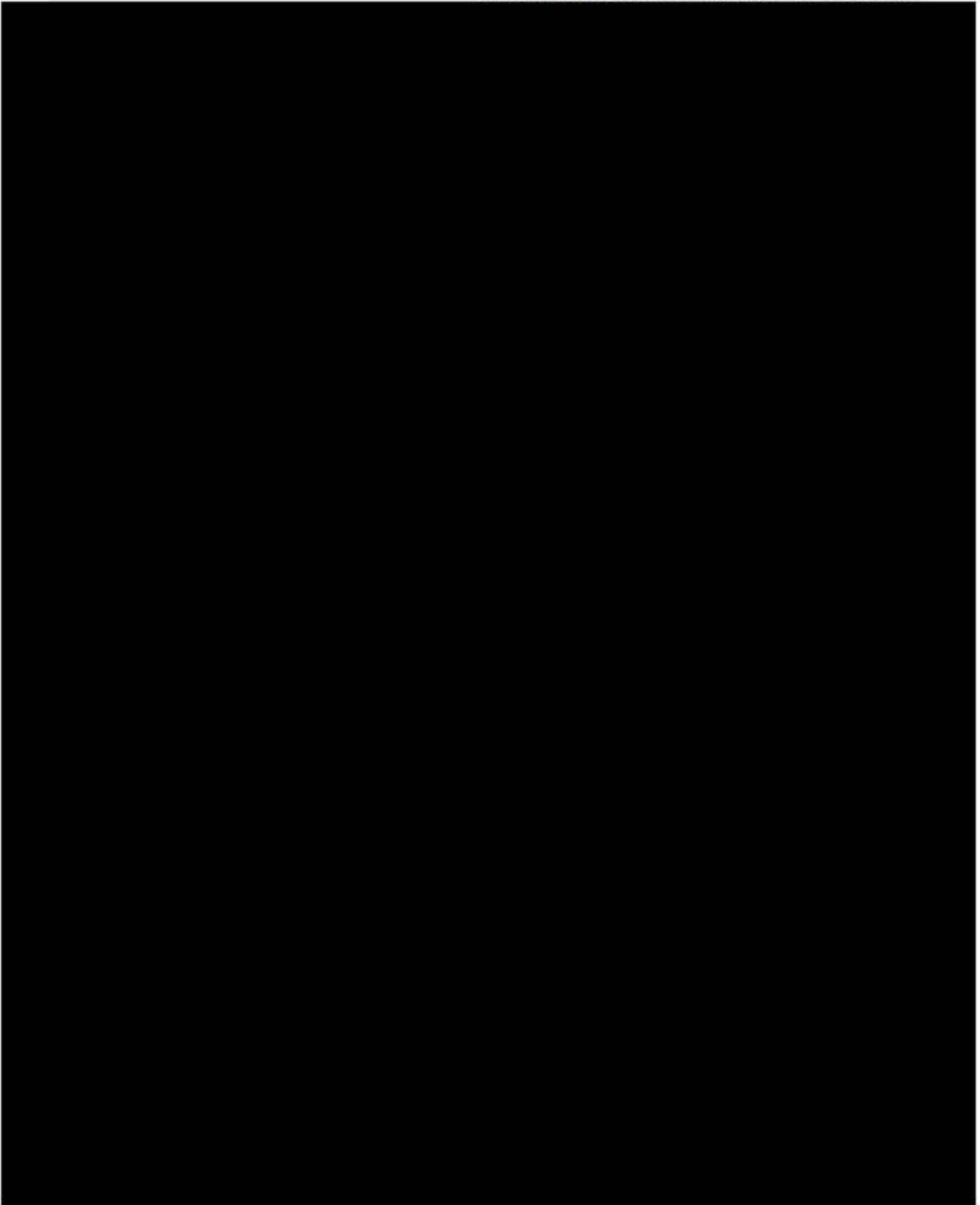
5.5 Resumes of Key Personnel

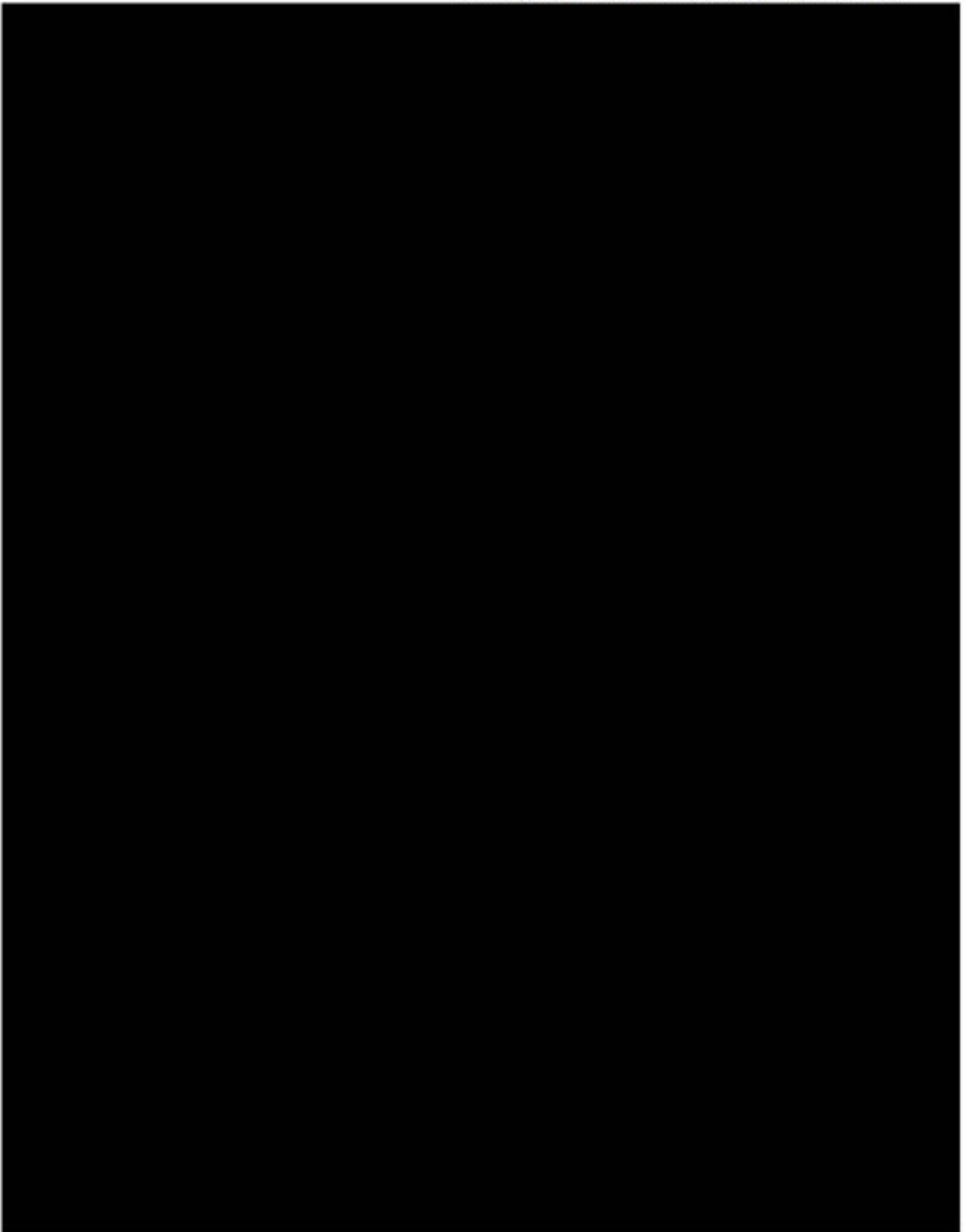
2.3.1.4.5 Resumes of the key personnel.

Our proposed key staff consists of an Account Manager who has worked with Howard County and is familiar with its programs, Denise Andrieux. Denise is supported by Eric Stancil, Client Support Specialist; Dan Rodgers, Mid Atlantic Field Services Regional Manager; David La, Lead Technician; and Mike Richards, Processing Manager.

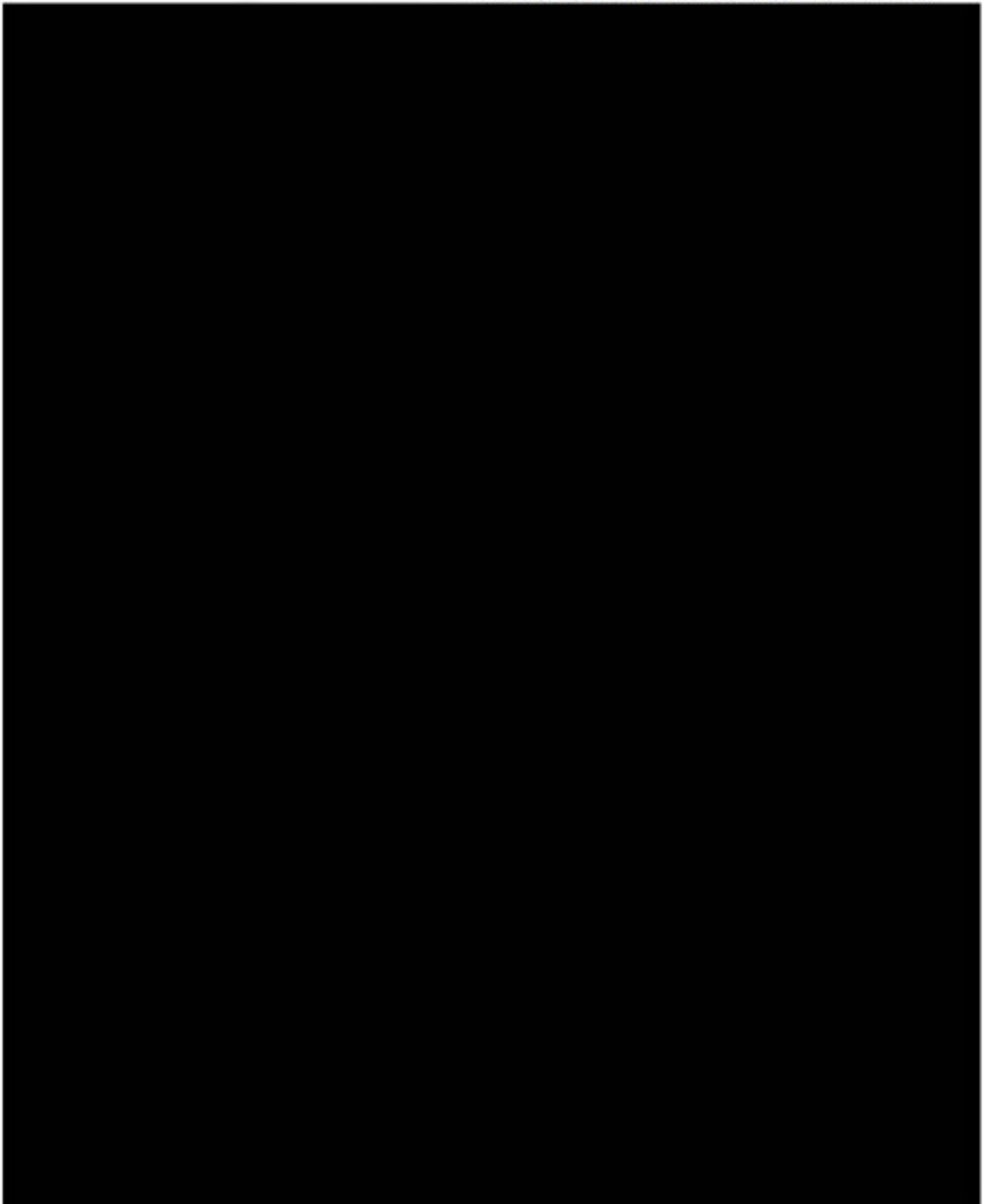
Resumes for all staff members are provided on the following pages.

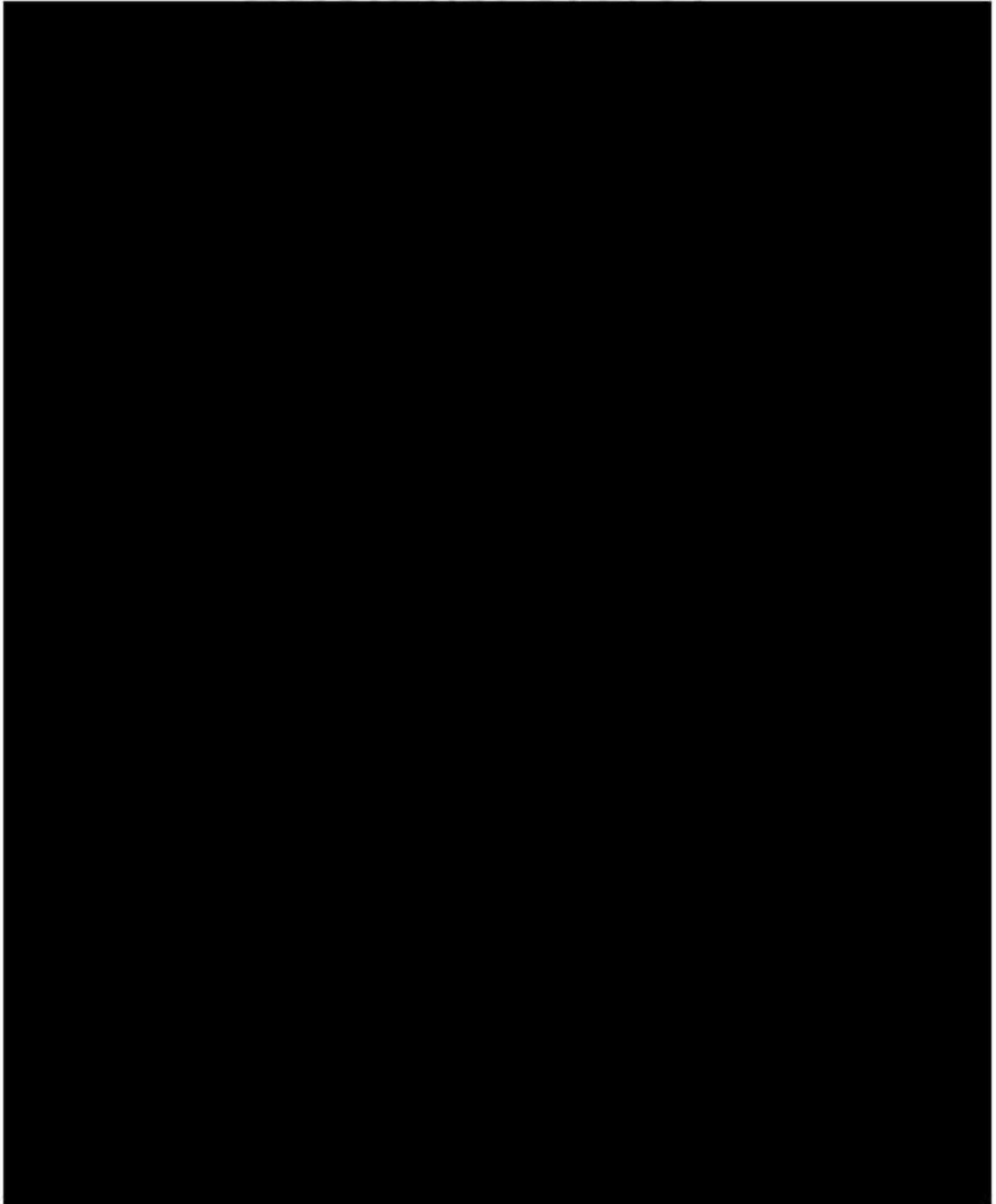


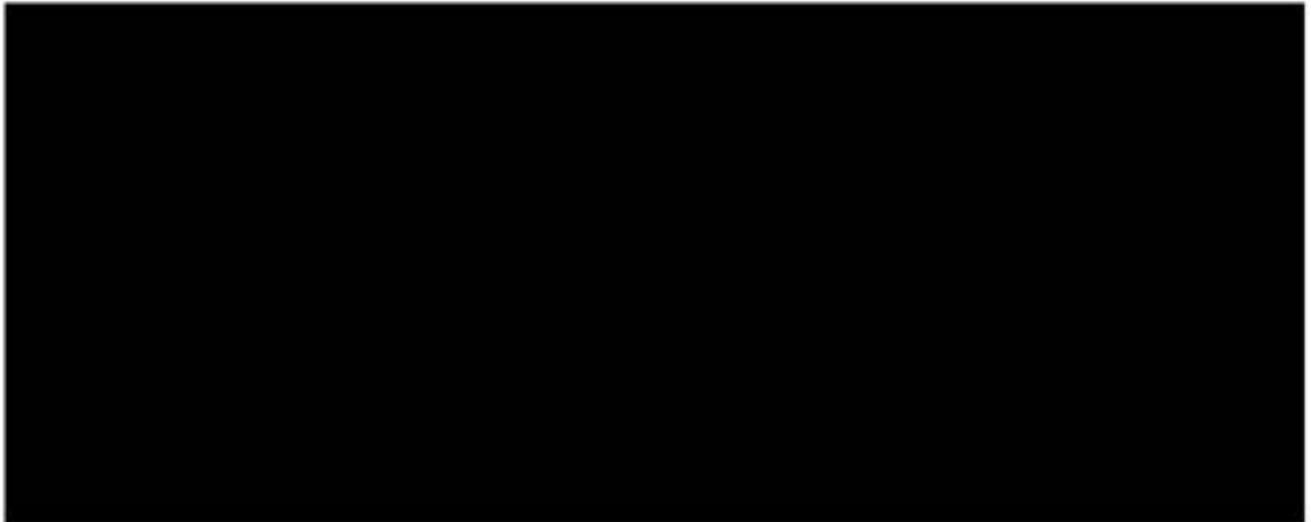












5.6 Description of System Operations

2.3.1.4.6 A detailed written description of system operations. Documentation shall include system function and evidence processing of enforcement camera violations and image quality.

As part of Verra Mobility's continued work with Howard County, we will upgrade the County's existing red-light cameras to the latest technology that results in the highest image quality. Should we be chosen for the speed portion of this proposal, we will also install speed enforcement equipment consisting of five transportable camera speed units and a unit within a vehicle that meets all of the County's expectations.



Verra Mobility will also provide the County with continued access to its existing BOS. This BOS offers powerful capabilities to meet all the County's needs, including a robust reporting system. Because the County currently uses this BOS, no additional upfront training will be necessary, mitigating any implementation or integration risks.

Red-Light Equipment

Verra Mobility's vision is to be a global leader in smart transportation by serving our customers and their communities at their highest point of need. The red-light camera system we are proposing utilizes upgraded technology that will be the best solution for the County and includes the following features:

- > High-resolution cameras that capture clear event images day and night; no more blurry photos
- > A substantial upgrade in video quality from existing equipment
- > Four-dimensional radar technology that can detect and track 100 or more objects
- > Ability to capture multiple vehicle violations simultaneously
- > Highly accurate lane designation technology
- > High-definition video
- > 24/7 intersection recording
- > Video retrieval and live intersection video streaming (where legally permitted)²

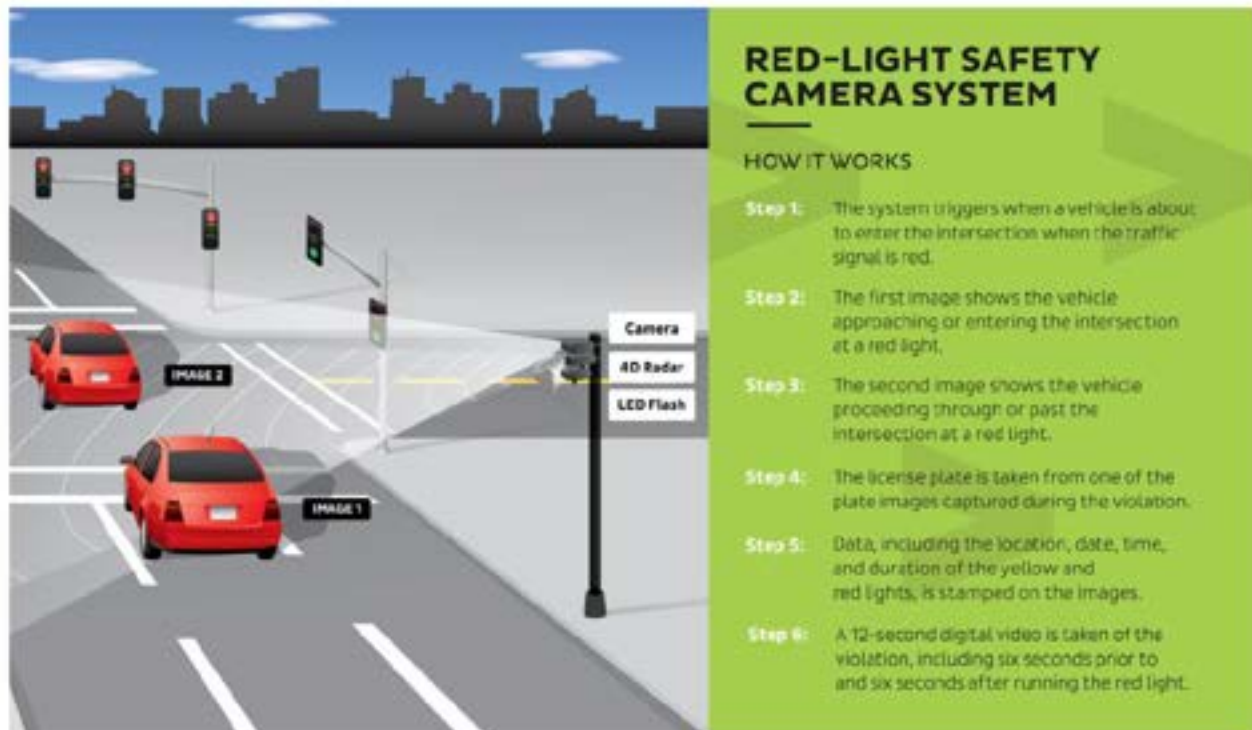
² Verra Mobility is not responsible for the provision of access to Verra Mobility Live to anyone other than client personnel. Verra Mobility retains the right to use all meta-data, business intelligence, or other analytics obtained, gathered, or mined by Verra Mobility using our systems. This video solution is available to clients who agree to comply with all federal, state, and local laws, ordinances, regulations, and orders with respect to its access to and use of Verra Mobility Live, including without limitation any laws relating to data privacy, photo enforcement, or public records. Customer shall hold Verra Mobility harmless for Customer's access and use of the Verra Mobility Live solution. Customer is responsible for managing any public records Customer creates through its access and use of Verra Mobility Live.

- > Intersection-specific illumination options, including LED that minimizes visible light and is respectful to drivers and brighter Xenon where necessary
- > Digital signature at time of capture and internal system self-checks
- > Automated License/Number Plate Recognition (ALPR/ANPR) for plate capture
- > Remote safety camera monitoring system
- > Secure chain of evidence with digital signature at time of capture and data encryption for delivery to the BOS

Why it matters:

- > **High Capture Rates** – proprietary algorithm detects and tracks vehicles quickly and accurately
- > **High Issuance Rates** – concurrent and simultaneous events are captured across up to six lanes of traffic
- > **High-Performing Systems** – high average uptime adds to program success as a deterrent

The following graphic provides a visualization of how the system works:



Verra Mobility relies on our time-tested and market-proven radar detection methodology for our red-light enforcement systems while providing the most current technology. The camera system we are proposing for this RFP utilizes three-dimensional tracking radar technology to capture potential violations across multiple lanes of traffic. With a single sensor, the system can accurately measure the distance, angle, and speed of up to 100 or more objects at any

given moment. This enables precise vehicle tracking “decision making” and accurate triggering of event capture.

The sensor transfers the relevant measuring data to the camera for image capture and documentation of a potential violation for each vehicle that reaches a trigger point. Because the position of each object in the acquisition area is known, the system assigns a tracking number to each vehicle and then locates that vehicle to an individual lane. Different trigger points and thresholds can be assigned for each lane monitored for high-precision vehicle placement. In addition, no minimum threshold speed is required for effective monitoring and evidence capture.

Verra Mobility’s high-resolution digital imaging solutions provide multilane coverage, providing the ability to capture multiple violations in real time while performing other sophisticated image processing functions and downloading images. Our systems can capture multiple images per second. The Verra Mobility camera and detection technology have been designed to detect and capture all vehicles, even those traveling side-by-side.

Our systems capture simultaneous or near-simultaneous violations in a single set of violation images, if necessary, or will capture the violations in separate image sets.

We provide sample images in *Appendix B – Image Capture Examples* that demonstrate the capability of our system in capturing multiple lanes of data for speed enforcement; the same technology is used for red-light enforcement. Note that each plate is blurred and the location modified to ensure privacy.

Please see the following subsections for additional details about the proposed equipment.

System validation involves Verra Mobility’s established processes and procedures for preventive maintenance, remote monitoring, remote diagnosis, remote corrections, onsite repairs, and quality assurance. Our maintenance plan includes working with our subcontractor as needed to perform onsite preventive maintenance visits and onsite system repair and replacement. Field technicians will repair and replace system components if the system becomes inoperable and cannot be repaired remotely by Verra Mobility.

The equipment we are offering in this RFP will be an upgrade from the County’s current technology. The proposed red-light camera enforcement system consists of the following components, which are mounted onto a dedicated pole:

Camera Unit

- > Two cameras: one is used for the contextual scene images and video clip and the other is customized specifically for capturing plate images
- > 24GHz radar for vehicle detection
- > Flash illumination (LED or Xenon)

Utility Cabinet

- > Communications module
- > Power Distribution Module

In total, the camera unit dimensions are 16.57" x 13.03" x 5.20" (W x L x H) and weigh 20 pounds. It covers up to six lanes of traffic. The dimensions of our utility cabinets are 20" wide x 24" tall x 11" deep.



Image Quality

The upgraded equipment we are proposing in this RFP offers crisp, detailed photos, even during inclement weather. The cameras' superior resolution allows for clear capture of elements within the main images (such as the license plate and traffic light) to help ensure a high prosecutable violation rate for your program. When an event is detected, the system triggers the cameras and captures two color images from the rear of the vehicle and a 12-second, high-definition video clip of the scene along with multiple other event data elements.

Our system includes a 16-megapixel plate camera and a 10-megapixel scene camera.

The same camera used for exceptional daytime image capture is used to provide superb nighttime images with the use of an LED illumination unit. The LED illumination unit provides adequate illumination at varying levels of ambient light. Our purpose-built LED illumination unit allows the County's program to effectively capture events that occur during the night or early morning.

Per RFP requirement 3.7, we have over 2,500 red-light cameras in operation in North America. Our proposed camera system is deployed for less than 1% of our customers as it is one of our most recent (2023) offerings and we wish to offer Howard County our latest technology in line with requirements.

Please see *Appendix A – Sample Violation Sets* for images occurring in various conditions.

Speed Equipment

Fixed Speed

The same camera equipment used for your red-light program will be used for your speed program as well. For speed, it includes the following features:

- > Four-dimensional radar technology that can detect and track over 100 objects in all weather conditions
- > Independent, secondary speed verification through image processing for a high degree of accuracy
- > High-definition video, including 24/7 intersection recording
- > Highly accurate lane designation technology
- > Self-service video retrieval and live intersection video streaming through the back-office system (BOS)³
- > High-resolution cameras that capture clear event images day and night
- > LED illumination that minimizes visible light and is respectful to drivers
- > Automated License/Number Plate Recognition (ALPR/ANPR) for plate capture
- > Internal self-checks and remote system monitoring
- > A secure chain of evidence with digital signature at time of capture and data encryption for delivery to the BOS

³ Verra Mobility is not responsible for the provision of access to Verra Mobility Live to anyone other than client personnel. Verra Mobility retains the right to use all meta-data, business intelligence, or other analytics obtained, gathered, or mined by Verra Mobility using our systems. This video solution is available to clients who agree to comply with all federal, state, and local laws, ordinances, regulations, and orders with respect to its access to and use of Verra Mobility Live, including without limitation any laws relating to data privacy, photo enforcement, or public records. Customer shall hold Verra Mobility harmless for Customer's access and use of the Verra Mobility Live solution. Customer is responsible for managing any public records Customer creates through its access and use of Verra Mobility Live.

While other systems crowd intersections with excess infrastructure – up to three poles – our proposed speed safety enforcement system mounts to a single pole. The system's proven, non-invasive radar technology enforces up to six lanes of traffic with no disruption to the roadway or boring across an intersection, and it eliminates the need for multiple camera systems, illumination units, or poles.

Mobile Speed

Mobile speed safety camera programs enhance safety in school zones, work zones, park zones, and other high-traffic sites where on-the-go speed enforcement is required. The ability to relocate and quickly configure mobile units from one location to another gives law enforcement agencies tremendous flexibility to slow traffic and enhance safety.

The proposed system is capable of monitoring and recording vehicle speeds across a minimum of four lanes of traffic. This industry leading system provides lane-specific identification of vehicles and the capability to identify a single speeding vehicle within a group of vehicles. The system also provides advanced intelligence to prevent duplicate events from being captured while deployed across multiple lanes.

Our proposed system can accurately measure speeds and collect readable vehicle registration plate images in various lighting and environmental conditions (such as sun glint or glare, rain, and snow) from both sides of the road, regardless of time of day or vehicle positioning. The system resolution produces images that display plate characters, the issuing state, and other data at clearly legible quality from both reflective and non-reflective plates, thus providing accurate identification of the subject vehicle.

This system also automatically captures and stores the date, time, and operating speed of each vehicle that passes the enforcement vehicle. It registers the total number of events as well as the total number of vehicles that pass the enforcement location. The system also allows authorized employees to easily verify that no events were omitted or deleted and captures and records the GPS coordinates of the enforcement vehicle during the deployment.

Verra Mobility is able to work with a variety of vehicle platforms for mobile speed; however, we will provide a Ford Transit Connect or similar vehicle for the mobile speed solution. If the Transit Connect does not meet your requirements, Verra Mobility will outfit a vehicle of similar size and cost, but please be aware it will take approximately six months to procure this vehicle and outfit it with the equipment. Verra Mobility will work with you to understand your fleet vehicle needs and plans to find the best solution for the use profile.⁴

⁴ Customer shall be responsible for vehicle registration, fuel, and daily inspections to notify Verra Mobility of any needed maintenance. Customer hereby agrees to indemnify Verra Mobility against any and all losses which may be imposed on or incurred by any Verra Mobility to the extent such loss was caused by Customer's access to and/or use of the Mobile Speed Safety Camera Systems or the vehicle in which a Mobile Speed Safety Camera System is installed.

Customer shall maintain the following minimum scope and limits of insurance: (a) Commercial General Liability Insurance including coverage for bodily injury, property damage, premises and operations, products/completed operations, personal and advertising injury, and contractual liability; (b) Worker's Compensation coverage as required by applicable state law and Employer's Liability Insurance; (c) Business Automobile Liability Insurance coverage for automobiles and all installed equipment, on any automobiles driven by Customer employees or contractors, including the Mobile Speed Safety Camera Systems. Coverage will include liability

Transportable Speed

Mobile speed safety camera programs enhance safety in school zones, work zones, park zones, and other high-traffic sites where on-the-go speed enforcement is required. The ability to relocate and quickly configure mobile units from one location to another gives law enforcement agencies tremendous flexibility to slow traffic and enhance safety.



Our proposed mobile speed enforcement system in a cabinet is specifically designed for deployments of longer duration than a mobile unit deployment in a vehicle but less permanent than a fixed-pole system. Our proposed enforcement system's enclosure provides a secure housing for the equipment and allows for easy removal of the camera system for maintenance or relocation.

The cabinet-based speed detection system uses the same photo enforcement technology found in our mobile speed vehicles– all housed in a small footprint to deploy in locations where a vehicle deployment would not be appropriate, such as in built-up areas or where a vehicle may partially block sidewalks or an adjacent traffic lane.

The housings unit for the mobile cabinet solution are securely locked and contain GPS units with geofencing and anti-tip/shaking/movement alarms. The camera housing units are designed to preserve the overall effectiveness and integrity of the program's operation and to protect the camera units from extreme weather conditions and vandalism, ensuring minimal downtime and easy maintenance. Each housing is built to industrial standards.

As with all Verra Mobility camera systems, our solution has the time synchronized to centralized time sources to ensure accurate time of capture for every event and detection. Each camera is synchronized by highly accurate hardware triggering to ensure that the images are captured simultaneously. The captured time of each image is displayed as part of the image data bar.

The following table provides a summary of our cabinet-housed speed enforcement system.

Features	Benefits
Independent, hardware-based secondary measurement of speed that occurs on the system at the edge.	Exceptional detection and enforcement rates – Dual-radar technology provides irrefutable evidence when detecting speed events, far superior to single-radar systems.

and collision damage and shall provide 100% coverage; (d)Customer will provide certificates of insurance, listing Verra Mobility as an additional insured on Business Automobile Liability Insurance. If self-insured, the Customer will maintain coverages sufficient to cover any liability specified above that may arise from the performance of this Agreement and show evidence of such. If Customer fails to meet the above insurance requirements, Verra Mobility reserves the right to procure such insurance and bill the Customer.

Features	Benefits
Industry leading camera enhancement algorithms to make the captured detail clearer for adjudication and processing purposes. Camera software interfaces with all connected systems, analyzes the speed data, captures images, and packages all the relevant information into event files.	High enforcement rates – Our image enhancement technology means that details such as number plates, can be deciphered and used for enforcement purposes.
Provides a highly accurate speed measurement system meeting RFP requirements.	High degree of accuracy – Improves enforcement success rates and leads to more streamlined processing of infringements.
Modern LED flash technology has low power requirements and minimal excess light reduces light pollution by a factor of x250.	Minimized light pollution – Low-wattage LED flash provides a targeted burst of light that will not distract drivers or local businesses.
Latest generation camera sensors allow low light and inline flash imaging to capture vivid scenes and readable plates.	Excellent image quality – Better enforcement success rates due to large numbers of legible plate images.
Highly portable system allows for quick relocation between enforcement locations.	Quick and easy relocation – The ability to rotate the system between enforcement locations, with minimal effort needed. The system can be set up and configured by a team of two in less than two hours.
Low-power equipment and lithium-ion batteries provide long deployments before charging or replacement is needed.	Long term deployments – No need for constant system intervention to change batteries. With a full load of batteries, the system can be deployed for up to two weeks before new batteries are needed.
Built-in security alarm and secure fastening to deployment locations for enhanced protection.	Protects against vandalism by sounding a loud alarm when the sensor detects unauthorised movement of device. The unit can be bolted to concrete pads at deployment locations for added protection.

Enforcement Software

At the core of our edge systems is the enforcement system software. This software is installed on the edge processing unit to drive system operations. In addition to monitoring vehicles and speeds, the system can detect lane position and distance regardless of vehicle speed and type. The software runs as a service when the processing unit is installed, and once configured during implementation, operates without intervention.

This software is built on proven and robust core technology that has been developed and continuously improved and provides the detection, tracking, and capture of vehicles.

Verra Mobility's enforcement system software provides the following functionality:

- > Collecting vehicle detection data from the radar
- > Processing detection data with time stamping, vehicle location, and speed
- > Applying the County's enforcement rules configurable during installation by lane number, time and day, and speed limit threshold
- > Triggering and storing video and image evidence that provides specific vehicle location and behavior as it travels through the enforcement zone
- > Certifying and encrypting of speeding incident files
- > Generating operational logs

Back-Office System

Verra Mobility's Smart Mobility Platform ^[6] is a robust, web-enabled, and fully secure back

³ Verra Mobility's Smart Mobility Platform is Verra Mobility's proprietary back-office event processing platform, which is software-as-a-service. Under all circumstances, Verra Mobility shall retain ownership of its back-office platform, including any modifications, configurations, improvements, enhancements, upgrades, or further developments even if modified, configured, improved, enhanced, upgraded, or further developed at the request, feedback, or recommendation of the County. Under no circumstance will any modifications, configurations, improvements, enhancements, upgrades, or further developments of AXSIS be considered "Work for Hire." During the term of our Agreement with the County, Verra Mobility grants the County a non-exclusive, non-transferable, revocable license to access and use its back office platform.

office system (BOS). The overall use of the platform, including evidence package generation and reporting, will be the same user experience as the current red-light safety camera program. Knowing that event images and data are securely and wirelessly transferred from the camera systems to the BOS provides peace of mind.

The feature-rich, easy-to-use system automates many portions of the enforcement process from event capture to citation prosecution, thereby increasing efficiency and reducing operating costs. The system has been designed and proven to enable end-to-end processing of traffic incident events for enforcement programs across the United States. We maintain the resources necessary to handle a high volume of event processing activity.

Our Smart Mobility Platform and event processing module is the engine transforming the digital evidence securely transmitted and captured at the roadside into prosecutable events and delivering them to the offenders. It includes the following features:

- > A system meant for processing multiple violation types including red light and speed
- > Has capability to process future violation types not currently available in the state but used elsewhere around the nation
- > Automated event evidence loading with still image extraction, cropping, and enhancement functionality
- > Accessibility to 50 states (excluding Washington) as well as Puerto Rico, four Canadian provinces, and government plates (such as fire, police, and ambulance) through the International Public Safety and Justice Network (Nlets) and DMV interfaces (subject to the County's access rights)
- > Payment processing enablement is available via multiple channels should this be required, including: web, lockbox (mail-in), phone, and walk-in
- > Inbound and outbound customer correspondence management
- > Hearing and adjudication support, including hearing notice generation, automated evidence package generation, hearing scheduling, and results entry
- > Statistical, financial, and operational report generation
- > Archiving, data management, and security

Verra Mobility operates an event processing center. We are a global company and therefore have the resources and setup to easily provide levels of technical support 24/7. Onsite, in-field support is available for critical (as defined in the SLA) operations 24/7.

Verra Mobility's Smart Mobility BOS provides the database in which red-light and speed record data is captured and retained. The BOS is a complete photo enforcement case management system that securely captures and stores all red-light event data. Law enforcement personnel determine whether a violation has occurred and review each notice prior to issuance within the BOS.

Verra Mobility has used our unique experience in providing support to hundreds of enforcement programs to design and deliver a fully integrated suite of solutions that enables governments to view, manage, and audit all aspects of their enforcement, compliance, and licensing programs. At its core, the BOS is a complete event and violations processing

system designed to manage the entire photo enforcement lifecycle from event processing to violation issuance, all the way through to court case management.

Examples include the following end-to-end case management capabilities:

- > Deployment and incident importing
- > Event review and verification
- > Citation generation
- > Inbound and outbound correspondence management
- > Full case lifecycle management
- > Payment processing enablement, including fine and fee management
- > Reference data management
- > Business rules management
- > Citation and correspondence template management
- > Prosecution evidence package generation
- > Skills-based routing and task management
- > Service Level Agreement (SLA) management
- > Payment gateway integration
- > Reporting and dashboard creation
- > Web-based interface to allow authorized personnel to perform processing functions from any location with internet access

Our Smart Mobility BOS system and event processing module is the engine transforming the digital evidence securely transmitted and captured at the roadside into prosecutable events and delivering them to the offenders through:

- > *Image and video delivery:* All enforcement camera events are securely delivered to us via wired and wireless communications
- > *Data evaluation:* Through a combination of video analytics, interfaces with third-party data providers, and processing automation, the roadside data is evaluated against a set of customer-defined rules and delivered into an evidence package, permitting the customer to quickly evaluate whether a violation occurred and to issue a citation
- > *Law enforcement notifications:* Event data is forwarded to law enforcement and includes images and video, a close-up license plate image and vehicle owner registration information
- > *Determination process:* Officers review the event video and images via the secure Event Processing System to determine whether a violation occurred and whether to issue a citation

Site Selection Procedures

Our site selection process and analysis tool is a unique and proven model that can quickly evaluate an approach for high influencing conditions attributable to incidents. The result of the model can directionally indicate violation potentials at maturity of the site. This data, coupled with incident historical violation and crash data provided by the client, efficiently and accurately supports the process to pinpoint locations that can benefit the most from our red-light safety and speed camera solutions.

For additional information about site selection and surveys, please see Proposal Section 5.3, *Plan and Approach to Required Tasks*.

Construction

After the County approves the intersection/design plans and upon receipt of the required permits, we will begin site construction and system installation. Whereas Verra Mobility will have overall responsibility for the installation of the camera systems, we will work to construct the camera sites. Together, we will ensure safe and continuous traffic flow during all phases of installation.

For additional information about construction, installation, and deployment and testing, please see section 5.3, *Plan and Approach to Required Tasks*.

Maintenance/Field Service

Our field services organization has one goal in mind: to provide the highest-quality road safety cameras with maximum system uptime. Our proven, proactive maintenance approach makes it all possible. We are proposing the newest technology to ensure an enhanced experience for Howard County. Our support department is also currently developing additional tools to aid monitoring of camera sites and allow for expeditious deployment of service personnel.

Remote Monitoring Tools and Processes

The Verra Command Center (VCC) provides 24x7 monitoring and support for all camera systems. The VCC leverages a suite of systems and tools to ensure proper system functionality.

- > *Collection* – Verra Mobility collects real-time data from numerous sources including image/video data, violation data, network availability, system log files, and sensor data. This is unprocessed raw data that feeds through our processing engine.
- > *Correlation* – The next phase is correlation, in which we make sense of the raw data. We connect details from disparate sources to draw a fuller picture of the impact. Using this powerful tool, we can identify issues quickly, effectively prioritize their impact, and ultimately build a faster path to resolution.
- > *Automation* – This is the final phase of our processing engine, in which we apply further automated logic in real-time including:
 - Automated image review to ensure optimum image and video quality

- Automated escalation and notification procedures to immediately engage resources to reduce mean time to repair (MTTR)
- Automated 24/7 paging to field to get support teams rolling when necessary

Our VCC system includes a client portal that provides easy access for the County's personnel to engage with our support teams. The County can verify status of incidents or submit requests through our client portal as well as view published reports.

Field Service/Onsite Maintenance and Repairs

Any inoperable red-light camera equipment components will be repaired or replaced within 72 hours of detection by us or notification by the County.

Once an issue is identified, our field services team will correct the problem. Often, issues are corrected remotely without ever having to dispatch a field services technician or disable the system. In the event that an onsite repair is required, field services technicians will ensure that they have the correct parts and instructions required to remedy the problem on the first visit to the site.

Verra Mobility utilizes a priority scheme in our electronic ticketing system to ensure that we respond first to critical outages that render the system inoperable or are potentially a safety hazard to the public. We respond to emergency situations with the utmost urgency.

We provide preventive maintenance visits, including monthly site visits (at a minimum to comply with contractual requirements) to the camera sites, which includes the following proactive activities:

- > Cleaning all glass, camera enclosures, strobe housing, lens covers, and polarizers (of graffiti, dust, oil and other grime)
- > Inspecting all enclosures for proper seals, locking mechanisms, and so forth

- > Inspecting and tightening all cables, connections, and terminations
- > Testing the full functionality of the system (triggering, test shots, strobe, and video)
- > Visually inspecting the site environment (road surface conditions, signage, and obstructions such as tree branches), photographing any potential issues, and relaying information to field services and client project management for decisions on corrective action
- > Testing voltage coming to the system and being supplied throughout the system
- > Ensuring proper grounding

Technical Support

In addition to onsite field support, our red-light and speed enforcement camera systems are monitored remotely by staff at our Mesa, AZ, support center. The County will also have access to our Software Help Desk. The Help Desk will be available to assist the County with any problems with the road safety camera program or with the event files. Clients always have a Verra Mobility contact for emergency use, including weekends and holidays.

Event Review

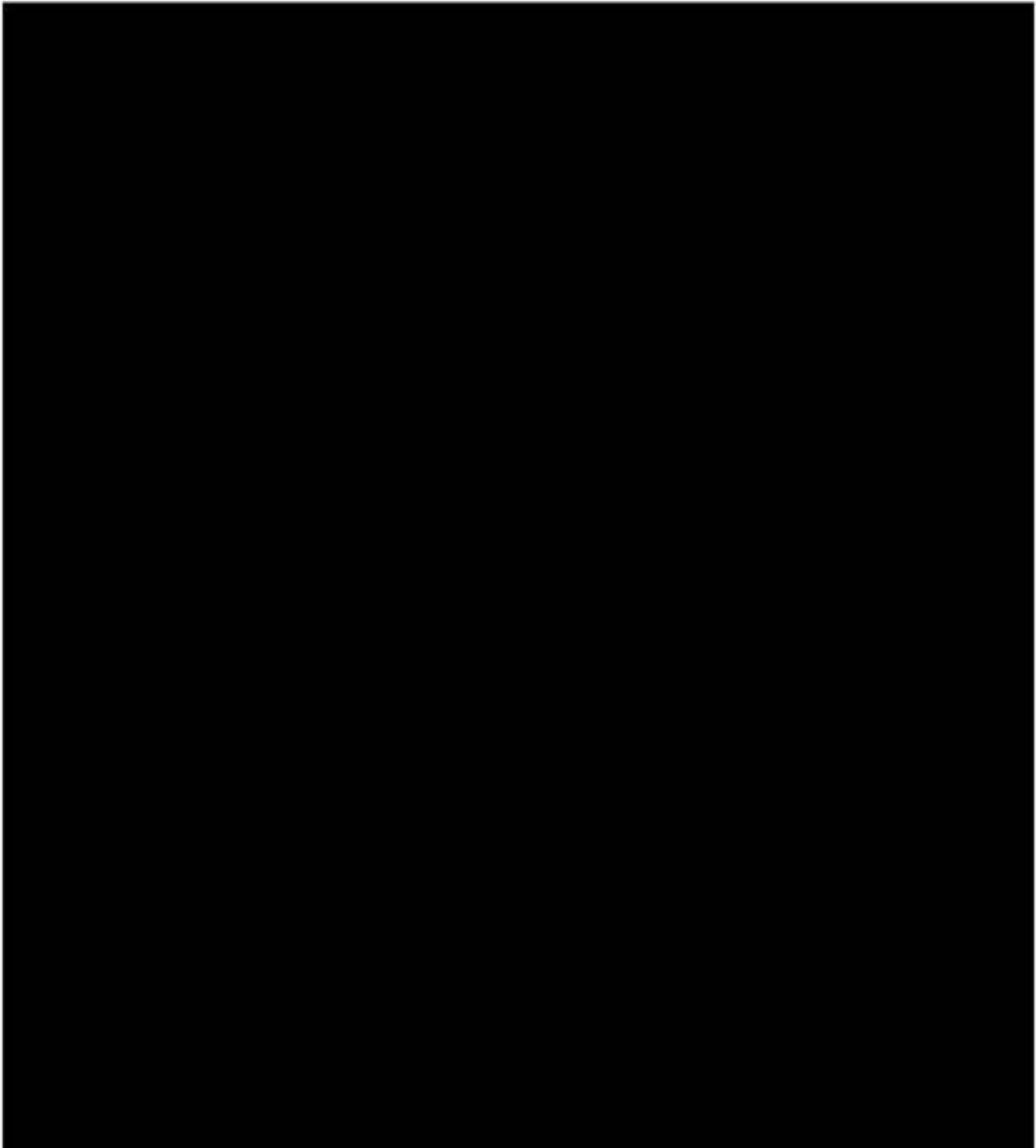
Citation Process

Authorized County personnel will determine whether a violation has occurred and review each citation prior to issuance within the BOS. As an online, secure, web-based system, the system enables authorized personnel to perform processing functions from any location with internet access. No applications or complicated software needs to be installed on the County's computer systems. Login and access to the system is protected via TLS encryption, which provides a secure connection to content accessible via the internet by authorized personnel. Our secure system provides data authorizations for various levels of user access for various functions with restrictions on edit/delete functions. All transactions are auditable.

Images captured by the enforcement system are packaged into event files with unique identifiers, digitally signed for both verification and security of information. Each image has a digitally imprinted data bar that can be customized to display information around the offending vehicle including location, date, vehicle speed, and elapsed time between images.

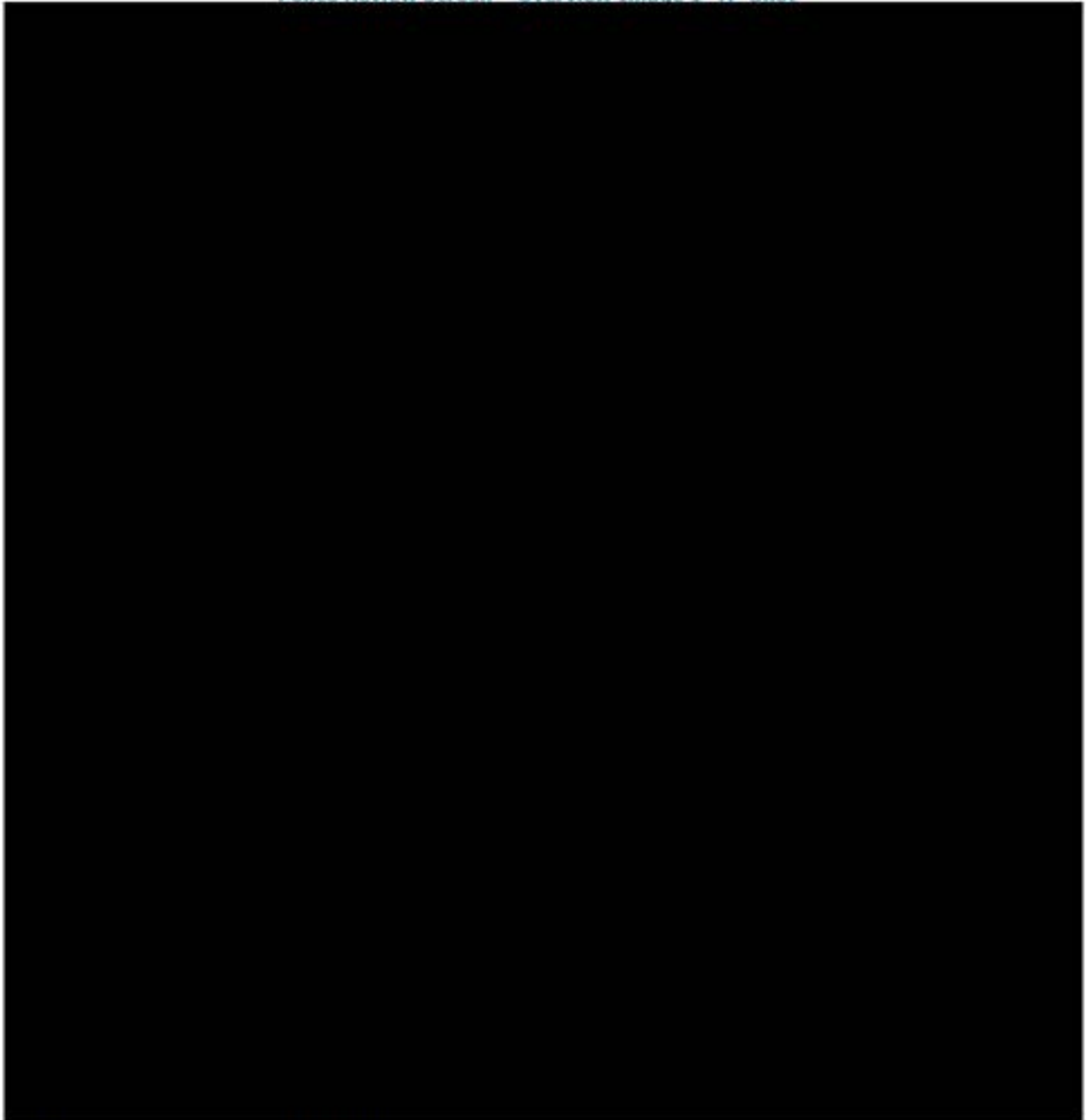
Law enforcement personnel determine whether a violation has occurred and review each event prior to violation issuance within the system. This online, secure, web-based system enables authorized personnel to perform processing functions from any location with internet access. No applications or complicated software needs to be installed on district or law enforcement systems.

The following describes in step-by-step detail the current citation process from identifying and capturing the event through event fine collection, including the methodology and logic behind our unique approach.



The following are sample Police Review screens that law enforcement will typically see when reviewing events. Note that license plates have been concealed and the screen data modified to ensure privacy. Police can select multiple images including the vehicle before the enforcement zone ("A" shot), vehicle after the enforcement zone ("B" shot), license plate zoom, and video of the captured event.

Police Review Screen – Overview Image 1 "A" Shot



The County can configure the rejection reasons.

Police Review Screen – Configurable Rejection Reasons



We will prepare and mail citations and required forms to all violators for events determined to be violations by the authorized County employee. It is important to note that Verra Mobility will never make a decision on issuing a citation. In accordance with applicable law, the County and the police department will determine what constitutes a violation, and we will only print and mail citations for incidents issued as violations by the authorized County employee.

Once an incident is determined to be a violation by the authorized County employee, the BOS will automatically queue the citation for printing and mailing. *Note:* Because Howard County currently provides office space for our operation – which includes a mailroom and desks for processing, fields services, and the account manager – we do not envision the need for additional space at this time.

Notice of infraction recipients can log into our user-friendly, secure website to view their violation images and associated video clips, make an online payment, and read helpful FAQs. Instructions for logging into the website, including a unique notice number and PIN, are inside an easy-to-spot red box on the front of the notice. The website's logon screen also includes a *Help* link that provides instructions for logging into the site. *ViolationInfo.com* is accessible using most web browsers, including Chrome and Safari, and is also accessible by mobile users.

Registered Owner Information Acquisition

Verra Mobility utilizes an automated online and real-time interface from the National Law Enforcement Telecommunications System (NLETS), a not-for-profit international justice and public safety network that provides a reliable link to keep the criminal justice community connected and the public secure. Our NLETS Strategic Partner certification was granted in May 2006; we were the first certified NLETS Strategic Partner in the Road Safety Camera industry. We have entrusted NLETS as a superior partner because of its security, capacity, and reliability. Since February 2023, system uptime was 100%, and client processing time averaged 48 milliseconds. It accomplished this accuracy and speed by working to protect

the public 24 hours a day every day of the year. For more information on NLETS, please visit their website at www.NLETS.org.

Our strategic partnership with NLETS allows us to obtain vehicle registration information for our clients with the appropriate level of access from all U.S. states, Puerto Rico and four Canadian Provinces. In addition to our NLETS connection, Verra Mobility also has direct connections with various states and has established DMV interfaces which also enable us to obtain motor vehicle registration records.

We also have relationships with third-party data providers as well as data-mining service providers for skip tracing services.

Verra Mobility has also added address cleansing and National Change of Address (NCOA) processing to both our in-and out-of-state registration acquisition to significantly improve the deliverability of any notices sent to registered owners. Howard County can rest assured we employ a range of tools to verify the accuracy of the intended recipient information when sending the Notice of Violation.

If an issue does occur, such as a "DMV not found" error, then Quality Assurance Specialists will revise incorrect license plate information and resubmit it to obtain the vehicle registration information. If multiple registration data is returned by the DMV, then the violation image is moved to the Type Selection process. Here, our Quality Assurance Specialists have access to decision support tools to show every plate and the rear images of every vehicle brand and make. The Verra Mobility camera captures images with very high resolution and color, day or night. This ability enables our Quality Assurance Specialists to identify the make and model of the motor vehicle much more easily when viewing the captured photos. Sometimes, state DMVs will return multiple registrations for a single plate, and the VPS system allows the Quality Assurance Specialist to select the appropriate registration in order to revise and resubmit the incorrect license plate information.

In the Final Review step, a second Quality Assurance Specialist performs a final review of the violation images and verifies that the vehicle license plate, registration information, and vehicle information match the vehicle shown in the images.

Please note: Access to registered owner information through National Law Enforcement Telecommunications System (NLETS) requires Howard County to provide Verra Mobility with a unique Customer ORI number and execute a Subscriber Authorization Letter authorizing Verra Mobility to use Howard County's ORI number to request registered owner information through NLETS. In addition, in order to access certain state departments of motor vehicles record directly (not through NLETS), agreements directly between Howard County and the state DMV may be required or agreements by Howard County to comply with certain permissible use, privacy, and security requirements of the State DMV may be required. If Howard County requires Verra Mobility to access registered owner information from sources other than NLETS or direct through its state DMV, additional fees may apply.

Citation and Late-Notice Mailing

Verra Mobility will mail all citations issued by the County with a self-addressed return envelope printed with the designated judicial address. Each warning notice or notice of violation (NOV) can display a digital signature of the County employee who authorized the notice. All notices are printed on high-quality paper to eliminate smudging and provide clear visibility by the violator.

Notices include both the original notice as well as any follow-up warnings if a fine has gone unpaid for a certain amount of time (to be determined by the County).

Verra Mobility will make every attempt to find valid addresses for citations that are nearing late enforcement time.

Payment Processing/Lockbox

As part of the program implementation process, the County will select from the following three Service Tiers⁶ from Verra Mobility and our payment channel partners.

Tier 1: Client manages banking and payment processing. Client will use own payment processing channels, independent of Verra Mobility.

Tier 2: Citation payments, made through each payment channel, will be deposited, daily, into an existing Client account or a new account opened by the Client at a bank of their choice. Verra Mobility maintains the lockbox with our channel partner and facilitates the establishment of a merchant account, maintains the public-facing website, facilitates electronic payment processing (including IVR), and provides BOS reporting on citations paid.

Tier 3: The Client will establish a bank account at U.S. Bank in their name and delegate authority to Verra Mobility to initiate funds transfers via ACH to another Client account on a Client-determined frequency. Verra Mobility will maintain the lockbox with our channel partner, facilitate the establishment of a merchant account, maintain the public-facing website, facilitate electronic payment processing (including IVR), track citizen citations payments via the BOS, and reconcile the Client pooling account established at U.S. Bank.

The following are the multiple options that Verra Mobility can make accessible to citation recipients on behalf of the County.

Lockbox Payments - Each notice includes a payment coupon that the violator mails in with his or her payment by check. All lockbox payments are mailed to the lockbox vendor's address. The lockbox vendor handles the lockbox payment channel and deposits checks and money orders directly into the County's bank account.

Phone Payments - Violators have the option of paying their fines over the phone utilizing our interactive voice response (IVR) system. Each notice has our toll-free customer service number listed on it, which violators can call to enter their payment information (credit card or e-Check) over the phone. Violators also have the option to listen to frequently asked questions (FAQs) and other program-related questions. They can speak to a live agent if

⁶ In order for Customer to select Tier 2 or Tier 3 payment processing channels, Customer will be required to provide completed banking and payment processing forms and related agreements, which include among others:

- a participant agreement and submerchant agreement with the payment processor;
- a bank verification letter prepared by the Customer's settlement account's bank; and
- a Form W-9, Request for Taxpayer Identification Number and Certification.

Copies of banking forms and related agreements will be provided upon request.

Neither (i) certain vendors of Verra Mobility, which perform licensing, testing, or qualification of equipment nor (ii) payment processors and other regulated entities, such as U.S. Bank or cellular service providers, are to be considered subcontractors of Verra Mobility under any resulting agreement with Customer.

they need information that is not available in the system's pre-recorded messages. A convenience fee is applied to the payer.

Web Payments - Verra Mobility has a relationship with ACI Payments to provide online and phone payment processing services. The online payment channel allows violators to pay independently online through our public-facing website. Most major credit cards are accepted. Verra Mobility's processing system provides validation of the notice numbers, PINs and balances during the session transfers with ACI Payments. A convenience fee is applied to the payer.

Walk-In Payments - To increase collection capabilities and payment rates, Verra Mobility offers clients the ability to provide a walk-in cash payment option to violators through MoneyGram®.

With MoneyGram Bill Pay, payments are processed in real-time and then credited electronically at retailers throughout the nation, such as all Walmart locations, Albertson's grocery stores, CVS Pharmacy locations, and many other well-known retailers. MoneyGram can help violators avoid late fees and other consequences with a same-day walk-in payment option.

Payment availability through MoneyGram locations allows Verra Mobility customers to better serve citizens by providing a convenient and affordable bill payment solution for the "unbanked" and "under-banked" population, who operate mostly with cash. A large network of retail locations can increase the likelihood of citation payment for those without a checking account or credit card by making the process simpler and placing it closer to where the violator resides.

We are in place and currently provide banking services in different tiers to you and other accounts for the County. Please see the following table that showcases our current levels of banking services on this contract.

CONFIDENTIAL

Adjudication Services

Verra Mobility fully supports and will provide ongoing expert testimony, as reasonably necessary, at contested court hearings. Verra Mobility maintains a staff of highly qualified and experienced individuals who are able to serve as expert witnesses and who can testify regarding system functionality, accuracy, event processing, and chain of custody. We understand how critical timely and accurate witness testimony is to the program and state, and with that unique understanding, we put the proper resources behind this commitment.

In addition, throughout the term of the agreement, Verra Mobility will provide technology event storage and chain of custody training to police personnel as often as reasonably necessary to allow such personnel to act as expert witnesses on behalf of the County with respect to the program. Such training may be personalized to the County, to assist them in addressing specific challenges as they occur.

Training

Verra Mobility is committed to excellence; therefore, our training is designed to deliver content that is specific and relevant to the program that the County will operate. This includes facilitator-led training sessions that may occur onsite or virtually. Each training course will be accompanied by digital or printed training materials on the topics or functions being trained.

As the project evolves, a member of the Learning and Development Team will consult with the Verra Mobility Project Manager and County stakeholders to establish a training plan including the timing of training, class sizes, delivery method, and facilities and resources needed. As requested, training curriculums and training plans can be sent for review and approval by the Contract Administrator in advance of training.

Our dedicated trainers have a combined 28 years of experience in the photo enforcement industry, and each trainer on our team has at least 10 years in the Learning & Development industry with a focus on facilitating adult learning. Recognizing the importance of the National Highway Traffic Safety Administration's guidance for basic training in Radar Speed measurement, our senior trainers are certified in Police Traffic Radar and Lidar Instruction. Specific training history for each of our employee trainers can be provided upon request.

The County will receive a range of training options to ensure that all users are properly trained in relevant aspects of the systems and program. We have provided our proposed curriculum outline that includes an overview of the training to be provided to County employees in the tables that follow.

Camera Systems Training

Course Title	Course Description
Program & Technology Overview	This course provides participants with a comprehensive introduction to the various photo enforcement systems and the Smart Mobility Platform, from event capture through citation issuance and post-issuance services. It will be tailored to fit the audience's roles and responsibilities and can be customized to be delivered at multiple levels of complexity.

Course Title	Course Description
Field Service Technicians	The Verra Mobility Field Services team has support staff who are certified by our hardware manufacturers in how to set up, test, operate, and service our camera systems. These resources are responsible for training and educating all Field Service Technicians, who will in turn train County personnel. This includes maintaining, tuning, calibrating, and battery power tracking for each asset type.
Expert Witness	Verra Mobility will provide training for a local expert witness or will provide a qualified expert witness to testify in court on matters relating to the accuracy, technical operations, and effectiveness of the camera systems until judicial notice is taken. Verra Mobility will train County personnel to be knowledgeable on the operation and functional capabilities of the systems.

Processing System Training

Course Title	Course Description
System Functional Training: Event Processing	The Event Processing course is designed to instruct designated personnel (typically law enforcement officers) to operate our easy-to-use online Smart Mobility Platform. Reviewers and supervisors will be trained on system functionality and features, including the tools for event review, reporting, and post-issuance functions. Training includes hands-on processing of live events.
Platform & BPA Functional Training: Payment Processing	<p>This course is designed specifically for those personnel who will be receiving and entering payments into the BPA (billing, payments, and accounting) system. This course guides participants through the process of applying payments with hands-on practice. It also demonstrates how to use our platform reports to monitor the payments recorded daily by the County's users, and other payment-related functions.</p> <p>This course is only necessary should the program opt to accept payments locally and use the platform and BPA as the system of record for local payments.</p>
Platform & BPA Functional Training: Finance and Reconciliation	This course is designed specifically for finance and/or accounting personnel who handle reconciliation of revenue received via all payment channels. This course instructs participants on the reconciliation process using system reports as well as documenting refunds issued and returned payment items, if applicable.
Platform Functional Training: Hearings and Adjudication	<p>This course instructs court personnel how to use our platform to retrieve and present evidence packages, process affidavits, manage hearing schedules, record dispositions, and use all reports associated with these functions.</p> <p>This training is only necessary should the program elect to use our platform to facilitate their court processes, including administrative reviews, hearings, and/or appeals.</p>

Course Title	Course Description
System Functional Training: Reporting	<p>This course instructs personnel how to access and use the suite of our platform and Power BI reporting. It will be tailored to focus on the reporting pertinent to the audience's roles and responsibilities.</p> <p>This course can be added to any of the Functional Training courses or can be a stand-alone course.</p>

Training Location

All our back-office functional training courses are built for onsite (in-person) delivery or virtual delivery. At initial program launch, training is typically conducted onsite but may be virtual if the County prefers or if social/environmental conditions impact travel. Participants may attend virtual classes individually from their own computers or may gather in a central location such as a conference room, training room, or computer lab. Subsequent refresher training or training for new users is typically delivered virtually but can be onsite if necessary.

Class Size

For virtual classes, Verra Mobility recommends no more than fifteen (15) participants (no minimum). For onsite classes Verra Mobility recommends at least six (6) and no more than fifteen (15) participants.

System Informational Packets and System User Manuals

Printed or digital materials can be provided prior to training or at the time of training. User manuals will be provided within the timeline specified by the County.

Public Awareness⁷

We offer our clients the very best creative and inventive thinking when developing public relations and community outreach strategies to promote traffic safety initiatives. Our keen understanding of communications strategies coupled with our knowledge of issues

⁷ Verra Mobility owns and retains all rights, title and interest in and to the Public Safety Campaign Content created by Verra Mobility and all intellectual property rights therein, excluding all Customer Content. Verra Mobility grants to the Customer a perpetual, revocable, non-transferable, and nonexclusive license to (i) use, copy, display, and distribute the Public Safety Campaign Content solely to promote the Customer's photo enforcement programs, and to modify the Public Safety Campaign Content as needed for formatting. In order to produce the Public Safety Campaign Content, the Customer grants Verra Mobility a nonexclusive, fully paid-up, license to use, reproduce, distribute, perform, practice and display, and to create derivatives of all content, trademarks, service marks, works of authorship, products, software, technology, information, data, specifications, documentation, technical and business plans, and other materials of any kind, and all intellectual property rights therein provided to Verra Mobility solely for Verra Mobility to (i) create the Public Safety Campaign Content, and (ii) provide services to the Customer. Customer has the ability to approve use of any Customer Content in the Public Safety Campaign Content.

surrounding road safety and smart mobility solutions enable us to successfully define and carry traffic safety messaging to ensure safety belongs to us all.

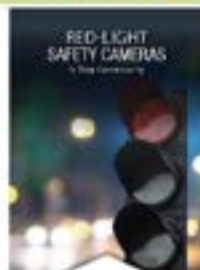
As your partner in traffic safety, we stand ready to help you educate the public about your program and promote its benefits. We will work with you to create a customized public awareness plan focusing on your safety goals and effectively communicate the life-saving benefits of your safety camera program.

In the rare event we don't already have language ready, we would be happy to create it for your consideration. Here are some of the materials we can customize to fit your program and community needs.

- > Website content with FAQs, how it works information, and local statistics
- > Community outreach and a Program Press Kit
- > Collateral & logo creation, system images and graphics, program taglines and statistics, and logo examples
- > Social media toolkit with best practices and a campaign guide
- > Earned media strategies, letters to the editor, or op-ed articles to help raise awareness about the program
- > Guidance on how to share information regarding the program
- > Updates about state-specific and key road safety camera industry news

In the pages that follow, we provide examples of safety program community awareness campaigns we have participated in as well as other community awareness activities that we propose.

Sample Public Awareness Tools



Brochures

Co-branded brochures in English, Spanish, and other languages featuring the local traffic enforcement law, an overview of the program, and contact information.

Social Media Outreach

We will provide a toolkit with social media best practices and a campaign guide with template content examples for customization to educate the public on the importance and impact of your program.

Verra Mobility Releases Crash Video to Warn Drivers About The Dangers of Red-Light Running



For more information on
Verra Mobility™
Go to www.verramobility.com



PR001, 4/15, 2024 (Revised) - Smart and safe transportation mobility provider verramobility has released its annual string of crashing footage of red-light running collisions and respondents captured by its red-light safety



Press Releases

We assist with drafting and distributing press releases to local media that highlight everything about our client's program, its progress, and results.

FAQs for the County's Website

We provide website content, including FAQs about how the red-light safety cameras work, how to pay a notice, and the reasons why our client's program was instituted.



Collateral & Logo Creation

Safety program collateral will be created with content that highlights the success of your program, explains how it works, and summarizes the benefits to the public while using a custom safety program logo to clearly brand the program.

Public Service Announcements

Public service announcements educate the community about how your program works and inform citizens about the valuable safety and mobility results achieved.

Sample Road Safety Ink Newsletter

We publish a monthly online newsletter (<http://roadsafetyink.com>) that we share with clients to help keep them informed of the commentary, research, and video and news coverage from the road safety camera industry.



Your August Edition of The Road Safety Ink

In the August Edition of the Road Safety Ink, we dive into the rapid progress of a speed safety camera program, highlighting the impressive results achieved in just the first year. Our CEO's recent feature on Forbes.com sheds light on our company's visionary leadership. The expansion of safety continues with the addition of red light and speed safety cameras in various cities, complemented by an impactful school bus safety campaign. We also share the recent opposition facing a beneficial speed safety camera bill in California, emphasizing the importance of overcoming challenges for the greater good.



ANNOUNCEMENTS



Q Search...

All Posts

» August 2023 (1)

» July 2023 (1)

» June 2023 (5)

» May 2023 (2)

» April 2023 (6)

» March 2023 (5)

» February 2023 (1)

» January 2023 (1)

» December 2022 (1)

» November 2022 (1)

» October 2022 (6)

» September 2022 (1)

» August 2022 (1)

» July 2022 (1)

» June 2022 (5)

» May 2022 (5)

» April 2022 (8)

» March 2022 (5)

» January 2022 (1)

» December 2021 (1)

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VERRA
MOBILITY

Howard County, Maryland
Traffic Enforcement, Automated Red Light and Speed Detection Camera
Systems and Office Services; RFP No. 04-2024

Social Media Outreach



We will work with the County to continue to create community awareness materials and promote advocacy and education campaigns, such as National Stop on Red Week, where we provide a toolkit along with shareable images for all clients to use.

Sample Red-Light Camera Program Brochure (Outer Panel)



RED-LIGHT SAFETY CAMERA PROGRAM

(INSERT CITY NAME)

This program is designed to reduce the number of violations, crashes and injuries caused by motorists running red lights. The objective of the program is to change driver behavior, making the community safer as more and more drivers obey the traffic signals and stop on red.

Keeping the Community Safe

- ▶ Public safety is the (insert city) number one priority. The red-light safety program ensures that drivers pay more attention and obey traffic control devices.
- ▶ The City is also dedicated to reducing red-light violations and their potential for crashes and injuries on our roadways.
- ▶ Vehicles exceeding the posted speed limit may be issued a citation. The fine amount for a red-light safety camera is \$XXX per the Code of XX.

(Insert Logos)

(insert name) | (address) | (phone)



National Stop on Red Week (NSORW) Examples

Social Media Header

National Stop on Red Week 2023

© July 28, 2023

Tags + Categories +



Logo



Share Graphic

NATIONAL RED-LIGHT RUNNING FATALITY MAP

The map includes red-light running fatalities that occurred in cities throughout the United States in 2021.

This interactive red-light running fatality map using 2021 AAAA data demonstrates that red-light running is dangerous and deadly. According to data from the National Highway Traffic Safety Administration, 42,579 lives were lost on U.S. roads in 2021. In 2022 alone, more than 1,000 people died due to red-light running. Fatalities are mapped to the city and state where each incident occurred. Use the scroll function to zoom into each location down to the intersection in which the red-light running tragedy took place.

The alternate goal is to honor the lives lost and illustrate the danger of red-light running. The markers represent life cut too short, family and friends left behind, and the harsh reality that red-light running can affect anyone on the roadways. It's more action for law enforcement to prevent reckless driving.



Red-Light Safety Messaging



Red-Light Safety Statistics

THE NUMBERS

2022 Trends in Red-Light Running

- More drivers ran red lights in **July** than in any other month.
- Nearly 1.5 million red-light running violations occurred during the **hours of 1-5 pm**.
- **Independence Day Weekend** was the highest-ranked holiday observed for red-light running.
- Nearly 6.4 million drivers ran red lights in 2022.

Source: [Vertra Mobility 2022 and/or Progressed Light Enforcement Data](#)

For the people who experience crashes and for the loved ones of those who are killed and injured from red-light running, the safety issue behind these numbers is very real.

Citation Reports

Verra Mobility's back-office system (BOS) has data-rich reporting tools, including a business intelligence (BI) suite with dynamic reporting capabilities and a program statistical dashboard. Our BI reports provide enhanced analytics for the life of the program, providing valuable historical trending information to aid in program decision-making. This near-real-time data will help users monitor key program details and provide program statistics to stakeholders on demand.

All reports can be accessed using our secure web-based interface, which is available 24/7. Reports can be presented and exported using common standard formats, including CSV, XLS, and PDF.

Many of the more than 60 standard reports within the BOS will provide the reports the County requires. For any report that is not available within the BOS, Verra Mobility will work with the County to utilize the information that is already available within the main system and our field services issue-tracking system to create the applicable reports.

While many of our reports will be familiar to the County, we recognize that additional training is always useful. We would be happy to provide all applicable staff with the training needed to feel comfortable running reports, including changing filters and visualizing their data. As our reporting capabilities increase or change, we will offer updated training as necessary.

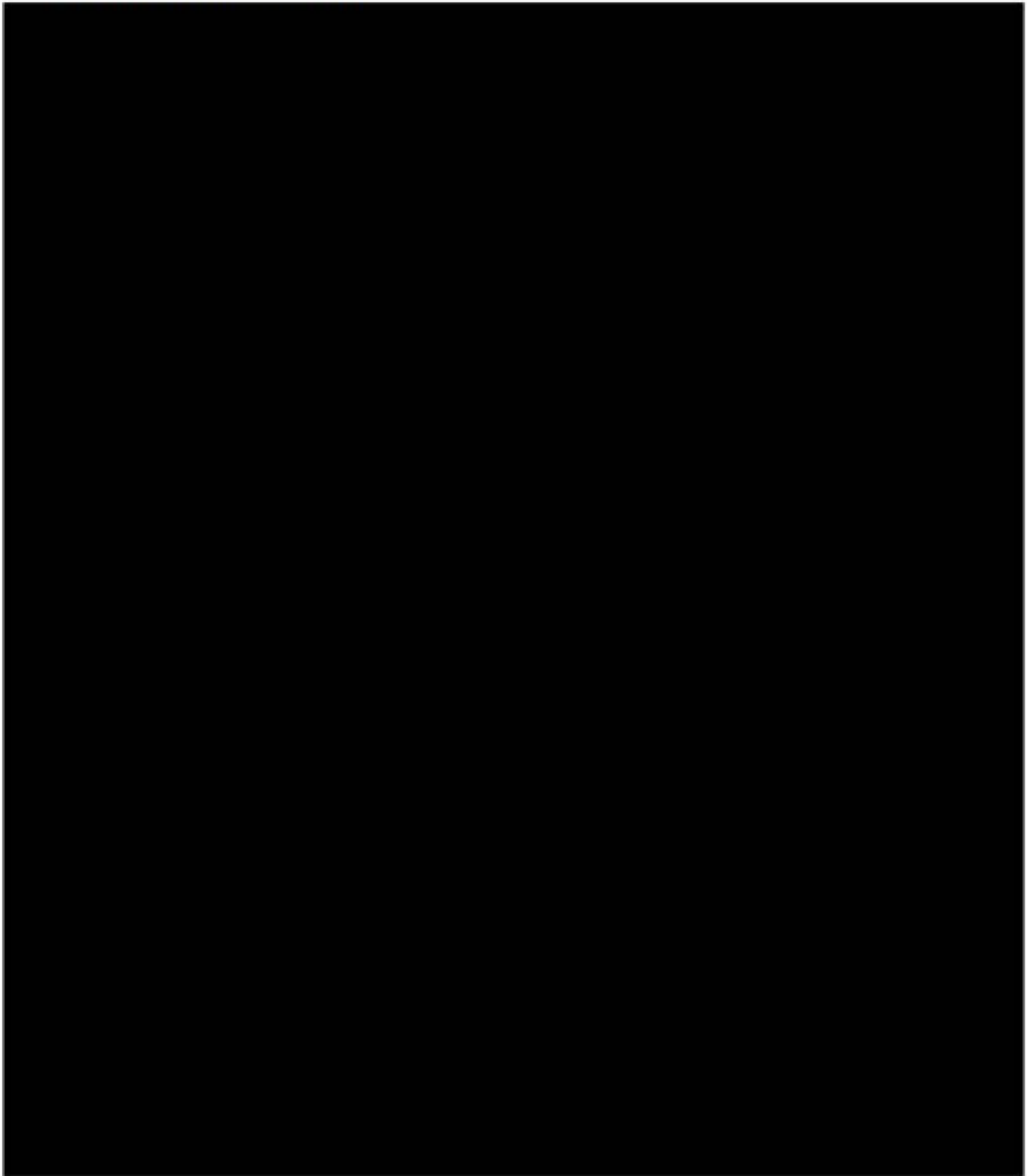
Examples of the data available within our extensive reports library include but are not limited to the following:

- > Incidents and violations recorded by each camera by site
- > Number of events detected and citations issued by camera system and for the overall program
- > Hours of use per camera by operational site
- > Total number of violations captured and percentage of total vehicle traffic counts by approach and/or lane
- > Total number and percentage of rejected images by reason
- > Traffic statistics including total vehicle count, average vehicle speed, and average violation speed
- > Citizen inquiry statistics
- > Adjudication hearing details

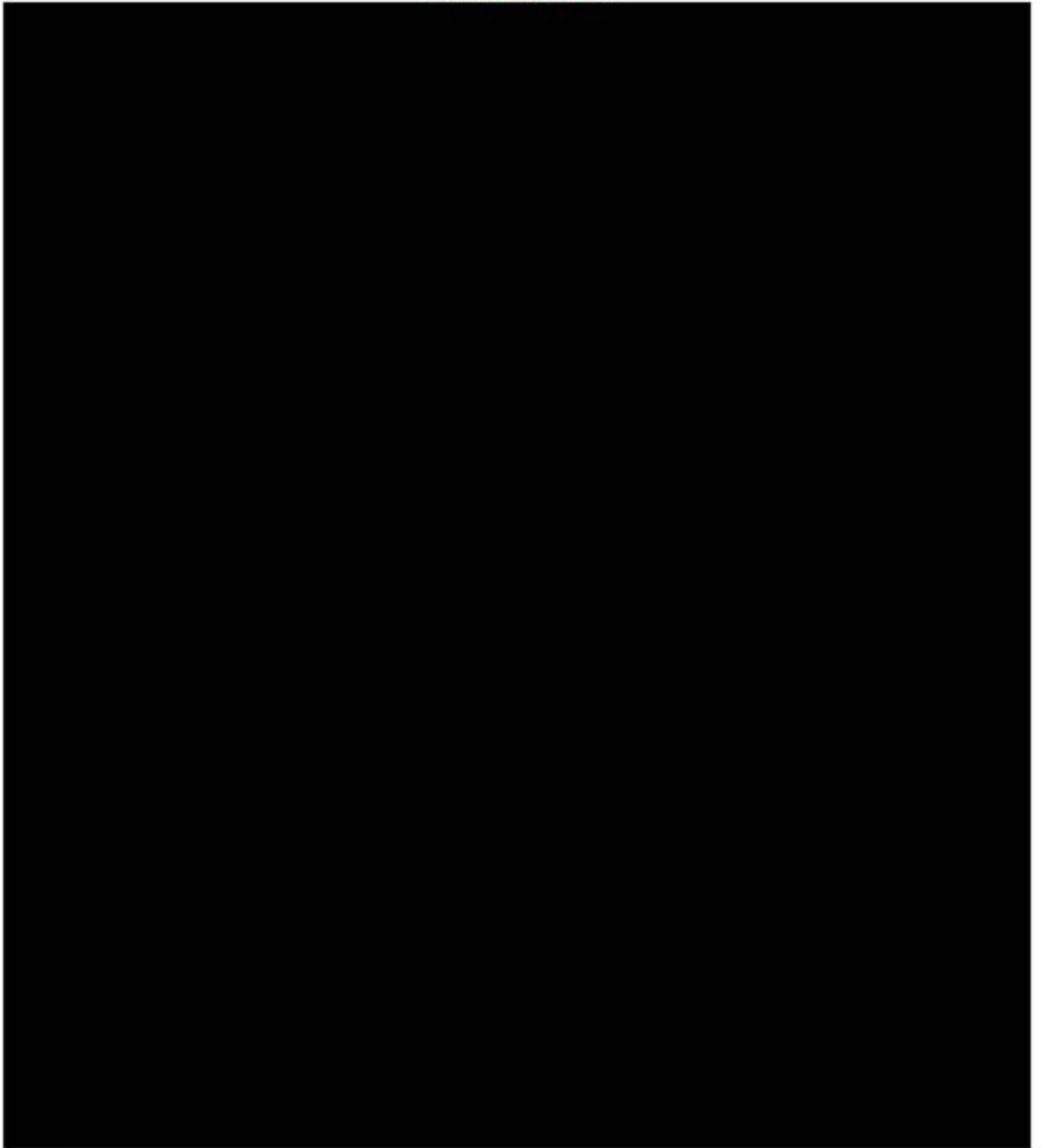
Sample Reports

Please note that the following sample reports do not include actual program data for customer confidentiality reasons.

Business Intelligence (BI) Reports



Violation Times Report



Back Office System Reports

- *Event Graph*
- *Location Performance Summary Report*
- *Issuance Rate Detail Report*
- *Issuance Rate Summary Report*
- *DMV Hold Report*
- *Document Mailing Summary Report*
- *Document Mailing Summary Report (cont'd)*
- *Payment Statistics Report*
- *Adjudication Detail Report*

Image Integrity and Security

Verra Mobility's information security program (including risk management) is based on both the ISO 27001/2 and NIST standards which includes a formal written information security program with supporting procedures and undergoes continuous monitoring for policy compliance and executive reporting on a quarterly basis.

Verra Mobility maintains a variety of protective and detective controls which are designed to maintain the security of the environment. This includes formal policies and procedures for data loss prevention regarding identifying, monitoring, and protecting data in use, data in motion, and data at rest. Verra Mobility undergoes a SOC2 Type II audit and a Level 1 PCI assessment on an annual basis.

Security-related IT controls surrounding roadside infrastructure include:

- > Utilizing private network infrastructure (non-internet facing communications) at photo enforcement sites. Verra Mobility operates private and public facing WAN services to transport data from the field or roadside locations. In cases where service availability is an issue, alternative non-private solutions may be used. All WAN connections are secured with a site-to-site IPSEC Tunnel.
- > Layering three firewalls in place at each photo enforcement local network gateway. Verra Mobility operates enterprise-grade, next-generation firewalls at our data centers, and roadside deployments ensure that data is efficiently and securely transmitted.
- > Isolating photo enforcement local networks from each other at the network layer. Each roadside network has its own dedicated WAN/LAN network segment that is connected to our back-office asset retrieval platform.
- > Encrypting photo enforcement data in transit to/from the back office with a VPN. All data from the roadside network is transmitted over an IPSEC VPN Tunnel using 256-Bit AES encryption.

- > Ensuring photo enforcement data in transit to/from the back office passes through a NIPS (network intrusion prevention system) that is monitored by dedicated information security analyst team. As data enters our asset retrieval platform, it is inspected by IDS and IPS Services.
- > Encrypting photo enforcement back-office data at rest using AES-256. Photo enforcement data stored at Verra Mobility's data centers resides on storage platforms that provide encryption at rest.
- > Limiting administrative access to photo enforcement sites to authorized network sources only. Verra Mobility operates under a least privilege model and performs semi-annual user access reviews as part of our compliance program.
- > Preventing unauthorized access at the site by providing camera enclosures that are vandal- and tamper-proof with sturdy materials and keyed locks.
- > Ensuring any damaged or replaced data storage devices at the site are logged and kept in locked boxes for travel and storage at a secure third-party facility. All storage devices are physically destroyed when removed from service. Additionally, removable storage media (such as USB drives) are restricted on all endpoints unless there is an approved exception request.
- > Installing enterprise antivirus software on photo enforcement Windows endpoints if present.

Security-related IT controls concerning our back-office system (BOS) include:

- > Online, secure, web-based interface to enable authorized personnel to perform processing functions from any location with internet access.
- > Comprehensive transaction detail and management reports providing you with full visibility into the operation and performance of your safety program.
- > Authorized County or law enforcement users can log into the BOS through a secure web portal; no additional software is needed.
- > Every transaction is auditable with a date/time stamp and user information.

Regarding our data storage facilities, the primary data center is in Arizona, and the secondary data center we will use is located at least 90 miles away. Security controls at both our primary and backup facilities include:

- > Restriction of authorized employees to only a core group of individuals. These individuals include IT management, system administrators, and network administrators.
- > Round-the-clock monitoring of the facilities by multiple cameras, including the external doors of the facility as well as the data center itself.
- > Card-key entry to the facilities, and only pre-cleared personnel can open the doors leading directly into the data center.

In the rare event of a security breach, Verra Mobility follows a documented and approved Incident Response Procedure, which includes response steps covering identification, classification, and reporting. The details of the response will be discussed with the County and covered in our contract upon award. Verra Mobility will follow the contractually defined requirements for incident response time and points of contact.

Upon entering into a non-disclosure agreement (NDA), Verra Mobility will provide the County with the following documents:

- > A copy of our SOC 2 Type II report. This report describes Verra Mobility's risk management controls, which cover risk assessment, risk mitigation, and monitoring.
- > Instructions for requesting an SOC 2 Type II report from the third-party hosting provider.
- > A summary statement from an external penetration test.

These documents can also be shared with third parties if the County requires it pending any NDA with said third parties.

Plate Covers and Reflective Materials

Our proposed system compensates for the effects of license plate covers and reflective material on license plates through the use of the purpose-built plate camera and LED illumination unit that reduces the overall retro-reflectivity introduced by plate covers or other reflective materials.

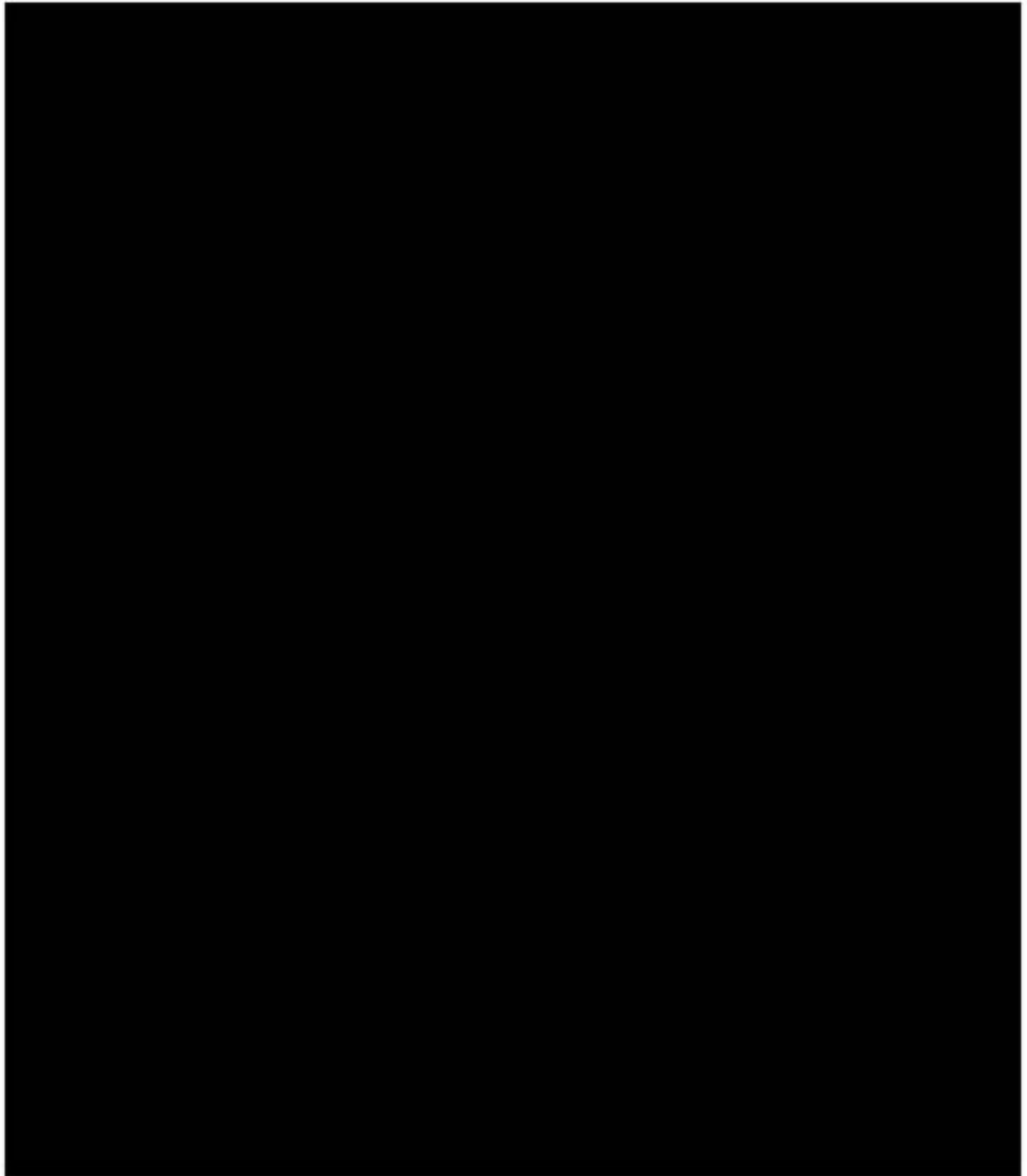
Secondary Speed Validation

Our proposed camera system expands on secondary speed validation by leveraging dual radars at the roadside to confirm the speed of vehicles at a higher percentage than the competition. This dual-radar technology allows two speed readings of vehicles that pass the unit; the readings of the two radars are then compared and confirmed before the event is ingested by our back-office system. All readings are logged and available for evidence in court proceedings.

A dual radar system on the edge requires a substantially higher confidence level of a violation than the standard back-end secondary speed validation (SSV) confirmations that leverage time over distance on the back end. Dual radar provides two separate accounts of the speed and then confirms accuracy, giving reviewers and the courts that uphold the violations the utmost confidence in their decisions.

Sample Billing and Payment Invoice

Please see the following sample invoice.



Requirements Compliance Matrix

We have included a compliance matrix in our proposal below that allows Howard County to quickly see how we comply with every requirement in this RFP. Our relationship with the County means you can view a "yes" in the compliance column and know that the deliverable will be completed. We want to preserve our honest relationship with Howard County and be upfront about requirements, knowing our competitors may not feel compelled to do the same.

SOW Title & #	Requirement	Compliance/Detail
D, Specifications, 2. Statement of Work	STATEMENT OF WORK: Howard County, Maryland, (the "County") seeks a qualified vendor (the "Contractor") to furnish turnkey automated camera systems capable of detecting and recording red light and/or speed traffic violators and provide back-office services as described in this Request for Proposals.	
2.1	The County requires the services for its Police Department Automated Enforcement Section to be performed in Howard County office space in Elkridge, Maryland 21075.	Note: Please see Proposal Section 5.3 <i>Plan and Approach to Required Tasks</i> for additional details.
2.2	The County desires to solicit qualified proposals for the use, service and conversion of its current and future red light and speed detection camera systems. For the purpose of this RFP, red light and speed detection camera systems are defined as inclusive of all equipment and personnel required to complete the operation of automated red light cameras and speed detection enforcement. This system must combine vehicle detection technology and digital image technology with a complete program for supplying, installing, and maintaining the cameras.	Comply.
2.3	The County is also seeking turnkey violation processing systems ("back-office services") for the issuance and adjudication of red light speed violator citations. The back-office services shall review images, access and/or interface with the Maryland Motor Vehicle Administration ("MVA") to obtain motor vehicle registration data, perform quality control, print and mail notices, perform field maintenance and repair services, conduct retraining of employees, provide public awareness and provide adjudication management. The back-office services must be accessible on a website by any approved	Comply.

	user via a personal computer, an internet connection, a web browser, and security authorization.	
2.4	It is the intent of the County in preparing this solicitation to set out specific outcomes and effects desired without specifying the exact technology to be used. It is expected that the Contractor shall offer the best practice or solution for achieving the efficiency and effectiveness of the desired programs.	Comply.
2.5	Through the life of the contract, newer models, manufacturers, styles, etc. may become available or models and/or styles may change. In order to have the most current equipment and styles available, the County reserves the right to rent/lease the newest or most updated models as they become available, as well as similar or like equipment meeting the intent of this solicitation, and items may be added as necessary to meet this requirement or future requirements that may become necessary in the event of a change in legislation.	Comply; provided however future upgrades of camera equipment (not proposed herein) will be subject to the mutual agreement between the County and Verra Mobility.
3 CONTRACTOR REQUIREMENTS - RED LIGHT ENFORCEMENT:	The County is requesting proposals for the supply and operation of red light camera systems and violation event processing, printing, mailing and support services.	
3.1	Time is of the essence for this procurement. The County's intention is to have the awarded Contractors on site and operating by January 1, 2024.	Please see Proposal Section 5.4 <i>Project Schedule</i> .
3.2	After award of the contract, all coordination for services shall be with the Supervisors/Administrators of the respective programs in the Howard County Department of Police.	Comply.
3.3	The Contractor shall designate, in writing, a dedicated Howard County Account/Project Manager and all coordination for services between the County and the successful Contractor shall be the responsibility of the respective managers.	Our proposed Account/Project Manager is Denise Andrieux, who brings several years of experience serving on Howard County's current red-light enforcement program. Please see Proposal Section 5.5 <i>Resumes of Key Personnel</i> for additional details.

3.4	The County seeks a financially secure and stable Contractor with the personnel, technological, and financial resources required to implement and operate its red light enforcement program.	Comply. Please see Proposal Section 5.1, <i>Company Overview</i> .
3.5	<p>3.5 The Contractor must have sufficient experience in providing red light camera systems and services to jurisdictions similar in size and population to the County. The Contractor must provide statistical data from each program showing the following for the past five years:</p> <p>3.5.1 Number of installed and operational cameras.</p> <p>3.5.2 Traffic volume at camera locations.</p> <p>3.5.3 Number of incidents photographed at camera locations.</p> <p>3.5.4 Number of uncontrollable rejections that are outside the Contractor's control such as missing plate, funeral procession, officer controlled, dealer plate or obstructed plate, or no motor vehicle record found.</p> <p>3.5.5 Number of rejections within the control of the Contractor such as, but not exclusive to improperly lit or dark images, unreadable or cut off license plates, vehicles out of position in the first or second image, green traffic signal in second image, traffic lights appearing both red and green in one or both images, missing violation date, incorrect data bar, images missing the red light signal in the image, improper amber times, or citations that are too old to be issued.</p> <p>3.5.6 Number of citations approved by clients and issued to violators.</p> <p>3.5.7 Percentage of citations contested or requesting hearings.</p> <p>3.5.8 Percentage of payment types utilized, such as but not limited to internet payments, telephone payments, and lockbox or any other electronic forms of payment.</p>	Comply. We have included the required information for the two projects most similar in size and population within Proposal Section 5.2 <i>Project Summaries</i> .
3.6	3.6 The actual scope of the work being performed such as site selection procedures, construction, maintenance, field service, event review, registered owner information	Comply. This is included within Proposal Section 4.6

	acquisition, citation and late notice mailing as well as other related correspondence, payment processing/lockbox management, adjudication services, training, public awareness, and citation reports.	Description of System Operations.
3.7	3.7 Describe the Contractor's history in the red light camera industry, including the technologies utilized in their red light camera systems and what percentage those different technologies comprise their current portfolio.	Comply. Please see Proposal Section 5.1 <i>Company Overview</i> .
3.8	3.8 The County reserves the right to check all references furnished and consider the responses received in determining the award of this proposal. The County shall require the Contractor to sign an authorization for the release of information and waiver of liability. This waiver shall release any and all references from liability and damages that may result from furnishing the information requested, including any liability or damage pursuant to any state or federal laws. Any information obtained shall be for the sole purpose of determining the Contractor's qualifications and shall be held confidential.	Note: This requirement was deleted in Addendum 1.
3.9	3.9 If camera hardware or software transitions are necessary, it shall occur site by site with no more than two red light camera and detection systems out of service at one time unless otherwise agreed by the Howard County automated enforcement supervisor or commander.	Comply.
3.10	3.10 Violation evidence processing and citation management software shall be compatible with each camera unit in the field.	Comply.
3.11	3.11 The Contractor shall include in their total price proposal the cost of supplies necessary for printing and mailing citations, including but not limited to; envelopes, paper, and postage.	Comply.
3.12	3.12 The Contractor shall include in their total price proposal any additional costs resulting from out of state vehicle registration searches.	Comply.
4 SECURITY – RED LIGHT ENFORCEMENT:		
4.1	4.1 All Contractors, Contractor's employees or other individuals as identified by the County who have access to any portion of	Comply.

	Howard County's automated enforcement programs shall be subject to, and pass, a Howard County Police background investigation.	
4.2	4.2 All Contractors, Contractor's employees or other individuals as identified by the County who have access to any portion of Howard County's automated enforcement programs shall have access to the Regional Automated Enforcement Center (RAEC) as approved by the County. In no cases shall any Contractor, Contractor's employees or other individuals as identified by the County access any motor vehicle department database or link without an authorized County employee being present, nor shall any such employee download digital images unless an authorized County employee is present unless otherwise directed or agreed by the County.	Comply.
4.3	4.3 All information and data pertaining to any portion of the Howard County Police automated enforcement programs, or RAEC partner programs, shall be held in the strictest of confidence and not be released to anyone without the express consent of the County's Supervisor or Commander of the automated enforcement section.	Comply.
4.4	4.4 Access to the RAEC shall be limited to authorized persons only.	Comply.
5 MANAGEMENT AND IMPLEMENTATION PLAN - RED LIGHT ENFORCEMENT:		
5.1	5.1 The Contractor shall describe their management approach and how they shall ensure a successful project for the County. The Contractor shall describe their project organization for both start up and ongoing operations and must include all positions in their organization including the number of staff and location.	Comply. Please see Proposal Section 5.3 <i>Plan and Approach to Required Tasks</i> .
5.2	5.2 The Contractor shall provide a dedicated Account/Project Manager for the project and this individual shall serve as the single point of contact for the County. The skills and qualifications of the proposed Account/Project	Please see Proposal Section 5.3 <i>Plan and Approach to Required Tasks</i> .

	Manager and his or her supporting team must be provided.	
5.3	5.3 The Contractor shall provide the names, addresses and telephone numbers of all subcontractors and include a brief summary citing the qualifications, responsibilities and experience of each firm.	Comply. Please see Proposal Section 5.3 <i>Plan and Approach to Required Tasks</i> .
5.4	5.4 If applicable, the Contractor shall present a proposed timeline for the conversion of existing red light camera systems and data to the new system, and timeline for the installation and operation of new red light camera systems using the most advanced technology available.	Please see Proposal Section 5.4 <i>Project Schedule</i> .
5.5	5.5 Business rules shall be established and agreed upon between the County (or agency partner) and the Contractor that detail nuances required of operating the program and enforcing violations. The County reserves the right to modify these rules on an as needed basis. Modifications to the business rules shall be made by the Contractor without any costs or charges to the County or agency partner. These changes/modifications shall be made within 45 days. The business rules shall not be altered by the Contractor without the authorization of the County.	Comply.
5.6	5.6 The Contractor shall warrant and fully maintain all equipment provided throughout the duration of the contract.	Comply.
5.7	5.7 The Contractor shall agree to and provide a conversion plan, in the event of contract non-renewal, detailing how to accomplish a six-month camera conversion to a new contractor. The conversion plan must be submitted for approval by the County not less than 6 months prior to the expiration of the initial term of the contract.	Comply.
5.8	5.8 All red light camera information, data and imagery are the property of the County and may not be used by the Contractor without written permission of the County.	Comply; provided however, Verra Mobility shall retain the right to use metadata, business intelligence, or other analytics obtained, gathered, or mined by Verra Mobility from the data captured by the Camera Systems

		and the BOS. Furthermore, Verra Mobility has a right to use non-personalized and aggregated Program data for its internal business purposes, analytics, statistical analysis, and to perform analyses which would further Customer's Program.
6 SYSTEM OVERVIEW – RED LIGHT ENFORCEMENT:		
6.1	6.1 The County is seeking Contractor(s) to provide conversion and/or enhancement of existing digital red light camera systems and installation of new digital red light camera systems and back-office citation processing, printing and mailing for red light cameras. The County intends to obtain this through an award to one or more firms, whichever is determined to be in the best interest of the County.	Comply.
6.2	6.2 The Contractor's system automatically/programmatically produces and mails a court approved citation and up to two additional late notices from templates if a violation remains unpaid. The Contractor prepares digital and hardcopy court hearing evidence materials including evidence documents, docket sheets, disposition sheets, camera logs, etc. The Contractor's system is capable of automatically/programmatically producing dismissal/void notices, failure-to-appear (FTA) notices, and hearing summons notices all from templates. The Contractor's system automatically and/or programmatically performs vehicle registration flagging and flag releases hourly.	Comply.
6.3	6.3 A general process overview is as follows. The existing system utilized by the County provides three digital images as well as high definition video evidence to substantiate a violation. Two digital images depict the vehicle before and during the violation, and the third provides a clearly legible license	Comply for Howard County. For other clients under this contract, we can and do provide payment processing services.

	<p>plate/tag image. The vehicle registration number and State are identified by the Contractor when they perform an initial review of the violation. All Howard County citations are issued a citation number with a 3 digit prefix (290) followed by a sequential citation number as required by the District Court. Through a memorandum of understanding (MOU) with the State, the Contractor uses Howard County Police Department's originating agency identifier (ORI) to obtain vehicle registrations through the National Law Enforcement Telecommunications System (NLETS). Further, Howard County provides Contractor personnel a web portal where they may connect to the MVA directly for any "no-hit" or missing vehicle registration information. If registrations are unavailable for out of state tags, Howard County Police Department employees may access the Maryland Electronic Telecommunications Resources System (METERS), NLETS and the National Crime Information Center (NCIC) to attempt to obtain owner information. Howard County Police Department employees perform the final review and approval of red light violations to determine if criteria is met to issue citations. Once violations are reviewed and approved as citations, the Howard County Police Department employee's signature and ID number are electronically inserted onto the citation and citations are printed by the back-office Contractor personnel. Printed citations are returned to Howard County Police for a post-print, hardcopy, quality control review where some citations are voided/dismissed before issuance. Then, Contractor packages and posts mail pieces before Howard County performs a final check of envelopes before the Contractor mails them. According to Maryland law, red light citations must be issued/mailed within 14 days of the violation (Howard County will regard the violation day as day one). Payments and correspondence regarding red light citations are received and processed through the County's 3rd party lockbox payment processor (MooreRMG). The payment processor prepares payments for deposit to the bank and places a payment file of all monies received on their file transfer</p>	
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	<p>protocol (FTP) site. The Contractor must acquire and upload this information every day to credit citations with payments. The County uses a 3rd party web payment processor (Govolution) with which the Contractor must be willing and able to integrate with its application programming interface (API). The County also accepts walk- in payments which will also be posted to FTP similar to the lockbox processor above that the Contractor must interface with. Payment processing channels are subject to change and Contractor must be willing and able to adapt as needed. The County has preset days for red light camera court hearings and County employees assign these court dates to citizens contesting citations. Summons notices are automatically generated from Contractor's system using templates, and court dates are mailed to citizens as follow-up correspondence after court as needed. The Contractor must be able and willing to prepare court evidence materials and all correspondence.</p>	
7 CONVERSION OF EXISTING DIGITAL CAMERA SYSTEMS, DATA AND NEW RED LIGHT DIGITAL CAMERA SYSTEMS - RED LIGHT ENFORCEMENT:		
7.1	<p>7.1 The Contractor shall be able to provide digital images in formats compatible with the back-office system. Acceptable formats are JPG, BMP, TIFF or any other County approved alternate. Please note that any graphical formats that embed a text stream are not acceptable. Contractors shall indicate the format, which produces an optimum balance of high quality imagery with reduced file size, from their cameras in their proposal.</p>	Comply.
7.2	<p>7.2 Existing Locations: The County has twenty-six (26) active, digital, red light camera systems currently deployed. Existing systems record video and still-images on digital media and transfer data via cellular networks for back-office processing. Film-</p>	Comply.

	based systems are not in use and shall not be considered. The County expects the Contractor to work with the existing Contractor during the conversion process as needed. The Howard County RAEC partnership has an additional forty- nine (49) cameras, which must be converted using the same timetable. The County expects the conversion process to be completed within 6 months from the execution of the contract and prompt coordination must be made with the State Highway Administration (SHA) or local traffic engineers as needed. The construction plan is subject to final approval by local and state traffic engineers. All completed work and all associated construction and permit requirements are the responsibility of the Contractor.	
7.2.1	7.2.1 The Contractor shall supply appropriate supplies and services including:	
7.2.1.5	7.2.1.5 Assume the transition cost associated with the installation of camera systems.	Comply.
7.2.1.6	7.2.1.6 Conversion to new digital camera system shall be completed within 6 months after award of contract.	Please see Proposal Section 5.4 <i>Project Schedule</i> . As noted within the section, administrative delays related to SHA or agency approval will not count against contractor obligation.
7.2.1.7	7.2.1.7 Ensure minimal down time of cameras due to conversion.	Comply.
7.2.1.8	7.2.1.8 Convert all existing citation information and images (open citations, closed citations, and non-cited events) to a new administrative user interface so that all information is easily accessible, searchable and viewable.	Comply.
7.2.1.9	7.2.1.9 Provide a web browser-based system that shall allow for the viewing of all citations and payment of citations.	Comply.
7.2.1.10	7.2.1.10 Provide a seamless continuation of existing services.	Comply.
7.2.1.11	7.2.1.11 Archive existing images and related data. Archiving shall be in an approved media that can be secured for the period of storage required by law for this type of information.	Comply.

7.2.1.12	7.2.1.12 Within 30 days after award, provide the County with a Gantt Chart with a timeline for accomplishing the conversion of existing camera systems and data.	Comply.
7.2.1.13	7.2.1.13 Pay all conversion costs. Every effort shall be made to use existing equipment and wiring where possible. The Contractor is responsible for all (above or below ground) cabling and connectivity to each camera location.	Comply.
7.2.1.14	7.2.1.14 Install underground conduits if/as needed. Some locations may allow for use of existing underground conduit for cabling while others could require new conduit be drilled. Some locations may allow for use of existing overhead span wire to run cabling whereas others will not. These items are site/location dependent in coordination with state and local traffic engineers.	Comply.
7.2.1.15	7.2.1.15 Erect cameras and detection systems.	Comply.
7.2.1.16	7.2.1.16 Be responsible for any and all costs imposed by the State Highway Administration (SHA) for the conversion or new installation of camera sites to include installing power pedestals if necessary.	Comply.
7.2.1.17	7.2.1.17 Ensure that no more than two County cameras at a time shall be out of service during the transition period unless otherwise approved by the County through the RAEC Supervisor.	Comply.
7.2.1.18	7.2.1.18 Utilize Maryland, in-state Contractors who are currently approved and utilized by the SHA and Howard County Government to perform traffic signal maintenance & construction in Maryland. Contractors performing the work shall be licensed in Maryland and Howard County.	Comply.
7.2.2	7.2.2 The County shall provide the following supplies and services:	
7.2.2.5	7.2.2.5 If available, an intersection drawing of the traffic signal and timing.	Comply.
7.2.2.6	7.2.2.6 Make wiring connections in County maintained traffic signal cabinets to provide the following: 7.2.2.6.5 A 10-Ampere, 120 volt AC power source.	Comply.

	7.2.2.6.6 120 volt AC outputs for red and amber traffic signal indicators.	
7.3	7.3 The County reserves the right to reject, remove or reassign any camera location, regardless of point in construction. The Contractor shall be responsible for removing its equipment with 10 days of written notification at no additional cost to the County.	Comply.
7.4	7.4 New Locations: As the County identifies a new camera location site; the Contractor shall provide a construction plan for the intersection that details the layout of the proposed equipment necessary to operate a red light camera system. The construction plan is subject to final approval by the County and State Highway Administration traffic engineers. The Contractor shall be responsible for any and all costs necessary and/or imposed by the State Highway Administration and/or the local power company for new camera sites until permanent power is established. The County shall approve all sites for red light camera installation; however, the Contractor shall provide site analysis and other information as required to assist the County in making their final site selections and developing applications to SHA. This site analysis shall include engineering schematics, video surveillance of the potential site(s), and collision data analysis. The furnishing and installation of equipment shall be the responsibility of the County and the Contractors, as follows:	Comply.
7.4.1	<p>7.4.1 The Contractor shall supply appropriate supplies and services including, but not limited to:</p> <p>7.4.1.1 Provide and install camera systems, including above ground detection devices and above and underground infrastructure.</p> <p>7.4.1.2 Provide and install housings and poles.</p> <p>7.4.1.3 Provide transformer bases and anchor bolts.</p> <p>7.4.1.4 Provide on-site personnel to maintain camera systems.</p>	Comply.

	<p>7.4.1.5 Provide an electronic means to transfer color images from the cameras to back- office processing and to the Howard County Police Personnel.</p> <p>7.4.1.6 Provide maintenance of the transmission system.</p> <p>7.4.1.7 Provide regularly scheduled maintenance, in addition to normal maintenance, of the red light camera systems.</p> <p>7.4.1.8 Provide a County approved security solution to safeguard image security.</p> <p>7.4.1.9 Provide comprehensive documentation on system operation.</p> <p>7.4.1.10 Provide a proposed construction plan prior to the installation of camera system.</p> <p>7.4.1.11 Provide as-built drawings after installation to include field modifications.</p>	
7.4.2	7.4.2 The Contractor shall pay all costs for construction including the purchase and installation of the underground camera system infrastructure equipment. The infrastructure equipment must meet County standards as determined by Howard County Traffic Engineering.	Comply.
7.4.3	7.4.3 If the County decides to remove a red light camera site, the Contractor shall be responsible for all costs associated with the removal of the site. The State Highway Administration requires that only Contractors approved by their agency may remove equipment located on SHA property.	Comply.
7.4.4	7.4.4 The County, or respective partner jurisdiction, shall choose all camera site locations. Cameras may be moved from one site to another with existing infrastructure or to a new site where new infrastructure may be required. Some locations may be deactivated and/or permanently removed without the camera being moved to a new location. The Contractor shall pay all costs associated with the removal of said cameras and any other fees such as restocking fees. A	Comply.

	site is defined as the roadway approach to a traffic signal that shall be monitored by a red light camera system.	
7.4.5	<p>7.4.5 The County shall provide the following services:</p> <p>7.4.5.1 Identify intersection locations for automated red light enforcement.</p> <p>7.4.5.2 If available, an intersection drawing of the traffic signal plan to scale.</p> <p>7.4.5.3 Make wiring connections in County maintained traffic signal cabinets to provide the following:</p> <p>7.4.5.3.1 A 10 ampere, 120 volt AC power source.</p> <p>7.4.5.3.2 120-volt AC outputs for red and amber signal indications.</p> <p>7.4.5.4 Indoor office space at the RAEC. The County shall supply all HVAC, maintenance, and janitorial services at the offices. Each Contractor shall be allowed access to the RAEC to include conference rooms, break rooms, etc., to employees who successfully complete Howard County Police Department background investigations. The County shall supply administrative and management services for the RAEC to include, but not be limited to, evidence controls and operational oversight. The Contractor shall adhere to the County's holiday schedule. There is no access to the RAEC during County holidays or when the County offices are closed due to weather or other emergencies. Access shall be authorized for emergency repairs to the Contractor's equipment.</p>	Comply.
8 INSTALLATION & MAINTAINENCE - RED LIGHT ENFORCEMENT:		
8.1	8.1 Set up and optimize cameras at all locations identified by the County and RAEC. The Contractor must align and position cameras with appropriate focal lenses to maximize the number of red light violations that can be photographed while minimizing	Comply.

	potential obstructions to view (e.g. vehicle out of focus, out of range, data bar blocking critical violation elements, etc.). The Contractor shall be responsible for all costs associated with the construction and installation of digital red light camera systems.	
8.2	8.2 Each camera shall be capable of identifying vehicles traveling through a signalized intersection and take photographs of the rear of each vehicle violating a red light traffic signal.	Comply.
8.3	<p>8.3 Each system shall be installed so each violation can be recorded by the camera unit at all times of the day, during all seasons of the year, under varying conditions of sunlight and shadowing, at night and during any weather conditions. The photograph shall incorporate the following views:</p> <p>8.3.1 Rear of the violating vehicle.</p> <p>8.3.2 Clear view of the traffic signal head showing which indication is illuminated.</p> <p>8.3.3 Characters and numbers on reflective and non-reflective license plates.</p> <p>8.3.4 Superimposed data.</p>	Comply.
8.4	8.4 Each system shall operate on 120V AC, 60-cycle power supply that shall be fused to protect the camera unit. The Contractor's design of the camera system shall include the ability to turn off power to the camera system without entering the traffic signal cabinet. Existing sites utilize a disconnect kit in the camera pole and may be shutdown remotely.	Comply.
8.5	8.5 Contractors are encouraged to reuse the existing infrastructure at red light enforcement sites and/or new locations if at all possible. Infrastructure may include poles, pole foundations, conduits, and/or wiring.	Comply.
8.6	8.6 The Contractor/subcontractors shall contact the County's Signal Engineer (410-313-2430) whenever working in County owned equipment, for example when pulling wire through County hand boxes.	Comply.
8.7	8.7 The Contractor/subcontractors shall contact the County signal shop and/or County	Comply.

	Signal Engineer (410-313-2430) to gain access to the traffic signal cabinet and under no circumstances should Contractor work in the signal cabinet without County personnel on-site.	
8.8	8.8 The Contractor/subcontractors must follow County construction standards when working on or with County equipment; for example, use of appropriate weather-heads and/or sufficient span rings upon utilizing span wire among other standards.	Comply.
9 DETECTION - RED LIGHT ENFORCEMENT:	9 DETECTION - RED LIGHT ENFORCEMENT:	
9.1	9.1 The violation detection system must accommodate accurate speed detection. The violation detection system must be an above ground, non-invasive detection system and detect a minimum of 98% of all vehicles. The system must be accurate to +/- 1 mph for speeds up to 120 (one hundred twenty) mph. Alternate detection methods may be considered if evidence can be provided that the systems achieve 98% detection and +/- 1 mph speed accuracy; however, inductive detector loops or any in- ground similar technology shall not be considered.	We will comply to +/- 1kmph or +/-1%, whichever is larger.
9.2	9.2 The Contractor shall submit third party test data validating the accuracy and statistical reliability of the detection method when used as intended.	Comply.
9.3	9.3 The Contractor shall submit method and required frequency of calibration of the detection method.	Comply.
10 CAMERA HOUSING – RED LIGHT ENFORCEMENT:	<p>10.1 A weather and vandal-proof housing shall be provided to protect the camera housing unit and its ancillary equipment and must have the following:</p> <p>10.1.1 Water and spray resistance with a sealed access panel.</p> <p>10.1.2 Steel construction including welded joints.</p> <p>10.1.3 Rust proof finish (e.g. baked enamel) in a color approved by the County.</p> <p>10.1.4 Bullet and shatter resistant windows</p>	Comply in large to the requirements, however, please note that in regard to 10.1.2 our proposed camera housing is aluminum. Also, per 10.1.4 the housing is not bullet resistant as doing so causes interference issues with both the radar and IR flash. We have had customers who have relocated those

	<p>for the camera housing.</p> <p>10.1.5 Security locks.</p> <p>10.1.6 Secure mounting on a Contractor supplied pole to allow both horizontal and vertical pan adjustment at the intersection with clear, unobstructed view of vehicle in travel lanes.</p>	<p>components outside the housing to avoid the interference, however, this is not an optimal solution. The camera housing does have an impact rating of IK10.</p> <p>In regard to 10.1.5, we use both security locks and screws.</p>
10.2	10.2 The camera housing cabinet shall be designed in a manner to ensure system operation under an ambient temperature range of -10 degrees Fahrenheit to 122 degrees Fahrenheit and an outside humidity of 100%.	Comply.
10.3	10.3 The camera housing should contain a system which must automatically activate to reduce fogging on the windows which may obstruct the view of the camera; or, be demonstrably resistant to any fog impediments to enforcement to the County's satisfaction.	Does not comply. Please see Proposal Section 5.6 Description of System Operations for a description of our camera housings.
10.4	10.4 The camera enclosures must be designed in such a fashion that maintenance and other operations can be accomplished easily and quickly without creating a public safety hazard to drivers or pedestrians near the location.	Comply.
10.5	10.5 The housing shall be designed to eliminate or decrease the problem of nesting or perching birds that could impact the imagery or detection of violations.	Comply.
10.6	10.6 The pole shall have a secured terminal block, in a vandal proof location, readily accessible to accept the power for the red and amber lights and vehicle detection system inputs.	Comply.
11 DIGITAL CAMERA SYSTEM – RED LIGHT ENFORCEMENT:		
11.1	11.1 The system shall utilize digital cameras that record images on digital media and allow for internet and website-based access to imagery, evidence and citation management.	Comply.

11.2	11.2 The camera unit shall consist of the camera, non-invasive, aboveground detection system, keypad and associated electronics.	Comply in part, however, our system does not contain a keypad.
11.3	11.3 The cameras shall provide two high-resolution color images of the rear of the vehicle committing the red light violation in addition to the traffic signal heads (in red phase), the stop bar, and other pertinent information to substantiate a red light violation. The violating vehicle must trigger the system to capture the first and second images. A third captured image, or a clearly legible zoom-in crop of the first two, must identify the registration plate. The County also desires a system that can provide multiple tag shots to choose from in the event one tag image is inferior to another.	Comply.
11.4	11.4 The camera system shall also capture multiple sequential frames yielding video clips providing supplemental evidence to substantiate violations. The video clips must also provide databar with date and time.	Comply.
11.5	11.5 The operation of the camera shall be microprocessor controlled and fully automatic; it shall incorporate sufficient shutter speed and sensitivity to ambient light to provide adequate illumination to record sharp, well-defined and well-illuminated images resulting in the maximum number of recordable violations. The camera system shall incorporate the following features:	Comply.
11.5.1	11.5.1 The initial shutter release shall be triggered by the violating vehicle prior to passing the stop bar.	Comply.
11.5.2	11.5.2 Auto aperture over the widest possible lighting conditions from dimmest to brightest, where dimmest shall be lighting at night without street lights or moonlight of a black vehicle on a black road surface, and brightest shall be full sunlight reflecting off a white vehicle surrounded by snow.	Comply in large as we use fixed aperture but adjust for lighting by adjusting ISO and other camera settings.
11.5.3	11.5.3 The range of shutter speeds shall include a top speed 1/1000 of a second.	Comply.
11.5.4	11.5.4 A system that uses existing ambient lighting (natural or artificial) to photograph violations and tag shots under low light or night conditions is desirable; systems with a flash/camera strobe, though less desirable,	Comply in large, however, we use a LED light for illumination in low-light situations which

	will also be considered but must be amenable to flash guards and flash filters to limit luminosity impact on the environment around the camera site.	has less luminosity impact than flash strobe.
11.5.5	11.5.5 After capturing an image, the system shall be capable of capturing another image within 0.2 seconds.	Comply.
11.5.6	11.5.6 The system shall offer auto data recording onto the image in a data bar within 0.05 seconds of the actual exposure with all related data.	Comply.
11.6	11.6 Violation images shall be encrypted at the point of capture to ensure the security of primary evidence to a County approved level security. The proposed system must encrypt all images and violation data together at the time of issuance. It is unacceptable to match violation images after issuance in the effort to maintain an unbroken chain of custody for the evidence. The Contractor must detail the system's encryption specifications.	Comply in large. The system digitally signs the evidence packages to ensure security and proper chain of custody during transmission to the back office. The captured files and event meta data are bundled into a single evidence package at the time of capture. The files are transferred across a private cellular network or VPN ensuring a secure data transmission. These files are pulled into the back office for processing and stored in an encrypted format on the server. Because we operate on a private network with digital signatures, there is no practical need for encryption at point of capture specifically. Having said that, our camera systems can support edge encryption if client deems it required.
11.7	11.7 All violation images shall be in color or as otherwise approved by the County. Violation images should be saved at a	Comply.

	minimum of 24-bit color at a high enough resolution to allow for the easy recognition of the violation when displayed on standard color monitors and enlarged printed hardcopies. Images must include the traffic control device and clearly show that the red phase is illuminated. Images must be saved in a universally acceptable format (i.e. JPG, BMP, TIFF, or other County approved alternate).	
11.8	11.8 Image sizes and aspect ratios must be capable of conforming to that required by Maryland's statewide uniform citation template as determined by the District Court of Maryland. There may be no image distortion, such as squeezing or stretching images vertically or horizontally, to forcibly conform them to aspect ratios that different from their original in either printed or on-screen display mediums.	Comply.
11.9	11.9 The camera unit shall be portable and easily removable from the cabinet housing. Camera units shall be interchangeable as to allow easy relocation to other sites pre-installed with poles and housings.	Comply.
11.10	11.10 The camera unit shall provide a display of the current day, date and time (eastern time zone) so it can be easily verified as functioning and correct. At a minimum, the system clock should maintain the correct time to within ten seconds over a period of no less than 7 days. Service personnel should be able to easily set the time and date at the camera site if needed. The system shall also be capable of remote adjustment of date and time and remote verification of same. A system or systems that automatically update and verify time accuracy against the National Institute of Standards and Technology (NIST) Internet Time Services is desired (the frequency of which must be documented and satisfactory to the County).	Comply in large, however, our proposed camera system does not have an embedded screen but the software running on the camera can be accessed via a web portal and a time stamp is available on that screen.
11.11	11.11 The camera lenses shall be interchangeable. Depending on the location, it may be necessary to use lenses ranging from 42 degrees to 23 degrees. Variable focal length lenses of adequate resolving power shall be acceptable.	Comply.
11.12	11.12 The camera unit shall allow for on-site adjustment of camera activation. At a	Comply.

	<p>minimum, on-site adjustment shall allow for:</p> <p>11.12.1 Timing intervals between the images taken by the camera.</p> <p>11.12.2 Adjustment of monitoring zone size.</p> <p>11.12.3 Specify the time and/or distance interval between the first and second violation image.</p> <p>11.12.4 The date, day, and time (eastern time zone).</p> <p>11.12.5 The minimum vehicle speed needed to activate camera in 1 MPH increments, from 1 to 40 MPH.</p> <p>11.12.6 Time operation for automatic on/off activation.</p>	
11.13	<p>11.13 The camera unit shall be designed so that malfunctions can be easily identified and corrected. The unit shall:</p> <p>11.13.1 Be capable of performing a self-test. Each self-test to be recorded in an agreed upon format with a hardcopy print-out available on request and for hearings.</p> <p>11.13.2 Simulate a violation being recorded for testing.</p> <p>11.13.3 Provide an error signal for selected malfunctions.</p> <p>11.13.4 Record date and time (eastern time zone) of camera system startup, uptime, and shutdown, even in the event of malfunction.</p>	Comply.
11.14	<p>11.14 The system server shall be located at the RAEC, or a location mutually agreed upon by the Contractor and the County. The Contractor must describe specific communication requirements for transmitting images and data to the RAEC. The Contractor is responsible for data communications for digital images, from cameras to the back-office system at the RAEC and shall include cost of installing and operating any communications circuits for data transmission, monitoring, or control.</p>	Comply.

11.15	11.15 Communication facilities and related equipment, aside from a easily removable server, router, firewall or network switches, installed by the Contractor at the RAEC become property of the County.	Comply.
11.16	11.16 The Contractor is responsible for maintenance of the communication facilities and related equipment.	Comply.
11.17	11.17 The cost to establish and maintain communication facilities shall be paid for by the Contractor.	Comply.
11.18	11.18 The Contractor must provide a detailed description of method used to ensure image integrity. The Contractor may submit more than one security option and describe the impact each option would have on the proposed cost if any.	Comply.
11.19	11.19 The Contractor must store all untouched violation images for a minimum of 12 months. Violation images from cases that are being appealed must be held for no less than three years after the case is finally adjudicated unless otherwise directed by the County. Any data storage device(s) used to store violation images, including images themselves, must be destroyed within County evidence destruction protocol.	Comply.
12 CAMERA FLASH REQUIREMENTS - RED LIGHT ENFORCEMENT	<p>12 CAMERA FLASH REQUIREMENTS - RED LIGHT ENFORCEMENT: It is desirable that the camera units offer light sensitivity to ambient light that can provide night and low light images with standard street lighting so a flash is not necessary. If an intersection needs additional lighting, that lighting shall be at the expense of the Contractor and must meet the approval of the County and the State Highway Administration. The lighting should be sufficient to illuminate all images taken for the violation over 24 hours.</p> <p>Systems with a flash or camera strobe, though less desirable, may still be considered. Systems using a flash or camera strobe must be capable of installing flash shields/guards around the flash unit to narrow the direct visibility of the flash system. Systems using flash or camera strobes shall be capable of installing flash filtering film or covers to reduce the luminosity of the flash system on the</p>	Comply in large part, however, we use LED illumination instead of strobe light.

	environment around the site in addition to the optional flash shield/guards.	
13 CAMERA DATA BAR - RED LIGHT	<p>13 CAMERA DATA BAR - RED LIGHT CAMERA: Each violation photograph shall contain a clear and legible data bar on the image, preferably white or yellow script on black background. The data bar shall be positioned to avoid masking critical violation elements. The data bar shall contain the following data information for each image:</p> <p>13.1 Date (MM/DD/YY).</p> <p>13.2 Time (eastern time zone).</p> <p>13.3 Lane number in which violation occurred.</p> <p>13.4 Number of seconds (in 1/10 or 1/100 second increments) that the amber indication was displayed.</p> <p>13.5 Number of seconds (in 1/10 or 1/100 second increments) that the red indication was displayed.</p> <p>13.6 Location code.</p> <p>13.7 Vehicle speed in miles per hour (mph). The speed data shall appear only on the image where the speed was calculated.</p> <p>13.8 Posted speed limit.</p> <p>13.9 Photo number sequence.</p> <p>13.10 The designated data elements are necessary on all three of the photographs used for each violation.</p> <p>13.11 Any required modifications to the data bar must be completed with 45 days of a written notice from the County (RAEC) at no cost to the county.</p> <p>13.12 The system shall be capable of performing a self-test on location. Self-testing shall be recorded in the data bar. Designated data elements are only necessary on one of the two photographs taken for each self-test if the self-test consists of two photographs.</p>	Comply.

	<p>At a minimum, the data recorded on the self-test shall include the following:</p> <p>13.12.1 Date (MM/DD/YY).</p> <p>13.12.2 Time (eastern time zone).</p> <p>13.12.3 The designation of test mode operation.</p> <p>13.12.4 Lane of the test.</p> <p>13.12.5 The time or distance interval for the second photo image selected.</p> <p>13.12.6 The delay time into the red phase selected.</p> <p>13.12.7 Location code.</p>	
14 SYSTEM OPERATIONS – RED LIGHT ENFORCEMENT:	14 SYSTEM OPERATIONS – RED LIGHT ENFORCEMENT:	
14.1	<p>14.1 A minimum of three images shall be available for each violation recorded by the system as well as video evidence as supplement. The first image shall be taken of the vehicle prior to crossing the stop bar at the intersection and shall be triggered by the violating vehicle. The second image shall be taken after the vehicle has completely crossed over the stop bar. The third image shall be captured or be a zoom-in crop of one of the two photographs, and it shall be exclusively of the registration plate and rear of vehicle. It would be preferable to offer a choice of two tag shots (four images total for each violation) in the event one tag shot is inferior to another. The registration plate image should be taillight-to-taillight of the violating vehicle, providing as much vehicle make/model information as possible in addition to the clearly legible tag.</p>	Comply.
14.2	<p>14.2 If a time interval of exposure between the three photographs is taken to record a violation, it shall be adjustable either in 10ths of a second from 0.1 to 2.0 seconds or in 1 foot or meter increments. Time and/or distance adjustments shall be easily made on-site or remotely.</p>	Comply.

14.3	14.3 If a second vehicle violates the red light before the second photograph of the first violation has been taken, the second photograph shall be taken to document the violation of the second vehicle and a third photograph shall be taken to complete documentation of both the first and second violation. When any digital wide-angle image is captured, the system shall save the image for use not only for the violation in question but in any other violation that may be occurring simultaneously.	Comply.
14.4	14.4 The camera system shall be capable of accurately monitoring several traffic lanes (4 minimum, 5+ preferred) for red light violations concurrently, including left turn lanes, and must have the ability to capture multiple red light violators simultaneously and multiple signal phases at a single intersection, and be capable of monitoring a minimum of four violations per red phase.	Comply.
14.5	14.5 The camera unit shall be capable of counting the number of violations and total through traffic volumes and record this data on a County-approved data storage device. Traffic volumes must be counted by lane on all monitored lanes.	Comply.
14.6	14.6 The camera system shall have the capability to perform internal calibration checks and self-tests for accuracy and functionality and have the ability to self-diagnose and notify the Contractor's Account Manager and/or automated enforcement section supervisor when a problem arises.	Comply.
14.7	14.7 The camera unit, in conjunction with the detection device, shall calculate vehicle speed prior to the stop bar so that the images shall be taken only when vehicles have entered the detection zone during the red light and are exceeding a preset, user specified minimum speed. The minimum speed shall be adjustable to the nearest mile per hour within a range of 1 to 40 mph. The violation detection system must accommodate accurate speed detection for this purpose. Violation detections systems must be a non-invasive detection system and detect a minimum of 98% of all vehicles. The system must be accurate to +/- 1 MPH for speeds up to 188 MPH. Alternative detection methods	Comply in large, however, +/- 1 or +/- 1% whichever is greater (i.e. 180 would be +/- 1.8).

	may be considered if evidence can be provided that the systems achieve 98%+ detection and +/- 1 MPH speed accuracy.	
14.8	14.8 The Contractor must guarantee to maintain the proposed equipment, hardware, and software, and provide spare parts, documentation, and support services for the lease of the product, including the timely incorporation of all engineering changes. The Contractor must also guarantee that all components of the system, which might be capable of corruption by virus are virus-free and protection provided.	Comply.
14.9	14.9 The Contractor must supply the County with an interface document describing the type, size, location, and medium of transfer of data to the back-office processing center. The document must state what security protocols are in place for secure transference of the data.	Comply.
14.10	14.10 The Contractor shall be able to provide a video clip showing the red light violation as it takes place. The clip must show the vehicle approaching the intersection, the traffic signal, the stop bar and the vehicle proceeding into and through the intersection. This video clip must include a data bar which includes at minimum, the date, time (eastern), location/location code, speed of vehicle, amber time and red time.	Comply.
14.11	14.11 Only the County shall decide if a citation is to be issued in the event of a violation.	Comply.
14.12	14.12 A remote or web-based connection must be available for the County to view a live video feed from each/any red light camera site in a "view only" capacity if a user is given authorization.	Comply.
14.13	14.13 Each camera site shall be capable of continuously recording high resolution video 24 hours a day, 7 days a week. The continuous video recording must be capable of legibly discerning vehicle license plates from the rear of passing vehicles as they enter an intersection across 4-lanes of traffic minimum, and the video must be available for retrieval or preservation for a minimum of 30 days' time before it expires or becomes overwritten with new data/video.	Comply.

14.14	14.14 The Contractor shall provide a web interface whereby County personnel may queue recorded video from each/any red light camera site for preservation and download as needed. Queued videos shall be retrievable for remote download within 4-hours' time from the moment requested.	Our solution has the ability to provide historical video. Please see Proposal Section 7 <i>Exceptions</i> .
15 VIOLATION PROCESSING - RED LIGHT ENFORCEMENT:	<p>15 VIOLATION PROCESSING - RED LIGHT ENFORCEMENT:</p> <p>Violation processing consists of back-office employees processing digital images provided by the camera system, police review of violation imagery, printing, packaging and mailing of citations. Back-office employees make a preliminary decision if the image meets County defined violation criteria as set forth in the business rules, and if so, shall input violation criteria into/onto a violation record that shall incorporate the violation images. The cameras shall provide two high-resolution color images of the rear of the vehicle committing the red light violation in addition to the traffic signal heads (in red phase), the stop bar, and other pertinent information to substantiate a red light violation. The violating vehicle must trigger the first and second image capture. The third image shall be of the registration plate and must be clearly legible to the naked eye. The County also desires a system that can provide multiple tag shots to choose from. County personnel, working at a separate workstation, view violation images via an acceptable web-based program, and make a final decision if a citation shall be issued.</p>	Comply.
16 SUPPLIES - RED LIGHT ENFORCEMENT:	16 SUPPLIES - RED LIGHT ENFORCEMENT:	
16.1	16.1 The Contractor shall supply the County with approved data storage devices of sufficient number and capacity to ensure no traffic volume or violation data loss from operational camera sites. The County may approve a system of recording this data in lieu of data storage devices.	Comply.
16.2	16.2 The Contractor shall provide the County with approved data storage devices containing untouched violation images as part of the digital image security process if this is	Comply.

	part of the County approved system to ensure the integrity of digital images.	
16.3	16.3 The Contractor must supply within 30 calendar days of contract execution, a desktop scanner, similar to or of better quality of a Canon Image Formula DR-6010C, capable of scanning documents into the citation management system in use by the Contractor. The County will take possession of the scanner and install it on a County computer workstation of its choosing.	Comply.
17 SERVICES – RED LIGHT ENFORCEMENT:		
17.1	17.1 The Contractor shall provide all field service for the red light digital camera systems, to ensure that images are received by the Contractor back-office within three (3) days of each violation, and thereafter fully processed and available to police for determination within five (5) days of a violation.	Comply.
17.2	17.2 The Contractor shall ensure continuous operation of all cameras by providing on-going routine service and maintenance. For each camera, Contractor shall ensure uninterrupted service for 365 days per year. A maximum of 8 days downtime for the system shall be allowed for circumstances beyond the Contractors control subject to approval by the County. A maximum of 2 hours of downtime per site is acceptable for system maintenance.	Comply.
17.3	17.3 The County shall not be liable for a red light camera site lease for any full day a site is offline, non- active and/or unable to capture and enforce violations due to any reason other than weather impediment of the evidence imagery. Examples of instances for which lease fees are exempt include collisions or accident resulting in site knockdowns or failures, vandalism, construction on the roadway, construction on the intersection or signal controller by local, state or other personnel. Contractor invoices shall be pro-rated and/or credited for any site's offline or unenforceable downtime in a given month.	Comply.
17.4	17.4 The Contractor shall submit approved data storage media containing untouched	Comply.

	violation images if this is part of the County approved digital image security process. Any data, including image files belong to the County as evidence. The County must have access to these files at all times. All images taken, regardless of whether or not they become violations, shall be available in the database although they may be stored separately from the approved violations. These images must be available sequentially. Destruction of these images shall be in accordance with the County evidence protocol.	
17.5	17.5 County-approved digital storage devices shall be changed with sufficient frequency to avoid the loss of any data. All changes shall be appropriately logged as approved by the County. The Contractor must adopt a schedule of backing up data that is acceptable to the County.	Comply.
17.6	17.6 The Contractor shall supply ongoing technical support and the Contractor shall respond to a County call for emergency service within three hours, in addition to normal maintenance performed at pre-determined intervals.	Comply.
17.7	17.7 Contractor shall provide a maintenance plan that provides routine maintenance and checks for all camera sites at pre-determined intervals. This maintenance is in addition to routine service and shall be at no cost to the County.	Comply.
17.8	17.8 The Contractor's web interface shall fully function with at least two, preferably more, of the following web browsers: Microsoft Edge, Google Chrome, Mozilla Firefox.	Comply.
17.9	17.9 The system shall be capable of automatically interfacing with the MVA's flagging API to apply both vehicle registration flags/holds, as well as vehicle registration flag/hold releases for unpaid and paid citations. No human intervention in this process is permissible; it must be fully automated through computer programming. Vehicle registration flag releases must occur programmatically at least every two hours each day, seven days a week. Meaning, a paid citation will automatically initiate a vehicle registration flag release within two	Comply.

	hours' time if all other unpaid citations on the registration are also paid.	
18 LIQUIDATED DAMAGES – RED LIGHT ENFORCEMENT:c	18 LIQUIDATED DAMAGES – RED LIGHT ENFORCEMENT: Damages sustained as a result of failure to capture images or to process acceptable images in a timely fashion are not capable of being exactly ascertained. Liquidated damages are established for this contract using the dollar value of an issued citation, an estimated collection rate of 90%, and considering the intangible damage sustained by the program.	Comply.
18.1	18.1 If the Contractor fails to meet the time requirement specified in Paragraph 17.1, the County shall make reasonable efforts to issue citations as appropriate within the 14 day legal limit to avoid the imposition of liquidated damages. The County will regard the violation day as day number one (1) of the fourteen (14) day legal requirement. For each citation that cannot be mailed within 14 days after the violation because the Contractor fails to meet the requirements of Paragraph 17.1, the Contractor shall pay the County as liquidated damages, \$67.50 (sixty-seven dollars and fifty cents).	Comply.
18.2	18.2 For each day the Contractor fails to meet requirements or fails to deliver images for a particular camera, the Contractor shall pay the County as liquidated damages \$67.50 (sixty-seven and fifty cents) multiplied by the average number of citations issued per day, for that camera, during the 30 days the camera was in operation immediately before the missed day.	Comply.
18.3	18.3 The Contractor shall pay Liquidated Damages at \$250.00 (two hundred and fifty dollars) per day for any report, correspondence, letter, citation, or citation related notice modification/change not made in the specific time period.	Comply.
18.4	18.4 Liquidated damages shall not be assessed in the following situations:	
18.4.1	18.4.1 Impact on a camera site due to a traffic collision, vandalism, or weather that significantly damages the camera's outer housing and/or the pole. In the event a pole is removed or damaged beyond repair, the Contractor agrees to re-install an operable	Comply.

	camera at that site within seven days after the County has replaced any of its required but damaged infrastructure. Contractor shall supply and install a new pole, transformer base, and/or anchor bolts as needed.	
18.4.2	18.4.2 The cause of the camera failure to shoot photographs or capture images is beyond the Contractor's control (for example, if a camera operation was damaged or interrupted by roadwork). While liquidated damages may not be assessed, Contractor billing shall be pro-rated for each site's full day being offline or unenforceable.	Comply.
18.4.3	18.4.3 Failure due to any lack of stop bar visibility; change in traffic light height, sagging tree branch, or other County/State controlled item related to citation issuance, unless the County/State has cured the problem.	Comply.
18.4.4	18.4.4 Severe weather, such as heavy fog, heavy rain, or heavy snow obliterating the image.	Comply.
18.4.5	18.4.5 Image exposure is compromised due to sunrise/sunset.	Comply.
18.4.6	18.4.6 Regardless of liquidated damage assessment, pro-rated invoicing must adhere to pro-rated site lease fees in accordance with 17.3.	Comply.
19 BACKGROUND - SPEED ENFORCEMENT	19 BACKGROUND - SPEED ENFORCEMENT: The County proposes to continue to operate and manage a School Zone Automated Speed Enforcement Camera Program as an effective method of gaining road safety by lowering vehicle speeds in school zones. The County has one partner, Charles County, in the Speed Enforcement Camera Program. Automobile collisions caused by higher vehicle speeds are one of the leading causes of personal injury collisions and are often catastrophic in terms of personal injury as well as property damage. Traditional enforcement methods are ineffective for a variety of reasons. Officers can only stop one violator at a time and enforcement in many situations occurs during the busiest times of the day, taking officers away from other duties and calls. Additionally, with over 70 schools in the County, it is impossible to	

	position officers effectively during high volume times.	
19.1	19.1 The Speed Enforcement Camera Program shall combine vehicle detection technology and digital image technology with a complete program for supplying, installing, and maintaining the cameras with a back-office violation processing service able to review images, access and/or interface with the Maryland MVA to obtain motor vehicle registration data, perform quality control, print and mail notices, perform field maintenance and repair services, conduct retraining of employees, provide public awareness and provide adjudication management. The proposed back-office system must be accessible on the internet by any approved user via a personal computer, an internet connection, a web browser, and security authorization.	Comply.
19.2	19.2 The County currently has a Speed Enforcement Camera Program. Due to the success of its implementation and operation, the County requires a speed detection and enforcement camera system that mirrors this success. This program consists of five PCUs and one mobile unit. The County Code authorizes a maximum of eight detection systems.	Comply.
19.3	19.3 The County desires a LASER/LIDAR based system.	Our proposed system is built on leading radar technology and is superior to other market offerings using laser-based detection (e.g. LiDAR). Radar is more accurate and effective than lidar-based systems in harsh weather conditions, such as rain, snow, and fog. As noted in the pre-bidders conference, radar systems are permissible.
20 CONTRACTORS REQUIREMENTS –	20 CONTRACTORS REQUIREMENTS – SPEED ENFORCEMENT: The program shall mirror the current speed camera system utilized by the	

SPEED ENFORCEMENT	County. The speed camera system operates as follows:	
20.1	20.1 Three color, digital images are produced from the cameras.	Comply.
20.2	20.2 The registration number and state are identified, and an initial review of the violation is completed.	Comply.
20.3	20.3 All citations are issued a citation number consisting of "55" followed by a sequential number as required by the District Court. The back-office employees have a program in which they link to the Maryland MVA and obtain registration information.	Comply. Please note that the Maryland MVA interface is fully automated and back-office employees do not directly interface with Maryland MVA; only our back-office platform connects.
20.4	20.4 County employees perform the initial, the final review and subsequent approval of the Speed Camera Program Citations. Once the citations are reviewed and approved, the County Sworn Police Officer's name and ID number are electronically inserted into the citation and the citations are printed and mailed on the same day by the back-office Contractor. According to Maryland law, the approved citations must be mailed out within 14 days of the violation.	Comply.
20.5	20.5 Payments and correspondence regarding speed camera violations are received and processed through the County's lockbox company. The County's lockbox company, Merkle, then prepares all payments for deposit to the bank and places a payment file of all monies received on their file transfer protocol (FTP) site which the back-office uploads every day to credit the citations paid the previous day. Credit Card transactions via the web can be made through Govolution. Walk-In transactions are handled by the Howard County Office of Finance.	Comply.
20.6	20.6 The County has preset days for Speed Camera Court and shall provide the Contractor with those dates. The Contractor shall assign these court dates to citizens contesting their citations. These court dates are mailed to the citizen 30 days in advanced of the court date. The Contractor shall put the court documents together and provide copies	Comply.

	for the County and the Court 14 days prior to the court date.	
20.7	20.7 The County and the Contractor shall establish Business Rules for the operation of this program. The County may modify those Business Rules on as needed basis with no costs being incurred by the County. The Business Rules shall not be altered by the Contractor without written authorization of the County.	Comply.
20.8	20.8 The Contractor shall include in their monthly price proposal the prices for supplies necessary for printing and mailing citations, including but not limited to envelopes, paper, and postage.	Comply.
20.9	20.9 The Contractor shall include in their monthly price proposal any additional prices resulting from out-of-state registrations.	Comply.
21 TECHNICAL SPECIFICATIONS – SPEED ENFORCEMENT:	21 TECHNICAL SPECIFICATIONS – SPEED ENFORCEMENT:	
21.1	21.1 The Contractor shall supply appropriate supplies and services including:	
21.1.1	21.1.1 One vehicle which shall house the mobile system:	Comply.
21.1.1.1	21.1.1.1 The vehicle shall have a small footprint, state-of-the-art low emission technology, and utilize the latest fuel saving technology, but be compatible with the County fueling system and be mutually agreed upon by the County and Contractor prior to acceptance by the County. They must be equipped in a fashion similar to the current configuration.	Comply.
21.1.1.2	21.1.1.2 The Contractor bears all maintenance and operational costs, including any vehicle markings desired by the County, except for fuel.	Comply.
21.1.1.3	21.1.1.3 The Contractor shall provide a replacement/spare vehicle with operational speed detection camera equipment anytime the "regular" vehicle is out of service for maintenance for more than 18 hours.	Comply.
21.1.1.4	21.1.1.4 The platform vehicles must be equipped with an outside video surveillance system capable of monitoring 360 degrees around the platform vehicle. This system	Comply.

	must have an automatic recording capability which saves the recording for a minimum of 14 (fourteen) days before being overwritten. The system must include the ability of real time monitoring from within the vehicle.	
21.1.1.5	21.1.1.5 The County reserves the right to increase or decrease the number of mobile systems it operates. The County shall provide a 30 day written notice of its plans to increase or decrease system numbers.	Comply.
21.1.2	21.1.2 Portable Camera Units (PCU):	
21.1.2.1	21.1.2.1 A minimum of five PCUs.	Comply.
21.1.2.2	21.1.2.2 The Contractor shall provide the cabinet, complete detection system, batteries, and secure modem.	Comply.
21.1.2.3	21.1.2.3 The Contractor is responsible for constructing the support pad for the PCU, to include any necessary drawings, permits. New pads to be installed w/n 30 days of notification. Liquidated Damages will be paid at \$500.00 each week beyond the 30 day period.	Comply.
21.1.2.4	21.1.2.4 The Contractor is responsible for moving the cabinets weekly, for installing and completing the initial detection system setup and for maintaining the cabinets. The Contractor is responsible for battery replacement as necessary during the week.	Comply.
21.1.2.5	21.1.2.5 The County shall provide the Contractor a location schedule for cabinet and detection system placement.	Comply.
21.1.2.6	21.1.2.6 The County will select the sites for PCU operations with input from the Contractor for their exact placement.	Comply.
21.1.2.7	21.1.2.7 The County may increase/decrease the number of PCUs it operates. The Contractor upon notification shall provide for additional detection instruments with 30 days of notification.	Comply.
21.1.2.8	21.1.2.8 Site diagrams of all locations where PCU pads are installed.	Comply.
21.1.2.9	21.1.2.9 If the County decides to change a PCU location site, the Contractor will be responsible for all costs associated with the selection and marking of a new site.	Comply.
21.1.3	21.1.3 The Contractor shall provide a browser-based system that will allow for the	Comply.

	viewing of all citations and payment of citations. A secure payment and validity check shall be included.	
21.1.4	21.1.4 The Contractor shall provide advanced warning signs at each school zone roadway, as specified by Maryland State Highway Administration (SHA). The Contractor is responsible for providing and installing the signs unless the County or SHA agrees to perform the installation work. The Contractor will supply all replacement signage as needed and as required by State and Local Legislation within 30 days of the replacement request.	Comply.
21.1.5	21.1.5 The Contractor shall provide two full-service workstations to be located within the current offices of the RAEC. These workstations must be capable of performing all processes involved with the approval and issuance of automated speed detection civil citations. These computers must meet County specifications.	Comply.
21.1.6	21.1.6 The Contractor shall provide a medium to transfer color images from the cameras to the RAEC Center presently located in Elkridge, Maryland.	Comply.
21.1.7	21.1.7 The Contractor shall provide regular, scheduled, and emergency maintenance of the transmission system.	Comply.
21.1.8	21.1.8 The Contractor shall provide the County with an approved security solution to safeguard image security.	Comply.
21.1.9	21.1.9 The Contractor shall provide comprehensive documentation on system operation.	Comply.
21.1.10	21.1.10 The Contractor shall provide expert testimony, at the request of the RAEC, at all contested court hearings until judicial notice is taken.	Comply.
21.2	21.2 The County will provide the following services:	
21.2.1	21.2.1 Identify locations for speed detection enforcement for mobile and PCU operations.	Comply.
21.2.2	21.2.2 If available, a GIS photograph of the roadway with the general site area clearly marked.	Comply.
21.2.3	21.2.3 Indoor office space at RAEC. The County shall supply all HVAC, maintenance, and janitorial services at the offices.	Comply.

	Contractor will have access to the RAEC to include conference rooms, etc. for employees who successfully complete HCPD background investigations. The Contractor shall adhere to the County's holiday schedule. There is no access to the RAEC during County holidays or when the building is closed due to weather or other emergencies. Access shall be authorized for emergency repairs to the Contractor's equipment.	
21.2.4	21.2.4 Administrative and management services for the RAEC to include, but not be limited to, evidence controls and operational oversight.	Comply.
21.3	21.3 Violation processing consists of back-office employees processing the digital images provided by the speed detection system operators and viewing these digital images on a computer monitor with appropriate web-based software. Back-office employees make a preliminary decision if the image meets County defined violation criteria and if so, shall input violation criteria into/onto a violation record that shall incorporate the violation images. The cameras shall provide two high-resolution color images of the rear of the vehicle committing the speed violation in addition to the reference points established by the Contractor. The violating vehicle must trigger the first image. A third image may be taken of the registration plate or a cropping of the registration plate from one of the photos is acceptable. Preference may be given to a system that can provide multiple tag shots to choose from. County personnel, working at a separate workstation, view the violation images via an acceptable web-based program, and make a final decision if a citation shall be issued.	Comply.
21.4	21.4 Images shall be in formats compatible with the back-office system. Acceptable formats are JPG, BMP, GIF, or other County approved equal. Please note that any graphical formats that embed a text stream are not acceptable. Contractors shall indicate the format, which produces the optimum balance of high quality and small file size from their cameras in their proposals.	Comply.

21.5	21.5 Contractors shall perform an initial setup and optimize cameras at all PCU locations identified by the County (or partner jurisdiction) for 14-hour violation capture (6:00 AM – 8:00 PM). These cameras shall have the ability to accurately detect speed violators 14 hours per day, during inclement weather and during times that the sunlight is pointing in the direction of the camera and /or possibly obscuring the reference mark.	Comply.
21.6	21.6 The Contractor shall align and position cameras with appropriate focal lenses to maximize the number of speeding violations that can be photographed while minimizing potential obstructions to view (e.g., vehicle out of focus, out of range, data bar blocking critical violation elements, etc.).	Comply.
21.7	21.7 The Contractor shall be responsible for all costs associated with the construction and installation of PCU pads, platform vehicles and any other work associated with digital speed detection camera systems.	Comply.
21.8	21.8 Each camera shall be capable of identifying vehicles traveling on a specified roadway and taking photographs of the rear view of each vehicle violating a preset speed limit variance.	Comply.
21.8.1	21.8.1 Each detection system shall be capable of recording violations by the camera unit at all times of the day, during all seasons of the year and under varying conditions of sunlight and shadowing, night time and weather.	Comply.
21.8.2	<p>21.8.2 Photographs shall incorporate the following views:</p> <p>21.8.2.1 Back view of the violating vehicle.</p> <p>21.8.2.2 Clear view of the reference mark.</p> <p>21.8.2.3 Characters and numbers on reflective and non-reflective license plates.</p> <p>21.8.2.4 Superimposed data bar.</p>	Comply.
21.9	21.9 The Contractor shall supply the County with approved data storage devices, of sufficient number and capacity to ensure no traffic volume or violation data loss from operational camera sites. The County may	Comply.

	approve a system of recording this data in lieu of data storage devices.	
21.10	21.10 The Contractor shall provide County approved data storage devices containing untouched violation images as part of the digital image security process if this is part of the County approved system to ensure the integrity of digital images.	Comply.
21.11	21.11 The Contractor shall provide all field service for the speed camera digital systems, to ensure that images are received by the RAEC within three to five days of each violation. Liquid Damages of \$500.00 per day will be assessed, starting on Day 6.	Comply.
21.12	21.12 The Contractor shall ensure continuous operation of all cameras by providing on-going routine service and maintenance. For each camera, the Contractor shall ensure uninterrupted service as required by the County. The County shall allow approximately two hours per month for routine maintenance.	Comply.
21.13	21.13 The Contractor shall submit approved data storage media containing untouched violation images if this is part of the County-approved digital image security process. Any data, including image files are property of the County, as evidence. The County must have access to these files at all times. All images taken, regardless of whether or not they become violations shall be available in the database although they may be stored separately from the approved violations. These images must be available sequentially. Destruction of these images shall be in accordance with the County evidence protocol.	Comply.
21.14	21.14 County-approved digital storage devices shall be changed with sufficient frequency to avoid the loss of any data. All changes shall be appropriately logged as approved by the County. The Contractor must adopt a schedule of backing up data that is acceptable to the County.	Comply.
21.15	21.15 The Contractor shall supply ongoing technical support and the Contractor shall respond to a County call for emergency service within three hours in addition to	Comply.

	normal maintenance performed at pre-determined intervals.	
21.16	21.16 The Contractor shall provide a maintenance plan that provides routine maintenance and checks for all camera sites at pre-determined intervals. This maintenance is in addition to routine service and shall be at no cost to the County.	Comply.
21.17	21.17 The Contractor's web interface shall fully function with at least two, preferably more, of the following web browsers: Microsoft Edge, Google Chrome, Mozilla Firefox.	Comply.
21.18	21.18 The Contractor shall provide the most updated, state of the art technology in the form of hardware and software that is has available. No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County. Liquidated damages of \$3,000.00 per month to be assessed beginning five months after product delivery and activation to any other agency. No maximum.	Does not comply. Verra Mobility is proposing the Verra Mobility hardware and software that it believed best meet the County's needs based on the County's requirements, but Verra Mobility cannot guarantee that "No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County."
22 Equipment Standards - Speed Enforcement	22 EQUIPMENT STANDARDS - SPEED ENFORCEMENT: The Contractor shall provide speed detection and enforcement systems in accordance with the following standards:	
22.1	22.1 Each camera system shall be equipped to detect a violating vehicle, activate the camera system, and produce color images of the rear of the vehicle. Digital camera technology is required. The County realizes the benefits of using a high-resolution camera and requires a camera system that is 10 megapixels or greater.	Comply.
22.2	22.2 Each system must be capable of clearly photographing and recording the rear of the vehicles so as to clearly identify the rear license plate of the vehicle that is reasonably believed to have been violating the posted speed limit.	Comply.

22.3	22.3 Each system must be capable of consistently photographing license plates regardless of glare or materials used to obscure the license plate from clear view at various viewing angles.	Comply.
22.4	22.4 Each system shall be capable of accurately monitoring up to four traffic lanes at once.	Comply.
22.5	22.5 The system must account for all lighting conditions at all enforcement locations. Further, the system must operate to the County's satisfaction under any lighting condition.	Comply.
22.6	22.6 The system must provide sufficient illumination to accurately capture the vehicle registration information, reasonable vehicle description, and other environmental/intersection descriptors.	Comply.
22.7	22.7 From point of data capture, all violation images must be capable of secure storage and transmission and capable of maintaining a secure chain of evidence. Contractors shall briefly describe their approach to maintaining security of evidence.	Comply.
22.8	22.8 The system must be able to provide digital images in a format approved by the County. These acceptable formats include JPG, BMP, GIF or other County approved equal. Please note that any graphical formats that embed a text stream are not acceptable. Contractors shall indicate the format, which produces the optimum balance of high quality and small file size in their proposal. Systems that offer an additional video option shall be given further consideration.	Comply.
22.9	22.9 Cameras and Images:	
22.9.1	22.9.1 The camera housing cabinet shall be designed in a manner to ensure system operation under an ambient temperature range of -10 degrees Fahrenheit to 122 degrees Fahrenheit and an outside humidity of 100%.	Comply.
22.9.2	22.9.2 The camera housing shall contain a system, which must automatically activate to reduce any fogging on the windows, which may obstruct the view of the camera.	Does not comply. Please see a description of our camera housings set forth in Section 5.6

		Description of System Operations.
22.9.3	22.9.3 The camera enclosures must be designed in such a fashion that maintenance and other operations can be accomplished easily and quickly without creating a public safety hazard.	Comply.
22.9.4	22.9.4 The Contractor shall provide a system based on the use of digital cameras that record images on digital media. Wet film images shall not be considered.	Comply.
22.9.5	22.9.5 The camera unit shall consist of the camera, non-invasive, above ground detection system, and associated electronics. Portable Cabinet Units must be battery powered with easily interchanged batteries.	Comply.
22.9.6	22.9.6 The cameras shall provide two high-resolution color images of the rear of the vehicle committing the speeding violation in addition to other pertinent information to substantiate a speed violation. The violating vehicle must trigger the first image. A third image of the registration plate must be available for use. Preference may be given to a system that can provide multiple tag shots to choose from.	Comply.
22.9.7	22.9.7 The operation of the camera shall be microprocessor controlled and fully automatic; it shall incorporate sufficient shutter speed, sensitivity to ambient light to provide adequate illumination and effective stopping power to record sharp, well-defined and well- illuminated images, resulting in the maximum number of recordable violations. The cameras system shall incorporate the following features:	Comply.
22.9.7.1	22.9.7.1 Initial shutter release (A shot) triggered by violating vehicle activation of the detection system.	Comply.
22.9.7.2	22.9.7.2 Auto aperture is desired over the widest possible lighting conditions from dimmest to brightest, where dimmest shall be lighting at night without streetlights or moonlight of a black vehicle on a black road surface and brightest shall be full sunlight reflecting off a white vehicle surrounded by snow to increase the contrast.	Comply. Please note that ISO and gain are adjusted with fixed aperture to maximize depth of focus for maximum image quality.

22.9.7.3	22.9.7.3 The system should be able to use existing ambient lighting (natural or artificial) to photograph violations and tag shots under low light or night conditions. A flash-free system is desirable. The camera should offer light sensitivity to ambient light that can provide night and low light images with standard street lighting, so a flash is not necessary. The lighting should be sufficient to illuminate all images taken for the violation from 6:00 a.m. to 8:00 p.m. regardless of the season. A traditional flash that is often startling to other drivers on the road is acceptable, but alternatives are welcome. If using a flash-based system then flash shields and flash filters to diffuse the luminosity must be available and used as needed.	Comply. Please note that we can use IR or Flash, as required.
22.9.7.4	22.9.7.4 After capturing an image, the system shall be capable of capturing another image within 0.2 seconds.	Comply.
22.9.7.5	22.9.7.5 Image sizes and aspect ratios must be capable of conforming to that required by the statewide uniform citation template as determined by the District Court of Maryland. There may be no image distortion, either squeezing or stretching vertically or horizontally, to make images conform to any specific aspect ratios whether printed or on-screen.	Comply.
22.9.8	<p>22.9.8 Camera Data Bar: Each violation photograph shall contain a clear and legible data bar on the image, preferably white or yellow block lettering on a black background. The data bar shall be positioned to avoid masking critical violation elements. The designed data elements are necessary on all three of the photographs used for each violation. The Data Bar shall contain the following data information for each image:</p> <p>22.9.8.1 Date (MM/DD/YYYY)</p> <p>22.9.8.2 Time (eastern time)</p> <p>22.9.8.3 Location code</p> <p>22.9.8.4 Lane number and travel direction in which the violation occurred</p> <p>22.9.8.5 Vehicle speed in MPH</p>	Comply.

	22.9.8.6 Posted speed limit 22.9.8.7 Photo number sequence	
22.9.9	22.9.9 Auto data recording onto the image in a Data Bar within 0.05 seconds of the actual exposure with all related data violation images shall be encrypted at the point of capture to ensure the security of primary evidence to a County approved level security.	Comply.
22.9.10	22.9.10 The proposed system must encrypt all images and violation data together at the time of issuance. It is unacceptable to match electronically, violation images after issuance, to maintain an unbroken chain of custody for evidence. The Contractor must detail the system's encryption specifications.	Comply.
22.9.11	22.9.11 All violation images shall be in color or as otherwise approved by the County. Violation images should be saved in 24 bit color minimum at a high enough resolution to allow for the easy recognition of the violation when displayed on a standard color monitor with an on-screen image size no greater than 5" x 9" or less than 3" x 4". Both images must clearly show the reference mark. Images must be saved in a universally acceptable format (i.e. jpg, bmp, gif, tiff, or other County approved equal) and saved at a resolution of no less than 600 PPI. Examples of current requirements for digital images are described below.	Comply.
22.9.12	22.9.12 All images for one day and for one location are stored in an electronic folder, with the folder name in the format of XXX_MMDDYYYY where XXX denotes the location/site code and MMDDYYYY denotes the incident date.	Comply.
22.9.13	22.9.13 The camera unit shall be portable and easily removable from the vehicle or PCU cabinet.	Comply.
22.9.14	22.9.14 Camera units shall be interchangeable as to allow easy relocation to other vehicles or PCU cabinets as necessary.	Comply.
22.9.15	22.9.15 The camera unit shall provide a display of the current day, date and time (eastern) so it can be easily verified as functioning and correct. At a minimum, the system clock should maintain the correct time	Comply.

	to within 10 (ten) seconds. System Operators and Service personnel should be able to easily set the time and date at the camera site. The system shall also be capable of remote adjustment of date and time and remote verification of same. A system or systems that automatically updates and verifies its time accuracy against the National Institute of Standards and Technology (NIST) Internet Time Services is desired (the frequency of which must be documented and satisfactory to the County).	
22.9.16	22.9.16 The camera lenses shall be interchangeable.	Comply.
22.9.17	<p>22.9.17 The camera unit shall allow for on-site adjustment of camera activation. At a minimum, on-site adjustment shall allow for:</p> <p>22.9.17.1 Distance intervals between the images taken by the camera.</p> <p>22.9.17.2 Adjustment of monitoring zone size.</p> <p>22.9.17.3 User to specify the time or distance interval between the first and second violation image.</p> <p>22.9.17.4 The date, day, and time.</p> <p>22.9.17.5 The minimum vehicle speed needed to activate camera in 1 MPH increment, from 25 to 188 MPH.</p>	Comply.
22.10	<p>22.10 The camera unit shall be designed so that malfunctions can be easily identified and corrected. The unit shall:</p> <p>22.10.1 Be capable of performing a self-test of the detection system with status monitoring by the operator. Provide an error signal and message for selected malfunctions.</p> <p>22.10.2 Automatically record date and time of camera shutdown in the event of malfunction. The violation detection system must accommodate accurate speed detection for this purpose and must be a non-invasive detection system to detect a minimum of 99% of all vehicles.</p>	Comply.

	22.10.3 Possess the capability to accurately detect and record vehicle violation speeds at an accuracy of +/- 1 mph for recorded speed up to 188 MPH.	
22.11	22.11 The system server shall be located at the RAEC or a location mutually agreed upon by the Contractor and the County. The Contractor must describe specific communication requirements for transmitting images back to the RAEC. The Contractor is responsible for data communications for digital images, from cameras to the RAEC, and shall include cost of installing and operating any communications circuits for data transmission, monitoring, or control.	Comply.
22.12	22.12 The Contractor is responsible for maintenance of the communication facilities and related equipment.	Comply.
22.13	22.13 The cost to establish the communication facilities shall be paid for by the Contractor.	Comply.
22.14	22.14 The Contractor must provide detailed description of method used to ensure image integrity. The Contractor may submit more than one security option and describe the impact each option would have on the proposed cost, if any.	Comply.
22.15	22.15 The Contractor must store untouched violation images for a minimum of 18 months. Violation images from cases that are being appealed must be held until that case is finally adjudicated. Any data storage device(s) used to store violation images, including images themselves, must be destroyed within the County evidence destruction protocol.	Comply.
22.16	<p>22.16 The system shall be capable of performing a self-test on location. Self-testing shall be recorded in the background software. Designated data elements are only necessary on one of the two photographs taken for each self-test if the self-test consists of two photographs. At a minimum, the data recorded on the self-test shall include the following:</p> <p>22.16.1 Date (MM/DD/YYYY).</p> <p>22.16.2 Time (eastern).</p>	Comply.

	<p>22.16.3 The designation of test mode operation.</p> <p>22.16.4 Lane and direction of test.</p> <p>22.16.5 Time or distance interval for the second photo image selected.</p> <p>22.16.6 Location code.</p>	
23 DETECTION - SPEED ENFORCEMENT:		
23.1	23.1 The violation detection system must accommodate accurate speed detection for its purpose. The violation detection system must be an above ground, non-invasive detection system and detect a minimum of 99% of all vehicles. The system must be accurate to +/- 1 mph for speeds up to 188mph or have a similar accuracy rating. Alternate detection methods may be considered if evidence can be provided that the systems achieve 99% detection and +/- 1 mph, however inductive detector loops shall not be considered.	Comply.
23.2	23.2 The Contractor shall submit third party test data validating the accuracy and statistical reliability of the detection method when used as intended. Third party testing must take place annually at no cost to the County. Calibration shall include the serial number of the speed detection unit being tested.	Comply.
23.3	23.3 The Contractor shall submit method and required frequency of calibration of the detection method.	Comply.
23.4	23.4 An internal self-test shall be required at the start/end of each deployment and on hourly increments.	Comply.
23.5	23.5 The Contractor shall detail how the system compensates for the effects of license plate covers and the effects of reflective materials on the license plates.	Comply. The angle of image capture is selected to be more in line with the rear of the vehicle. Camera selection allows us to photograph without illumination to avoid glare.

24 System Operations – Speed Enforcement	24 SYSTEM OPERATIONS – SPEED ENFORCEMENT:	
24.1	24.1 All speed camera systems shall be capable of accurately measuring speeds and recording clear images of vehicles departing the camera.	Comply.
24.2	24.2 All speed camera systems shall be capable of gathering detailed computer data for statistical analysis.	Comply.
24.3	24.3 Detection units shall be capable of recording speeds within a tolerance of plus or minus one mile per hour of the actual speed of a target vehicle or an equivalent accuracy.	Comply.
24.4	24.4 Each unit shall be equipped with a computer interface.	Comply.
24.5	24.5 Each detection instrument must operate using the latest LIDAR/LASER technology available.	Comply. Our proposed system is built on leading radar technology and is superior to other market offerings using laser-based detection (e.g. LiDAR). Radar is more accurate and effective than lidar-based systems in harsh weather conditions, such as rain, snow, and fog. As noted in the pre-bidders conference, radar systems are permissible.
24.6	24.6 Each detection instrument must be capable of being deployed in a vehicle, or Portable Camera Unit (PCU) cabinet and must be interchangeable.	Comply.
24.7	24.7 The vehicle platform must be equipped with the computer technology that enables the operator to view, accept, and validate data in the same manner in which the in-house workstations operate.	Comply.
24.8	24.8 If a Vehicle is utilized, it shall have the following as a minimum requirement: 24.8.1 Current Maryland registration and	Comply.

	<p>emissions stickers, if required.</p> <p>24.8.2 Computer interface for transferring images to the Contractor location for initial review.</p> <p>24.8.3 Required equipment for speed capture and photo imaging of violators.</p>	
24.9	24.9 The Contractor shall be responsible for all repairs, maintenance, registration and licensing, insurance, etc. required to operate each vehicle. The County shall provide the means for fueling.	Comply.
24.10	24.10 The County shall provide an operator for each mobile speed camera unit. The County shall take the necessary measures to ensure that employees involved with the operation of the mobile speed camera unit(s) have an acceptable motor vehicle driving record.	Confirmed.
24.11	24.11 The camera system shall be capable of accurately monitoring several traffic lanes for speed violators concurrently and must have the ability to capture multiple speed violators simultaneously. The system shall be capable of monitoring no less than 24 violations per minute.	Comply.
24.12	24.12 The camera unit shall be capable of counting the number of violations and record this data on County approved data storage devices. Traffic violations must be counted by lane on all monitored lanes.	Comply.
24.13	24.13 A minimum of two photographs or images shall be taken for each violation recorded by the system. The first photograph or image shall be taken of the vehicle as the vehicle passes the mobile platform vehicle and shall be triggered by the violating vehicle. The second photograph or image shall be taken as the vehicle continues to pull away from the mobile platform. A third image may be taken between the two above listed photographs and it shall be exclusively of the registration plate. However, this plate image may be cropped from either of the other two images. It would be preferable to offer a choice of two tag shots in case one is inferior to another.	Comply.

24.14	24.14 The camera system shall have the capability to perform internal calibration checks for accuracy and functionality and have the ability to self-diagnose and notify the in-vehicle system operator when a problem arises. The system needs the capability to record and document all internal calibration checks, accuracy and functionality checks to include failures of the system.	Comply.
24.15	24.15 The camera unit, in conjunction with the detection device, shall calculate vehicle speed so that the images shall be taken only when vehicles have entered the detection zone and are exceeding a user specified minimum speed. The minimum speed shall be adjustable to the nearest mile per hour within a range of 10 to 188MPH. The violation detection system must accommodate accurate speed detection for this purpose. Violation detections systems must be a non-invasive detection system and detect a minimum of 99% of all vehicles. The system must be accurate to +/- 1 MPH for speeds up to 188 MPH or an equivalent accuracy. Alternative detection methods may be considered if evidence can be provided that the systems achieve 99% detection and +/- 1 MPH speed accuracy. The system shall also offer a secondary verification to help ensure the accuracy of the primary detection method to the County's satisfaction; the secondary verification must be logged and available as evidence.	Comply.
24.16	24.16 In addition to the above, the Contractor must guarantee to maintain the proposed equipment, hardware, and software, and provide spare parts, documentation, and support services for the lease of the product, including the timely incorporation of all engineering changes. The Contractor must also guarantee that all components of the system, which might be capable of corruption by virus, are virus-free and protection mechanisms are provided.	Comply.
24.17	24.17 The Contractor must supply the County with an interface document describing the type, size, location, and/or medium of transfer for data to the processing center. Continuous cellular uploads of violation data from a mobile or PCU enforcement locations	Comply.

	is desired wherever cellular signal coverage is sufficient to do so to alleviate the need of manual data transference.	
24.18	24.18 The County shall select the enforcement locations, set the enforcement schedule. Only the County shall decide if a citation is to be issued.	Comply.
24.19	24.19 From point of data capture, all violation images must be capable of secure storage and transmission and capable of maintaining a secure chain of evidence. Contractors shall briefly describe their approach to maintaining security of evidence.	Comply.
24.20	24.20 The system shall be accessible, via the internet, by authorized users with the appropriate County authorized security and be capable of providing separate and distinct levels of user rights including read only as well as full enter, delete authorizations, i.e. User, Supervisor, Manager.	Comply.
24.21	24.21 The system shall allow for County supervisor quality control and review of all Contractor actions to include voids and overrides. The data provided shall include the individual of each Contractor personnel involved in processing and review.	Comply.
24.22	24.22 The system shall be capable of generating custom, user defined ad hoc reports that include but are not limited to financial reports, violation reports, camera performance and maintenance reports. Changes, additions, to existing reports shall be completed within 2 weeks of the written notification at no cost to the County. New reports shall be completed within 3 weeks at no cost to the County. Liquidated Damages of \$200.00 a Day will be assessed for each day beyond the above listed time. Liquidated Damages will be assessed at \$250.00 each day a report is not working, to be assessed on day 5 after written notification.	Does not comply. Please note that users have access to a large suite of standard PowerBI reports. Please see Proposal Section 5.6 <i>Description of System Operations</i> under the subheading <i>Business Intelligence Reports</i> .
24.23	24.23 The system shall be capable of automatically interfacing with the MVA's vehicle registration flagging API to apply both vehicle registration flags/holds, as well as vehicle registration flag/hold releases for unpaid and paid citations respectively. No human intervention in this process is permissible; it must be fully automated	Comply.

	through computer programming. Vehicle registration flag releases must occur programmatically at least every two hours each day, seven days a week. Meaning, a paid citation will automatically initiate a vehicle registration flag release within two hours' time if all other citations for the registration are also paid.	
24.24	24.24 The system shall be capable of assisting with the collection of payment of the fines imposed under the speed camera program including generating notices identifying the violation, follow-up notices, and flagging registrations. The system must be capable of automatically waiving a portion or all of assessed penalties at the County's direction. The Contractor shall generate collection reports, be flexible enough to allow processing of additional penalties, violations by tag as well as citation number, and capable of establishing and tracking a County approved payment plan for the violator.	Comply.
24.25	24.25 The system shall provide statistical reports that contain information for events occurring within 72 hours of the event.	Comply.
24.26	24.26 The system shall be accessible by approved County personnel both on and off-site.	Comply.
24.27	24.27 The system shall track all correspondence electronically from payment to inquiry from violators.	Comply.
24.28	24.28 The system shall assign a distinctive case number to each event.	Comply.
24.29	24.29 The system shall provide a full reporting module specific to the performance of the camera system.	Comply.
24.30	24.30 The system shall encrypt violation images and data to ensure security of primary evidence.	Comply.
24.31	24.31 The system shall allow scanned documents to be attached to violation/citation files with the ability to review and print them at any time.	Comply.
24.32	24.32 The system must have a mechanism to allow notes to be written/recorded and attached to any violation/citation file. This system must have a spell check feature.	Comply in large. We have a mechanism to allow notes to be written/recorded and

		attached to any violation/citation file. We do not have a spell check feature; however, we do allow for the addition of custom client quick notes which when predefined can be selected from a drop-down list (thus negating the need for spellcheck).
25 VIOLATION PROCESSING - SPEED ENFORCEMENT:	25 VIOLATION PROCESSING - SPEED ENFORCEMENT:	
25.1	25.1 The Contractor shall supply appropriate hardware and software in a County facility to process automated enforcement violation images of any nature. The computer system shall produce various notices including citations which include at least three color images to include a color tag shot, send follow-up notices as required, manage and track the billing and payment process, schedule court cases and maintain appropriate data with violation images. The work shall be performed by a combination of County and Contractor personnel. The software provided by the Contractor must be web-based so multiple users can access it via the internet.	Comply.
25.2	<p>25.2 Contractor shall supply appropriate supplies and services, including hardware and software to:</p> <p>25.2.1 Store and encrypt imported digital images.</p> <p>25.2.2 View violation images.</p> <p>25.2.3 Track the specific reasons some images do not result in citations.</p> <p>25.2.4 Facilitate second review of violation image to verify accurate registration plate entry.</p> <p>25.2.5 Attach vehicle owner information to</p>	Comply.

	<p>violation record.</p> <p>25.2.6 Print citations with three color images; two of the vehicles and one of the registration plate incorporated into the document.</p> <p>25.2.7 Track citation payments, late fee payments, underpayments, overpayments, and payments of administrative fees.</p> <p>25.2.8 Send follow-up notices for late fees, underpayments, overpayments.</p> <p>25.2.9 Track telephone inquiries and other such contacts with relevant violation information.</p>	
25.3	25.3 The Contractor shall develop and maintain a citation format that has been approved by the County in accordance with Maryland law and approved by the Chief Judge of the District Court of Maryland, at no cost to the County.	Comply.
25.4	25.4 The Contractor shall make all changes/modifications to the citation format as required by Maryland law and the District Court of Maryland, at no cost to the County. These changes must be made and implemented within 21 days of written notification from the County. Liquidated Damages of \$300.00 a Day beyond this time frame will be assessed with no maximum.	Comply. Please note that the 21 days starts from the County's signed approval of changes.
25.5	25.5 The Contractor shall make any requested changes to any correspondence related to the program at no charge to the County. These changes must be made within two weeks of the written notification. Liquidated Damage of \$300.00 per day beyond this time frame will be assessed – no maximum.	Comply. Please note that the 14 days starts with the County's signed approval of those changes.
25.6	25.6 Automated software shall interface with and transfer Maryland MVA registration data from the appropriate motor vehicle authority and populate the appropriate date fields in the citation processing software. The software should populate most, if not all of the fields necessary to complete the speed citation.	Comply.
25.7	25.7 The system shall maintain all data and all images, including those not approved as citations, as County property. The County requires that all photos taken, including those	Comply.

	that do not result in citations, for whatever reason, be available for searching and viewing. RAEC personnel should be able to view all images, both cited and non- cited sequentially.	
25.8	25.8 The Contractor shall supply personnel to process citations, review, print, mail violation images, track payments, and perform other duties.	Comply.
25.9	25.9 The Contractor shall provide full time, on-site Project Manager throughout the duration of the contract to provide personnel supervision, project management, and technical coordination.	Comply.
25.10	25.10 The system shall provide software that allows County personnel to easily schedule court dates. However, the court scheduling and court evidence package printing and compiling shall be handled by the Contractor unless otherwise noted or changed.	Comply.
25.11	25.11 The system shall print court dates and notices to be mailed by the Contractor.	Comply.
25.12	25.12 The system shall print court dockets, to include lists of cases scheduled by date, time, and courtroom number with violator's name, case number, and County representative.	Comply
25.13	25.13 The system shall provide a case disposition sheet that includes docket information, all violation data, defendant's plea, judge's action, final fine amount, judge's signature, and date.	Comply.
25.14	25.14 The Contractor shall provide a website that violators can access to pay or view their citations online. This website shall be password protected and provide the ability to track if the violation was viewed by offender.	For this program, only citation images are available online in order to reduce security risks and not include PII on public web.
25.15	25.15 Speed camera violation processing consists of employees viewing at least three digital images provided on a computer monitor with appropriate web-based software. The first two color images are of the vehicle and the third image is a separate image of the registration plate. Employees view images and make a preliminary decision if it meets County defined violation criteria. If the image meets the violation criteria, existing Contractor employees shall input	Comply.

	violation data onto a violation record that shall incorporate the violation images. The image of the registration plate must be clearly legible and in color.	
25.16	25.16 County personnel, working at a separate workstation, view the violation images and make a final decision if a citation shall be issued.	Comply.
25.17	25.17 If the County approves the images and authorizes the citation, Contractor employees shall print and mail the citation. Contractor employees shall track all citation payments and fees, issue late notices, and schedule court dates as required. Contractor employees shall prepare violation records including images of adjudication. Public inquiries shall be tracked with the related violation record. Comments shall be accessible by searching for complainant's name, or violation record. Payments shall be made to a lockbox and account information shall be communicated to the County Department of Finance and electronically to the back office Contractor for automated input.	Comply.
25.18	25.18 The system must provide a secondary speed verification system for each violation to act as a redundant verification to ensure the accuracy of the primary detection system whether lidar or radar. The Contractor must demonstrate this functioning and recording of this secondary system to the County's satisfaction, and it must be logged for each violation and available as court evidence.	Comply.
26 SYSTEM OPERATION REQUIREMENTS - SPEED ENFORCEMENT:	26 SYSTEM OPERATION REQUIREMENTS - SPEED ENFORCEMENT:	
26.1	26.1 The violation processing system shall consist of all required hardware and software, supplied by the Contractor necessary to process violations as described in this document. The violation processing system shall be web-based with access by the County or its partners gained through the internet. A system that is not web-based shall not be considered.	Comply.

26.2	26.2 The Contractor shall be responsible for the purchase and maintenance of a high quality large corporate office type printer sufficient to handle the printing requirements of the County and its partners' citations and subsequent notices.	Comply.
26.3	<p>26.3 The Contractor shall provide personnel to view and enter violation data, to include:</p> <p>26.3.1 The vehicle registration plate numbers and characters.</p> <p>26.3.2 The state of issue for the vehicle registration plate.</p> <p>26.3.3 The vehicle registration plate type.</p> <p>26.3.4 The date of the violation.</p> <p>26.3.5 The time of the violation.</p> <p>26.3.6 The location of the violation.</p> <p>26.3.7 Violator speed.</p> <p>26.3.8 Speed limit.</p>	Comply. Please note that some of the stated fields are prepopulated from the roadside, but personnel validate that data and enter the remainder.
26.4	26.4 The Contractor's employees shall view each image and make a preliminary decision whether it meets the County's criteria to issue a citation or not. All images must be sent through to be examined by County personnel who shall determine if a citation should be issued unless the images being viewed by the Contractor's employees meet specific criteria outlined by the County. If the County criteria are not met, the representative must enter the appropriate County defined explanation code. If the photograph does appear suitable, the Contractor shall prepare the image for County verification.	Comply.
26.5	26.5 The County desires a separate registration plate image, in color.	Comply.
26.6	26.6 The Contractor's employees shall obtain registered owner information on identified registration plates through the Maryland MVA or the appropriate out-of-state motor vehicle department, if permitted. The Contractor shall assume the costs associated with this access. The registered owner's information	Comply.

	shall then be entered into the system with violation images by software interfaced with the appropriate motor vehicle authority. The software must be able to populate most, if not all, of the fields required for issuance of the speed citation.	
26.7	26.7 The accuracy of data entry by Contractor's employees must result in less than 2% of all entries determined to be "In Error" by County personnel.	Comply.
26.8	26.8 The Contractor shall prepare and print citations for all County approved violations. All citations must be in accordance with the District Court of Maryland's statewide uniform citation template as approved for Howard County. No variation on this format shall be accepted or considered.	Comply.
26.9	26.9 Printed citations shall include three color (or as otherwise stated by the County) digitized violation images of a quality acceptable to the County. The citations shall provide space for the signature of a RAEC employee. The system must be able to automatically import, place, and print the employee's facsimile signature. The first and second color images shall show the vehicle and depict vehicle movement past a fixed object also in the image. The third color image shall be of the vehicle's registration plate, clearly readable to the average naked eye. A clear and legible data bar shall appear on the two primary photographs containing the information provided by the camera Contractor. The data bar shall be superimposed in a manner not to block key information.	Comply.
26.10	26.10 The Contractor shall prepare an adjudication package that consists of all applicable violation and citation data, upon notification of a contested citation. This package shall include all three violation images printed of a size and quality deemed acceptable by the County.	Comply.
26.11	26.11 The Contractor shall mail citations with a single County identified insert and a return envelope, envelopes and postage shall be paid for and supplied by the Contractor. The Contractor shall include postage and all mailing costs in their total price proposal.	Comply.

	Citations should be mailed the day they are printed.	
26.12	26.12 The Contractor shall process all responses of new liability submitted from the District Court in accordance with Maryland State Law. Contractor shall re-issue citations to newly identified violators within three days of County approval.	Comply.
26.13	26.13 The Contractor shall be capable of sending at least three follow-up notices to delinquent violators in the event of no-response after a County specified time. When allowed, follow-up notices shall assess a late fee, motor vehicle registration flag fee, and/or other structured fees. The County shall determine or approve late notice text and layout, and each late notice shall have the capability to be worded differently.	Comply.
26.14	26.14 The Contractor shall provide a monthly data file on compact disk or other County approved electronic media listing vehicles that are to be flagged by the appropriate motor vehicle department for non-payment. A "flag" is placed on the registration plate of the violating vehicle and the vehicle owners are unable to renew their tags unless that flag is removed. The format shall be as required by the appropriate motor vehicle department. If a tag is not accepted by Maryland MVA, the tag must be resent to the Maryland MVA until it is accepted.	Comply.
26.15	26.15 The Contractor, at the request of the County, shall provide standard monthly and quarterly management information reports to the County. The Contractor must be able to provide web-based or web-enabled reporting modules. The system shall allow County employees to query the database to access, download, and print information reports. These system reports must be up to date and made available to the County within three days after the data capture. These reports must be easily searchable and available in Microsoft Excel and any other user-friendly formats required by the County. These reports must be available for access 24 hours a day, 7 days a week. The Contractor must ensure that these reports are available and are accurate. Failure to restore a report to operational access after written notice from	Comply.

	the County will result in Liquidated Damages of \$100.00 each day starting on the 4th day of the outage.	
26.16	<p>26.16 These reports shall include but are not limited to:</p> <p>26.16.1 Account overview report.</p> <p>26.16.2 Approver spoils.</p> <p>26.16.3 Citation issuance and rejection by reviewer.</p> <p>26.16.4 Citation issuance and rejection by reason.</p> <p>26.16.5 Citations by location and day of week.</p> <p>26.16.6 Citations by location and week of month.</p> <p>26.16.7 Exception code listing.</p> <p>26.16.8 Reviewer exceptions by location and month.</p> <p>26.16.9 Processing exception/spoil totals by location/reason.</p> <p>26.16.10 Reviewer exceptions by location and reason.</p> <p>26.16.11 Spoil code listing.</p> <p>26.16.12 Spoil after approval.</p> <p>26.16.13 Violation totals.</p> <p>26.16.14 Transferred citations listing.</p> <p>26.16.15 Violation trip time and speed analysis by location.</p> <p>26.16.16 Voided after approval.</p> <p>26.16.17 Camera activity reports.</p> <p>26.16.18 Activity report.</p>	Comply.

	<p>26.16.19 Non-issuance report.</p> <p>26.16.20 Employee activity report with corresponding authorized user logons.</p> <p>26.16.21 Print totals report.</p> <p>26.16.22 Camera operability reports.</p> <p>26.16.23 Maintenance reports by camera location.</p> <p>26.16.24 Number and list pursuing court option.</p> <p>26.16.25 Court case dispositions.</p> <p>26.16.26 Guilty and not guilty totals by hearing date.</p> <p>26.16.27 Billing and collections.</p> <p>26.16.28 Billing summary report.</p> <p>26.16.29 Daily payment activity report.</p> <p>26.16.30 Daily transaction report.</p> <p>26.16.31 Monthly totals by location.</p> <p>26.16.32 Overpaid citations listing.</p> <p>26.16.33 List of delinquent offenders.</p> <p>26.16.34 Total number and dollar amount of delinquent offenders.</p> <p>26.16.35 Payment reconciliation reports showing payments, underpayments, and overpayments.</p> <p>26.16.36 Payment reports detailing payment types, locations, and receipt information.</p> <p>26.16.37 Report showing totals for all categories of processing to include pending.</p> <p>26.16.38 Rejection report showing each rejected camera event, the rejection code, and the approver who rejected the event.</p> <p>26.16.39 Number and list for violations not</p>	
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	<p>processed within required 14 (fourteen) day period.</p> <p>26.16.40 Statistical report of revenue collected or billed by type (fine, late fee).</p> <p>26.16.41 Status of notices reissued.</p>	
26.17	<p>26.17 The Contractor's speed camera system must, at a minimum, capture, store and provide archival reporting on the following:</p> <p>26.17.1 Date of violation event.</p> <p>26.17.2 Event tracking number.</p> <p>26.17.3 Time of each violation.</p> <p>26.17.4 Location of violation.</p> <p>26.17.5 Average speed of violators.</p> <p>26.17.6 Highest violator speed per site; weekly, monthly.</p> <p>26.17.7 Open citations for violators with multiple events.</p> <p>26.17.8 Report detailing Contractor employee event approval and voidance, by name, for quality control purposes.</p> <p>26.17.9 Frequent violators report by tag.</p> <p>26.17.10 Frequent violators report by owner.</p>	Comply.
26.18	<p>26.18 All reports shall be produced based on the entry of variable parameters. Threshold fields shall allow a specific date range or other criteria. All report searches shall allow for multiple parameter selections (e.g., number of out-of-state violations that also requested court dates, etc.). All reports shall include summary totals and shall be printable.</p>	Comply.
26.18.1	<p>26.18.1 Contractor shall complete all work described within three to five days of the receipt of each image. Each County approved violation notice that cannot be mailed within the fourteen day time period for Maryland registration plates and thirty days for out of state registration plates, as a result of</p>	Comply.

	Contractors non-performance, shall result in the assessment of liquidated damages in the amount of \$35.00 (thirty-five) The next date after the violation will be regarded as day one (1) for aging purposes. For each violation notice that could not be issued in situations where images never reached the County within the allotted approval state, the Contractor shall be assessed liquidated damages in the amount \$35.00 (thirty-five) multiplied by the average number of citations that would have been issued. The average citation issue rate shall be the average of all citations issued at the applicable camera site per day for the prior 30 days that the camera was operational. Liquidated damages of \$35.00 (thirty-five) are based on the face value of an issued citation of \$40.00 (forty dollars) multiplied by the estimated collection rate of 87.5%.	
26.18.2	<p>26.18.2 The Contractor shall supply a report that meets or exceeds the information necessary to meet the reporting requirements of Maryland Law 21-809 (k) by September 15th for the preceding fiscal year. This report must include:</p> <p>26.18.2.1 Total number of citations issued.</p> <p>26.18.2.2 Number of voided erroneous violations for each camera.</p> <p>26.18.2.3 The activation dates and times of each speed monitoring system for each deployment location.</p> <p>26.18.2.4 Number of citations issued by each system at each location.</p>	Comply.
26.19	26.19 The Contractor shall view the imported digital images and forward them to County personnel for approval as citations, print the citations, and mail the citations from the space provided by the County at the RAEC presently located in Elkridge, Maryland. Contractor shall include detailed space requirements as part of their proposal.	Comply.
26.20	26.20 The Contractor shall provide all hardware and software required for Contractor personnel, including a color printer capable of handling the printing requirements	Comply.

	for the County and its partners. Contractor shall provide a server as required and sufficient on-line storage capacity to ensure all violation images can be stored for no less than 18 months. All partners must be able to approve and access all information via a web-based program.	
26.21	26.21 The County shall conduct the secondary review and approval of citations. Only the County shall decide if a citation is issued.	Comply.
26.22	26.22 The Contractor must supply two workstations for County employees to perform functions as described in this section. Each County workstation must be fully equipped to perform the stated processes. Each station shall include a personal computer.	Comply.
27 Software Requirements - Speed Enforcement	27 SOFTWARE REQUIREMENTS - SPEED ENFORCEMENT:	
27.1	27.1 The Contractor shall supply a fully website-based access operation with secure user login and access control procedures. The software must be user-friendly and comprehensive and based upon a graphic user database. This web-based operation must be able to do the following:	Comply.
27.1.1	27.1.1 Decompress, decode, and import at least three high-resolution color images. All violation image resolution must be of a quality acceptable to the County for all on-screen, stored, and printed purposes. The third high-resolution image, which would be of the registration plate, may be in color or monochrome; whichever is acceptable to the County.	Comply.
27.1.2	27.1.2 View and zoom in on user-selected areas (e.g., vehicle tag).	Comply.
27.1.3	27.1.3 The Contractor is only allowed image alterations through their hardware/software for cropping, resolution adjustment, brightness, contrast and gamma image corrections.	Comply.
27.1.4	27.1.4 The Contractor's hardware/software can in no way perform any image alterations other than those explicitly stated in 27.1.3.	Comply.

27.1.5	27.1.5 Print violation data and images in various formats on both color printers at a quality and speed acceptable to the County. Ability to batch all account owner property screens into one printable document.	Comply.
27.1.6	27.1.6 Export all data and image files in formats acceptable to the County. All information maintained within the violation processing software shall remain property of the County.	Comply.
27.1.7	<p>27.1.7 Standard relational database functions to allow both the Contractor and County personnel to easily enter, access, search, and sort by various parameters including:</p> <p>27.1.7.1 Specific date of violation or date range.</p> <p>27.1.7.2 Violation tracking number.</p> <p>27.1.7.3 Location of violation.</p> <p>27.1.7.4 Vehicle registration plate information.</p> <p>27.1.7.5 Registered owner(s) of vehicle.</p> <p>27.1.7.6 Date of notice.</p> <p>27.1.7.7 Non-processing code(s).</p> <p>27.1.7.8 Court status.</p> <p>27.1.7.9 District Court hearing date and time.</p>	Comply.
27.2	27.2 The system software must allow web-based access to any authorized user regardless of location.	Comply.
27.3	27.3 Each PC client supported by the Contractor shall possess the latest internet access software as approved by the County.	Comply.
27.4	27.4 Connectivity shall be determined by connection with "real-time" processing of citations. Real-time shall be determined by averaging at least three locations processing a citation.	Comply.
27.5	27.5 The Contractor must supply within 15 calendar days of contract execution, a scanner capable of scanning documents into the appropriate citation tracking system and	Comply.

	a new (unused) high-quality picture image color laser printer for printing and reproduction of citations to be installed in the RAEC and other County offices as identified at no additional cost to the County.	
27.6	27.6 These printers must have online access to the Contractor's core violation processing system and allow County personnel to print violation notices remotely. The Contractor shall be responsible for all maintenance and supplies for this printer.	Comply. Please note that maintenance and supplies of the printer shall continue to be the responsibility of the County.
27.7	<p>27.7 County personnel must be able to review monthly reports and review/update violator account information online. The violation processing system must attach the electronic signature and ID number of the reviewing technician to the actual notice mailed to the violator. The system must allow the County personnel to review all relevant account information to include, at a minimum:</p> <p>27.7.1 The vehicle registration plate numbers and characters.</p> <p>27.7.2 The state of issue for the vehicle registration plate.</p> <p>27.7.3 The date of the violation event.</p> <p>27.7.4 The time of the violation event.</p> <p>27.7.5 The location of the violation event.</p> <p>27.7.6 All three digitized images demonstrating the violation and tag close-up.</p> <p>27.7.7 Payment status.</p> <p>27.7.8 Hearing status.</p> <p>27.7.9 Flagging status.</p> <p>27.7.10 Correspondence tracking.</p> <p>27.7.11 Standardized monthly reports; must have ability to review and print reports.</p> <p>27.7.12 Collection status.</p> <p>27.7.13 The system must allow for "note"</p>	Comply.

	entry from customer service personnel related to calls/inquires. The system must have a spell check module incorporated into the entry process.	
27.8	<p>27.8 Authorized County personnel shall have the ability to perform all functions, including, but not limited to:</p> <p>27.8.1 Download violation images for printing, mailing, or e-mailing to citizens or County officials.</p> <p>27.8.2 Suspend activity on accounts until further research is completed in special circumstances.</p> <p>27.8.3 Approve/disapprove citations.</p> <p>27.8.4 View all scanned images received by the Contractor.</p> <p>27.8.5 Search, view, update, and print all citation and non-citation information.</p> <p>27.8.6 Waive or re-instate penalties.</p> <p>27.8.7 Dismiss or void citations.</p> <p>27.8.8 Ability to alert operator of duplicated, missing or conflicting data, or blank mandatory fields before leaving the violation processing screen.</p> <p>27.8.9 Ability to generate various custom notices in color, at a quality and speed acceptable to the County.</p>	Comply.
27.9	<p>27.9 Notices shall include:</p> <p>27.9.1 Notice of violation with three described images.</p> <p>27.9.2 Delinquent notices with late fee assessments, if authorized.</p> <p>27.9.3 Final delinquent notice.</p> <p>27.9.4 Partial payment notice.</p> <p>27.9.5 Court evidence/certification.</p> <p>27.9.6 Violation history notes.</p>	Comply.

	<p>27.9.7 Re-issue notice.</p> <p>27.9.8 Replacement/duplicate copy notice.</p> <p>27.9.9 Court date scheduling notice/letter.</p> <p>27.9.10 Officer court hearing listing.</p> <p>27.9.11 District Court docket.</p> <p>27.9.12 District Court disposition form.</p> <p>27.9.13 District Court scheduling calendar.</p> <p>27.9.14 Ability to print a scannable, optical character data bar on the remittance section of all violation and late notices.</p> <p>27.9.15 Font size, style, and characteristics must meet specific County and Maryland District Court standards.</p> <p>27.9.16 Printed data bar placement must meet specific County standards (e.g., 1/3 inch from bottom of remittance advice section of violation notice).</p>	
27.10	<p>27.10 Appropriate, variable-level password-based security protocols.</p> <p>27.10.1 Properly grants read and write access to personnel upon "log on" identification process.</p> <p>27.10.2 Supervisor modifiable programming of access.</p>	Comply.
27.11	<p>27.11 The Contractor's system must allow County program management to easily access additional functionality for processing. The County must be able to perform the following tasks independent of the Contractor within the proposed processing system:</p> <p>27.11.1 Review citations rejected by the Contractor or the County.</p> <p>27.11.2 Override rejected events.</p> <p>27.11.3 Review citations referred to the supervisor by subordinates or the Contractor's employees.</p>	Comply.

	<p>27.11.4 Review the status of work pending at each step.</p> <p>27.11.5 Request Ad Hoc operational reports.</p> <p>27.11.6 Access real-time citation process information such as volumes, oldest violation dates awaiting process, outstanding name and address requests, etc.</p> <p>27.11.7 Access violation images, whether issued or not, by date, time and location.</p>	
27.12	<p>27.12 Dual entry accuracy verification for each processing function:</p> <p>27.12.1 All transactions by Contractor and County personnel shall record the date, time, and operator's identification number, including:</p> <p>27.12.1.1 When digital images are delivered.</p> <p>27.12.1.2 When Contractor personnel conduct image review.</p> <p>27.12.1.3 When Contractor personnel deliver images to County personnel.</p> <p>27.12.1.4 When County personnel conduct image verification.</p> <p>27.12.1.5 When County personnel deliver images to the Contractor for printing.</p>	Comply.
27.13	<p>27.13 Standard billing and tracking features:</p> <p>27.13.1 Generate violation notices.</p> <p>27.13.2 Automatically identify and generate overdue violation notices at user definable intervals, assessing appropriate late fees and other administrative fees.</p> <p>27.13.3 Record payments.</p>	Comply.
27.14	<p>27.14 Comprehensive report generating capabilities, the system must support:</p> <p>27.14.1 Ability to apply partial payments.</p> <p>27.14.2 Ability to handle returned checks and</p>	Comply.

	<p>apply returned check fee.</p> <p>27.14.3 Ability to handle the receipt of payment from multiple locations.</p> <p>27.14.4 Ability to provide appropriate cash receipt reconciliation procedures and reports for drawer balancing and deposit preparation.</p> <p>27.14.5 Ability to handle overpayment and manage credits, after displaying an alert.</p> <p>27.14.6 Ability to handle credit cards and associated processing fees.</p> <p>27.14.7 The ability to add a bad check fee to the amount owed.</p>	
27.15	<p>27.15 Automated time tracking and alerting system:</p> <p>27.15.1 Prevents the mailing of citations that have exceeded the 14-day processing timetable for Maryland registration plates and 30-day for out-of-state registration plates.</p> <p>27.15.2 Ability to warn County of aging non-issued violations awaiting processing.</p>	Comply.
27.16	<p>27.16 Graphic file support:</p> <p>27.16.1 Ability to import scanned signature to populate file graphic field upon entry of "issuing authority" approval ID number.</p> <p>27.16.2 Ability to import various County logos and graphics for notices.</p>	Comply.
27.17	<p>27.17 Violation disposition tracking:</p> <p>27.17.1 Ability to record the reason for any violation not fully completing processing.</p>	Comply.
27.18.2	<p>27.18.2 Ability to generate court forms and notices in a format and quality acceptable to the County, including:</p> <p>27.18.2.1 Court date scheduling letters.</p> <p>27.18.2.2 District Court dockets.</p> <p>27.18.2.3 District Court disposition forms.</p> <p>27.18.2.4 Speed camera program personnel</p>	Comply.

	court hearing listings. 27.18.2.5 Ability to enter and track court dispositions.	
27.19	27.19 Data Retention: All violation data shall be stored on-line for at least 18 months. Violation data shall be stored in usable form for at least 36 months. Data back-ups shall be made in a County acceptable format. The Contractor shall store the back-up data in accordance with those outlined in this solicitation.	Comply.
27.20	27.20 Data Information Ownership: All data collected shall remain the property of the County. The Contractor shall supply the County with a document to describe a County approved plan to provide the County with all relevant data in a usable form upon contract termination for any reason.	Comply.
27.21	27.21 All photos taken, including those that do not result in citations for whatever reason; shall be available on-line for searching and viewing. The County shall be able to view all images sequentially, cited and non-cited.	Comply.
27.22	27.22 The software shall allow personnel to record information obtained as the result of telephone calls or other communication, regarding a violation. This information shall be attached to the violation data as a contact history file. This attached file shall record relevant data and include: 27.22.1 Date and time of contact. 27.22.2 Contact/Caller's name. 27.22.3 Brief comments. 27.22.4 The Contractor must be able to attach scanned documents to the violation/citation file.	Comply.
27.23	27.23 The software shall have the ability to be viewed in a "read-only" mode so it can be made available to the County Department of Finance.	Comply.
27.24	27.24 The software shall have the ability to receive exported payment data files from the County's finance system, any other credit card company, or the County's current	Comply.

	<p>lockbox company, which can be easily uploaded. These files must be uploaded daily. At a minimum, the exported payment data shall include:</p> <p>27.24.1 Account number.</p> <p>27.24.2 Debit total.</p> <p>27.24.3 Credit total.</p> <p>27.24.4 Date (a nightly export is required).</p> <p>27.24.5 Sum total of transaction.</p> <p>27.24.6 Check or transaction number.</p>	
27.25	27.25 Violators must be able to view their citation images or a video of their violation online using a password provided on the citation. After viewing the violation, they must be able to pay their citation online if they choose to. The online citation format must differ from the issued citation format.	Comply.
28 SERVICE LEVEL REQUIREMENTS - SPEED ENFORCEMENT:		
28.1	28.1 The County is contracting with the Contractor to provide a service. The County shall operate the system and control the program, but the Contractor shall be responsible for maintaining the equipment, including replacement and repairs as needed. The Contractor shall credit back to the County if it fails to meet the agreed upon benchmarks or metrics.	Comply.
28.2	28.2 The Contractor shall demonstrate in its proposal and warrant that the cameras in operation inclusive of the Contractor's back office processing services must deliver a Monthly Prosecutable Issuance Rate of at least 90%. This average shall be measured each month across all active sites. The rate shall begin to be measured 60 days after the program's "go live" date to accommodate necessary initial system tuning.	Comply.
28.3	28.3 The definition of Prosecutable Issuance Rate shall be the sum of all violation events recorded divided into the number of violation	Comply.

	<p>events presented to the RAEC for final review and approval. The sum of all violation events shall include all of the exceptions listed below including controllable and uncontrollable events. Contractor controllable exceptions such as, but not limited to, the following:</p> <p>28.3.1 False camera trigger events.</p> <p>28.3.2 Washed out plates/reflect sheeting.</p> <p>28.3.3 Plates with plate blocker.</p> <p>28.3.4 Unfocused/unreadable plate images.</p> <p>28.3.5 Vehicles out of position in the first or second image.</p> <p>28.3.6 Images with unmatched or missing violation event data.</p> <p>28.3.7 Too late to issue citation, legal time expired.</p> <p>28.3.8 Wrong plate entered.</p> <p>28.3.9 Wrong vehicle identified.</p> <p>28.3.10 Duplicate citation.</p> <p>28.3.11 Incorrect information.</p>	
28.4	<p>28.4 Uncontrollable Rejections; outside of the Contractor's control:</p> <p>28.4.1 Missing plate.</p> <p>28.4.2 Obstructed plate.</p> <p>28.4.3 Paper/Dealer plate.</p> <p>28.4.4 Funeral procession or other police wave through.</p> <p>28.4.5 No Maryland MVA record found.</p> <p>28.4.6 Stolen vehicle/tags.</p>	Comply.
28.5	<p>28.5 If the Contractor fails to meet its nominated Prosecutable Issuance rate for any month, the Contractor may be considered to be in breach of contract.</p>	Comply.

28.6	28.6 Maryland Law requires that citations be mailed within 14 (fourteen) days of the date of violation; 30 days for out-of-state of the violations. The Contractor shall describe the service level proposal for citations that are too old to issue. The Contractor shall meet the mailing requirement required by State Law. Liquidated Damages will be assessed at \$35.00 for each citation that is not mailed within the specified time frame.	Comply.
28.7	28.7 The Contactor shall describe any other service level standards offered.	Comply.
28.8	28.8 The accuracy of data entry by Contractor personnel must result in less than 2% error as determined by County personnel.	Comply.
28.9	28.9 The Contractor shall provide the County monthly reports detailing how this operational criterion is reached.	Comply.
29 IMAGE QUALITY SPECIFICATIONS - SPEED ENFORCEMENT:	29 IMAGE QUALITY SPECIFICATIONS - SPEED ENFORCEMENT:	
29.1	29.1 The following terms reflect County criteria to determine whether the violation images document a valid speed violation. The Contractor's image capturing process shall at all times facilitate the presentation of images, which meet or exceed these criteria. All images must be recorded on magnetic media. Wet film shall not be considered.	Comply.
29.2	29.2 For a speed camera violation, the first image shall clearly show: 29.2.1 The vehicle passing the mobile platform vehicle or fixed object. 29.2.2 The data bar superimposed in a manner not to block key information. 29.2.3 All readable, to the average naked eye, text/characters of the data bar.	Comply.
29.3	29.3 The second image shall clearly show: 29.3.1 That the same vehicle has continued away from the platform vehicle or fixed object. 29.3.2 The data bar superimposed in a	Comply.

	<p>manner not to block key information.</p> <p>29.3.3 All readable, to the average naked eye, text/characters of the data bar.</p>	
29.4	29.4 Movement past a fixed object (same object viewable in both photos).	Comply.
29.5	<p>29.5 The third image must clearly show:</p> <p>29.5.1 The registration plate of the same vehicle.</p> <p>29.5.2 The registration plate must be clearly readable to the average naked eye.</p> <p>29.5.3 All readable, to the average naked eye, text/characters of the data bar.</p>	Comply.
29.6	<p>29.6 The first two images shall have the appropriate contrast and brightness to show not only the registration plate but also the vehicle itself. It is imperative that the visual linkage between the registration plate photo and the other two images serves as prima facie evidence that a violation occurred. These images must have an evaluation frame on the rear of the targeted vehicle.</p> <p>29.6.1 The evaluation frame must touch the roadway.</p> <p>29.6.2 Contain part of the registration plate.</p> <p>29.6.3 Contain part of the rear tire.</p> <p>29.6.4 Contain part of a rear brake light or taillight.</p>	Comply.
29.7	29.7 There shall not be any visible factors that would invalidate the violation such as a public safety official waving the driver through an intersection or the fact that the vehicle is clearly part of a funeral procession.	Comply.
29.8	29.8 The name and complete mailing address of the registered owner can be obtained from the appropriate motor vehicle department.	Comply.
29.9	29.9 The vehicle description obtained for the registration plate appears and matches the vehicle photographed in the violation (i.e. same basic vehicle type, make, and model).	Comply.
29.10	29.10 Other requirements as directed by the State Legislature, State District Court, or Howard County.	Comply.

30 LIQUIDATED DAMAGES CONSOLIDATED - SPEED ENFORCEMENT	30 LIQUIDATED DAMAGES CONSOLIDATED - SPEED ENFORCEMENT: Damages sustained as a result of failure to capture images or to process acceptable images in a timely fashion are not capable of being exactly ascertained. Liquidated damages are established for this contract using the dollar value of an issued citation, an estimated collection rate of 87.5%, and considering the intangible damage sustained by the program.	Comply.
30.1	30.1 Contractor shall complete all work described within three to five days of the receipt of each image. Each County approved violation notice that cannot be mailed within the fourteen day time period for Maryland registration plates and thirty days for out of state registration plates, as a result of Contractors non-performance, shall result in the assessment of liquidated damages in the amount of \$35.00 (thirty-five) The next date after the violation will be regarded as day one (1) for aging purposes. For each violation notice that could not be issued in situations where images never reached the County within the allotted approval state, the Contractor shall be assessed liquidated damages in the amount \$35.00 (thirty-five) multiplied by the average number of citations that would have been issued. The average citation issue rate shall be the average of all citations issued at the applicable camera site per day for the prior 30 days that the camera was operational. Liquidated damages of \$35.00 (thirty-five) are based on the face value of an issued citation of \$40.00 (forty dollars) multiplied by the estimated collection rate of 87.5%.	Comply.
30.2	30.2 Liquidated Damages will be assessed for each day that the Contractor fails to provide the County the images within the 3-5-day period, beginning on day 6 at \$150.00 per day of delay. On Day 14, Maryland plates will be assessed the damages listed above. On Day 30, Out-of-State plates will be assessed the damages listed above in addition to these listed 30.1.	Comply.
30.3	30.3 The Contractor shall make all changes/modifications to the citation format as required by Maryland law and the District	Comply.

	Court of Maryland, at no cost to the County. These changes must be made and implemented within 21 days of written notification from the County. Liquidated Damages of \$300.00 a Day beyond this time frame will be assessed with no maximum.	
30.4	30.4 The Contractor shall make any requested changes to any correspondence related to the program at no charge to the County. These changes must be made within two weeks of the written notification. Liquidated Damage of \$300.00 per day beyond this time frame will be assessed – no maximum.	Comply.
30.5	30.5 The system shall be capable of generating custom, user defined; Ad Hoc reports that include but are not limited to financial reports, violation reports, camera performance and maintenance reports. Changes, additions, to existing reports shall be completed within 2 weeks of the written notification at no cost to the County. New reports shall be completed within 3 weeks at no cost to the County. Liquidated Damages of \$200.00 a Day will be assessed for each day beyond the above listed time.	Does not comply. Please note that users have access to a large suite of standard PowerBI reports. Please see Proposal Section 5.6 <i>Description of System Operations</i> under the subheading <i>Business Intelligence Reports</i> .
30.6	30.6 The Contractor is responsible for constructing the support pad for the PCU, to include any necessary drawings, permits. New pads to be installed w/n 30 days of notification. Liquidated Damages will be paid at \$500.00 each week beyond the 30-day period.	Comply after given proper notification.
30.7	30.7 Liquidated Damages of \$100.00 per day, (starting on the 4th day) will be assessed for failing to comply with 26.15 - maintaining report access.	Comply.
30.8	30.8 The Contractor shall make all changes/modifications to the citation format as required by Maryland law and The District Court of Maryland, at no cost to the County. These changes must be made and implemented within 21 days of written notification from the County. Liquidated Damages of \$300.00 a Day beyond this time frame will be assessed with no maximum.	Comply.
30.9	30.9 The Contractor shall make any requested changes to any correspondence related to the program at no charge to the	Comply.

	County. These changes must be made within two weeks of the written notification. Liquidated Damage of \$300.00 per day beyond this time frame will be assessed – no maximum.	
30.10	30.10 Maryland Law requires that citations be mailed within 14 (fourteen) days of the date of violation; 30 days for out-of-state of the violations. The Contractor shall describe the service level proposal for citations that are too old to issue. The Contractor shall meet the mailing requirement required by State Law. Liquidated Damages will be assessed @ \$35.00 for each citation that is not mailed within the specified time frame.	Comply.
30.11	30.11 The Contractor shall provide the most updated, State of the Art Technology in the form of hardware and software that is has available. No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County. Liquidated Damages of \$3,000.00 per month to be assessed beginning five months after product delivery and activation to any other agency. No maximum.	Does not comply. Verra Mobility is proposing the Verra Mobility hardware and software that it believed best meet the County's needs based on the County's requirements, but Verra Mobility cannot guarantee that "No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County.
30.12	<p>30.12 Liquidated damages may not be assessed in the following situations:</p> <p>30.12.1 A traffic accident, vandalism, or weather that significantly damages the vehicle or camera equipment. If a vehicle or camera system is damaged beyond repair, the Contractor agrees to provide a temporary replacement within 18 hours and provide a permanent replacement within three days after the County has made written notice to the Contractor via e-mail.</p> <p>30.12.2 The cause of the camera failure to shoot photographs or capture images is beyond the Contractor's control.</p> <p>30.12.3 Severe weather (i.e. heavy fog,</p>	Comply.

	heavy rain, or heavy snow, etc.) obliterating the image. 30.12.4 Image exposure is compromised due to sunrise/sunset.	
30.13	30.13 Liquidated Damages shall be sought if more than 5% of the potential violations submitted by a Contractor for review in a calendar year are erroneous violations. The Contractor shall be subject to liquidated damages for each erroneous violation equal to 87.5% of the fine amount for the erroneous violation, plus any reimbursements paid by the County.	Comply.
30.14	30.14 Liquidated Damages shall be sought at the rate of \$500.00 (five hundred dollars) per hour for deployment delays when the contractor fails to install the Portable Camera Unit (PCU) cabinet in accordance to the pre-determined schedule. Damages of \$500.00 (five hundred dollars) per hour for delayed deployments or deployment time shortened shall be sought if the contractor fails to change out the batteries in a timely manner to avoid such shutdown or delay.	Comply.
30.15	30.15 Liquidated Damages of \$500.00 (five hundred dollars) per hour shall be paid if the Contractor has more than two days of PCU shut down for maintenance reasons.	Comply.
31 TRAINING:		
31.1	31.1 The Contractor shall provide training for the County and employees of partner jurisdictions who shall operate violation processing system workstations. The County shall provide a room for training and County employee scheduling. The Contractor shall provide all appropriate training equipment, supplies, and training records.	Comply.
31.2	31.2 When addressing training, Contractors shall: 31.2.1 Describe the requisite skills and knowledge needed to manage the systems proposed. 31.2.2 Describe their proposal for providing essential documentation, including: 31.2.2.1 Operating instructions and	Comply.

	<p>procedures.</p> <p>31.2.2.2 Application "help" and tutorial material.</p> <p>31.2.2.3 Application user reference guides.</p> <p>31.2.2.4 Problem resolution guides.</p> <p>31.2.2.5 Lesson plans and course objectives.</p> <p>31.2.3 Describe training materials supplied by the Contractor.</p>	
31.3	31.3 The Contractor shall provide training in the operation of the camera systems for appropriate County staff. This training shall provide the County's personnel with a basic understanding of how the processing system operates and provide County personnel with any and all necessary certifications as approved by the County. This shall be accomplished at no cost to the County.	Comply.
31.4	31.4 The Contractor must provide in-depth training on the use of the Contractor's violation processing system to police employees and others who make use of the system.	Comply.
31.5	31.5 The training must be conducted within the County at a site and time that is convenient for County personnel.	Comply.
31.6	31.6 The Contractor shall provide training to County management staff on supervisory functions and report generation.	Comply.
31.7	31.7 Class size shall be limited to provide a quality training atmosphere. It is recommended that class size be limited to a maximum of 15 (fifteen) persons to each instructor.	Comply.
31.8	31.8 The Contractor must provide an outline of the proposed training and the class size in their submitted proposal.	Comply.
31.9	31.9 The Contractor shall provide an operator manual, instruction booklet and detection instrument manual on the Contractor's operating system for each workstation and speed detection system.	Comply.

31.10	31.10 The Contractor must submit training history for each of its employees and any trainers.	Comply.
32 FIELD SERVICE:		
32.1	32.1 The Contractor shall provide on-going computer hardware and software support to ensure uninterrupted operation. This support must be available Monday through Friday, from 5:30AM – 8:00 PM for camera technicians and 7:30 AM - 4:40 PM for office personnel, with the exception of County holidays.	Comply.
32.2	32.2 The Contractor shall supply the County with an interface document describing the type, size, location, and medium of transfer of data to be received from the Contractor.	Comply.
32.3	32.3 Upon termination of the contract, the Contractor shall continue to provide support services until 90% of the outstanding citations have been fully processed and payment of those citations by vehicle owners have been made, or until a replacement Contractor has established their systems.	Comply.
33 COUNTY SUPPLIED SUPPORT AND SERVICES:	33 COUNTY SUPPLIED SUPPORT AND SERVICES:	
33.1	33.1 Secondary review and approval shall be conducted by County personnel at separate violation processing workstations for violation review, entry and/or verification of registration plate information. The Contractor shall supply at least two separate PC workstations meeting the minimum specifications of the County Department of Technology and Communication Services.	Comply. Please note that maintenance and supplies of the workstations shall continue to be the responsibility of the County.
33.2	33.2 The County shall provide trained customer service representatives to answer questions from violators regarding payment options and other matters between 7:00 AM – 4:30 PM, Monday through Friday, with the exception of County holidays.	Comply.
33.3	33.3 The Contractor shall use public safety databases for Maryland and out-of-state registration searches. The process shall self-populate fields in the Contractor's citation processing system and the Contractor shall	Comply.

	establish monthly reports that list the out-of-state searches. The County and RAEC supervisor(s) may individually authorize the Contractor to perform in-state and out-of-state owner registration inquiries when using NLETS (National Law Enforcement Telecommunications System).	
33.3.1	33.3.1 The Contractor shall adhere to all County, State and Federal regulations concerning information access, security and information dissemination.	Comply.
33.3.2	33.3.2 The Contractor's employees shall obtain registered owner information on identified registration plates through the Maryland MVA or the appropriate out-of-state motor vehicle department, if permitted. The Contractor shall assume the costs associated with this access. The registered owner's information shall then be entered into the system with violation images by software interfaced with the appropriate motor vehicle authority. The software must be able to populate most, if not all of the fields required for issuance of the speed citation.	Comply.
33.4	33.4 The County shall arrange for and pay associated costs for violation payments to be made through an existing lock box arrangement with an area bank as established by the current County contract. Credit card transactions via the internet may be made through Govolution. Walk-In transactions are handled by the Howard County Department of Finance. The Contractor, at no cost to the County, shall work with the County and any County authorized vendor associated with the processing of citation payments to ensure that payment processing information is seamlessly transferred. Payment processing channels may change throughout duration of contract and the Contractor must be able and willing to adjust to new payment channels as needed.	Comply.
36	36 CONTRACTOR'S QUALIFICATIONS:	
36.1	36.1 Contractors must be engaged in the operation, setup, maintenance of automated enforcement red light camera operations and/or automated enforcement speed camera instruments and system operations and must have been actively engaged said operations	Please see Proposal Section 5 <i>Experience and Knowledge of Services</i> .

	for a period of no less than five years. The experience of owner(s) may be imputed to a newly formed company/contractor provided the owner(s) has/have at least five years of demonstrated experience of reliability and meets the criteria set forth herein.	
36.2	36.2 The County reserves the right to inspect the Contractor's equipment and to perform such investigations as may be deemed necessary to ensure that competent personnel and management will be utilized in the performance of the Agreement.	Comply.
36.3	36.3 In accordance with Howard County Code Sec. 4.117 (a) (4), the quality of performance of previous contracts or services shall be considered in determining the award. Quality of performance may be determined through contracts or services provided to the County or to other entities. Quality of performance to other entities will be determined from reference checks when references are required. The determination of quality performance includes the Contractor's history of reasonable and cooperative behavior and commitment to customer satisfaction and the Contractor's businesslike concern for the interests of the customer. The County reserves the right to reject any bid deemed not responsible or non-responsive.	Comply.
37	37 BACKGROUND CHECKS AND INVESTIGATIONS:	
37.1	37.1 If a Contractor's employees are on-site in County buildings working without a County escort, each employee of the Contractor shall agree to a background check or investigation consisting of national criminal database search covering misdemeanors and felonies and the release of that information to the County in the event that it is required.	Comply.
37.2	37.2 The Contractor shall assume the cost to have background checks completed for each employee assigned to each facility. The County may bill the Contractor \$100 for each standard background check. Public safety buildings require a higher level of security and in-depth background checks referred to as "investigations". The County may bill the Contractor \$250 for each in-depth background investigation. This fee, when billed to the Contractor, shall be payable to	Comply.

	the County prior to the check or investigation being conducted.	
37.3	37.3 The background checks or investigations shall include all employees, new employees, subcontractors and replacement employees to be completed prior to assignment of a building.	Comply.
37.4	37.4 The Contractor shall not assign any individual convicted of the following offenses which shall include, but are not limited to: Abduction, Homicide, Rape, Aggravated Assault, Sex Offender, Assault with Intent to Murder, or Assault with Intent to Rob.	Comply.
37.5	37.5 The Contractor shall not assign any individual convicted or having incomplete probation for the following offenses which shall include, but are not limited to: Burglary, Breaking and Entering, Carrying or Wearing a Weapon, Destruction of Property, Possession of a Controlled Dangerous Substance with Intent to Distribute, Explosives, Kidnapping, Theft/Larceny, Maiming, Manslaughter, Sexual Assault, Hate Crimes, Robbery, and Distribution of a Controlled Substance.	Comply.
37.6	37.6 The Contractor reserves the right to seek exception to the above guidelines governing acceptability for assignment to the facility by providing documented specifics pertaining to convictions of the employee in question. The County will, at its sole discretion, accept or reject the requested exception.	Comply.
38	38 AGREEMENT PERIOD: The Agreement period shall be for one year commencing on or about January 1, 2024, after approval and proper execution of the Agreement documents, with a renewal option for six additional years in one-year increments, exercisable at the sole discretion of the County.	Comply.
39	39 ESTIMATED ANNUAL CONTRACT VALUE: The estimated annual contract value group for this contract is F as defined by the schedule below: A - \$30,000 to \$75,000 B - \$75,001 to \$100,000 C - \$100,001 to \$250,000 D - 250,001 to \$500,000	

	E - \$500,001 to \$1,000,000 F - Over \$1,000,000	
40 Price Adjustment	<p>40 PRICE ADJUSTMENT:</p> <p>40.1 Prices offered shall be firm against any increase for two years from the effective date of the Agreement. Prior to the commencement of subsequent renewal periods, it shall be the Contractor's responsibility to notify the Issuing Office in advance of any requested price changes.</p> <p>40.2 Requests for price adjustments shall be submitted to the Issuing Office, not the User Agency.</p> <p>40.3 The County may entertain requests for escalation in accordance with the current Consumer Price Index at the time of the request or up to a maximum 5% increase on the current pricing, whichever is lower. (For purposes of this section, "Consumer Price Index" shall be the Mid-Atlantic Consumer Price Index-All Urban Consumers (CPI-U), Baltimore-Columbia-Towson, MD, All Items, Not Seasonally Adjusted, as published by the United States Department of Labor, Bureau of Labor Statistics.) All written requests shall be issued to the Office of Procurement and Contract Administration and such requests shall include detailed justification for the price adjustment, as well as all countermeasures developed by the Contractor to offset cost increases. The County reserves the right to grant or deny the request for a price increase and will do so in writing. If the price increase is granted, the price increase will be effective upon written approval and will remain firm through the renewal period.</p> <p>40.4 If a price increase is requested following Agreement renewal and it has been longer than one year since the last increase, the County may entertain a request for escalation if it is in the County's best interest. If the price increase is granted, the price increase will be effective upon approval and will remain firm through the renewal period, or for one year, at the County's sole discretion.</p>	Comply.
41	41 NON-EXCLUSIVITY: Nothing herein is intended nor shall be construed as creating	Comply.

	any exclusive arrangement with the Contractor. This contract shall not restrict the County from acquiring similar, equal or like goods and/or services from other entities or sources.	
42	42 ESTIMATED QUANTITIES: The estimated annual quantities stated are provided as a general guide for bidding and are not guaranteed. Actual quantities may be more or less than those estimated. The County reserves the right to add or delete services as may be deemed necessary by the County.	Comply.
43	43 INSURANCE: The Contractor will be required to purchase and maintain during the life of the Agreement, including any subsequent renewal terms, Commercial General Liability Insurance, Automobile Liability Insurance, and Worker's Compensation Insurance with limits of not less than those set forth below:	Comply.
43.1	43.1 Commercial General Liability Insurance: Combined Single Liability limits of \$1,000,000 each occurrence and \$1,000,000 aggregate naming, "Howard County, Maryland, its officials, employees, agents and volunteers" as the Certificate Holder and an Additional Insured.	Comply.
43.2	43.2 Automobile Liability Insurance: Combined Single Liability limit of \$1,000,000 any one accident.	Comply.
43.3	43.3 Worker's Compensation Insurance: Statutory coverage for Maryland jurisdiction, including Employer's Liability coverage, with a limit of at least \$100,000.	Comply.
43.4	43.4 The Contractor shall assure that all subcontractors or independent contractors performing services in accordance with this solicitation carry identical insurance coverage as required of the Contractor, either individually or as an Additional Insured on the policies of the Contractor. Exceptions may be made only with the approval of the County. The Contractor shall indemnify the County for any uninsured losses relating to contractual services involving subcontractors, including workers' compensation claims.	Comply.
43.5	43.5 The Contractor shall provide the County with Certificates of Insurance within ten days of award notification, naming "Howard	Comply.

	County, Maryland, its officials, employees, agents and volunteers" as Certificate Holder and as Additional Insured on the certificate. Failure to provide the certificates as required shall result in rejection of award by the County. Such certificates shall provide that the County be given at least 30 days prior written notice of any cancellation of, intention to not renew, or material change in such coverage.	
43.6	43.6 The providing of any insurance required herein does not relieve the Contractor of any of the responsibilities or obligations assumed by the Contractor in the Agreement awarded or for which the Contractor may be liable by law or otherwise.	Comply.
43.7	43.7 Failure to provide and continue to enforce such insurance as required above shall be deemed a material breach of the Agreement and shall operate as an immediate termination thereof.	Comply.
43.8	43.8 Failure to comply with this requirement at any time during the initial term and any subsequent renewals may be sufficient cause for termination for default.	Comply.
44	44 METHOD OF ORDERING:	
44.1	44.1 Purchase Orders will be issued from time to time for such quantities as may be required by the County. Purchase Orders issued against the Agreement, even if not completed within the term of the Agreement, shall continue to be bound by the terms and conditions until completion.	Comply.
44.2	44.2 Small purchases may also be made by the County's procurement card (currently Visa). The Contractor agrees to accept the card for such quantities as may be required by the County. Contractors are prohibited from charging additional fees over and above their bid prices to process payments on procurement cards.	Do not comply. Please note that we do not accept Visa payment cards.
46 Billing and Payment	46 BILLING AND PAYMENT:	
46.1	46.1 The Contractor shall submit separate invoices for each Purchase Order issued. Invoices shall be sent to Department of Police, 3410 Court House Drive, Ellicott City, Maryland 21043. Invoices in the proper form and approved by the County shall be paid by	Comply.

	the County within 30 days of receipt. Invoices without the necessary information may be returned for correction prior to payment.	
46.2	46.2 Each invoice shall include the following information: 46.2.1 Contractor's name; 46.2.2 Address; 46.2.3 Federal tax identification number; 46.2.4 Contract number, if applicable (i.e., 44XXXXXXXX); 46.2.5 Purchase Order number (i.e., 2XXXXXXXX); 46.2.6 Contract line number; 46.2.7 Unit price and extended price (unit price must match a contract line); and 46.2.8 Description of goods provided and/or services performed.	Comply.
46.3	46.3 The County reserves the right to make payments on Visa procurement cards when orders are placed using procurement cards as indicated in Method of Ordering above. Contractors are not permitted to charge the County additional fees over and above their bid prices to process payments on procurement cards.	Does not comply. Please note that we do not accept Visa payment cards. Verra Mobility accepts payments via ACH and check.
46.4	46.4 The County reserves the right to make payments via electronic funds transfer (a.k.a. ACH) on Agreements for which this payment vehicle is appropriate.	Comply.
46.5	46.5 Payment shall be made upon receipt of proper invoice from Contractor and authorized by the County.	Comply.
46.6	46.6 All amounts, costs, or prices referred to herein pursuant to this Agreement shall be United States of America currency.	Comply.
46.7	46.7 Please provide a sample invoice that complies with paragraph "Billing and Payment" with response.	Comply. Please see our sample invoice included in Proposal Section 5.6. <i>Description of System Operations.</i>
46.8	46.8 The proper form of County invoices requires that the necessary information be included on all invoices. Invoices without the necessary information may be returned for correction prior to payment. The County reserves the right to approve invoices, in its sole discretion, and to request such detail and	Comply.

	additional information as the County, in its discretion deems appropriate.	
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5.7 Image Samples

2.3.1.4.7 The Contractor shall submit image samples with their technical proposal; a minimum of four mobile speed violation image sets under the following conditions (1) daytime fair conditions; (2) daytime rain or snow; (3) nighttime fair conditions; (4) nighttime rain or snow. Place clearly marked example sets in Appendix A Sample Violation Image Sets. Contractors must be able to provide a reference for at least one location in a County of a similar size where their proposed digital camera system has worked effectively using high-resolution digital photography.

Please see *Appendix A – Violation Image Sets* for four sets of images taken with our red-light/speed technology. Please see Proposal Section 5.2 Project Summaries for an overview of the Alexandria, VA program that uses our proposed digital camera system.

5.8 Major Risks

2.3.1.4.8 Identify the major risks associated with this project. For each risk, identify those activities which can be undertaken to reduce, mitigate or eliminate the risk. Identify the associated responsibilities. Ensure that these activities are reflected in your project and management plans.

The following table provides the major risks associated with the project. Also included are activities that can be undertaken to reduce, mitigate or eliminate these risks.

Please see section 5.3 *Plan and Approach to Required Tasks* for further details.

Potential Risk	Verra Mobility Mitigation
Changes in legislation	Verra Mobility has experienced staff with knowledge of working within legislative requirements and in-house engineers that can respond quickly to legislation changes. If required by new regulations, we can update our hardware, image processing software and operational procedures as required. Any legislative changes that result in a material increase in Verra Mobility's costs to operate the program, shall be subject to the mutual agreement of the parties prior to implementation.
Installation and configuration issues on production systems causing captured data to be brought into question	After installation and configuration, Verra Mobility will complete a Site Acceptance Test (SAT), including the hardware, software, and service components. From experience with other programs, we find that during this period, any issues are identified and corrected, and customer approval obtained before the system goes live.
Accuracy of camera system or the integrity of evidential	Verra Mobility is offering our latest camera solution which is currently in operation in different environments across the country. Our proposed solution has undergone

data sheds doubt on the program	extensive testing against traceable standards and therefore has the certifications to back up its performance and accuracy.
Delays due to suppliers or weather	As a manufacturer, Verra Mobility will not have to rely on other suppliers as other vendors might. We will be using multiple subcontractors to distribute the work and reduce the risk of any delays that might arise relying on just one. Verra Mobility has experience working in various weather conditions and will incorporate that into planning and maintenance.
Site Selection	Verra Mobility has significant experience selecting sites and can assist with this item to decrease the risk of delays to construction and program go live.
Permits and Approvals	<p>Permits and approvals to commence construction works can cause significant delays. Verra Mobility will work to have the site design completed as soon in the schedule as possible to ensure the highest amount of time is available.</p> <p>Verra Mobility would expect Howard County to assist with escalation of permit approvals should a delay be expected.</p>

6. Cost File Submittal

2.3.2 Cost File Submittal

Our completed Cost File Submittal has been uploaded to Howard County's PlanetBids portal in the subsection called *Cost File*.

This document includes the following:

- > Price Proposal Cover Page
- > Equal Business Opportunity Participation
- > Veteran-Owned Business Enterprise Program Form
- > Wage Requirement

Please note that in addition to our pricing, a five-dollar convenience fee will be charged to violators for credit card payments only. This does not constitute a cost for the County.

7. Exceptions

3 EXCEPTIONS: If the Contractor cannot meet the terms, conditions and/or specifications of the solicitation, the Contractor must furnish a statement on company letterhead giving a complete description of any exceptions to the terms, conditions, and specifications. Failure to furnish the statement means that the Contractor agrees to all terms, conditions and specifications. Exceptions taken do not obligate the County to change the terms, conditions and/or specifications. Exceptions to the terms and/or conditions and/or to the County's standard Agreement may be sufficient cause for rejection of the proposal.

Please see our list of exceptions provided on our company letterhead on the following pages.



September 12, 2023

Chaunta Taylor
Buyer
Howard County, Maryland
Columbia, MD 21046

Re: Exceptions

Dear Chaunta Taylor:

If Verra Mobility is fortunate to be awarded the contract for Traffic Enforcement, Automated Red Light and Speed Detection Camera Systems and Office Services, we would like to discuss clarifying the sections below as provided in the Section B, Purchase Order Terms and Conditions and Exhibit I, Howard County Maryland Agreement PA-XXX-XXXX. Below in red is our proposed clarifying language; however, we would be willing to discuss with the County any alternative mutually acceptable language.

SECTION B

PURCHASE ORDER TERMS AND CONDITIONS

23 Termination

23.1 Termination for Convenience: The County may terminate this Purchase Order, in whole or in part, if the County determines that such termination is in the best interest of the County, without showing cause, upon giving at least 30 days written notice to the Contractor. The County shall pay all reasonable costs incurred by the Contractor up to the date of termination. However, in no event shall the Contractor be paid an amount which exceeds the price bid for the work performed. The Contractor shall not be reimbursed for any profits which may have been anticipated but which have not been earned up to the date of termination.

In the event the County elects to terminate this Purchase Order pursuant to Article 23 or for any other reason other than Contractor default such that the equipment would not remain installed and operational for at least 5 years, the County shall reimburse the Contractor for its equipment installation costs amortized on a straight-line basis over five years from date of camera activation.

EXHIBIT I

HOWARD COUNTY, MARYLAND AGREEMENT

PA-XXX-XXXX

5. Termination

5.1 Termination for Convenience: The County may terminate this Agreement for convenience, in whole or in part, whenever the County determines that such termination is in the best interest of the County, without showing cause, upon giving at least 30 days written notice to the Contractor. The County shall pay all reasonable costs incurred by the Contractor up to the date of termination. However, in no event shall the Contractor be paid an amount which exceeds the price bid for the work performed. The Contractor shall not be reimbursed for any profits which may have been anticipated but which have not

been earned up to the date of termination. In the event the County elects to terminate this contract pursuant to 5.1 or for any other reason other than Contractor default such that the equipment would not remain installed an operational for at least 5 years, the County shall reimburse the Contractor for its equipment installation costs amortized on a straight-line basis over five years from date of camera activation.

13. Indemnification

13.1 The Contractor shall indemnify, hold harmless and defend the County, its employees, agents and officials from any and all claims, suits, or demands including reasonable attorney fees which may be made against the County, its employees, agents or officials resulting from any negligent act or omission committed in the performance of the duties imposed by and performed under the terms of this Agreement by the Contractor or anyone under agreement with the Contractor to perform duties under this Agreement. The Contractor shall not be responsible for acts of negligence or willful misconduct committed by the County, its employees, agents and officials.

13.2 Any property or work to be provided by the Contractor under this Agreement will remain at the Contractor's risk until written acceptance by the County; and the Contractor will replace, at the Contractor's expense, all property or work damaged or destroyed by any cause whatsoever.

13.3 In the event that there is a conflict between the indemnification provision set forth in the Purchase Order Terms and Conditions and/or the General Conditions of the solicitation and/or this Agreement, the terms set forth in the Agreement shall govern.

13.4 In no event shall the Contractor's liability under this Contract exceed the aggregate contract value. Notwithstanding anything to the contrary in this Contract, neither party shall be liable to the other, by reason of any representation or express or implied warranty, condition or other term or any duty at common or civil law, for any indirect, incidental, special, or consequential damages, or lost profits, lost fines, or lost data however caused and on any theory of liability, arising out of or relating to this Contract.

~~Clause 46.3-The County reserves the right to make payments on Visa procurement cards when orders are placed using procurement cards as indicated in Method of Ordering above. Contractors are not permitted to charge the County additional fees over and above their bid prices to process payments on procurement cards.~~ Verra Mobility does not accept payment of its fees by credit card but does accept payments via ACH and check.

~~24.22 and 30.5 The system shall be capable of generating custom, user defined ad hoc reports that include but are not limited to financial reports, violation reports, camera performance and maintenance reports. Changes, additions, to existing reports shall be completed within 2 weeks of the written notification at no cost to the County. New reports shall be completed within 3 weeks at no cost to the County. Liquidated Damages of \$200.00 a Day will be assessed for each day beyond the above listed time. Liquidated Damages will be assessed at \$250.00 each day a report is not working, to be assessed on day 5 after written notification.~~ Please note that users have access to a large suite of standard PowerBI reports. Please see Proposal Section 5.6 *Description of System Operations* under the subheading *Business Intelligence Reports*.

12 CAMERA FLASH REQUIREMENTS - RED LIGHT ENFORCEMENT: It is desirable that the camera units offer light sensitivity to ambient light that can provide night and low light images with standard street lighting, so a flash is not necessary. If an intersection needs additional lighting, that lighting shall be at the expense of the Contractor and must meet the approval of the County and the State Highway Administration. The lighting should be sufficient to illuminate all images taken for the violation over 24 hours.

Systems with a flash or camera strobe, though less desirable, may still be considered. Systems using a flash or camera strobe must be capable of installing flash shields/guards around the flash unit to narrow the direct visibility of the flash system. Systems using flash or camera strobes shall be capable of installing flash filtering film or covers to reduce the luminosity of the flash system on the environment around the site in addition to the optional flash shield/guards.

As discussed in our proposal response, we use LED illumination instead of strobe light. Please see a description of our illumination set forth in Proposal Section 5.6 Description of System Operations.

~~10.1.4 System Must have Bullet and shatter resistant windows for the camera housing. The housing is not bullet resistant as doing so causes interference issues with both the radar and IR flash. Please see a description of our camera housings set forth in Proposal Section 5.6 Description of System Operations.~~

~~10.3 The camera housing should contain a system which must automatically activate to reduce fogging on the windows which may obstruct the view of the camera; or, be demonstrably resistant to any fog impediments to enforcement to the County's satisfaction.~~ Our camera systems do not automatically activate to reduce any fogging on the windows, which may obstruct the view of the camera. Please see a description of our camera housings set forth in Proposal Section 5.6 Description of System Operations.

~~22.9.2 The camera housing shall contain a system, which must automatically activate to reduce any fogging on the windows, which may obstruct the view of the camera.~~ Our camera systems do not automatically activate to reduce any fogging on the windows, which may obstruct the view of the camera. Please see a description of our camera housings set forth in Proposal Section 5.6 Description of System Operations.

~~21.18 and 30.11 The Contractor shall provide the most updated, State of the Art Technology in the form of hardware and software that is has available. No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County. Liquidated Damages of \$3,000.00 per month to be assessed beginning five months after product delivery and activation to any other agency. No maximum.~~

Verra Mobility is proposing the Verra Mobility hardware and software that it believes best meet the County's needs based on the County's requirements, but Verra Mobility cannot guarantee that "No other program, nationwide, may have technology more advanced than the systems being utilized in Howard County."

Sincerely,



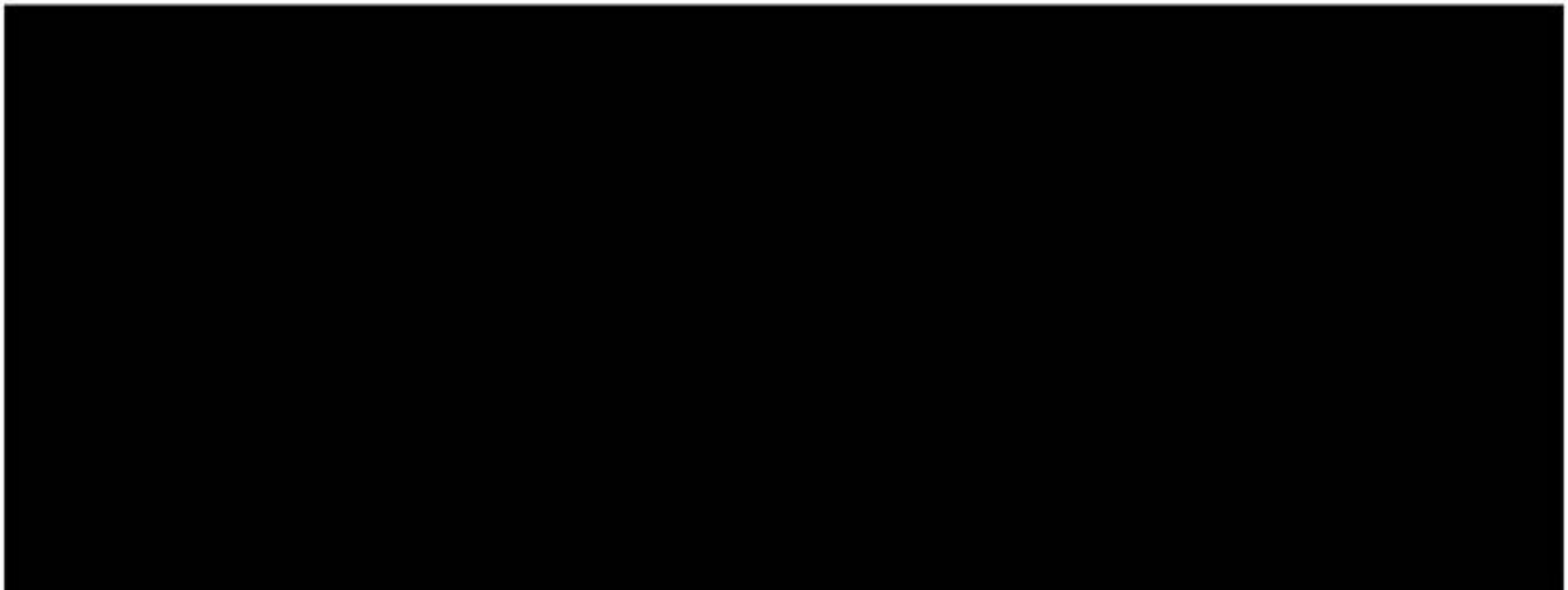
Jonathan Baldwin
Executive Vice President, Government Solutions

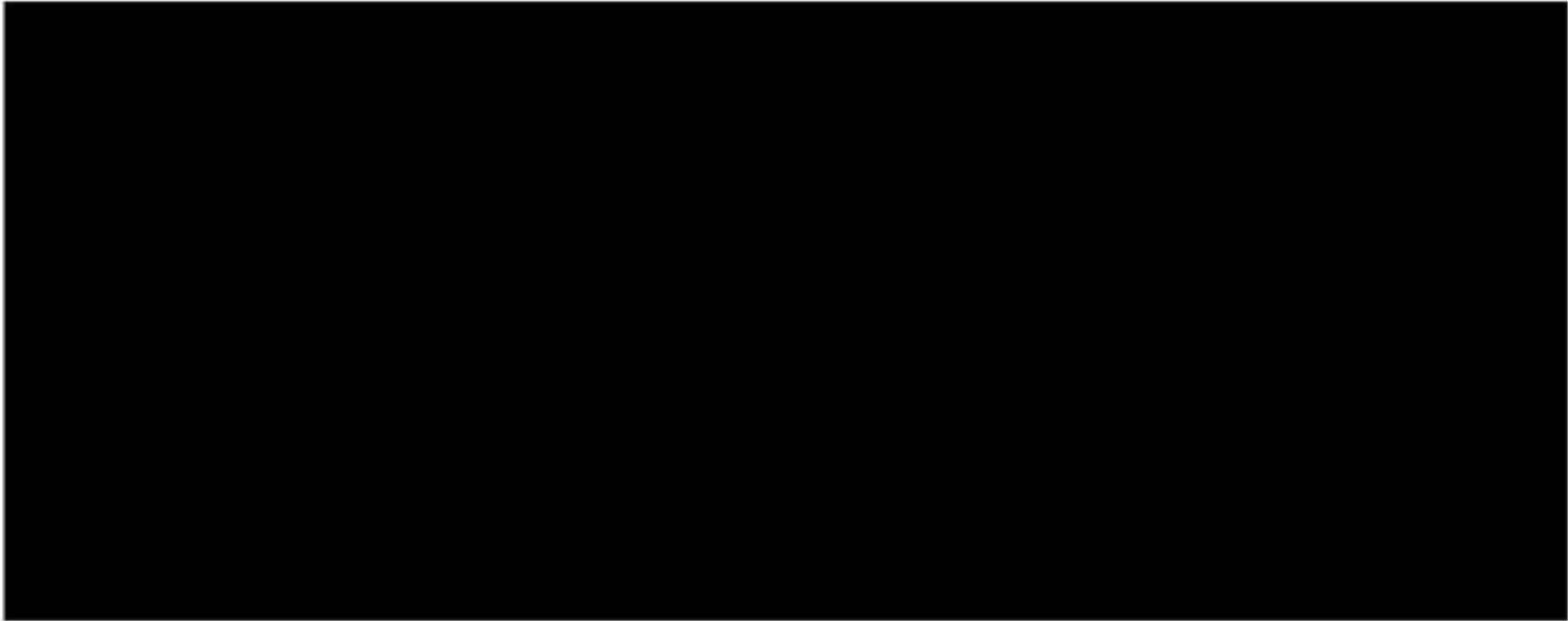
8. Appendix A – Sample Violation Sets

The following sample images provide real-life examples of our image clarity for our proposed red-light and speed enforcement solution. Please note that while these locations may include red-light enforcement only, our proposed system for speed uses the same software, hardware, and illumination methods for both photo enforcement types.

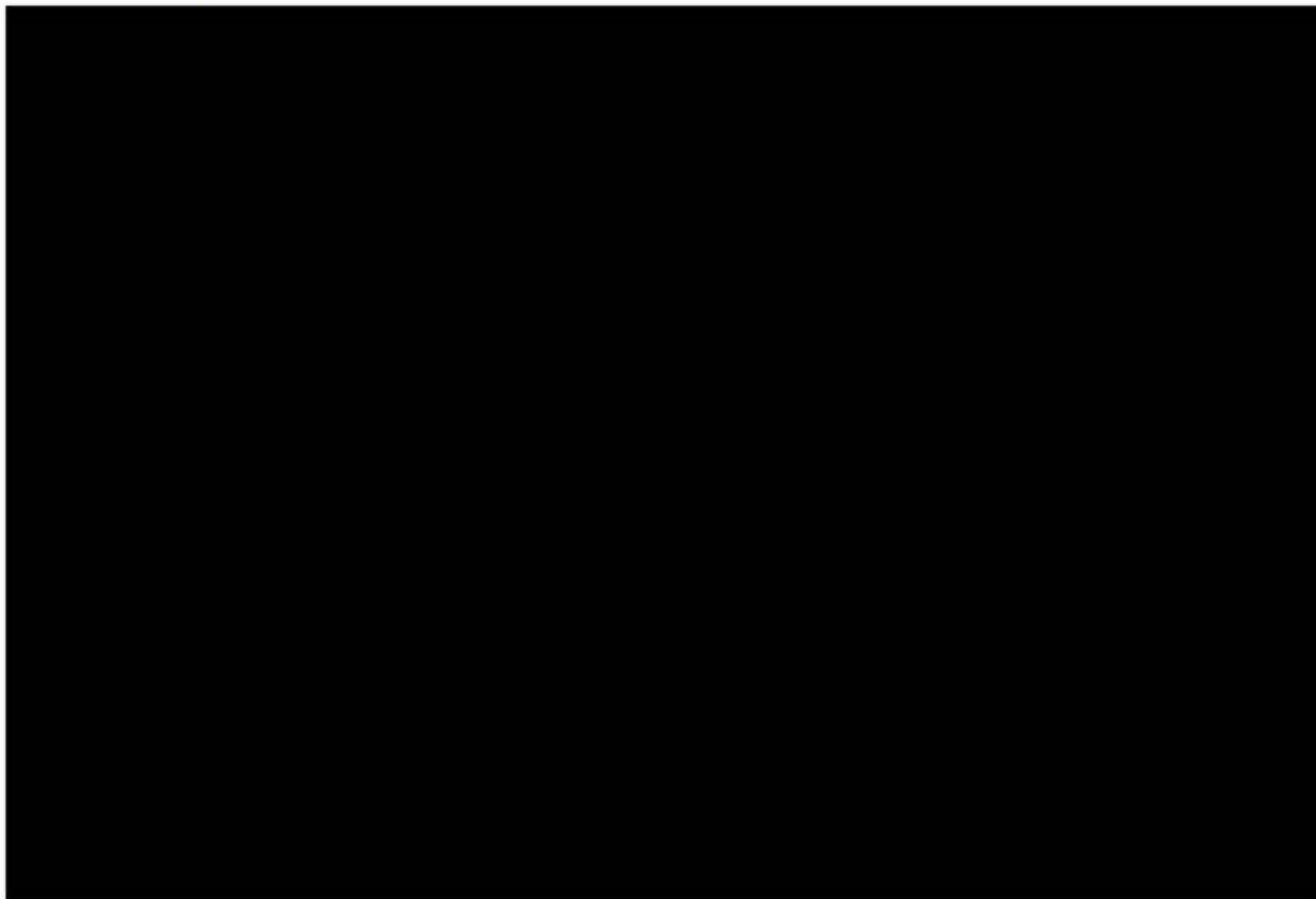
Please also note that each plate is blurred or partially blocked and the location modified to ensure privacy.

Daytime Fair Conditions



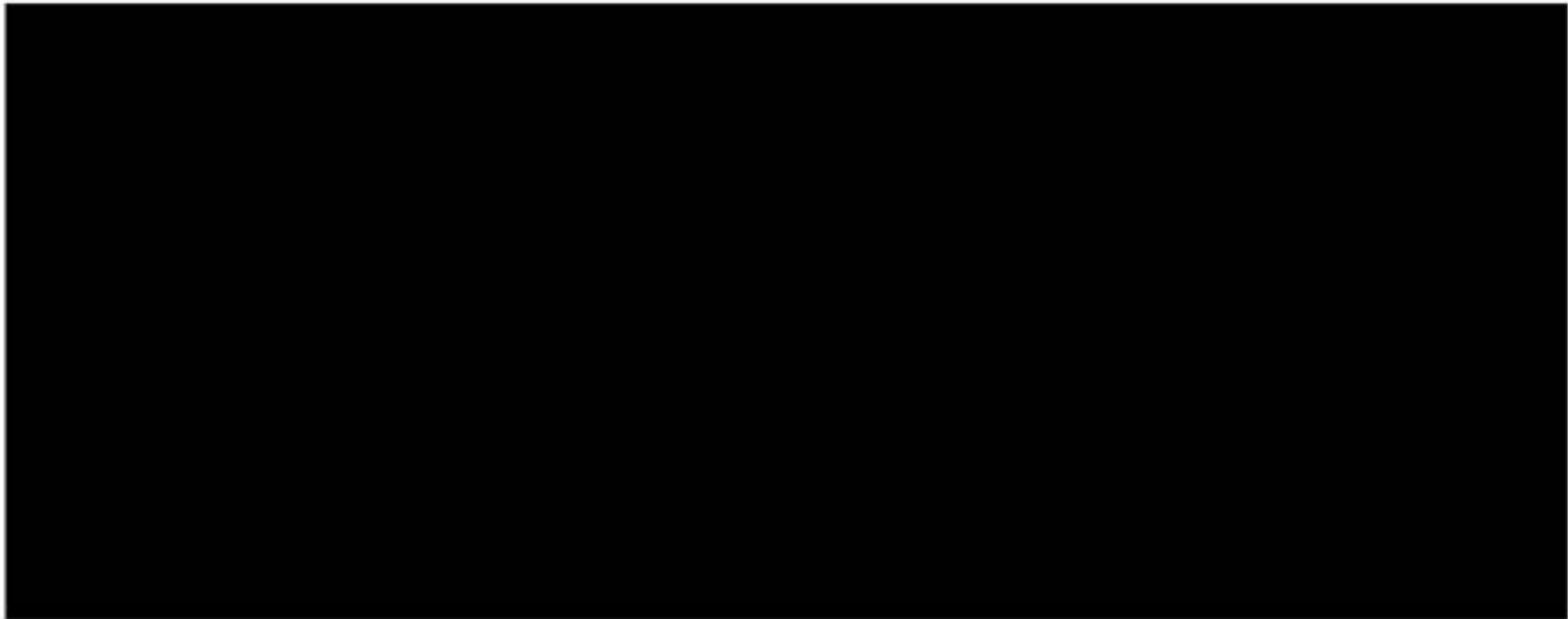


Daytime Rain

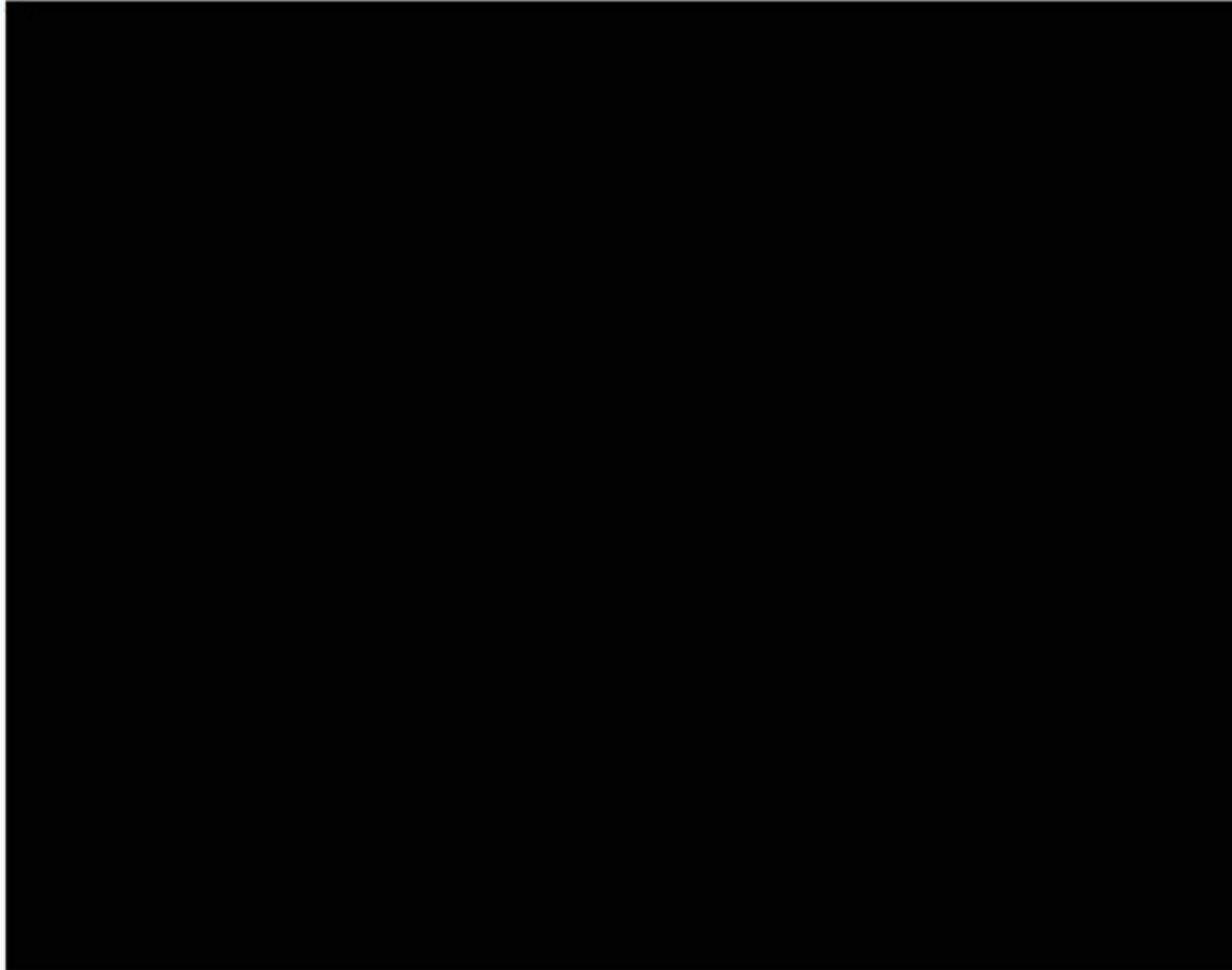


Nighttime Fair





Nighttime Rain



9. Appendix B – Redacted Technical Proposal

Please note that a redacted technical proposal has been uploaded to Howard County's PlanetBids portal in the subsection called *Redacted Technical Proposal*.

Per instructions in *Section E – Submission Requirements*, we have stamped all proprietary and confidential images as *PROPRIETARY* and *CONFIDENTIAL*.

We also include the following table that outlines the specific section and page number and included a written statement as a basis for considering the marked pages confidential.

Section	Page(s) #	Description of Content	Rationale for Confidential Treatment
5.2 Project Summaries	8	Figure entitled "Verra Mobility National Experience"	Md. Code, Gen. Provisions § 4-335 – Client list / map are confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.
5.2 Project Summaries	9-10	Project summaries for multiple programs	Md. Code, Gen. Provisions § 4-335 – This information includes a partial client list and is confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.
5.2.1 Program Statistics for Jurisdictions Similar in Size	10-11	Table containing program statistics	Md. Code, Gen. Provisions § 4-335 – Program statistics from clients are confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.
5.3 Plan and Approach to Required Tasks	15-17	All information found under "Subcontractors" subheading	Md. Code, Gen. Provisions § 4-335 –

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			This confidential information includes teaming and subcontracting partners and is confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.
5.4 Project Schedule	18	Project Schedule	Md. Code, Gen. Provisions § 4-335 - Our proposed implementation solution and schedule are confidential due to the potential for a competitor or other third party to receive and recreate or create a similar process/solution for commercialization and financial gain.
5.5 Resumes of Key Personnel	19-25	Resumes	Md. Code, Gen. Provisions § 4-335 - Contains confidential information on personnel including full resumes. This information is confidential due to the potential for a competitor or other third party to recruit personnel and derive both a commercial and financial benefit.
5.6 Description of System Operations	38	Verra Command Center Graphic	Md. Code, Gen. Provisions § 4-335 - Screenshots of proprietary software are confidential due to the potential for a competitor or other third party to receive and recreate or create a similar process/solution for commercialization and financial gain.
5.6 Description of System Operations	40	Event capture workflow and images	Md. Code, Gen. Provisions § 4-335 - Screenshots of proprietary software, internal processes and workflow are confidential due to the potential for a competitor or other third party to receive and recreate or create a similar process/solution for commercialization and

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			financial gain. All sample violation images and associated data are confidential, may include personally identifiable information, and are owned by the client who operates the system from which they were obtained.
5.6 Description of System Operations	41-42	Police Review Screens	Md. Code, Gen. Provisions § 4-335 Screenshots of proprietary software is confidential due to the potential for a competitor or other third party to receive and recreate or create a similar process/solution for commercialization and financial gain. All sample violation images and associated data are confidential, may include personally identifiable information, and are owned by the client who operates the system from which they were obtained.
5.6 Description of System Operations	45	Services table	Md. Code, Gen. Provisions § 4-335 - This information includes a partial client list and is confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.
5.6 Description of System Operations	56-57	Reports found under heading called "Sample Reports."	Md. Code, Gen. Provisions § 4-335 - All reports are proprietary and confidential due to the potential for a competitor or other third party to receive and recreate or create a similar output for commercialization and financial gain.
5.6 Description of System Operations	61	Sample Billing and Payment Invoice	Md. Code, Gen. Provisions § 4-335 - Sample invoices are proprietary and confidential due to the potential for a

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			competitor or other third party to receive and recreate or create a similar output for commercialization and financial gain.
8. Appendix A – Sample Violation Sets	154-159	All event photographs	Md. Code, Gen. Provisions § 4-335 - Trade Secret – Screenshots of proprietary software is confidential due to the potential for a competitor or other third party to receive and recreate or create a similar process/solution for commercialization and financial gain. All sample violation images and associated data are confidential, may include personally identifiable information, and are owned by the client who operates the system from which they were obtained.
Contractor Qualification Information Form	Uploaded as a separate document, per instructions	1 page Contractor Qualification Information Form	Md. Code, Gen. Provisions § 4-335 - This information includes a partial client list and is confidential due to the potential for a competitor or other third party to derive both a commercial and financial benefit from the disclosure of this information.