MARK43

Crash Reporting and e-Citation System Modernization Technical Proposal for West Virginia Department of Transportation

CRFP-DOT2600000002

Due Date: March 12, 2026

Submitted To: West Virginia Department of Administration
Purchasing Division (Bid Clerk)
2019 Washington Street East
Charleston, WV 25305-0130

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Title Page

Requirement	Response
RFP Subject	Crash Reporting and e-Citation System Modernization
RFP Number	CRFP-DOT2600000002
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March 12, 2026
Date

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Cover Letter

March 12, 2026

John W. Estep
Department of Administration
Purchasing Division
2019 Washington Street East
Charleston, WV 25305

Dear Mr. Estep:

Mark43, Inc. respectfully submits this proposal in response to the State of West Virginia's Request for Proposals for Crash Reporting and e-Citation System Modernization (CRFP-DOT2600000002). We appreciate the opportunity to support the West Virginia Department of Transportation in modernizing its crash reporting and citation systems to improve efficiency, accuracy, compliance, and public safety outcomes statewide.

As the sole prime vendor for this proposal, we are not proposing any subcontractors, joint ventures, or other teaming arrangements. Mark43 will be fully responsible for all aspects of delivering the proposed crash reporting and e-Citation solutions, including implementation, configuration, integration, deployment, hosting, and ongoing operations and maintenance.

The Mark43 e-Citations solution is a cloud-native, mobile-first application that enables officers to capture, print, issue, and submit citations from a single application, even while offline. Citations are one of the most common interactions between officers and the public, yet outdated systems and manual processes make them slow, redundant, and error prone. By automatically prefilling citation fields with information pulled directly from CAD, RMS, DMV, and NCIC databases, the solution reduces redundant data entry and improves accuracy. Officers can scan driver licenses, VINs, and plates or query DMV and NCIC databases to prefill key data, reducing errors and saving time. The solution also captures signatures digitally, supporting a fully paperless citation workflow from issuance through court submission.

Because e-Citations integrates directly into a cloud-native platform, citation data synchronizes in real time, improving data integrity and supporting streamlined court submissions. The mobile-first design ensures compliance, scalability, and secure access anytime, anywhere. By allowing officers to complete citations faster and spend less time exposed during roadside stops, the solution supports both operational efficiency and officer safety.

For crash reporting, Mark43 Crash is designed to dramatically reduce report-writing time while ensuring compliance and accuracy. Reporting crashes can take up to two hours for officers to document using traditional processes. Crash streamlines this workflow through automated data capture of people and vehicle data in the field, coupled with strict yet intuitive Model Minimum

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Uniform Crash Criteria (MMUCC) compliance workflows to help officers complete reports more efficiently and reduce administrative workload.

The solution includes license scanning, integrated satellite mapping with GPS coordinates, a drag-and-drop diagram builder, and multimedia integration for attaching photos and videos directly within the reporting workflow. Registry integration with state systems and other 3rd party systems allows automatic retrieval of vehicle and driver information, minimizing manual entry. Cross-device availability ensures reports sync automatically across mobile and desktop environments, maintaining continuity of workflow.

Crash data entry is designed to be in full compliance with 6th edition MMUCC and also supports state-specific data capture, enabling agencies to meet federal and state reporting requirements. By improving accuracy through real-time validation and reducing report-writing time by up to 75%, the solution strengthens data quality while returning officers to service more quickly.

Services under this RFP will be managed and delivered by Mark43, Inc., 8 W. 40th St., 2nd Floor, New York, NY 10018.

The contact responsible for this proposal is:

Scott Crouch
Co-Founder and Head of Customer Management
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New York, NY 10018
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E: *scott@mark43.com*

Mr. Crouch is authorized to represent Mark43, Inc. in all matters related to this proposal and any subsequent contractual discussions.

Thank you for your consideration.

Sincerely,

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Executive Summary

Customer Question: Provide an executive summary not to exceed ten (10) pages, which provides an overview of the Vendor's proposed solution and how this solution will address WVDOT requirements for modernizing its crash reporting and e-Citation applications and the Vendor's prior experience implementing its proposed solution. Describe the proposed project organization, the role of each subcontractor/subconsultant and the experience of proposed project team members (prime and subcontractor) to perform their assigned roles on the project. Specifically highlight how the Vendor meets the required and desirable experience requirements.

1. Overview of Proposed Solution

Mark43, Inc. proposes a cloud-native, mobile-first platform to modernize WVDOT's crash reporting and electronic citation systems. Mark43 is a public safety technology company headquartered in New York, NY that provides cloud-native Computer-Aided Dispatch (CAD), Records Management System (RMS), Analytics, and mobile applications to law enforcement and public safety agencies across the United States. Mark43 is trusted by over 300 agencies nationwide and supports state, local, and federal public safety organizations with secure, modern, and scalable technology solutions.

The Mark43 platform is hosted on AWS GovCloud within Mark43's FedRAMP-authorized GovHigh environment, aligning with NIST 800-53 security controls and CJIS compliance requirements. FedRAMP authorization meets and exceeds StateRAMP requirements, ensuring the highest standards of security, availability, and operational continuity. As demonstrated in its federal deployments, Mark43's FedRAMP-authorized, NIST-compliant, cloud-native resiliency ensures the highest standards of security, availability, and operational continuity.

Mark43 proposes two purpose-built solutions to address WVDOT's requirements:

- **Mark43 Crash** as the statewide crash reporting system, providing mobile-first data collection to assist with MMUCC 6th Edition compliance requirements, automated data capture through license scanning and GPS mapping, drag-and-drop crash diagramming, multimedia integration, Registry integration with state systems and other 3rd party VIN systems, configurable state-specific crash forms, and real-time validation to reduce report-writing time by up to 75 percent in referenced implementations.
- **Mark43 e-Citations** as the electronic citation solution, enabling officers to capture, print, issue, and submit citations from a single mobile application with offline capability, driver license and VIN scanning, DMV and NCIC query integrations, digital signature capture, and real-time synchronization with records systems to eliminate the manual reentry and reconciliation gaps identified in the RFP.

Key benefits include faster, more accurate citations through license, VIN, and plate scanning, enabling officers to complete their work efficiently and with fewer errors. Validated person and vehicle data is reused across both citation and crash workflows, minimizing redundant entry and ensuring consistency. The solution also supports rapid stop clearance, reducing time in the roadway and minimizing back-and-forth between vehicles, which directly reduces roadside

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exposure and enhances officer safety. Seamless integration into the unified Mark43 platform ensures a consistent, streamlined workflow across systems, eliminating the need for duplicate data entry. As a cloud-native solution, it removes maintenance and compliance burdens from IT teams while providing scalability and secure access from anywhere.

Both solutions are delivered as cloud-hosted SaaS subscriptions, eliminating the need for local server infrastructure and enabling elastic scalability as WVDOT expands deployment statewide. Mark43 recognizes that a number of WVDOT's customization and configuration requirements reflect the realities of agencies transitioning from on-premises software deployments — environments where data structures, workflows, and integrations were historically tightly coupled to local infrastructure and vendor-specific implementations. Unlike on-premises systems that require significant effort to modify, Mark43's cloud-native SaaS architecture enables these customizations to be addressed through configuration rather than code, dramatically reducing time, cost, and risk. The platform's offline-first mobile architecture directly addresses connectivity challenges inherent in rural and mountainous regions of West Virginia. This capability has been successfully demonstrated in large-scale federal deployments spanning rural and remote geographies nationwide.

Mark43 also recognizes that the scope of customization work required in this engagement is meaningfully shaped by WVDOT's transition away from an on-premises environment — and that this transition, while necessary, introduces configuration and integration complexity that would not exist in a like-for-like SaaS-to-SaaS migration. As WVDOT's legacy workflows, data structures, and integrations are re-platformed onto a modern cloud-native architecture, some of that upfront complexity will naturally diminish. Mark43 is committed to working collaboratively with WVDOT to ensure that the transition is as efficient and cost-effective as possible, and we welcome the opportunity to revisit the fee structure associated with customization and configuration services should Mark43 be awarded this contract. We believe that a long-term partnership with WVDOT creates a mutual interest in right-sizing implementation costs — and that as the system matures and legacy constraints are left behind, the ongoing cost of maintaining and evolving the solution will decrease substantially relative to what WVDOT has experienced under its on-premises model.

2. How the Proposed Solution Addresses WVDOT Requirements

As documented in the RFP's current-state diagrams, WVDOT's existing environment is fragmented, relies on a legacy ReportBeam-based system originally implemented in 2008, requires manual reentry between systems, lacks automated integration with courts and DMV, and is not fully aligned with current NHTSA Model Minimum Uniform Crash Criteria (MMUCC) 6th Edition reporting standards. Mark43 further understands that many of the specific customization requirements in this RFP are rooted in the legacy constraints of on-premises systems — where agencies built workflows, integrations, and data structures around local infrastructure that was difficult and costly to adapt. Transitioning from on-premises to a modern SaaS platform is not simply a technology swap; it is a fundamental shift in how systems are configured, maintained, and evolved. Mark43's platform is purpose-built to accommodate this transition, enabling agencies to replicate familiar workflows where appropriate while leveraging the full flexibility of cloud-native architecture to eliminate the limitations of on-premises software.

Mark43's proposed solution directly addresses each of these pain points:

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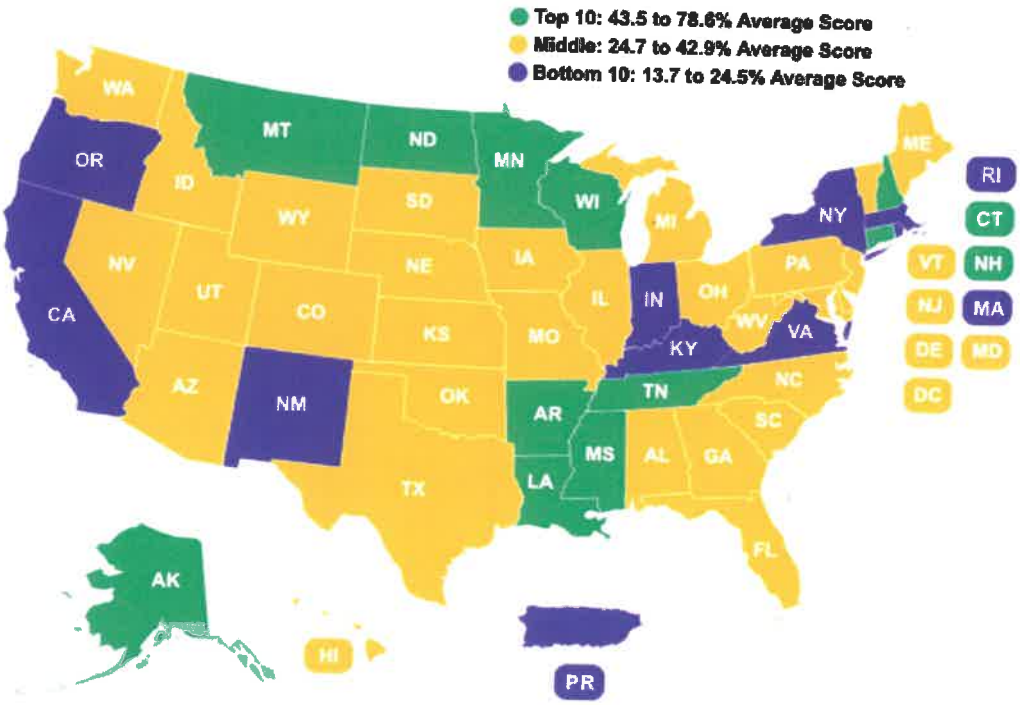
- **MMUCC 6th Edition Compliance:** Mark43 Crash provides configurable crash forms aligned with MMUCC data collection standards. The platform's configurable architecture enables rapid adaptation to evolving standards while streamlining the officer experience through intelligent validation and automated population. No states have 100% MMUCC and Mark43 is uniquely positioned to help West Virginia achieve its 100% MMUCC objective without increasing officer burden. Our system is purpose-built to make completion of a MMUCC-compliant crash report both efficient and intuitive.

Figure 1: Average MMUCC 5th Edition Mapping Scores by State



Mark43 Crash is specifically aligned with the NHTSA MMUCC Guideline Model Minimum Uniform Crash Criteria, 6th Edition. The 6th Edition represents the most current national standard for crash data collection, incorporating restructured data element levels across Crash, Vehicle, Driver, Person, and Non-Motorist categories, updated alignment considerations for state-to-MMUCC data mapping, expanded validation rules, new implementation suggestions for electronic crash reporting systems, and a new chapter on Traffic Records Data Integration. Mark43's configurable form architecture is designed to accommodate the full scope of MMUCC 6th Edition data elements and attributes, including crash-level elements such as Crash Date, Crash Location (Global Position with Latitude and Longitude), Manner of Collision, Work Zone data with its five subfields, and Related Factors; vehicle-level elements such as Motor Vehicle Body Type Category, Trafficway Flow, Sequence of Events, Damaged Areas, and Hit-and-Run; and person-level elements such as Injury Status, Restraint System Use, Seating Position, and Alcohol and Drug Involvement indicators. The platform supports the MMUCC-recommended user-centered design principles outlined in Chapter 11 of the guideline, including wizard-based intelligent interfaces, structured drop-down menus, visual aids such as clickable clock point diagrams for damaged area reporting, and validation logic that anticipates and prevents officer data entry errors. By building these capabilities directly into the crash reporting workflow,

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Mark43 enables West Virginia to pursue full MMUCC 6th Edition alignment while simultaneously reducing officer burden and improving data quality.

- **Elimination of Fragmented Architecture:** Mark43 replaces fragmented multi-system environments with a unified cloud-native platform. In the U.S. Department of the Interior (DOI) deployment, this approach eliminated dozens of legacy systems and replaced paper-based workflows with a single, connected operating platform spanning more than two dozen dispatch centers nationwide.
- **Unified Operating Picture:** For the first time in DOI's history, multiple bureaus share a common operating picture, enabling identification of crime patterns, seamless cross-jurisdictional data sharing, and coordinated operations. A similar unified statewide crash and citation repository will provide WVDOT with improved data integrity and coordinated safety analysis capabilities.
- **System Integration:** Mark43 supports secure RESTful APIs and standards-based data exchange formats to integrate with GIS systems, Driver License Systems, Vehicle Registration Systems, Unified Court Systems, and merchant services. The DOI deployment demonstrated successful interoperability across multiple federal systems under a secure cloud-native architecture.
- **Offline Capability:** Officers can write reports and issue citations in rural or remote areas, with automatic synchronization when connectivity is restored. This is particularly relevant to statewide field operations across West Virginia.
- **Reporting and Analytics:** The platform provides near real-time analytics and built-in compliance capabilities. In DOI's implementation, agencies gained out-of-the-box NIBRS compliance and the ability to run near real-time reports with a single click, capabilities that previously required days of manual work.
- **Zero-Downtime Modernization:** The DOI migration was completed with zero downtime during cutover, ensuring uninterrupted public safety operations. This demonstrates Mark43's ability to manage large-scale modernization without disrupting mission-critical services.

3. Prior Experience Implementing the Proposed Solution

Mark43 has direct, demonstrated experience implementing crash reporting and electronic citation solutions at enterprise scale.

The most relevant reference is the U.S. Department of the Interior deployment, which went live in October 2025. This implementation spans six federal law enforcement bureaus, approximately 3,000 sworn law enforcement officers, over 855 locations nationwide, and roughly 20 percent of the nation's landmass.

The deployment replaced outdated paper-based processes and numerous siloed legacy systems with a unified, cloud-native platform supporting RMS, CAD, Analytics, Crash and e-Citations. Officers now issue citations digitally in the field, saving time, improving accuracy, reducing administrative overhead, and strengthening officer safety.

We have provided screenshots of our West Virginia Crash Report mock-up for your review as Attachment E - Screenshots of Mark43's Crash Report System. The screenshots reflect our configured mock-up environment for West Virginia and demonstrate the functionality, workflows,

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and user interface supporting crash data entry, management, and reporting as proposed for your deployment.

Nearly 28 percent of Mark43's Global Services team comes from the public safety profession, ensuring deep familiarity with crash reporting workflows and citation operations.

4. Proposed Project Organization

Mark43 is the sole prime vendor for this proposal. No subcontractors or subconsultants are proposed. Mark43 will be fully responsible for all aspects of delivering the proposed crash reporting and e-Citation solutions, including implementation, configuration, integration, deployment, hosting, and ongoing operations and maintenance.

Mark43 employs a regionalized service model so that key team members regularly collaborate to ensure delivery consistency and efficiency.

While this initial team represents our preferred candidates, personnel availability may change after contract execution due to factors beyond our control. If substitutions are needed, Mark43 will provide equally qualified replacements. We maintain a robust and growing workforce, continually onboarding technical and project management professionals to ensure we meet our clients' evolving needs.

The proposed team and resources will be fully equipped to implement the solution effectively. Please note that the following resumes are personal and proprietary information that cannot be disclosed to any third party without previous written authorization from Mark43 and the resources themselves.

- **Project Manager:** Illdo Choi manages project activities, facilitates communication among stakeholders, tracks milestones and deliverables, and ensures work is performed on time and within budget. Illdo brings more than 25 years of experience in professional services, operations, and large-scale technology implementations, including enterprise SaaS deployments for major public safety agencies across the United States and internationally.

  Illdo is a certified Project Management Professional, PMP, through the Project Management Institute, meeting the mandatory Project Manager certification requirement of this RFP. He applies PMI aligned best practices, including structured work planning, risk management, issue tracking, quality assurance oversight, stakeholder engagement planning, and governance reporting to ensure successful delivery.

  As Project Manager, Illdo will develop and maintain the detailed project work plan and project management plan, establish and manage risk, issue, action, and decision logs, coordinate iterative development cycles and structured testing phases, and oversee integration, data migration, and deployment readiness activities. He will lead stakeholder alignment across WVDOT, WVDMV, WVOT, and law enforcement agencies, ensure adherence to scope, schedule, budget, and contractual commitments, drive executive level reporting and steering committee governance, and manage vendor and subcontractor coordination and performance.

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Illdo has successfully led implementations serving agencies ranging from 1,000 to more than 7,000 sworn personnel, including multi-jurisdictional environments with complex third-party integrations and regulatory oversight. His experience managing large stakeholder groups, consent decree requirements, and aggressive deployment timelines directly aligns with the scope, governance structure, and phased statewide rollout required under this RFP. His depth of experience in public safety system modernization, combined with disciplined project controls and strong executive communication, positions him to deliver the pilot and statewide deployment within the required timelines while minimizing operational disruption to the State.

- **Functional Lead:** Prior to contract execution, Mark43 will formally designate one of two experienced leaders to serve as Project Functional Lead: Shawn Driscoll, Vice President of Federal Services and Support, or Christopher Brown, Data Migration Manager. Both individuals are highly qualified to fulfill this role.

  Shawn Driscoll, Vice President of Federal Services and Support, or Christopher Brown, Data Migration Manager, are both capable of serving as Project Functional Leads. The Functional Lead is responsible for ensuring the system meets WVDOT's business requirements and operational workflows for crash reporting and e-Citation. This role leads requirements validation, business process design, configuration oversight, and functional testing to ensure the solution functions effectively for law enforcement, courts, and DMV users. In alignment with the RFP's mandatory qualification requirements, both candidates exceed the minimum requirement of at least two years of experience serving in similar roles on implementations of the proposed solution.

  Mr. Driscoll brings more than seven years of direct public safety implementation leadership experience, having led large scale RMS deployments since 2018. Over the course of his tenure at Mark43, he has progressed from Implementation Lead to Vice President of Federal Services and Support, successfully delivering enterprise implementations for agencies including the Chicago Police Department, Boston Police Department, and Atlanta Police Department. He manages discovery sessions, defines functional scope, aligns stakeholders early in the process, and ensures platform configuration supports agency workflows, compliance requirements, and reporting standards. His experience includes overseeing data migration strategy, interface design, cross functional coordination, training development, and user adoption planning. If designated as Functional Lead, Mr. Driscoll will facilitate structured requirements workshops, validate business processes against system capabilities, coordinate configuration decisions, and support user acceptance testing to ensure full alignment with WVDOT operational and statutory requirements. Mr. Driscoll helped implement Mark43 Crash in Massachusetts and is leading our new major pursuits strategy focused on statewide crash and e-citation reporting as part of our new MMUCC compliant base crash reporting system. He is also currently implementing crash solutions for our New Jersey, New York and California customers.

  Mr. Brown brings more than two years of progressive leadership experience at Mark43 in RMS architecture and data migration management, in addition to prior sworn law enforcement and public safety leadership experience. Since joining Mark43 in 2023, he has served as RMS Architect, Lead RMS Architect, and now Data Migration Manager, leading a team of engineers responsible for legacy data mapping, transformation logic,

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validation, reconciliation, and quality assurance across concurrent implementations nationwide. His operational background provides direct insight into patrol, investigations, records, and compliance workflows. He partners closely with Functional Leads and Technical Architects to ensure migration strategies align with operational, regulatory, and reporting requirements.

If designated as Functional Lead, Mr. Brown will ensure crash and citation data integrity, oversee migration readiness, validate cross-system integrations, and confirm reporting outputs meet both federal and state compliance standards.

- **Technical Architect:** Prior to contract execution, Mark43 will formally designate one of two experienced leaders to serve as Technical Architect: Colby Tibbet, Lead Product Manager and Product Technical Lead, or Thomas Howell, Technical Services Engineer and Project Technical Lead. Both individuals are highly qualified to fulfill this role.

  The Technical Architect is responsible for overall system architecture, integration strategy, security alignment, and ensuring the solution meets WVDOT's functional, performance, and compliance requirements. In accordance with the RFP's mandatory qualification requirements, both candidates exceed the minimum requirement of two years of experience serving in comparable roles.

  Mr. Tibbet brings more than eight years of public safety product and technical leadership experience across CAD, RMS, and mobile field solutions. He leads cloud native SaaS product development at Mark43 and has overseen architectural decisions and AWS infrastructure optimization for mission critical systems. His experience positions him to guide system architecture, integrations, security design, and performance requirements for WVDOT's Crash Reporting and e-Citation modernization effort.

  Mr. Howell brings more than twenty-five years of Information Technology experience in enterprise architecture, SaaS design, and technical services. He has held senior architectural and technical leadership roles and specializes in cloud infrastructure, integrations, and system design. His expertise supports secure, scalable architecture, interface development, data migration strategy, and compliance with State enterprise standards.

  Both candidates provide the technical depth and public safety domain expertise required to successfully deliver a secure, scalable, and fully integrated Crash Reporting and e-Citation solution for WVDOT.

Each of the above team member's resumes can be found in Attachment C - Project Organization for Delivery of Services.

5. Required and Desirable Experience

The RFP requests that vendors highlight how they meet the required and desirable experience requirements. Based on the information available, Mark43 addresses these experience areas as follows:

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- **Crash Reporting System Implementation Experience:** Mark43 has deployed its Crash reporting solution as part of the U.S. Department of the Interior, Washington D.C., and Massachusetts implementations, enabling mobile-first crash reports with license scanning, GPS-based mapping, drag-and-drop diagramming, multimedia attachments, and cross-device synchronization across approximately 3,000 officers and 855+ locations nationwide.
- **e-Citation System Implementation Experience:** Mark43 e-Citations was deployed as part of the DOI implementation, providing digital field citation issuance with real-time RMS integration, reducing administrative overhead, and eliminating paper-based processes for federal law enforcement officers.
- **MMUCC Compliance Experience:** Mark43 Crash is now fully MMUCC-compliant and supports state-specific crash report configurations. The platform's configurable form architecture, aligned with the MMUCC Crash Reference Model, enables rapid adaptation to state-specific requirements without custom code development.
- **MMUCC 6th Edition Alignment:** Mark43 Crash is specifically designed to support state compliance with the NHTSA MMUCC Guideline, 6th Edition, the most current national standard for uniform crash data collection. The platform's configurable form architecture accommodates the restructured data element hierarchy introduced in the 6th Edition, spanning Crash-level, Vehicle-level, Driver-level, Person-level, and non-motorist-level elements. Mark43's approach incorporates the guideline's updated alignment considerations, expanded validation rules, and implementation suggestions for electronic crash reporting, including user-centered design principles such as wizard-based interfaces, intelligent drop-down structuring, and automated field population. This positions Mark43 to help West Virginia achieve its MMUCC compliance objectives while adhering to the latest national standards for crash data uniformity and integration.
- **Cloud-Native SaaS Delivery and Federal Security:** Mark43 operates within AWS GovCloud in its FedRAMP-authorized GovHigh environment with NIST-compliant security controls. FedRAMP authorization meets and exceeds StateRAMP requirements. The DOI deployment demonstrates enterprise-scale cloud delivery supporting nationwide interoperability, zero-downtime migration, and continuous compliance.
- **Statewide and Multi-Agency Deployment Experience:** The DOI implementation, spanning six distinct law enforcement bureaus across 855+ locations and covering approximately 20 percent of the nation's landmass, demonstrates Mark43's ability to deliver and support large-scale, multi-agency deployments with the operational complexity comparable to a statewide rollout.
- **Integration with State Systems:** Mark43 supports integration through secure RESTful APIs and standards-based data exchange. DOI deployment included integrations across multiple federal systems, providing a proven foundation for the WVDOT integrations with Driver License Systems, Vehicle Registration Systems, the Unified Court System, and State Treasurer merchant services required under this RFP.

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Detailed Narrative of Proposed Solution

Customer Question: Provide a detailed narrative description of the Vendor's proposed solution which describes how the Vendor's proposed solution addresses the requirements of WVDOT as outlined in this RFP. Utilize screen shots and other visuals as appropriate. This narrative should include the following:

• A summary of the current published product roadmap for each component of the proposed software solution outlining planned and announced features, functions, releases as well as product sunset plans.

• Explain the proposed product maintenance and support program including the types of support (telephone, online, onsite, etc.), levels of support and the differences in capabilities and response times available at each level (in a tabular format), the process to determine how the support ticket severity level is assigned, response times to deal with the support tickets (please provide the response time by severity level), communication protocols and escalation levels, etc.;

• Describe the methods, tools and middleware (if any) used to support integration with other Enterprise Systems.

• Provide information on how patches, new releases or upgrades are handled within the solution environment and for any proposed third-party solutions.

• Identify any functionality provided as part of the proposed system which is above and beyond the requirements identified; and

• A description of the solution's licensing model, clearly providing an understanding of how the software license works, along with scalability, such as the addition of new agencies and end-users and how costs may or may not be affected by the licensing model.

1. Product Roadmap Summary

Mark43 maintains a continuous product development lifecycle driven by customer feedback, market requirements, and regulatory changes. As a cloud-native SaaS platform, Mark43 delivers enhancements, new features, and compliance updates through regular release cycles without requiring customer-side software installations or upgrade projects. Built on cloud-native architecture, the platform is secure, always available, updates seamlessly, and removes the burden of maintenance or compliance from IT while helping agencies stay aligned with evolving state and regulatory requirements. The following summarizes the current roadmap for each component of the proposed solution.

1.1 Mark43 Crash - Product Roadmap

Mark43 Crash is a mobile-first vehicle collision reporting solution currently deployed at the U.S. Department of the Interior (DOI) and other agencies nationwide. As part of DOI's enterprise deployment spanning approximately 3,000 sworn officers across more than 855 locations

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nationwide, Mark43 supports one of the most expansive connected public safety platforms in operation today. The current and planned roadmap includes:

- **Configurable State-Specific Crash Forms:** Continued expansion of the configurable form architecture to support state-specific crash report requirements, including West Virginia, without custom code development. Base forms are aligned with the MMUCC Crash Reference Model to enable rapid onboarding of new state configurations.
- **Enhanced Crash Diagramming:** Ongoing enhancements to the drag-and-drop crash diagram builder, including expanded icon libraries, agency-defined diagram templates, and improved mobile rendering for field use.
- **State Submission Interfaces:** Development of automated submission interfaces to transmit completed crash reports directly to state DOT systems, reducing manual steps and accelerating data availability for safety analysis.
- **Advanced Validation and Error Checking:** Implementation of soft error checking (warnings for potential inconsistencies) in addition to hard validation rules, helping officers identify and correct data quality issues before submission.
- **Form Governance:** The platform enforces form governance rules that control which fields are required, editable, or restricted based on report type, user role, and agency policy, ensuring data integrity and consistency across all crash reports submitted to the state. Quality control workflows support supervisor review and approval before final submission, and operational coordination tools allow supervisors to assign report sections and track completion progress to prevent missed items.
- **Analytics Expansion:** Full integration of all crash data elements into Mark43 Analytics, enabling WVDOT to run near real-time reports on crashes by location, time, severity, violation type, driver demographics, and intersection-level statistics.
- **Payment Processing Integration:** Support for integration with State Treasurer merchant services to enable electronic payment workflows linked to crash reports.
- **Mobile Crash Data Collection:** Officers can collect entities such as people, vehicles, and locations from a mobile device in the field for use when completing the crash report, supporting accurate and efficient data capture at the scene.
- **Officer Collaboration:** Multiple officers can collaborate on the same crash report depending on agency policy, enabling efficient joint documentation of complex incidents involving multiple units. The platform supports assembly of a complete case packet, including photos, diagrams, and statements, within a single record, ensuring all documentation is centralized and immediately accessible for supervisory review and downstream reporting.

In enterprise deployments such as DOI, Mark43 has enabled nationwide interoperability, allowing bureaus to identify crime patterns, track incidents across jurisdictions, and share data seamlessly across people, places, and programs. This same unified architecture positions WVDOT for statewide crash visibility and inter-agency coordination.

1.2 Mark43 e-Citations - Product Roadmap

Mark43 e-Citations are deployed within the DOI environment and supports digital citation issuance with real-time RMS integration. It is a modern, mobile-first solution built on cloud-native architecture that is secure, always available, and updates seamlessly.

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The solution enables officers to capture, print, issue, and submit citations from a single application, even while offline. Citation data synchronizes in real time across CAD and RMS, connecting seamlessly with broader agency records to enhance data integrity.

Key current and planned roadmap elements include:

- **Court System Integration:** Continued development of automated citation data transmission to Unified Court Systems, eliminating manual reentry by court staff and accelerating case processing.
- **DMV and NCIC Integration Enhancements:** Officers can scan driver licenses, VINs, and plates or query DMV and NCIC databases to prefill key data, reducing errors and saving time. Citation fields are automatically populated with data pulled directly from CAD, RMS, DMV, and NCIC systems. Quality gates built into the workflow flag errors in real time during data entry, preventing time-consuming corrections at final submission.
- **Form Governance:** The platform enforces form governance rules that control which fields are required, editable, or restricted based on citation type, user role, and agency policy, ensuring consistency and accuracy across all citations issued.
- **State-Specific Citation Compliance & Formatting**: Citations are generated in jurisdiction-specific, state-compliant formats, with configurations aligned to each state's statutory and court requirements. These formats are implemented and enhanced on a state-by-state basis and integrate seamlessly into RMS, improving court submissions and overall data integrity.

Mark43 does not have any planned product sunset dates for the Mark43 Crash or e-Citations solutions. As a cloud-native SaaS platform, Mark43 continuously evolves its product offerings through regular updates and enhancements delivered to all subscribers.

Mark43 is committed to long-term investment in its Crash and e-Citations product lines as core components of the Mark43 public safety platform. The DOI federal deployment further demonstrates Mark43's long-term enterprise viability, replacing legacy, siloed, and paper-based systems with a single resilient cloud-native platform.

- **Officer Collaboration:** Multiple officers can collaborate on the same citation report depending on agency policy, supporting coordinated enforcement operations and ensuring complete, accurate citation documentation.

Mark43 provides regular product roadmap briefings to customers through the dedicated Technical Account Manager, Customer Success Management, and feature release enablement sessions. WVDOT will have ongoing visibility into planned features, upcoming releases, and strategic product direction throughout the contract term.

2. Product Maintenance and Support Program

Mark43 provides comprehensive support services to all subscribers through its 24/7 Customer Help Desk. Support is available via telephone, email, and an online ticketing portal. As demonstrated in large-scale federal deployments, Mark43's cloud-native architecture supports real-time operational continuity. During DOI's enterprise migration, the deployment delivered zero downtime, ensuring uninterrupted public safety operations during cutover.

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2.1 Support Channels

- **Telephone Support:** Available 24/7/365 for all severity levels. WVDOT personnel can reach Mark43's support team directly for real-time assistance.
- **Online Support Portal:** Available 24/7/365 for submitting, tracking, and managing support tickets. Subscribers can monitor ticket status, view resolution history, and access self-service resources.
- **Email Support:** Available 24/7/365. Support requests submitted via email are automatically converted to tickets and routed to the appropriate support team.
- **Technical Account Manager (TAM):** A dedicated TAM is assigned post-go-live to provide proactive, ongoing support, roadmap alignment, optimization guidance, and strategic issue resolution for WVDOT.
- **On-Site Support:** Available as needed during implementation and critical operational periods. Mark43 employs a regionalized service model enabling responsive on-site engagement.

2.2 Support Levels, Severity Definitions, and Response Times

Mark43 classifies support tickets by severity level based on the operational impact of the reported issue. The following table summarizes the severity levels, their definitions, target response times, and available resolution actions.

Severity Level	Definition	Target Response Time	Resolution Actions
Severity 1 - Critical	Application is not accessible or available to Subscriber; total loss of service for the substantial majority of Authorized Users	Within 1 hour of receipt	Releasing a fix out-of-cycle (patching); adjusting system/hosting configurations; direct database modifications; other commercially reasonable solutions
Severity 2 - High	Major features or function is significantly impaired; workaround may exist but is not sustainable	Within 4 hours of receipt	Releasing a fix out-of-cycle or as part of regular release cycle; adjusting configurations; other commercially reasonable solutions

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Severity Level	Definition	Target Response Time	Resolution Actions
Severity 3 - Medium	Feature or function is impaired but operational; workaround is available and sustainable	Within 1 business day of receipt	Releasing a fix as part of the regular release cycle; configuration adjustments; other commercially reasonable solutions
Severity 4 - Low	Minor issue or enhancement request; minimal operational impact	Within 2 business days of receipt	Addressed in regular release cycle; configuration guidance provided

2.3 Severity Assignment and Escalation Process

When a support ticket is submitted, Mark43's support team evaluates the reported issue against the severity definitions above and assigns the appropriate severity level. Subscribers may request an escalation of severity if the operational impact changes or if the initial assessment does not reflect the actual impact. Mark43's escalation path includes the frontline support team, the dedicated Technical Account Manager, the Support Manager, the VP of Customer Success, and executive leadership as needed. Subscribers are notified of status changes through Mark43's status page and via email updates within the support ticket.

2.4 Service Level Agreement (SLA)

Mark43 operates within a FedRAMP Authorized and NIST compliant cloud environment, delivering enterprise-grade security and resiliency. Mark43's contractual SLA provides the following uptime commitment following Go Live:

- **Crash and e-Citation Application:** 99.9% Monthly Uptime Percentage.

The cloud-native design ensures secure, scalable, and resilient operations aligned with federal-grade compliance standards. If Mark43 does not achieve the Uptime Commitment in any given month, the Subscriber may be eligible for Service Credits as defined in the Agreement. Specifically, if Mark43 does not achieve the Uptime Commitment for the Crash and e-Citation Application, Subscriber will be eligible to receive a credit equal to ten (10) times the amount paid for the Crash and e-Citation Application in respect of the period in which the actual Downtime exceeded the allowable threshold, up to a maximum credit of 25% of one month's subscription fee paid for the Crash and e-Citation Application. Monthly Uptime Percentage is calculated as: (100) minus ((minutes of Downtime multiplied by 100) divided by (total minutes in month)).

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3. Integration Methods, Tools, and Middleware

Mark43 supports integration with enterprise systems through secure, standards-based methods. The platform is designed to interoperate with third-party systems using the following approaches:

- **RESTful APIs:** Mark43 provides secure RESTful API endpoints for data exchange between the Mark43 platform and external systems. APIs support authentication, authorization, and encrypted data transfer in accordance with CJIS and FedRAMP security requirements.
- **Standards-Based Data Exchange:** Mark43 supports industry-standard data exchange formats including XML, JSON, and NIEM-conformant data schemas where required by state or federal systems.
- **Integration Layer Architecture:** Mark43's integration architecture operates within its cloud-native SaaS boundary. Integration endpoints are managed by Mark43's engineering team, eliminating the need for third-party middleware or on-premises integration servers. For systems requiring specific connector protocols, Mark43's integration engineers develop and maintain purpose-built adapters.
- **WVDOT-Specific Integrations:** Mark43 proposes integration with the following WVDOT enterprise systems as identified in the RFP: Location/GIS systems, Driver License System, Vehicle Registration System, Unified Court System, and State Treasurer merchant services for payment processing. Each integration will be developed, tested, and validated during Phase 2 of the implementation with User Acceptance Testing conducted jointly with WVDOT.
- **Registry Integration:** Mark43 can also provide built-in integration with 3rd party VIN systems for automatic retrieval of vehicle information, as well as support for DMV and NCIC query integrations to reduce manual data entry during crash reporting and citation issuance.

In practice, integrations enable the automatic prefilling of citation fields with data pulled directly from CAD, RMS, DMV, and NCIC databases. They also support real-time synchronization of citation data across CAD and RMS, ensuring that information remains consistent and up to date across systems. In enterprise deployments, the platform enables nationwide interoperability, supporting the identification of crime patterns and cross-jurisdictional tracking. The solution has demonstrated scalability across approximately 3,000 officers and more than 855 locations nationwide in a single environment, validating its ability to support WVDOT's statewide integration needs.

4. Patches, New Releases, and Upgrades

As a cloud-native SaaS platform, Mark43 manages all patches, new releases, and upgrades centrally. The platform is designed to update seamlessly, eliminating local upgrade burdens. In large federal deployments, migration to the Mark43 platform was completed with zero downtime, demonstrating operational resilience during transitions.

- **Regular Release Cycle:** Mark43 delivers new features, enhancements, and fixes through a structured release cadence: on-demand patches for urgent issues and vulnerabilities, monthly maintenance releases for stability, performance, and security,

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and quarterly feature releases for new capability delivery. Updates are deployed to all subscribers simultaneously, ensuring that WVDOT always operates on the latest version of the platform with no separate upgrade projects required.

- **Out-of-Cycle Patches:** For Severity 1 (Critical) and Severity 2 (High) issues, Mark43 may release fixes out-of-cycle to address urgent operational impacts without waiting for the next scheduled release.
- **Updates Included in Subscription:** All Updates, defined as new releases, new versions, modifications, enhancements, patches, and other updates, are made generally available without additional charge to subscribers.
- **Scheduled Maintenance:** Scheduled maintenance windows are coordinated with advance notice to subscribers. For CAD applications, scheduled maintenance may not exceed sixty minutes during any thirty-day period. Mark43 designs maintenance activities to minimize operational disruption.
- **Third-Party Solution Updates:** For third-party integrations (such as a 3rd party VIN integration), Mark43 monitors vendor updates and manages compatibility testing within its integration layer. WVDOT is not required to independently manage third-party solution patches.
- **Release Communication:** Mark43 provides release notes, feature enablement documentation, and training materials for significant updates. The dedicated TAM will brief WVDOT on upcoming changes and ensure readiness for new functionality.

5. Additional Functionality Beyond RFP Requirements

Mark43's proposed solution includes the following capabilities that extend beyond the specific requirements identified in the RFP, providing additional value to WVDOT:

- **FedRAMP Authorization:** Mark43 provides hosting in its FedRAMP-authorized GovHigh environment within AWS GovCloud, which meets and exceeds StateRAMP compliance requirements. The Mark43 platform ensures that WVDOT's data is hosted in a secure, compliant cloud environment that meets both federal and state-level security standards. This exceeds standard commercial cloud security postures and provides WVDOT with confidence that its sensitive crash reporting and citation data is protected in accordance with recognized government cloud security frameworks.
- **Near Real-Time Analytics:** Mark43 Analytics provides a comprehensive data analytics platform with built-in dashboards, data exploration tools, and the ability for WVDOT to build custom reports and queries against crash and citation data. This goes beyond basic reporting to provide actionable intelligence for traffic safety analysis, resource allocation, and strategic planning.
- **Cross-Device Synchronization:** Reports sync automatically across iOS, Android, MDTs/MCTs, and desktop environments, ensuring continuous workflow access regardless of the device used. Officers can begin a crash report on a mobile device in the field and complete it on a desktop at the station without any manual transfer steps.
- **Multimedia Integration:** Officers can attach photos, videos, and other media directly within the crash reporting workflow, enriching the evidentiary record, and supporting comprehensive documentation without requiring separate attachment processes or third-party tools.

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- **Voice Dictation:** The platform supports voice dictation for narrative entry, reducing administrative fatigue during field reporting and improving the speed and completeness of crash report narratives.
- **Unified Platform Extensibility:** Because Mark43 Crash and e-Citations operate within the broader Mark43 platform, WVDOT has the option to expand its use of Mark43 to include additional modules such as RMS, CAD, and Evidence management in the future. Data captured through Crash and e-Citations will seamlessly integrate into any additional Mark43 modules, providing a foundation for long-term platform consolidation.
- **Mark43 Academy eLearning Platform:** WVDOT will have access to the Mark43 Academy, a 24/7 on-demand eLearning platform offering courses, simulations, and demonstrations tailored to the Mark43 products deployed. This provides continuous training capability beyond the initial implementation training sessions.

6. Licensing Model Description

Mark43's licensing model is structured as a Software as a Service (SaaS) subscription, providing WVDOT with a predictable, transparent cost structure that includes all software access, hosting, maintenance, updates, and standard support.

6.1 How the Software License Works

Under Mark43's Software License and Services Agreement, the Subscriber receives a limited, non-exclusive, non-transferable license to access and use the Applications for which subscriptions are purchased under an executed Order Form. Applications are provided for remote access use by the Subscriber and its Authorized Users via the web-accessible platform. Mark43 hosts and maintains the Applications, and the Subscriber accesses them over the internet.

The SaaS subscription includes:

- Access to Mark43 Crash and e-Citation Applications.
- Cloud hosting within AWS GovCloud (US) in Mark43's FedRAMP-authorized GovHigh environment, which meets and exceeds StateRAMP requirements.
- All Updates (new releases, versions, modifications, enhancements, patches) made generally available without additional charge.
- 24/7 Customer Help Desk support.
- Access to the Mark43 Academy eLearning platform.
- Contractual SLA with defined uptime commitments and Service Credit provisions.

6.2 Scalability and Addition of New Agencies and End-Users

Mark43's cloud-native architecture is designed for elastic scalability. As WVDOT expands deployment statewide, the platform scales to accommodate additional agencies, users, and transaction volumes without requiring infrastructure changes, hardware procurement, or architectural redesign.

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- **Adding New Agencies:** New agencies (such as local law enforcement departments that submit crash reports through the WVDOT system) can be onboarded through configuration rather than custom development. Agency-specific workflows, department profiles, and user roles are configured within the existing platform instance.
- **Adding New End-Users:** Additional end-users can be provisioned through the System Administration interface without additional software licensing steps. User accounts, roles, and permissions are managed centrally by WVDOT-designated administrators.
- **Report Updates:** If either the crash or citation report needs to be updated, Mark43 can easily publish or update a new crash or citation report that reaches all end users without any end user actions.

6.3 Cost Impact of Scaling

Specific pricing for additional agencies and users is defined in the Order Form executed between Mark43 and the Subscriber. Mark43's SaaS subscription model is designed to provide predictable costs. The addition of new agencies or significant increases in user counts may require an updated Order Form reflecting the expanded scope. All Updates, hosting, and standard support remain included in the subscription fee regardless of the number of users.

Mark43's licensing model ensures that WVDOT benefits from continuous platform improvements, enterprise-grade security, and scalable infrastructure without the capital expenditure, depreciation, and maintenance costs associated with traditional on-premises software licensing.

Evaluation Criteria

The following subsections provide an explicit cross-reference to the provisions of RFP Section 4 (Project Specifications), identifying where and how Mark43's proposed solution addresses each area. This mapping is provided to assist the evaluation team in confirming that Mark43's proposal is responsive to each provision within Sections 4.1 through 4.4.

Project Goals and Proposed Approach (§ 4.2)

Approach & Methodology to Goals/Objectives (§ 4.2.1) 15 points

Mark43's proposed solution addresses each of the goals and objectives identified in Section 4.2.1 as follows. Where applicable, Mark43 highlights how its approach is superior to alternative solutions, including the competitive advantage of its cloud-native, mobile-first architecture, pre-built MMUCC 6th Edition compliance, and proven enterprise-scale deployment experience at the U.S. Department of the Interior.

- **Section 4.2.1.1 - Replace Legacy Systems:** Mark43 proposes a modern, vendor-provided and supported web-based application delivered as a cloud-native SaaS platform, replacing the legacy ReportBeam-based systems. The platform is scalable and responsive to change through its configurable architecture and continuous release cycle, as described in Sections 1 and 4 of this narrative. In the first sprint, Mark43 expects to be able to quickly set up the desired crash and citation reports for immediate data entry testing as integrations are worked on in parallel to increase speed and accuracy. We will

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then be able to easily iterate if necessary, adjusting crash or citation configurations in a matter of seconds.

- **Section 4.2.1.2 - MMUCC 6th Edition Compliance:** Mark43 Crash provides configurable crash forms aligned with the NHTSA Model Minimum Uniform Crash Criteria (MMUCC) Sixth Edition, as detailed in the Executive Summary and the Crash Product Roadmap (Section 1.1). The platform's configurable form architecture supports the full scope of MMUCC 6th Edition data elements and provides flexibility and scalability to meet future requirements. Mark43 has a MMUCC compliant base crash report already configured as a starting point for agencies taking advantage of the SEDC grants. This report is modeled after the MMUCC 6th edition and the recommendations given to vendors. We are extremely pleased with how the report is setup to be compliant and still feel as efficient as possible.
- **Section 4.2.1.3 - Map-Based Crash Location:** Mark43 Crash includes integrated satellite mapping with GPS coordinates, enabling officers to place a pin on a map to identify the crash or citation location. As a committed deliverable within the implementation scope, Mark43 will develop and deliver full integration with the WVDOT Location Referencing System (LRS) as interface CR-1 in Attachment C. This integration will automatically locate the crash on the WVDOT road network and prepopulate roadway inventory and related attributes directly on the crash report or citation, with the ability for the officer to override the location if required. Every time the officer moves the pin to refine the location, the latitude/longitude and corresponding LRS-referenced location information will be updated in real time. This LRS-integrated, map-first approach is superior to alternatives that rely on manual address entry or separate geocoding workflows, which introduce delays, errors, and additional officer burden. Mark43's approach eliminates these inefficiencies by automating location resolution at the point of data entry.
- **Section 4.2.1.4 - Integration and Barcode/VIN Scanning:** Mark43 supports driver license scanning, VIN scanning, and plate scanning to populate information on the crash report or citation. **Integrations with state systems** will also help reduce manual data entry. Officers retain the ability to override any prepopulated information, as described in Section 3 of this narrative.
- **Section 4.2.1.5 - Offline Mode:** Mark43's offline-first mobile architecture enables officers to capture crash reports and issue citations in areas with limited or no connectivity. Data synchronizes automatically when the system detects that the user has returned to an online state, as described in the e-Citations Product Roadmap (Section 1.2) and the Cloud Architecture section of this proposal.
- **Section 4.2.1.6 - Enhanced System Integration:** Mark43 proposes integration with the new West Virginia driver license system, vehicle registration system, and the West Virginia Unified Court System, as identified in Attachment C and described in Section 3 of this narrative. Each integration will be developed, tested, and validated during implementation with User Acceptance Testing conducted jointly with WVDOT.
- **Section 4.2.1.7 - Crash Report Sales Management:** Mark43 will deliver the capability to manage the sale of crash reports as a committed deliverable within the base project scope. The Mark43 solution will provide law enforcement agencies with the ability to opt in to selling crash reports, establish agency-specific pricing for those reports, and designate select crash reports as not available for online sale. The solution will integrate with the West Virginia State Treasurer's Office (STO) merchant services systems to collect fees due from report purchasers, with the STO handling disbursement of collected funds to the appropriate agencies consistent with interface CR-11 in

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Attachment C. This end-to-end capability replaces the manual, fragmented fee collection processes that currently exist and provides agencies with full administrative control over their crash report sales program.

- **Section 4.2.1.8 - Reporting and Business Intelligence:** Mark43 Analytics provides a comprehensive data analytics platform with built-in dashboards, data exploration tools, and custom reporting capabilities for crash and citation data. This directly addresses the requirement for robust and intuitive reporting and auditing functionality, as described in Section 5 of this narrative.
- **Section 4.2.1.9 - Logical Edit Checks and Dynamic Field Visibility:** Mark43 Crash implements cross-field validation rules, dynamic field visibility based on prior user inputs, real-time feedback when an entry violates a logical rule, and administrative configuration of validation rules without requiring code changes. The Advanced Validation and Error Checking capabilities described in Section 1.1 include both hard validation rules and soft error checking (warnings for potential inconsistencies), directly supporting the requirements of this section.
- **Section 4.2.1.10 - API for Local Agency Integration:** Mark43 provides secure RESTful API endpoints to allow integration between the crash and citation systems and a local law enforcement agency's computer-aided dispatch and/or records management system, as described in Section 3 of this narrative.
- **Section 4.2.1.11 - Interface with State and Local Partners:** Mark43 will implement all system interfaces and integrations identified in Attachment C. Mark43's integration architecture, described in Section 3, supports standards-based data exchange formats including XML, JSON, and NIEM-conformant data schemas to ensure interoperability with all identified State and local agency systems and partners.

Approach & Methodology to Compliance with Mandatory Project Requirements (§ 4.2.2) 15 points

Mark43's proposed solution addresses the mandatory project requirements identified in Section 4.2.2 as follows:

- **Section 4.2.2.1 - Electronic Crash Reporting Compliance:** Mark43 Crash fully complies with the NHTSA MMUCC Sixth Edition, West Virginia State Code (including §17C-4), AAMVA policies and standards, and applicable NHTSA and FMCSA requirements. The platform's configurable form architecture accommodates the full scope of federal and state data elements, as detailed in Section 1.1 and the Executive Summary of this proposal. Full compliance with the NHTSA MMUCC Sixth Edition is confirmed, and Mark43's adherence to this standard will be validated through the Requirements Traceability Matrix (RTM) and all applicable structured testing phases, including system testing, integration testing, and user acceptance testing, conducted jointly with WVDOT during implementation.
- **Section 4.2.2.2 - Electronic Citation Compliance:** Mark43 e-Citations supports the recording, issuance, tracking, and reporting of citations in compliance with West Virginia State Code (including §17C-19) and Administrative Rules. The solution accommodates motor vehicle citations and citations for violations of applicable Public Service Commission, federal, West Virginia Division of Natural Resources (DNR), and local municipal ordinances and statutes.

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- **Section 4.2.2.3 - WV Enterprise Architecture Compliance:** Mark43 will maintain compliance with the State of West Virginia Enterprise Architecture standards as published at the referenced URL. Mark43's cloud-native architecture, deployed within AWS GovCloud in the FedRAMP-authorized GovHigh environment, is designed to align with state enterprise architecture requirements. FedRAMP authorization meets and exceeds StateRAMP requirements, as described in the Cloud Operating Environment section of this proposal.
- **Section 4.2.2.4 - System Integration Services:** Mark43 will provide the system integration services described in Section 4.2.2.4, including utilization of an iterative methodology with sprint-based development and validation; hands-on start-up training for up to 25 staff; installation in a Vendor-provided and managed technical environment supporting design, configuration, development, testing, data migration, training, and production; documentation of detailed requirements in a requirements traceability matrix (RTM); performance of fit analysis; identification of gap solutions; process flow documentation; configuration and extension of the proposed solution; facilitation of business process re-engineering; product expertise and advisory support for organizational change management; preparation and execution of management plans (including stakeholder engagement, knowledge transfer, data conversion, interface, test, training, and Go-Live deployment plans); preparation of a security plan within 60 days of NTP; preparation of a system detailed design document (SDDD); usability studies on public-facing elements; functional and technical design documentation for all FRICEW elements; unit, system, integration, security, performance, and regression testing; user acceptance testing support; data migration planning and execution (including a minimum of two full mock data conversions); regression testing for post-pilot changes; implementation cut-over and contingency plans; user training materials and system procedure manuals tailored to West Virginia business processes; training videos for public-facing functionality; pilot and train-the-trainer training delivery; co-delivery of statewide training for approximately 3,500 personnel; data migration and production cut-over; Go-Live criteria compliance; production support by the original project team during pilot, phased deployment, and for at least 90 days post-deployment; knowledge transfer to system administrators; on-site work activities in Charleston and across West Virginia; and ten business days for Agency review of deliverables. These activities are detailed across the Project Management Methodology (Section 2 of this proposal), the Knowledge Transfer and Technical Training Plan, and the Proposed Approach for Executing Project and Work Plan.
- **Section 4.2.2.5 - Project Management Services:** Mark43 will provide ongoing project management consistent with PMI industry best practices, including preparation of a detailed project work plan within 30 days of Contract execution, a project management plan within 30 days of Contract execution, a project kick-off meeting within 10 days of Contract, bi-weekly status reports and status meetings, a risk management plan and risk register, a quality assurance plan within 45 days of Contract execution, a project collaboration environment, online registers (risk, action item, issues, decision logs), and a scope change management process. These activities are described in the Project Management Methodology and Approach section of this proposal.
- **Section 4.2.2.6 - Structured Testing:** Mark43 will develop a master test plan and execute structured testing across all required phases: master test planning and preparation, unit testing, initial user/sprint testing, system testing, integration testing, security testing, performance testing, user acceptance testing, and regression testing. Mark43 will maintain a test log, prepare test data in collaboration with WVDOT, and bear

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all costs for defect correction and re-testing. Defect management will follow the severity classification defined in Section 4.2.2.6 of the RFP, with Priority 1 (Critical) through Priority 3 (Low) defects tracked in a detailed defect log accessible to WVDOT.

- **Section 4.2.2.7 - System Integrations:** Mark43 will implement all system interfaces and integrations identified in Attachment C, plus a reserve of five additional medium-complexity interfaces. Mark43 will prepare functional and technical design specifications, extract/transform mapping rules, and manage production cut-over and stabilization of the interface architecture. Integration methods and tools are described in Section 3 of this narrative.
- **Section 4.2.2.8 - Management Reports:** Mark43 will configure and provide access to all reports included with the proposed solution and configure or develop reports identified in the requirements matrix (Attachment A), plus a reserve of ten additional medium-complexity reports. Mark43 Analytics, described in Section 5 of this narrative, provides built-in dashboards, data exploration tools, and custom reporting capabilities.
- **Section 4.2.2.9 - Data Migration:** Mark43 will lead interactive data migration strategy and assessment sessions, develop a comprehensive Data Migration Plan covering discovery, profiling, data cleansing rules, transformation rules, de-duplication logic, reconciliation procedures, test migration runs, validation scripts, and a rollback strategy. Mark43 will plan migration of five years of crash and citation data, conduct a minimum of two full mock data conversions prior to integration testing and user acceptance testing, and ensure data fidelity for new MMUCC 6th Edition fields by only populating new fields with information that can be reliably inferred from legacy data. Data migration activities are described in the Proposed Approach for Executing Project and Work Plan.
- **Section 4.2.2.10 - Security Compliance:** Mark43 will implement the solution in conformance with West Virginia Code §5A-6B; the State of West Virginia Office of Technology Information Security Policy; PII, FTI, and SSOLV security requirements; FedRAMP and StateRAMP compliance requirements; the State of West Virginia Cloud addendum (Attachment D); Active Directory integration for single sign-on; role-based security with granular access controls; secure communications (HTTPS, TLS 1.2+, AES-256 encryption); audit logging of all security events; and all other security requirements specified in Section 4.2.2.10 of the RFP. Mark43's FedRAMP authorization and NIST 800-53 compliance provide a security posture that meets or exceeds StateRAMP and all other applicable requirements, as described in the Cloud Operating Environment section of this proposal.
- **Section 4.2.2.11 - High-Performing Solution:** Mark43's cloud-native architecture is designed to support up to 500 concurrent State and law enforcement users and 200 concurrent public users, process transactions within one second 75% of the time and within five seconds for all transactions, support best-practice load balancing, ensure batch processing does not adversely impact online responsiveness, and provide data access for reports and analytics without affecting online transaction performance. These performance characteristics are inherent in the platform's auto-scaling, multi-AZ architecture described in the Cloud Architecture Design Plan.
- **Section 4.2.2.12 - High Availability and Reliability:** Mark43 provides 99.9% uptime 24 hours a day, 7 days a week. The platform includes a geographically distant backup data center (AWS GovCloud US-East), data restoration and complete system recovery within 24 hours of a catastrophic failure, automatic failover across multiple Availability Zones, and mutually agreed monthly maintenance windows with advance notification. These capabilities are described in the Cloud Operating Environment section (Sections 2.1 and 2.2) of this proposal.

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- **Section 4.2.2.13 - User Interface and Usability Standards:** Mark43's solution complies with ADA Section 508 standards for accessibility and is designed to achieve WCAG 2.1 Level AA compliance for all public-facing components. All public-facing components of the application will be certified as WCAG 2.1 Level AA compliant prior to the start of user acceptance testing, in accordance with the requirement of Section 4.2.2.13 of the RFP. The solution supports industry-leading assistive technology products such as screen readers (including JAWS), provides user-controlled business rule maintenance without programmer intervention, supports real-time data persistence, provides a centrally stored help function with context-sensitive field-level help, and includes comprehensive user documentation covering navigation, pre-defined reports, ad-hoc query capability, and all screen and batch processing functions. These capabilities align with the application architecture standards specified in Section 4.2.2.13 of the RFP.
- **Section 4.2.2.14 - Document Management:** Mark43's solution provides document management functionality allowing documents to be stored internal to the solution and linked to the appropriate master record or transaction in the system. Authorized users can select and view documents within the system. As amended by Addendum 1, the requirement to integrate with the WVDOT document management system (OpenText AppEnhancer) has been removed; integration with OpenText AppEnhancer is no longer required. These capabilities satisfy the requirements of Section 4.2.2.14 of the RFP as amended by Addendum 1.
- **Section 4.2.2.15 - Audit Trail Functionality:** Mark43's platform maintains comprehensive audit trails of all user actions that update and access the database, including user ID, action performed, time/date stamp, program ID, and old and new values. The platform supports notifications for auditable events, audit trail of report execution, and retention and archiving of audit trails based on business rules. These capabilities are inherent in Mark43's FedRAMP-authorized GovHigh cloud infrastructure.
- **Section 4.2.2.16 - Operations and Maintenance:** Mark43 will operate, maintain, and support the proposed solution during deployment, post-Go-Live support, and following System Acceptance for the duration of the Contract. The solution will be hosted in a Vendor managed environment unless the State elects the option to have the solution hosted in a state-owned public or private cloud environment. As part of this proposal, Mark43 presents a RACI model, a proposed cloud architecture design plan, and a software licensing list in the Cloud Operating Environment section. Mark43 will provide in its cost proposal the projected total cost of ownership (yearly) for both the solution and cloud infrastructure, including consideration for network inbound and outbound traffic. Mark43's application managed services include defect correction, software patching, regression testing, and a reserve of up to 500 hours per year for enhancement services. The responsibilities of Mark43 and WVDOT during production operations, including tiered support (Tier 1 through Tier 4), help desk operations, and incident classification (Severity Level 1 through Enhancement), are described in Section 2 of this narrative and align with the requirements of Section 4.2.2.16 of the RFP.

Desired Project Requirements (§ 4.2.3)

- **Section 4.2.3.1 - Complete Implementation Within Agreed-Upon Timelines:** Mark43 acknowledges the requirement to deliver the system to production status and meet all go-live criteria within 30 days of the planned go-live date established in the approved

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work plan for each phase, and that liquidated damages of $5,000 per day apply for each day beyond that 30-day window. Mark43 accepts this requirement and is confident in its ability to meet it.

Mark43's confidence is grounded in demonstrated delivery performance. The U.S. Department of the Interior deployment–spanning approximately 3,000 sworn officers, six law enforcement bureaus, and over 855 locations nationwide–was completed with zero downtime during cutover and achieved production status on schedule in October 2025. Mark43's Massachusetts statewide deployment program has delivered more than a dozen successful agency launches in the past 18 months, with some deployments completed in as little as 90 days.

Mark43's implementation methodology is specifically designed to prevent schedule slippage. Go/No-Go criteria are enforced at each major phase transition, ensuring that no Critical or unmitigated High-severity issues proceed to the next phase without resolution and Agency approval. The dedicated PMP-certified Project Manager maintains a continuously updated risk register, action item log, and issues log, enabling early identification and mitigation of schedule risks before they become blockers. Pilot go-live is contingent on successful completion and Agency approval of all required test phases, ensuring the system is ready for production before the go-live date is committed in the approved work plan.

Mark43 is committed to completing the Solution Design, Configure and Test Phase and the Pilot Phase within no more than 15 months of contract execution, and achieving full statewide deployment within 21 months. These timelines are detailed in the Proposed Approach for Executing Project and Work Plan (Attachment B).

- **Section 4.2.3.2 - Expedited Timeline (§ 4.2.3.2) 5 points:** Mark43 acknowledges the Agency's desire to expedite implementation to reduce business risk and meet timelines agreed to with NHTSA under the State Electronic Data Collection (SEDC) grant. Mark43's proposed project timeline and any commitments to early delivery of the pilot phase and statewide deployment are detailed in the Proposed Approach for Executing Project and Work Plan (Attachment B).

- **Section 4.2.3.3 - Issues/Defects Identified in Resolution Timelines Identified in Table 2:** Mark43 commits to addressing issues and defects identified during Operations and Maintenance in alignment with the Agency's desired issue resolution timelines as defined in Table 2 of the RFP. Mark43's response to each severity level is described below.
    - **Severity Level 1 - Critical:** Mark43 will acknowledge the incident and begin problem diagnostics within 30 minutes of the incident being reported. Mark43 will resolve 100% of all Critical priority incidents within 24 hours of incident identification, either by fully resolving the incident or by implementing a workaround that allows the incident to be re-classified as a High priority incident. For Critical incidents, Mark43 will provide status page updates as soon as the incident is identified and will update the status page every 60 minutes until the incident is resolved. Following each Critical incident resolution, Mark43's team

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will conduct a root cause analysis and prepare and implement a corrective action plan to minimize the risk of recurrence.

- **Severity Level 2 - High:** Mark43 will acknowledge the incident within 30 minutes and begin problem diagnostics within three (3) hours of the incident being reported. Mark43 will resolve at least 95% of all High priority incidents within five (5) calendar days of incident identification. Email and phone updates will be provided within one (1) hour of any additional WVDOT questions about the same issue until resolved.
- **Severity Level 3 - Minor:** Mark43 will acknowledge the incident within 24 hours and begin problem diagnostics within 10 business days of the incident being reported. Mark43 will resolve at least 90% of all Minor priority incidents within 20 business days of incident identification. Any remaining incidents will be resolved, or an alternative solution identified and accepted by the WVDOT Project Manager, within 60 business days.
- **Service Credits:** In the event Mark43 fails to meet the acknowledgement or problem diagnostic timelines described above, Mark43 will issue WVDOT a credit of $1,000 for each hour or part thereof it fails to meet the acknowledgement or problem diagnostic timeline for a Severity 1 or Severity 2 priority issue, and a credit of $500 for each hour or part thereof for a Severity 3 priority issue. If Mark43 fails to implement a bug fix or acceptable workaround within the required resolution timelines, Mark43 will issue WVDOT a credit of $5,000 for each hour or part thereof it fails to meet the issue resolution timeline for a Severity 1 priority issue, or a credit of $1,000 for each hour or part thereof measured on a quarterly basis for Severity 2 and Severity 3 priority issues. Credits for Severity 1 issues shall be applied to the monthly application managed services fees. Credits for Severity 2 and Severity 3 issues can be applied toward future enhancement work requested by WVDOT.
- **System Availability Credits:** If Mark43 does not meet the uptime requirements for the production landscape due to issues within its control, Mark43 will issue WVDOT a credit of $10,000 per hour for each hour the system is down outside the allowed downtime parameters, to be applied as a credit against the monthly application managed services fee.

Mark43's existing commercial SLA provides a First Response time of one (1) hour for Red (Critical) priority incidents on a 24/7 basis and two (2) hours for Orange (High) priority incidents between 8:00 a.m. and 8:00 p.m. EST, seven days a week. For this engagement, Mark43 commits to the more stringent WVDOT-defined timelines in Table 2 of the RFP, which shall be incorporated into the Contract and govern Mark43's performance obligations during Operations and Maintenance.

- **4.2.3.4 - Experienced Staff:** Mark43 commits to providing experienced staff throughout the duration of the Contract that meets or exceeds the experience of the staff identified in this proposal. The qualifications of the proposed team members — Illdo Choi (Project Manager), Shawn Driscoll or Christopher Brown (Functional Lead), and Colby Tibbet or Thomas Howell (Technical Architect) — represent the baseline experience standard that Mark43 will maintain for all staff working on this project.

In the event that any proposed staff member must be replaced for any reason during the term of the Contract, Mark43 will ensure that any replacement individual possesses

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equal or greater experience than the staff member being replaced in the same or comparable role. Mark43 will not assign a replacement to the project without first confirming that the individual meets or exceeds the experience baseline established by the proposed team in this proposal. Mark43 will notify WVDOT in advance of any proposed staff change and will provide documentation of the replacement candidate's qualifications for WVDOT's review and acceptance prior to the change taking effect.

- **4.2.3.5 - Subcontractors:** Mark43 is the sole prime contractor for this engagement and is not proposing any subcontractors. All work under this Contract will be performed directly by Mark43 employees. There are no subcontractors to disclose, and no subcontract agreements are applicable at the time of proposal submission.

- **4.2.3.6 - Single Sign-On (SSO) & Local Identity Management Integration:** Mark43 provides an application program interface (API) to support integrating the Mark43 Crash Reporting and e-Citation solution with a local agency partner's identity management systems. This capability enables local law enforcement agencies and municipal courts to authenticate users through their existing identity provider rather than requiring separate Mark43 credentials, reducing administrative overhead and improving access management for local agency staff.

  Mark43's identity management integration API supports standard identity federation protocols, including SAML 2.0 and OAuth 2.0/OpenID Connect, enabling compatibility with a broad range of identity management systems commonly used by local law enforcement agencies. The API confirms user access, roles, and responsibilities from the local agency's identity provider, allowing officers and administrators to access the Mark43 platform using their existing agency credentials. All authentication traffic is encrypted in transit and handled in accordance with CJIS Security Policy requirements and Mark43's FedRAMP-authorized GovHigh security controls.

  As part of the statewide deployment, Mark43 will implement and demonstrate this local agency identity management integration capability with one local agency identified by WVDOT, for both crash reporting and e-Citation, as a pilot to validate the

  general-purpose API design and confirm interoperability with that agency's identity management system. This pilot implementation is included within the base project scope. Any additional work required to integrate with other local agencies beyond the initial pilot agency will be negotiated with WVDOT as a scope change to the Contract, consistent with the terms of Section 4.2.3.6 of the RFP. This integration is reflected in the Attachment C interface inventory as interfaces CR-7 (Local Agency Identity Management System for crash reporting) and CT-11 (Local Agency Identity Management System for e-Citations).

Qualifications and experience (§ 4.3)

Mark43 brings extensive, directly relevant qualifications and experience to this engagement. The proposed project team is led by a PMP-certified Project Manager with more than 25 years of large-scale public safety technology implementation experience and supported by a Functional Lead and Technical Architect each with a minimum of two years of experience

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delivering the proposed solution. Detailed resumes for all proposed team members are provided in Attachment C - Project Organization for Delivery of Services. Mark43's implementations of crash reporting and e-Citation solutions are in full production status across multiple jurisdictions, including the U.S. Department of the Interior (October 2025), the Boston Police Department (August 2020), Washington D.C., and a statewide deployment program across Massachusetts encompassing more than a dozen agencies. These past projects are described in detail in the Client References section of this proposal, including project location, project manager contact information, project type, and how each project's goals and objectives were met. Mark43 is committed to a project plan that completes the Solution Design, Configure and Test Phase in addition to the Pilot Phase within no more than 15 months, and achieves full statewide deployment in under 21 months. These commitments reflect Mark43's confidence in its implementation methodology, the maturity of its Crash and e-Citation solutions, and its proven track record delivering large-scale public safety deployments on time and within scope.

Qualifications and Experience Generally (§ 4.3.1) 10 points

- **Section 4.3.1.1 - Crash Reporting Production Experience:** Mark43's crash reporting solution is deployed in full production status across multiple jurisdictions, demonstrating proven delivery at enterprise scale. Mark43 Crash went live as part of the U.S. Department of the Interior (DOI) deployment in October 2025, spanning approximately 3,000 sworn law enforcement officers across more than 855 locations nationwide and covering roughly 20 percent of the nation's landmass. The DOI implementation was completed with zero downtime during cutover and delivered a unified, cloud-native crash reporting capability integrated directly with the Mark43 RMS, enabling officers to complete mobile-first crash reports in the field with license scanning, GPS-based mapping, drag-and-drop diagramming, multimedia attachment, and cross-device synchronization. Mark43 Crash is also deployed in production at the Boston Police Department (approximately 2,100 sworn officers), which went live in August 2020, and across Massachusetts through Mark43's statewide deployment program, which has delivered more than a dozen successful launches across the state in the past 18 months, with some deployments completed in as little as 90 days. Washington, D.C. is also a live production crash reporting deployment, with New Jersey and New York currently in the testing phase. These implementations demonstrate Mark43's consistent ability to configure, test, pilot, and deploy crash reporting solutions within a structured, phased timeline, with Solution Design, Setup and Test completed within Months 1-12, Pilot Go-Live targeted within Months 12-15, and Statewide Deployment completed within Months 15-21, directly mirroring the approach proposed for WVDOT.
- **Section 4.3.1.2 - e-Citation Production Experience:** Mark43's e-Citation solution is deployed in full production status at the federal jurisdiction level for the following agencies: National Parks, Fish and Wildlife Service, Bureau of Indian Affairs, Bureau of Land Management, US Park Police and Bureau of Reclamation. The report that is setup to print and electronically submit data to court is the CVB Violation form.
- **Section 4.3.1.3 - Prior Implementation Experience:** Mark43 served as the prime system integrator for the U.S. Department of the Interior implementation, deploying both the crash reporting and e-Citation solutions to production status in October of 2025. This deployment is described in detail in the Client References section of this proposal.

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Exceeding Mandatory Qualification/Experience Requirements (§ 4.3.2) 5 points

- **Section 4.3.2.1 - PMP-Certified Project Manager:** Mark43's proposed Project Manager holds a current Project Management Professional (PMP) certification from the Project Management Institute (PMI). The Project Manager's credentials and experience are documented in the resume provided in Attachment C of this proposal.
- **Section 4.3.2.2 - Functional Lead and Technical Architect Experience:** Mark43's proposed Functional Lead and Technical Architect each have at least two years of experience working in similar roles on implementations of Mark43's proposed solution. Their qualifications and relevant project experience are documented in the resumes provided in Attachment C to this proposal. For example, Mr. Driscoll specifically helped implement, deliver and sustain the solutions provided to Massachusetts for crash reporting and at the Federal level for citation reporting. He is also currently leading our team's crash report development in states such as New Jersey, New York and California.

(Oral interview, if applicable) (§ 4.4) 20 points

Mark43 acknowledges that the Agency has the option of requiring oral presentations as described in Section 4.4 of the RFP. If this option is exercised, Mark43 confirms the following:

- **Section 4.4.1:** Mark43 is prepared to execute software demonstration scripts provided by the Agency to demonstrate how the proposed solution meets the Agency's requirements. The oral presentation will include a presentation on Mark43's implementation approach and a question-and-answer period.
- **Section 4.4.2:** Mark43 is prepared to conduct the oral presentation on-site in the Charleston, West Virginia, metro area.
- **Section 4.4.3:** Mark43 acknowledges that the Agency will provide the oral presentation agenda and software demonstration scripts at least two weeks prior to the scheduled presentation date.
- **Section 4.4.4:** The oral presentation and software demonstration will be led by Mark43's proposed Project Manager and performed by members of the proposed project implementation team. Software demonstrations will not be conducted by pre-sales staff or other representatives who are not proposed as implementation team members.
- **Section 4.4.5:** Mark43 acknowledges that the oral presentation and software demonstration will be scored by the Selection Committee and that the Agency reserves the right to adjust scores for other technical proposal categories based on information provided during the demonstration.

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Requirements Matrix

Customer Question: Complete the Microsoft Excel requirements matrix provided as Attachment A of the RFP following the instructions on the Instructions tab in the workbook. Include a printed copy of the completed matrix in your proposal.

Please refer to Attachment A - Requirements Matrix.

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Narrative Description of Mark43's Proposed Cloud Operating Environment

Customer Question: Provide a narrative description of the Vendor's proposed Cloud operating environment (if Cloud hosting is provided by the Vendor), including information on the primary and back-up data center. This section should also include the RACI model, a proposed cloud architecture design plan, and a software licensing list.

1. Cloud Operating Environment Overview

Mark43 provides fully managed, cloud-hosted Software as a Service (SaaS) platform for the proposed Crash Reporting and e-Citation solution. The entire cloud operating environment is owned, operated, and maintained by Mark43, eliminating the need for WVDOT to procure, provision, or manage any on-premises server infrastructure, data center facilities, or hosting hardware.

The Mark43 platform is hosted exclusively within Amazon Web Services (AWS) GovCloud (US) regions. AWS GovCloud is an isolated cloud infrastructure designed to host sensitive workloads and regulated data for U.S. government agencies, meeting the most stringent federal compliance requirements. Mark43 maintains FedRAMP authorization for its GovHigh environment within AWS GovCloud, aligning with NIST 800-53 security controls and CJIS Security Policy requirements. FedRAMP authorization meets and exceeds StateRAMP compliance requirements.

Key attributes of the Mark43 cloud operating environment include:

- **FedRAMP Authorization:** The platform operates within Mark43's FedRAMP-authorized GovHigh environment, providing federal-grade cloud security compliance that meets and exceeds StateRAMP requirements. FedRAMP authorization validates that Mark43's cloud infrastructure meets rigorous security controls aligned with NIST 800-53 standards, giving WVDOT confidence that its sensitive crash reporting and citation data is protected in accordance with recognized government cloud security frameworks.
- **CJIS Compliance:** Mark43 maintains compliance with the FBI CJIS Security Policy, including encryption at rest and in transit, multi-factor authentication, personnel security screening, and audit logging requirements.
- **NIST 800-53 Controls:** The environment implements the full suite of NIST 800-53 High baseline security controls spanning access control, audit and accountability, incident response, system and communications protection, and contingency planning.
- **Encryption:** All data is encrypted at rest using AES-256 encryption and in transit using TLS 1.2 or higher. Encryption key management is performed in accordance with NIST and FedRAMP standards.
- **Continuous Monitoring:** Mark43 operates a continuous monitoring program in compliance with FedRAMP requirements, including automated vulnerability scanning, penetration testing, security information and event management (SIEM), and real-time alerting for security events.

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2. Primary and Back-Up Data Centers

Mark43's cloud architecture leverages the built-in redundancy and resiliency of AWS GovCloud (US) regions to ensure high availability, disaster recovery, and business continuity for the WVDOT Crash Reporting and e-Citation solution.

2.1 Primary Data Center

The primary hosting environment for the WVDOT solution operates within the AWS GovCloud (US-West) region. This region is located within the continental United States and is operated by employees who are U.S. persons on U.S. soil, meeting ITAR and EAR compliance requirements. All production application services, databases, and storage components are hosted exclusively in U.S.-based data centers. All data at rest resides within the United States in full compliance with the requirements of the State of West Virginia Cloud Addendum (Attachment D).

Within the primary region, the Mark43 platform is deployed across multiple Availability Zones (AZs). Each Availability Zone consists of one or more discrete data centers with independent power, cooling, and physical security. This multi-AZ architecture provides automatic failover within the primary region, ensuring that a single data center failure does not result in service interruption.

2.2 Back-Up Data Center and Disaster Recovery

The back-up hosting environment operates within the AWS GovCloud (US-East) region, which is geographically separated from the primary region but remains entirely within the United States. Both the primary (US-West) and disaster recovery (US-East) environments are U.S.-based, ensuring that all data at rest — including backup copies and replicated data — is stored exclusively within U.S. data centers at all times. This geographic separation ensures that a regional disaster affecting the primary data center does not impact the availability of the back-up environment, while maintaining full compliance with the data residency requirements of the State of West Virginia Cloud Addendum (Attachment D).

Mark43's disaster recovery strategy includes:

- **Cross-Region Data Replication:** Critical data is replicated from the primary region to the back-up region on a continuous basis, ensuring minimal data loss in a disaster scenario.
- **Automated Backups:** Automated daily backups are maintained with configurable retention periods. Backups are encrypted and stored in geographically separate locations from the primary production data.
- **Disaster Recovery Failover:** In the event of a complete primary region failure, Mark43's operations team executes failover procedures to the back-up region to restore service. Mark43 regularly tests its disaster recovery procedures to validate recovery time objectives. Platform recovery targets include an RTO of approximately 45 minutes and point-in-time data recovery with snapshots captured up to approximately 5 minutes before an incident, minimizing data loss in even the most severe failure scenarios.

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- **High Availability Architecture:** The platform is architected for high availability with load balancing, auto scaling, and self-healing infrastructure. Mark43's contractual SLA provides a 99.9% Monthly Uptime Commitment for the Crash and e-Citation Application, backed by Service Credit provisions.

This architecture has been validated at enterprise scale through Mark43's deployment with the U.S. Department of the Interior, which spans approximately 3,000 sworn officers across more than 855 locations nationwide and was completed with zero downtime during cutover.

3. Responsible, Accountable, Consulted, and Informed (RACI) Model

The following RACI (Responsible, Accountable, Consulted, Informed) model defines the division of responsibilities between Mark43 and WVDOT for the cloud operating environment. As a fully managed SaaS solution, Mark43 assumes the majority of operational responsibilities, while WVDOT retains governance, user management, and policy oversight responsibilities.

Activity	Mark43	WVDOT
Cloud Infrastructure Provisioning and Management	R/A	I
Application Hosting and Operations	R/A	I
Platform Security and FedRAMP/StateRAMP Compliance	R/A	I
Data Encryption (At Rest and In Transit)	R/A	I
Vulnerability Scanning and Penetration Testing	R/A	I
Disaster Recovery Planning and Execution	R/A	I
Automated Backups and Data Replication	R/A	I

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Activity	Mark43	WVDOT
Application Patches, Updates, and Upgrades	R/A	I
Continuous Monitoring and Incident Response	R/A	C
System Administration (User/Role Management)	C	R/A
Agency Policy and Governance Decisions	C	R/A
Network Connectivity to Mark43 Cloud Services	C	R/A
End-User Device Provisioning and Management	I	R/A
Integration Testing and Acceptance (UAT)	R	A
Data Migration Validation and Sign-Off	R	A
Training Delivery (Train-the-Trainer)	R/A	C
Ongoing Training for New Personnel	C	R/A
Scheduled Maintenance Notifications	R/A	I

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Activity	Mark43	WVDOT
SLA Monitoring and Service Credit Reporting	R/A	I

R = Responsible (performs the work); A = Accountable (owns the outcome); C = Consulted (provides input); I = Informed (kept up to date)

4. Proposed Cloud Architecture Design Plan

The Mark43 cloud architecture for the WVDOT Crash Reporting and e-Citation solution is designed as a multi-tier, cloud-native platform deployed within AWS GovCloud (US). The architecture emphasizes security, scalability, high availability, and operational simplicity for WVDOT as the consuming agency.

4.1 Architecture Layers

Presentation Layer (Client Access): End users access the Mark43 platform through modern web browsers (Chrome, Edge) on desktop workstations, mobile data terminals (MDTs), and mobile devices (iOS and Android). All client connections are secured via TLS 1.2+ encryption. The platform supports cross-device synchronization, allowing officers to begin work on a mobile device and continue on a desktop without data loss.

Application Layer: The Mark43 application services are deployed as containerized microservices within the AWS GovCloud environment. This architecture enables independent scaling of individual components based on demand, automatic failovers, and zero-downtime deployments. Load balancers distribute traffic across multiple application instances deployed in separate Availability Zones for redundancy.

Data Layer: All persistent data is stored in managed database services within AWS GovCloud with multi-AZ replication, automated backups, and encryption at rest (AES-256). Database services are configured for automatic failover to standby replicas in the event of a primary instance failure, ensuring data availability and integrity.

Integration Layer: Secure RESTful APIs facilitate data exchange between the Mark43 platform and WVDOT enterprise systems including Driver License, Vehicle Registration, Unified Court System, and State Treasurer merchant services. All integration traffic is encrypted in transit and authenticated using API keys and token-based authentication in compliance with CJIS security requirements.

Security Layer: Security is embedded at every layer of the architecture. The platform implements network segmentation, intrusion detection and prevention systems, web application firewalls, multi-factor authentication, role-based access control, and comprehensive audit logging. All security controls align with NIST 800-53 High baseline and FedRAMP requirements.

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4.2 High Availability and Scalability

The architecture is designed for elastic scalability and high availability:

- **Auto-Scaling:** Application instances scale automatically based on demand, ensuring consistent performance during peak usage periods such as major incidents or severe weather events.
- **Multi-AZ Deployment:** All critical services are deployed across multiple Availability Zones within the primary region, providing automatic failovers in the event of a single data center failure.
- **Cross-Region DR:** As described in Section 2.2, the back-up region provides geographic separation and cross-region data replication for disaster recovery.
- **Offline-First Mobile Architecture:** The mobile applications are designed with an offline-first architecture, enabling officers to capture crash data and issue citations in areas with limited or no connectivity. Data synchronizes automatically upon reconnection.

5. Software Licensing List

Mark43's solution is delivered as a fully managed SaaS subscription. All software components are licensed, hosted, and maintained by Mark43 as part of the subscription. WVDOT is not required to procure, install, or maintain any separate software licenses. The following table summarizes the software components included in the proposed solution.

Software Component	Description	Licensing Model
Mark43 Crash	Mobile-first vehicle collision reporting application with MMUCC compliance, crash diagramming, license scanning, GPS mapping, multimedia integration, and cross-device synchronization	Included in SaaS Subscription
Mark43 e-Citations	Mobile-first electronic citation application with offline capability, driver license/VIN scanning, DMV/NCIC query integration, digital signature capture, and real-time RMS synchronization	Included in SaaS Subscription
Mark43 Analytics	Data analytics platform with dashboards, data exploration	Included in SaaS Subscription

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Software Component	Description	Licensing Model
	tools, and custom reporting for crash and citation data	
Mark43 Academy	24/7 on-demand eLearning platform with courses, simulations, and demonstrations for end-user and administrator training	Included in SaaS Subscription
AWS GovCloud (US) Hosting	FedRAMP-authorized GovHigh cloud hosting infrastructure within Amazon Web Services GovCloud (US) regions	Included in SaaS Subscription (managed by Mark43)
3rd Party VIN Integration	Vehicle identification number (VIN) lookup and vehicle data retrieval for crash and citation workflows	Included in SaaS Subscription
Database and Storage Services	Managed database services with multi-AZ replication, automated backups, and AES-256 encryption at rest	Included in SaaS Subscription (managed by Mark43)
Security and Monitoring Tools	Vulnerability scanning, SIEM, intrusion detection/prevention, web application firewall, and continuous monitoring tools	Included in SaaS Subscription (managed by Mark43)

All software components listed above are included in the Mark43 SaaS subscription. No separate third-party software licenses, middleware licenses, or infrastructure software licenses are required by WVDOT. Mark43 manages all underlying technology stack licensing, including operating systems, application servers, database engines, and security tools, as part of its fully managed cloud hosting service. This approach provides WVDOT with a single, predictable subscription cost that encompasses the complete technology solution.

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Proposed Approach for Executing Project and Work Plan

Customer Question: Describe the Vendor's proposed approach for executing the project. Provide a high-level timeline for completing the work, depicting key tasks/activities and milestones. As an attachment (not counted in page limit), provide an initial project work plan for the project.

Please refer to Attachment B - Proposed Approach for Executing Project

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Project Organization for Delivery of Services

Customer Question: Describe the Vendor's proposed project organization for delivery of the requested services. Summarize the experience of the proposed project team. As an attachment (not counted in page limit), provide two-page resumes for each proposed team member that focus on highlighting the specific prior experience relevant to their proposed role on the WVDOT project.

Mark43 is the sole prime vendor for this proposal. No subcontractors or subconsultants are proposed. Mark43 will be fully responsible for all aspects of delivering the proposed crash reporting and e-Citation solutions, including implementation, configuration, integration, deployment, hosting, and ongoing operations and maintenance.

Mark43 employs a regionalized service model so that key team members regularly collaborate to ensure delivery consistency and efficiency. The proposed team is structured around three core roles: Project Manager, Functional Lead, and Technical Architect. Each role is staffed by highly experienced professionals whose qualifications meet or exceed the RFP's mandatory requirements.

Project Manager - Illdo Choi

Illdo Choi manages project activities, facilitates communication among stakeholders, tracks milestones and deliverables, and ensures work is performed on time and within budget. He brings more than 25 years of experience in professional services, operations, and large-scale technology implementations, including enterprise SaaS deployments for major public safety agencies across the United States and internationally.

Illdo is a certified Project Management Professional (PMP) through the Project Management Institute (PMI), meeting the mandatory Project Manager certification requirement of this RFP. He has successfully led implementations serving agencies ranging from 1,000 to more than 7,000 sworn personnel, including multi-jurisdictional environments with complex third-party integrations and regulatory oversight. His experience managing large stakeholder groups, consent decree requirements, and aggressive deployment timelines directly aligns with the scope, governance structure, and phased statewide rollout required under this RFP.

Functional Lead - Shawn Driscoll or Christopher Brown

Prior to contract execution, Mark43 will formally designate one of two experienced leaders to serve as Project Functional Lead: Shawn Driscoll, Vice President of Federal Services and Support, or Christopher Brown, Data Migration Manager. Both individuals exceed the RFP's mandatory minimum of at least two years of experience serving in similar roles on implementations of the proposed solution.

Mr. Driscoll brings more than seven years of direct public safety implementation leadership experience, having led large-scale RMS deployments since 2018 for agencies including the Chicago Police Department, Boston Police Department, and Atlanta Police Department. He directly contributed to Mark43 Crash implementations in Massachusetts and is leading Mark43's statewide crash and e-citation reporting strategy. If designated, Mr. Driscoll will facilitate

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structured requirements workshops, validate business processes against system capabilities, coordinate configuration decisions, and support user acceptance testing to ensure full alignment with WVDOT operational and statutory requirements.

Mr. Brown brings more than two years of progressive leadership experience at Mark43 in RMS architecture and data migration management, in addition to prior sworn law enforcement experience. He leads a team of engineers responsible for legacy data mapping, transformation logic, validation, reconciliation, and quality assurance across concurrent implementations nationwide. If designated, Mr. Brown will ensure crash and citation data integrity, oversee migration readiness, validate cross-system integrations, and confirm reporting outputs meet both federal and state compliance standards.

Technical Architect - Colby Tibbet or Thomas Howell

Prior to contract execution, Mark43 will formally designate one of two experienced leaders to serve as Technical Architect: Colby Tibbet, Lead Product Manager and Product Technical Lead, or Thomas Howell, Technical Services Engineer and Project Technical Lead. Both candidates exceed the RFP's mandatory minimum of two years of experience serving in comparable roles.

Mr. Tibbet brings more than eight years of public safety product and technical leadership experience across CAD, RMS, and mobile field solutions. He leads cloud-native SaaS product development at Mark43 and has overseen architectural decisions and AWS infrastructure optimization for mission-critical systems. Mr. Howell brings more than 25 years of Information Technology experience in enterprise architecture, SaaS design, and technical services, specializing in cloud infrastructure, integrations, and system design. Both candidates provide the technical depth and public safety domain expertise required to successfully deliver a secure, scalable, and fully integrated Crash Reporting and e-Citation solution for WVDOT.

While this initial team represents Mark43's preferred candidates, personnel availability may change after contract execution due to factors beyond our control. If substitutions are needed, Mark43 will provide equally qualified replacements and ensure any replacement staff have equal or greater experience than the staff member being replaced, consistent with the requirements of Section 4.2.3.4 of the RFP.

Two-page resumes for each proposed team member, focusing on prior experience relevant to their role on the WVDOT project, are provided in Attachment C - Project Organization for Delivery of Services.

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Project Management Methodology and Approach

Customer Question: Describe the Vendor's proposed project management methodology and approach. This section should not exceed 5 pages.

1. Project Management Methodology Overview

Mark43's Implementation Team follows the Project Management Institute's (PMI) global standards for project management to ensure professional excellence for all client projects. Mark43 follows an iterative, milestone-driven Professional Services methodology refined across dozens of successful public safety deployments. This approach incorporates policy, technical, testing, and training considerations. WVDOT workflow decision makers and project managers work together with Mark43's project team to identify and document requirements for implementation. Our approach is organized into five phases spanning approximately 21 months, each with defined deliverables, acceptance criteria, and stakeholder checkpoints. This structure ensures transparency, accountability, and continuous alignment with WVDOT objectives throughout the project lifecycle.

The four pillars of Mark43's project management framework are:

- **Dedicated Project Team:** A project team committed to WVDOT's success, including an Executive Sponsor, Oversight Committee, Project Manager, Product Delivery Specialist, Interface and Migration Lead, and Customer Success Lead.
- **Accountability:** The assigned Project Manager is responsible for Mark43 project team members' performance and attendance throughout the engagement.
- **Communication:** A regular cadence established by the Project Manager to review and discuss project progress, issues, resolutions, risks, and change requests.
- **Project Planning:** Development of the project plan, documentation of progress in easy-to-understand status reports, and delivery of consistent documentation on schedule.

Mark43's proposed Project Manager, Illdo Choi, holds a current Project Management Professional (PMP) certification from PMI. He applies PMI-aligned best practices including structured work planning, risk management, issue tracking, quality assurance oversight, stakeholder engagement planning, and governance reporting throughout the project lifecycle.

2. Implementation Phases

Mark43's implementation is organized across five sequential phases spanning approximately 21 months. A detailed project work plan is provided as Attachment B to this proposal.

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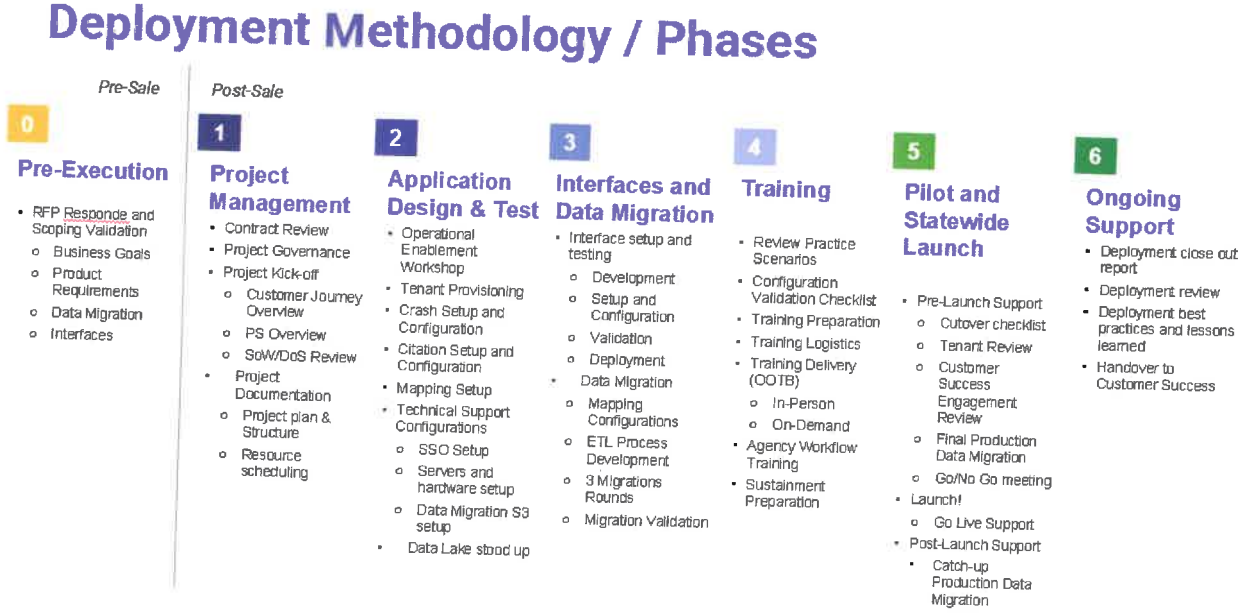

Phase 1: Program Management (Month 0–1)

The project begins with a formal kickoff and comprehensive planning process, initiated within 10 days of contract execution. Key milestones and deliverables include:

- **Project Kickoff:** Introduction of the Mark43 project team, implementation methodology overview, project organization, roles and responsibilities for both Mark43 and WVDOT (including WVDOH, WVDMV, and WVOT stakeholders), Project Communication Plan, and overview of all product and project deliverables.
- **Approved Project Plan and Project Schedule:** Submitted within 30 days of contract execution, including a bi-weekly status reporting cadence covering tasks completed, milestones reached, deliverables provided, upcoming tasks, project concerns, and items needed from the Agency.
- **Management Plans:** A Project Management Plan, Risk Management Plan, and Quality Assurance (QA) Plan submitted for Agency approval within 45 days of contract execution.
- **Project Collaboration Environment:** A shared collaboration environment established and maintained throughout the project, incorporating a risk register, action item log, issues log, and decision log accessible to all project team members.

Milestone: Approved Project Plan, Project Schedule, Governance Framework, bi-weekly meeting cadence established, and all required management plans submitted for Agency approval within 30–45 days of contract execution.

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Phase 2: Solution Design, Setup and Test (Months 1-12)

Phase 2 is the most comprehensive phase, organized into parallel workstreams to maximize efficiency:

- **Crash and eCitation Configuration (Months 1-12):** Mark43 hosts on-site configuration sessions with WVDOT agency subject matter experts to configure crash reporting (including MMUCC 6th Edition-compliant forms, crash diagrams, and state-specific data elements), e-Citation workflows, GIS/Mapping, CJIS/DEx setup, Data Lake setup, and mobile/NCIC configuration. Mark43 prepares a System Detailed Design Document (SDDD) and a Requirements Traceability Matrix (RTM) for Agency review and approval.
- **Structured Testing (Months 1-12):** Mark43 develops and executes a comprehensive Master Test Plan covering Unit Testing, Sprint/Iterative Testing, System Testing, Integration Testing, Security Testing (including StateRAMP, CJIS, and West Virginia security standards), Performance Testing (including support for up to 500 concurrent law enforcement users), User Acceptance Testing (UAT), and Regression Testing. A defect log is maintained throughout all testing phases and is accessible to WVDOT at all times.
- **System Integrations (Months 1-12+):** Mark43 establishes all integrations identified in Attachment C, plus a reserve of five (5) additional medium-complexity interfaces, including DMV driver/vehicle registry, court case management system, 3rd party VIN integration, State Active Directory (single sign-on), and state/federal reporting systems (FARS, NHTSA).
- **Legacy Data Migration (Months 1-21):** Mark43 leads data migration strategy sessions and develops a comprehensive Data Migration Plan covering discovery, profiling, cleansing, transformation, de-duplication logic, reconciliation procedures, and a rollback strategy. Mark43 migrates five (5) years of crash and citation data from the existing ReportBeam-based system and conducts a minimum of two (2) full mock data conversions prior to integration testing and UAT.

Milestone: Configured and validated system across all modules; all integrations and data migration complete; Master Test Plan approved and all test phases successfully completed; system ready for Pilot deployment.

Phase 3: Pilot Phase (Months 12-15)

Following successful completion of all testing phases, Mark43 will support a Pilot Phase deployment to a defined subset of agencies prior to statewide rollout. Pilot go-live is contingent on successful completion and Agency approval of all required test phases, with no open Critical (Severity 1) or unmitigated High (Severity 2) deficiencies. Ongoing Training (Months 12–21) includes four (4) 2-day Train-the-Trainer Sessions (before Pilot, before Statewide Deploy, and during Statewide Deploy), recorded training content and video creation, and custom West Virginia-specific help guides and training materials incorporating end-to-end process flows with integration hand-offs. Mark43 will provide training for up to 25 WVDOH, WVDMV, West Virginia Office of Technology (WVOT), law enforcement agency staff, and consultant team members.

Milestone: Successful Pilot Go-Live with in-person and virtual support; Pilot Close-Out Report; adjustments identified and documented for incorporation into statewide deployment.

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Phase 4: Statewide Deployment (Months 15-21)

Following successful Pilot completion, Mark43 supports a staggered statewide deployment (Months 15–21) to all remaining West Virginia State Police, local law enforcement agencies, courts, and DMV personnel. End-user training is co-delivered with WVDOT's training team through e-learning, classroom-based, and virtual platforms for approximately 3,500 State and local law enforcement personnel, continuing through Month 21. Mark43 manages the training environment for at least 90 days post-Go-Live. Role-based training is delivered for officers, supervisors, court staff, and DMV personnel.

Milestone: Go-Live Readiness Report; successful statewide Go-Live with in-person and virtual support; Training Completion Report; all approximately 3,500 personnel trained.

Phase 5: Ongoing Support (Month 21 and Onward)

Following the go-live of the final law enforcement agency, Mark43 provides dedicated post-launch hypercare support for at least 90 days before transitioning WVDOT to steady-state operations. Mark43 may request Final System Acceptance following 90 days of continuous operations with no Critical defects; in the event a Critical defect occurs, the clock for system acceptance may be reset at the Agency's option. Mark43 formally transitions WVDOT to the dedicated Customer Success team for ongoing SLA-backed support, regular software updates, MMUCC alignment updates as standards evolve, and quarterly business reviews.

3. Project Governance and Communication

Mark43 establishes a structured governance framework at project kickoff, including a Project Steering Committee for executive-level decision-making, a bi-weekly status meeting cadence, and a formal scope change management process governing change requests, approval levels, risk impacts, and associated costs. WVDOT will receive bi-weekly status reports covering tasks completed, milestones reached, deliverables provided, upcoming tasks, project concerns, and items needed from the Agency. All project registers (risk, action item, issues, decision logs) are maintained in a shared collaboration environment accessible to all project team members throughout the engagement.

4. Risk Management

Mark43 maintains a risk register, action item log, issues log, and decision log throughout the project, all accessible to WVDOT in the shared project collaboration environment. The Risk Management Plan, submitted within 45 days of contract execution, identifies potential risks by phase, assigns ownership, defines mitigation strategies, and establishes escalation thresholds. Issues escalate from the project team to the Project Manager, then to executive leadership as needed. Go/No-Go criteria are enforced at each major phase transition to ensure that no Critical or unmitigated High-severity issues proceed to the next phase without resolution and Agency approval.

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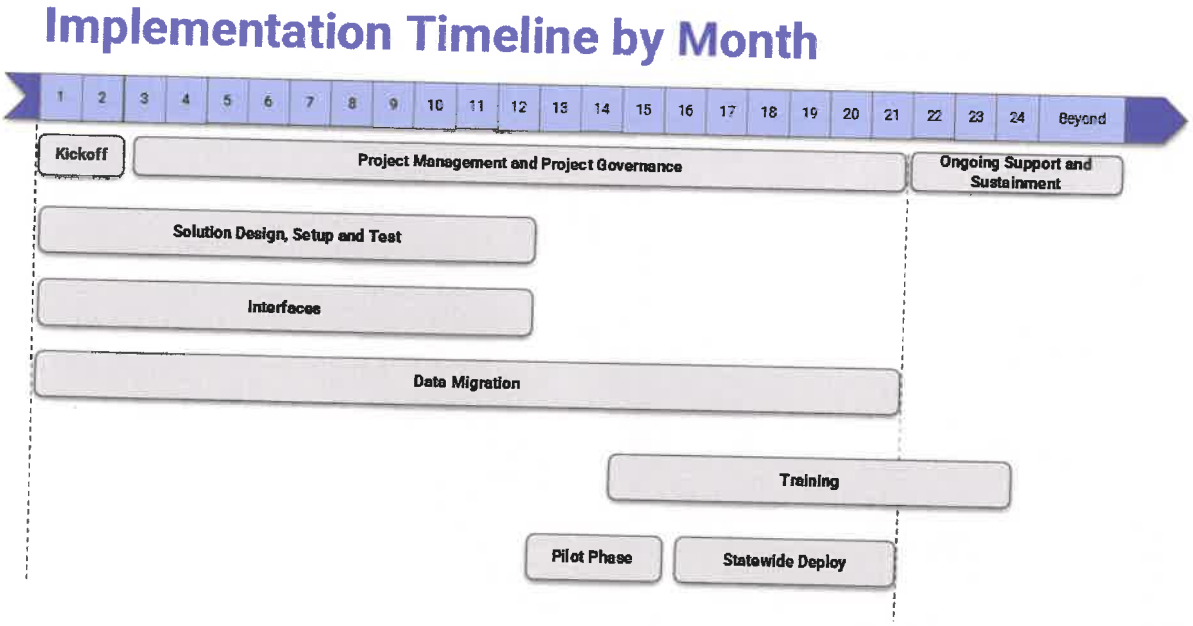
5. Project Management Tools and Artifacts

Mark43 provides and maintains the following project management artifacts throughout the engagement:

- Detailed Project Work Plan and Project Schedule (within 30 days of contract execution)
- Project Management Plan (within 30 days of contract execution)
- Risk Management Plan and Risk Register (within 45 days of contract execution)
- Quality Assurance Plan (within 45 days of contract execution)
- Requirements Traceability Matrix (RTM)
- System Detailed Design Document (SDDD)
- Master Test Plan and phase-by-phase Test Reports
- Defect Log (accessible to WVDOT throughout all testing phases)

- Data Migration Plan and Scope Document
- Interface Scope Documents for all integrations
- Go-Live Readiness Report
- Training Completion Report
- Pilot Close-Out Report

Gantt Chart with Task Dependencies, Resource Assignments, and Milestone Dates



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Knowledge Transfer and Technical Training Plan

Customer Question: Describe the Vendor's proposed knowledge transfer and technical training plan during implementation and the first year of production operations to prepare WVDOT IT staff to take over application managed services support for the new system.

1. Training Methodology Overview

Mark43 employs a structured, three-phased training methodology specifically designed for public safety technology deployments. This methodology ensures that WVDOT IT staff, system administrators, designated trainers, and end users develop the knowledge and skills necessary to independently support and sustain the Mark43 Crash and e-Citation applications beyond initial deployment. The knowledge transfer plan spans the full implementation period and continues through the first year of production operations, with the explicit goal of preparing WVDOT IT staff to assume application managed services support for the new system.

Mark43's training program is built on the following principles:

- **Train-the-Trainer as Primary Strategy:** Mark43's experience has demonstrated that developing a cadre of proficient internal trainers and subject matter experts is the most effective path to long-term adoption and self-sufficiency. Using a tailored approach that considers WVDOT's unique workflows and processes, Mark43's product and subject matter experts equip WVDOT personnel with the deep system knowledge necessary to support and sustain the department on Mark43 beyond deployment.
- **Multi-Modal Learning:** Mark43 employs a range of training strategies including eLearning, instructor-led demonstrations, hands-on practice scenarios, role play exercises, and teach-back sessions, aligning with varied learning styles within the workforce.
- **IT-Focused Knowledge Transfer:** Dedicated System Administration training equips WVDOT IT staff with the skills to independently manage users, roles, permissions, attributes, department configurations, and system settings, enabling WVDOT to assume day-to-day application support responsibilities.
- **Continuous Learning:** Access to the Mark43 Academy eLearning platform provides 24/7 on-demand training resources that extend well beyond the initial implementation, supporting ongoing staff development and onboarding of new personnel throughout the contract term.

2. Three-Phased Training Approach

Mark43's training methodology follows three sequential phases designed to build knowledge progressively and ensure readiness at each stage of the implementation.

Phase 1: Assessment

The Assessment Phase begins approximately six months before the projected launch date. During this phase, Mark43's dedicated training team works with WVDOT to understand the

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agency's personnel, expectations, policies, and specific operational workflows. Key activities include:

- Conducting a thorough assessment of WVDOT's current training infrastructure, IT staff capabilities, and operational workflows for crash reporting and citation issuance.
- Identifying WVDOT-designated trainers and IT staff who will serve as internal subject matter experts and system administrators.
- Developing a tailored Training Plan addressing agency-specific requirements, workflows, user roles, and the knowledge transfer timeline for IT staff assuming managed services support.
- Defining training schedules, session formats (on-site and virtual), and prerequisite eLearning assignments.

Phase 2: Preparing

The Preparing Phase occurs in the months leading up to on-site training delivery. During this phase, WVDOT personnel begin engaging with the Mark43 platform through eLearning modules and preparatory activities. Key activities include:

- Provisioning Mark43 Academy access for all designated WVDOT trainers, IT staff, and end users.
- Assigning prerequisite eLearning courses covering Mark43 Crash and e-Citation fundamentals, system navigation, and foundational concepts.
- Ensuring all users have active accounts in the Mark43 system with appropriate roles assigned prior to training.
- Finalizing participant rosters, training room logistics, and equipment requirements for on-site sessions.
- Delivering System Administration eLearning modules to WVDOT IT staff, covering user management, role configuration, attribute management, department setup, and system settings.

Phase 3: Training

The Training Phase delivers hands-on, instructor-led training sessions for all user groups. Training is scheduled in blocks of two to four consecutive days and is available both on-site and virtually. Standard training hours are 8:00 AM to 5:00 PM, Monday through Friday. Key training tracks include:

- **Train-the-Trainer Sessions:** Multi-day intensive training for WVDOT-designated trainers, structured around scenario-based exercises, role play, and teach-back sessions. Trainers work through real-world crash reporting and citation scenarios configured for West Virginia, then practice delivering training to validate their readiness to train end users independently.
- **System Administration Training:** Dedicated training for WVDOT IT staff covering all system administration functions including adding, editing, and deactivating users; managing roles, permissions, and abilities; configuring attributes and department profiles; managing report configurations; and administering system settings. This training

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is delivered through a combination of eLearning modules on Mark43 Academy and instructor-led sessions to ensure IT staff can independently manage the platform.

- **End-User Training:** Training for officers and field personnel on Mark43 Crash and e-Citation workflows, including report creation, license scanning, crash diagramming, citation issuance, offline operations, and data synchronization. Sessions accommodate up to 30 participants for end-user training and up to 15 participants for train-the-trainer sessions.
- **Analytics and Data Lake Training:** Training on the Mark43 Analytics platform, including dashboard navigation, data exploration tools, and custom report creation for crash and citation data analysis.
- **Hands-On Start-Up Training for Up to 25 Staff (per § 4.2.2.4):** As required under Section 4.2.2.4 of the RFP, Mark43 will deliver hands-on start-up training for up to 25 designated WVDOT staff prior to go-live. This training is delivered in-person and is structured to provide participants with direct, practical experience in the Mark43 Crash and e-Citation applications configured specifically for West Virginia. Sessions are conducted in a fully provisioned training environment that mirrors the production system, enabling participants to work through real-world crash reporting and citation scenarios, practice system administration functions, and validate their readiness to support and train end users. This start-up training cohort will consist of WVDOT's designated trainers, system administrators, and key operational staff, ensuring that the agency has a core group of proficient, knowledgeable users positioned to support deployment and sustain operations beyond initial go-live.

3. Knowledge Transfer for WVDOT IT Staff During Implementation

A central objective of Mark43's training plan is to prepare WVDOT IT staff to assume application managed services support for the Mark43 Crash and e-Citation system. Because Mark43 is delivered as a fully managed SaaS platform, WVDOT IT staff are not responsible for infrastructure management, patching, upgrades, or cloud operations. Instead, knowledge transfer focuses on IT staff centers on application-level administration, configuration management, user support, and operational oversight.

During the implementation phase, WVDOT IT staff participate in the following knowledge transfer activities:

- **Configuration Workshop Participation:** WVDOT IT staff participate directly in the Mark43-led configuration workshops during Phase 2a of the implementation. These workshops cover tenant provisioning, module setup, West Virginia-specific crash form configuration, e-Citation form and violation code configuration, workflow enhancements, department profile setup, user roles, and permission structures. By participating in configuration alongside Mark43 consultants, IT staff gain firsthand knowledge of how the system is configured and how to make future adjustments.
- **System Administration Training:** WVDOT IT staff complete dedicated System Administration training covering user account management (adding, editing, and deactivating users), role and permission management, attribute configuration, department and agency access settings, report type management, and evidence and records configuration settings. This training is available through both Mark43 Academy eLearning modules and instructor-led sessions with a capacity of up to 10 participants.

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- **Integration Knowledge Transfer:** During Phase 2b, WVDOT IT staff are consulted on integration development and participate in User Acceptance Testing for each interface with the Driver License System, Vehicle Registration System, Unified Court System, and State Treasurer merchant services. This ensures IT staff understand the integration architecture, data flows, and validation procedures for ongoing support.
- **Support Process Orientation:** Mark43 provides WVDOT IT staff with a comprehensive orientation to the 24/7 Customer Help Desk, the online support portal for submitting and tracking tickets, severity level definitions and escalation procedures, and the role of the dedicated Technical Account Manager. This enables IT staff to serve as the first point of contact for end-user issues and effectively triage and escalate issues to Mark43 support when needed.

4. First Year of Production Operations

Following go-live, Mark43's knowledge transfer activities continue throughout the first year of production operations to reinforce learning, address emerging needs, and progressively transition support responsibilities to WVDOT IT staff.

4.1 Post-Launch Hypercare Period

Immediately following go-live, Mark43 provides a post-launch hypercare period with heightened monitoring and rapid issue resolution. During this period, Mark43's implementation team remains engaged to provide application, interface, and data conversion support alongside the WVDOT IT team. This collaborative approach enables WVDOT IT staff to handle production support with direct Mark43 guidance, building confidence and competence before fully assuming support responsibilities.

4.2 Technical Account Manager (TAM) Engagement

Upon completion of the hypercare period, Mark43 formally transitions WVDOT from the implementation team to the dedicated Technical Account Manager (TAM). The TAM serves as WVDOT's ongoing partner for the duration of the contract and provides:

- Proactive system optimization guidance and configuration best practices.
- Product roadmap briefings and feature release enablement sessions to keep WVDOT IT staff informed of upcoming changes and new functionality.
- Strategic issue resolution and escalation support.
- Ongoing knowledge transfer through regular check-ins, ensuring WVDOT IT staff remain proficient as the platform evolves.

4.3 Mark43 Academy - Continuous Learning

Throughout the first year of production operations and beyond, WVDOT will have continuous access to the Mark43 Academy, a 24/7 on-demand eLearning platform. The Academy offers courses, simulations, and demonstrations tailored to the Mark43 products deployed at WVDOT. Courses range from five to fifteen minutes and include text instruction, knowledge checks, simulations, and interactive demonstrations. The Academy supports:

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- Onboarding new WVDOT IT staff and end users without requiring Mark43-led training sessions.
- Refresher training for existing personnel on crash reporting, e-Citation, system administration, and analytics workflows.
- Feature release training aligned with platform updates delivered through Mark43's continuous release cycle.

4.4 Ongoing Training for New Personnel

As WVDOT onboards new IT staff or expands deployment to additional agencies during the first year of production, the train-the-trainer model enables WVDOT's internal trainers to deliver

training to new personnel independently using the materials and skills developed during implementation. Mark43 remains available in a consultative capacity to support WVDOT's internal trainers and provide guidance as needed. Additionally, all new personnel can be provisioned with Mark43 Academy access for self-paced onboarding.

5. Summary of Knowledge Transfer Milestones

The following milestones define the progression of knowledge transfer from Mark43 to WVDOT IT staff:

- **Training Plan Approved:** Tailored Training Plan finalized during Phase 1, including IT staff knowledge transfer schedule, session formats, and success criteria.
- **eLearning and Prerequisite Modules Completed:** All designated WVDOT IT staff and trainers complete prerequisite eLearning courses on Mark43 Academy prior to instructor-led training.
- **System Administration Training Completed:** WVDOT IT staff demonstrate proficiency in user management, role configuration, attribute management, and system settings through hands-on exercises and validation.
- **Train-the-Trainer Certification:** WVDOT-designated trainers complete train-the-trainer sessions, including successful teach-back demonstrations, confirming readiness to deliver end-user training independently.
- **Go-Live Readiness Confirmed:** All training activities completed, training completion report delivered, and IT staff readiness validated as part of the Go/No-Go decision.
- **Hypercare Completed and TAM Transition:** Post-launch support period completed with formal handoff to the Technical Account Manager for ongoing support, optimization, and continued knowledge transfer throughout the first year of production operations.
- **First-Year Review:** At the conclusion of the first year of production operations, Mark43 and WVDOT jointly review IT staff readiness, identify any remaining knowledge gaps, and confirm that WVDOT IT staff are prepared to independently manage application support with ongoing access to Mark43's 24/7 Help Desk and TAM for escalation support.

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Client References

Customer Question: Provide up to three client references that demonstrate the required and desired experience of the Vendor's proposed solution and the Vendor's implementation experience with the proposed solution. Please provide a brief description of the client project, and the client contact name, email, and phone number. At least one reference should be for the implementation of a crash reporting system and one reference for the implementation of an e-Citation system. Please note that the Agency reserves the right to check other references not provided by the Vendor and to consider the Vendor's prior performance with the Agency (if any) in assessing the Vendor's relevant experience. technical capabilities and ability to deliver on time and on budget.

Mark43 provides the following client references to demonstrate the required and desired experience of our proposed Crash Reporting and e-Citation solutions and our implementation experience delivering these solutions on an enterprise scale. Reference 1 demonstrates both crash reporting and e-Citation implementation experience within a single large-scale deployment.

Reference 1

U.S. Department of the Interior (DOI) - e-Citation Implementation and Crash Reporting	
Project Description	In October 2025, the U.S. Department of the Interior (DOI) Office of Law Enforcement and Security deployed the Mark43 Law Enforcement Records Management System (LE RMS), Computer Aided Dispatch (CAD), and e-Citations in partnership with Simple Technology Solutions (STS). This implementation spans six law enforcement programs, approximately 3,000 sworn law enforcement officers, and over 855 locations nationwide, establishing one of the most expansive connected public safety platforms in operation today. The deployment replaced a legacy system and eliminated dozens of unique systems provided by multiple legacy vendors, replacing outdated paper-based workflows with a modern, connected, cloud-native platform. For the first time, DOI law enforcement programs share a common operating picture, unifying records management and dispatch across bureaus, people, and places. The deployment covers roughly 20 percent of the nation's landmass, including 40 percent of the southern border, from the U.S. Park Police (USPP) to the Bureau of Land Management (BLM), uniting more than two dozen dispatch centers under a single platform. As part of this deployment, DOI rolled out Mark43 e-Citations for the first time. Officers can now issue citations digitally in the field using mobile devices, saving time, improving accuracy, and eliminating cumbersome paper-based processes. By integrating directly with the Mark43 RMS, citation data is available in real time

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U.S. Department of the Interior (DOI) - e-Citation Implementation and Crash Reporting	
	across DOI law enforcement agencies, reducing administrative overhead, strengthening officer safety, and accelerating investigations. Mark43 Crash is deployed within the DOI environment as an integrated component of the Mark43 RMS, enabling officers to complete mobile-first crash reports in the field with license scanning, GPS-based mapping, drag-and-drop diagramming, multimedia attachment, and cross-device synchronization. The crash reporting capability directly supports DOI's operational requirements for field data capture, reporting accuracy, and compliance.
Contact Name	Frank Quinto, Office of Law Enforcement and Security, U.S. Department of the Interior
Contact Email	frank_quinto@nps.gov
Contact Phone	(202) 963-8190

Reference 2

Boston Police Department (BPD) - Crash Reporting Implementation	
Project Description	The Boston Police Department (BPD), one of the largest municipal law enforcement agencies in the northeastern United States with approximately 2,100 sworn officers, deployed the Mark43 platform including the Records Management System (RMS), Evidence, OnScene mobile application, and Mark43 Crash (QuickCrash). BPD went live on the Mark43 platform in August 2020, replacing its legacy Hexagon system. As part of this deployment, BPD implemented Mark43's crash reporting solution, enabling officers to complete vehicle collision reports through a modern, cloud-native platform with automated data capture, license scanning, and streamlined reporting workflows. The crash reporting capability integrates directly with BPD's RMS, ensuring that crash data is immediately available within the department's records environment for investigative follow-up, analytics, and compliance reporting. BPD's adoption of the Mark43 platform demonstrates successful deployment of crash reporting technology within a large, complex urban law enforcement environment, supporting high-volume operations and the data accuracy demands of a major metropolitan police department. Mark43's Massachusetts deployments are further strengthened by full Massachusetts CJIS certification and integrated CJIS query

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Boston Police Department (BPD) - Crash Reporting Implementation	
	capabilities, as well as support for Massachusetts RMV crash submissions, statewide data-sharing via CrimeTracer, and the MACCS electronic citation system.
Contact Name	Deputy Superintendent Christopher Walsh, Technology Division, Boston Police Department
Contact Email	chris.walsh@pd.boston.gov
Contact Phone	(617) 343-4618

Reference 3

Methuen Police Department - Crash Reporting Implementation	
Project Description	The Methuen Police Department, located in northeastern Massachusetts, deployed the Mark43 platform as part of a statewide modernization effort across Massachusetts law enforcement agencies. Methuen's implementation includes the Mark43 Records Management System (RMS) with integrated crash reporting capabilities, enabling officers to complete vehicle collision reports through a modern, cloud-native platform. The deployment leverages Mark43's full suite of Massachusetts-specific compliance capabilities, including Massachusetts CJIS certification, integrated CJIS query functionality, support for Massachusetts RMV crash submissions, and statewide data-sharing through CrimeTracer. Methuen's implementation was completed as part of Mark43's proven Massachusetts deployment program, which has delivered more than a dozen successful launches across the state in the past 18 months, with some deployments completed in as little as 90 days. The Methuen Police Department's adoption of Mark43 demonstrates the platform's ability to support crash reporting workflows for municipal agencies while maintaining compliance with state-specific reporting requirements and enabling cross-agency data sharing across Massachusetts.
Contact Name	Sergeant Matt Mueskes
Contact Email	mjmueskes@ci.methuen.ma.us
Contact Phone	(978) 983-8698

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Attachment A - Requirements Matrix

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WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-Category/ Party Name	Business/Functional Requirement	MMUCC 5th Required?	MMUCC Reference Information	[illegible]	Vendor Response	Implementation Example or Rationale	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash1	CRASH LOCN	Crash Record Number	Provide support for the creation of a unique crash report identifier (also referred to as the State Case Number) maintained in the statewide crash data repository. This should be the key element to identify a crash record in the State's crash database, should maintain consistency with the existing Crash Record Number (a 10-character data field). Note: • The unique crash report identifier (also referred to as the State Case Number) maintained in the statewide crash data repository. • This should be the key element to identify a crash record in the State's crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash2	CRASH LOCN	Secondary Crash	Provide support for the entry and maintenance of an identifier for entry and maintenance of a Secondary Crash indicator.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash3	CRASH LOCN	DOHCounty	Provide support for the entry and maintenance of a county identifier in which the crash occurred.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash4	CRASH LOCN	Crash Location	The system shall provide support for the entry and maintenance of crash location information using a geo-locating tool. This geo-locating tool must be integrated with the State's Linear Referencing System (LRS). The officer must have the ability to override the LRS provided geo-location information as needed. Overview of the required functionality: Provide system support or assistance to law enforcement officers entering crash reports via a geo-locating tool. Generally, law enforcement should be able to open a Location Selector within the crash reporting system, centered on their current location and supported by the current WV LRS dataset (a static snapshot). The system should snap the clicked point to the nearest valid LRS route within the configured tolerance. A temporary marker would appear, allowing the officer to visually confirm the selection. A sidebar or pop-up panel would show derived attributes (route, sub-route, county, latitude, longitude, milepost, direction, etc.), and the officer could review and revise any inaccurate data points. As the officer drags the pin on the map, the LRS attributes would update to reflect their appropriate values. If the officer manually updates the route or milepost, the map would highlight the corresponding segment but would not move the marker unless explicitly requested. If system connectivity is down or the LRS service is unavailable, the tool should rely solely on a locally stored static snapshot of the			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash5	CRASH LOCN	Crash Location (Lat and Long)	Provide support for the entry and maintenance of the Longitude and Latitude coordinates for the crash location. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer. Note: • The Lat and Long must be validated (minimally to confirm that the coordinates are within the WV state borders and conform to WVDOT LRS, except in cases where the crash originates on an offroad location (private property crash))			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash6	CRASH LOCN	DOHHighway Class	Provide support for the entry and maintenance of the type of facility on which the crash occurred (e.g., Interstate, US, WV, County/HARP, City Street, State Park/Forest Road, Private Road, Private Property/Off-Road, or Other). This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash7	CRASH LOCN	DOHRoute	Provide support for the entry and maintenance of the route number on which the crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash8	CRASH LOCN	DOHSubroute	Provide support for the entry and maintenance of the subroute number on which the crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash9	CRASH LOCN	DOHSupplementalDesignation	Provide support for the entry and maintenance of a special designation of the route on which the crash occurred (e.g., Not Applicable, Alternate, Spur, Ramp, North, South, East, West, Truck Route, Toll, or Other). This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash10	CRASH LOCN	DOHMilepost	Provide support for the entry and maintenance of the milepost at which a crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash11	CRASH LOCN	DOHRamp	Provide support for the entry and maintenance of a field that identifies the entrance or exit ramp on which the crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash12	CRASH LOCN	DOHStreet/RoadName	Provide support for the entry and maintenance of the Municipal Street name on which a city street crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash13	CRASH LOCN	DOHIntersectingStreet	Provide support for the entry and maintenance of the nearest intersecting street to municipal street on which a city street crash occurred. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash14	CRASH LOCN	DOHOther Description of Location	Provide support for the entry and maintenance of an additional description of the crash location. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash15	CRASH LOCN	DOHRelation to Junction	Provide support for the entry and maintenance of the location of the first harmful event of a crash in relation to a specific type of junction. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash16	CRASH LOCN	DOHNon-Interchange Junction Type	Provide support for the entry and maintenance of an indicator that specifies whether the crash is the first harmful event and occurs in a Non-interchange Area. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash17	CRASH LOCN	DOHInterchange JCT Type	Provide support for the entry and maintenance of an indicator that specifies whether the first harmful event occurs in an Interchange Area. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also could be overriden by the officer.			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash18	CRASH GENERAL INFO	Quality Control Review Date	Provide support for capturing the date and time of the Crash Data Quality Review Date for the crash record (this is by/for the Crash Record Number).			H	Meets the requirement out-of-the-box			RMS-Crash		Dependent on integration with WV LRS
Crash19	CRASH GENERAL INFO	Crash Amended (Date and Time)	Provide support for capturing the dates and times of the Crash Data record (this is by/for the Crash Record Number).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash20	CRASH GENERAL INFO	Date and Time Crash Last Amended	Provide support for easily identifying the date and time of the last change or update made to the crash record (by Crash Record Number).			H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-Category/ Field Name	Business/Functional Requirement	MMUCC 5th Required?	MMUCC Reference Information	Priority	Vendor Response	Customization Estimate - if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash21	CRASH GENERAL INFO	Investigation Completed	Provide support for an Y/N indicator specifying whether the investigation has been completed for the crash record (this is by/for the Crash Record Number). However, allow an authorized user the capability of re-opening and make additional/final revisions.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash22	CRASH GENERAL INFO	Investigation Completed Date	Provide support for capturing the investigation complete date and time (this is by/for the Crash Record Number).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash23	CRASH GENERAL INFO	Reporting Agency Record Number	Provide support for the entry and maintenance of an agency-specific indicator that identifies a crash report, if the crash report is being entered by a law enforcement officer; this field should be auto-filled based on the law enforcement officer's credentials, but should also be allowed to be changed. Note: • Default for auto-filled number should be 'Off,' and only able to turned off/on by the administrator for the agency.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash24	CRASH GENERAL INFO	Number of Vehicles Involved	Provide support for the entry and maintenance of an indicator that specifies the total number of vehicles involved in the crash. The number of vehicles involved will range from 1-n and each of these Vehicle Numbers (i.e., 1-n) should be present in the crash record in order for the crash record to be considered complete.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash25	CRASH GENERAL INFO	Number of Non-Motorists Involved	Provide support for the entry and maintenance of an indicator that specifies the total number of Non-Motorists involved in the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash26	CRASH GENERAL INFO	Number of Fatal Injuries	Provide support for the entry and maintenance of a field that records the total number of fatal injuries occurring as a result of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash27	CRASH GENERAL INFO	Number of ABC Injuries	Provide support for the entry and maintenance of a field that records the total number of nonfatal injuries occurring as a result of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash28	CRASH GENERAL INFO	Date of Crash	Provide support for the entry and maintenance of the date on which the crash occurred.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash29	CRASH GENERAL INFO	Time of Crash	Provide support for the entry and maintenance of the time at which the crash occurred.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash30	CRASH GENERAL INFO	Date of Roadway Clearance	Provide support for the entry and maintenance of the date of first recordable awareness when all traffic lanes became available for normal traffic flow. This field should be enterable and maintain consistency and work in tandem with the Time of Roadway Clearance Field.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash31	CRASH GENERAL INFO	Time of Roadway Clearance	Provide support for the entry and maintenance of the time of first recordable awareness when all traffic lanes became available for normal traffic flow. This field should be enterable and maintain consistency with the Date of Roadway Clearance Field.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash32	CRASH GENERAL INFO	Date Reported to Law Enforcement	Provide support for the entry and maintenance of the date on which the crash was reported, and law enforcement was dispatched to the scene.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash33	CRASH GENERAL INFO	Time Reported to Law Enforcement	Provide support for the entry and maintenance of the time at which the crash was reported, and law enforcement was dispatched to the scene, be updated in tandem with the Date Reported to Law Enforcement.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash34	CRASH GENERAL INFO	Date of Law Enforcement Arrival	Provide support for the entry and maintenance of the date on which law enforcement arrived at the scene. (Note: This field should allow for law enforcement arrival to occur the next day when the crash occurs close enough to midnight for this to become the next day, and should be validated to ensure it is at/after the Date Reported to Law Enforcement).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash35	CRASH GENERAL INFO	Time of Law Enforcement Arrival	Provide support for the entry and maintenance of the time law enforcement arrived at the scene and would work in tandem with the Date of Law Enforcement Arrival. See Date of Law Enforcement Arrival validation criteria.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash36	CRASH LAW ENFORCEMENT LOCN	RR Crossing #	Provide support for the entry and maintenance of a field that indicates if the first harmful occurs at a Railroad Crossing and the number of the crossing. This functionality should conform to the functionality description provided above in the geo-locating tool and be one of the values retrieved from the WV LRS, but also provide support for manual entry.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash37	CRASH CONDITIONS	Manner of Collision	Provide support for the entry and maintenance of a field to identify the manner in which two motor vehicles in transport initially came together. This data element should identify the orientation of the two Motor Vehicles In-Transport when they are involved in the FIRST HARMFUL EVENT of a collision crash. If the FIRST HARMFUL EVENT is not a collision between two motor vehicles in-transport, it is classified as such.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash38	CRASH CONDITIONS	Environmental Contributing Circumstance 1 - 3	Provide support for the entry and maintenance of a field to identify the Environmental Contributing Circumstances, i.e., environmental conditions that may have contributed to the crash.	Y	Refer to MMUCC 4th Edition (C14. Contributing Circumstances, Environment Definition: Apparent environmental conditions which may have contributed to the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash39	CRASH CONDITIONS	Weather Condition 1 - 2	Provide support for the entry and maintenance of a field to identify the prevailing atmospheric conditions that existed at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: C10. Atmospheric Conditions (Definition: The prevailing atmospheric conditions that existed at the time of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash40	CRASH CONDITIONS	Light Condition	Provide support for the entry and maintenance of a field to identify the Light Condition, i.e., the type / level of light that existed at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash41	CRASH CONDITIONS	Road Surface Condition	Provide support for the entry and maintenance of a field to identify the roadway surface condition at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash42	CRASH CONDITIONS	Road Surface Type	Provide support for pulling the roadway surface type from the WVDOT LRS System, but allow the user to override if the officer on site sees that the information is incorrect. The field is to identify the roadway surface type for the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash43	CRASH CONDITIONS	Road Surface Type – Other	Provide support for pulling the roadway surface type from the WVDOT LRS System, but allow the user to override if the officer on site sees that the information is incorrect. The field is to identify the roadway surface type for the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash44	CRASH CONDITIONS	First Harmful Event Location	Provide support for the entry and maintenance of a field to identify the location of the first injury or damage producing event as it relates to the roadway for the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: C8. Location of First Harmful Event Relative to the Trafficway Element Definition: The location of the FIRST HARMFUL EVENT as it relates to its position within or outside the trafficway.	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash45	CRASH CONDITIONS	First Harmful Event	Provide support for the entry and maintenance of a field to identify the first injury or damage producing event that characterizes the crash type.	Y	Refer to MMUCC 6th Edition Data Element Name: C7. First Harmful Event Element Definition: The first injury- or damage-producing event of the crash.	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash46	CRASH CONDITIONS	Road Contributing Circumstance 1-3	Provide support for the entry and maintenance of a field to record the condition of the road which may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash47	CRASH CONDITIONS	Road CC - Shoulder Problem	Provide support for the entry and maintenance of a field to record the condition of the road related to a shoulder problem that may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash48	CRASH CONDITIONS	Road CC - Traffic Control Device Problem	Provide support for the entry and maintenance of a field to record the condition of the road related to a traffic control device problem that may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash49	CRASH CONDITIONS	Road CC - Work Zone Activity Type	Provide support for the entry and maintenance of a field to record the condition of the road related to a work zone activity type that may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash50	CRASH CONDITIONS	Road CC - Other	Provide support for the entry and maintenance of a field to record the condition of the road which may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash51	CRASH CONDITIONS	Road CC - Work Zone Activity Type	Provide support for the entry and maintenance of a field to record the condition of the road related to a work zone activity type that may have contributed to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash52	CRASH CONDITIONS	School Zone Related	Provide support for the entry and maintenance of a field that indicates whether the crash occurred within the boundaries of a school zone or as a result of a back-up of traffic in a school zone.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash53	CRASH CONDITIONS	School Zone Related - Type of Sign	Provide support for the entry and maintenance of a field to indicate the type of sign(s) present at the school zone.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash54	CRASH CONDITIONS	School Zone Related – Flashers	Provide support for the entry and maintenance of a field to indicate whether the school zone signing had flashing lights and whether they were active at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash55	CRASH CONDITIONS	School Zone Related - SZ Speed Limit	Provide support for the entry and maintenance of a field to identify the speed limit posted in an active school zone.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash56	CRASH CONDITIONS	Work Zone Related	Provide support for the entry and maintenance of a field to indicate whether the crash occurred in or was related to a construction, maintenance, or utility work zone, regardless of the presence of workers at the time of the crash. Also, should indicate if the crash resulted from traffic backed-up past the first warning sign of a work zone.	Y	Refer to MMUCC 6th Edition Data Element Name: C15. Work Zone Element Definition: A crash that occurs in or related to a construction, maintenance, or utility work zone, whether workers were present at the time of the crash or not.	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-Category of Field Name	Business/Functional Requirement	MMUCC Sub Requirement	MMUCC Reference Information	Priority # - Status	Vendor Response	Customization Estimate + Complexity	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash57	CRASH CONDITIONS	Work Zone - Workers Present	Provide support for the entry and maintenance of a field to indicate the presence of workers within a work zone at the time of a work zone related crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash58	CRASH CONDITIONS	Work Zone - WZ Speed Limit	Provide support for the entry and maintenance of a field to record the posted work zone speed limit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash59	CRASH CONDITIONS	Work Zone - Location of Crash	Provide support for the entry and maintenance of a field to identify the location of the crash within the work zone in relation to the Traffic Control Plan.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash60	CRASH CONDITIONS	Work Zone - Type of Work Zone	Provide support for the entry and maintenance of a field to identify the type of work zone traffic control plan in place within a work zone.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash61	CRASH CONDITIONS	Work Zone-Law Enforcement Present	Provide support for the entry and maintenance of a field to identify whether law enforcement was present within a work zone	Y	Refer to MMUCC 6th Data Element Name: C17. Related Factors	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash62	CRASH CONDITIONS	Related Factors — Crash Level	Provide support for the entry and maintenance of a field to identify all other factors related to the crash.	Y	Refer to MMUCC 6th Data Element Name: C17. Related Factors	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash63	CRASH REPORTING	Police Reported	Provide support for the entry and maintenance of a Y/N field to indicate whether this crash report was completed and signed by a law enforcement officer or representative appointed by the law enforcement agency (e.g., a non-sworn officer).	Y	Refer to MMUCC 6th Data Element Name: S3. Police-Reported	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash64	CRASH REPORTING	State Reportable Crash	Provide support for the entry and maintenance of a field to indicate whether the crash meets the State's threshold for a reportable crash and is required to be reported by State law. Note (acceptable values): • No – This crash does not meet the State's threshold for a reportable crash and is not required to be reported by State law. • Yes – This crash meets the State's threshold for a reportable crash and is			H	Meets the requirement out of the box			RMS-Crash		
Crash65	CRASH REPORTING	Reported By	Provide support for the entry and maintenance of a field to identify the affiliation of the person completing the crash report.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash66	CRASH REPORTING	Photos Taken	Provide support for the entry and maintenance of a field to indicate whether pictures of the crash were taken			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash67	CRASH REPORTING	Photos Taken - By Whom	Provide support for the entry and maintenance of a field to indicate who took the pictures of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash68	CRASH REPORTING	Video Taped	Provide support for the entry and maintenance of a field to indicate whether video of the crash was taken			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash69	CRASH REPORTING	Video Taped - By Whom	Provide support for the entry and maintenance of a field to indicate who took video of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash70	CRASH REPORTING	Investigating Officer Name	Provide support for the entry and maintenance of a field to identify the officer responsible for completing the report along with contact information			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash71	CRASH REPORTING	Investigating Officer Number	Provide support for the entry and maintenance of a field to the officer number responsible for completing the crash report and provides contact information.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash72	CRASH REPORTING	Investigating Officer Phone	Provide support for the entry and maintenance of a field to capture the phone number for the investigating officer responsible for competing the crash report.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash73	CRASH REPORTING	ORI Number	Provide support for the entry and maintenance of a field to capture the ORI Number of the agency responsible for the crash report			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash74	CRASH REPORTING	Investigating Officer Agency	Provide support for the entry and maintenance of a field to record/identify the agency responsible for the crash report			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash75	CRASH REPORTING	Assisting Officer 1 - 3	Provide support for the entry and maintenance of a field to identify any additional officers assisting with the crash investigation			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash76	CRASH REPORTING	Reconstructed	Provide support for the entry and maintenance of a field to record whether the crash was reconstructed (or not). Include a pop-up note if 'yes' to remind investigator that this initial report needs submitted and not to wait on reconstruction report.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash77	CRASH REPORTING	Reconstructed - By Whom	Provide support for the entry and maintenance of a field to identify who reconstructed the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash78	CRASH REPORTING	Date of Submission	Provide support for the entry and maintenance of a field to record the date (and time) the crash form was submitted			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash79	VEHICLE INFO	Vehicle Number	Provide support for the entry and maintenance of a field to capture a number that uniquely identifies the vehicle involved in the crash. Vehicles involved in the crash are to be numbered from 1 to n. Finalizing a crash record must validate that there is information for "n" vehicles captured in the crash record. Do not allow an "n+1" vehicle to have information entered unless this field (Vehicle Number) supports the logical entry of the vehicle's information, thus requiring the value in this field	Y	Refer to MMUCC 6th Data Element Name: V1. Motor Vehicle Number Element (Definition: Motor vehicle number assigned to uniquely identify each motor vehicle involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash80	VEHICLE INFO	Reporting Agency Record Number	Provide support for the entry and maintenance of a field to capture the agency-specific, unique identifier (for a year) that identifies a crash report. The system must ensure that the Reporting Agency Record Number is unique to the agency (i.e., it can match the Reporting Agency Record Number for another agency) --- that is, the system must prevent the creation of duplicate identifiers under the same agency. The number is provided by the agency itself, not inferred or			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash81	VEHICLE INFO	Vehicle Type	Provide PDF417 barcode scanning for all 50 states and automatically fill in field values from the vehicle registration or license plate. Fill in appropriate fields with the scanned information.				Meets with modification to Base Code		Ability to scan Vehicle Registration to parse data for vehicle information, license plate scanning is avoiable today	RMS-Crash		
Crash82	VEHICLE INFO	Vehicle Type	Provide support for the entry and maintenance of a field to identify the vehicle's function at the time of the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash83	VEHICLE INFO	Hit and Run	Provide support for the entry and maintenance of a field to indicate whether the vehicle and/or the driver of the vehicle departed the crash scene without stopping to render aid or report the crash.	Y	Refer to MMUCC 6th Edition Data Element Name. V39. Hit-and-Run Element (Definition: Refers to cases where the motor vehicle in-transport is a contact vehicle in the crash and either the vehicle or the driver departs the scene without the driver stopping to render aid or report the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash84	VEHICLE INFO	Driver Presence	Provide support for the entry and maintenance of a field to indicate whether a vehicle was being operated by a driver at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D1: Driver Presence (Definition. A data element that identifies whether a driver was present in this vehicle at the time of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash85	VEHICLE INFO	Special Function	Provide support for the entry and maintenance of a field to identify whether a vehicle's was being used for a special purpose at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V21. Special Use Element (Definition: The type of authorized special use being served by this motor vehicle regardless of whether the use is marked on the vehicle or aligns to the body type, at the time of the crash. For example, a 15-Passenger van being used as a school bus.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash86	VEHICLE INFO	Emergency Motor Veh Use	Provide support for the entry and maintenance of a field to identify whether an official motor vehicle that was involved in the crash was on an emergency response.	Y	Refer to MMUCC 6th Edition Data Element Name: V23. Emergency Response Element (Definition: Subfield 1 indicates operation of any motor vehicle that is legally authorized by a government authority to respond to emergencies with or without the use of emergency warning equipment, such as a police vehicle, fire truck, or ambulance while engaged in such response. Subfield 2 indicates the use of emergency warning equipment in this vehicle, such as lights or sirens. Subfield 3 indicates if the vehicle was transporting non emergency people, such as patients or	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash87	VEHICLE INFO	Vehicle Used as Bus	Provide support for the entry and maintenance of a field to identify whether vehicle(s) involved in the crash was being utilized as a bus.	Y	Refer to MMUCC 6th Edition Data Element Name: V22. Bus Use Element (Definition: The common type of bus service this vehicle was being used for at the time of the crash or the primary use for the bus if not in service at the time of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash88	VEHICLE INFO	Travel Speed	Provide support for the entry and maintenance of a field to indicate the estimated travel speed of the vehicle at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash89	VEHICLE INFO	GVWR or GCWR	Provide support for the entry and maintenance of a field to identify the Gross Vehicle Weight Rating or Gross Combination Weight Rating indicating the weight recommended by the vehicle's manufacturer to be the maximum operational weight for the unit or the maximum operational weight for a combination of units. Note: • When a crash report falls under FMCSA requirements, the system should either hide/show the FMCSA-required fields for data entry.	Y	Refer to MMUCC 6th Edition Data Element Name: V14. Power Unit Gross Vehicle Weight Rating Element (Definition: The value specified by the manufacturer as the recommended maximum loaded weight of a single motor vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req #	Category	Sub Category/ Field Name	Business (Functional) Requirement	MMUCC 5th Required	MMUCC Reference Information	Priority (H-Critical)	Vendor Response	Customization Estimate if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash90	VEHICLE INFO	Number of Axles	Provide support for the entry and maintenance of a field to record the number of axles on the vehicle involved in the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash91	VEHICLE INFO	Total Occupants	Provide support for the entry and maintenance of a field to indicate the total number of occupants of this vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: V20. Total Occupants in Motor Vehicle Element (Definition: The total number of injured and uninjured occupants in this motor vehicle involved in the crash, including people in or on the motor vehicle at the time of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash92	VEHICLE INFO	Max Occupants	Provide support for the entry and maintenance of a field to indicate the maximum number of individuals the vehicle passenger compartment of this vehicle is designed to hold.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash93	VEHICLE INFO	Displaying Haz Mat Placard	Provide support for the entry and maintenance of a field to indicate whether the vehicle was displaying a hazardous materials placard at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash94	VEHICLE INFO	Modified Vehicle	Provide support for the entry and maintenance of a field to indicate whether the vehicle has been modified from its original factory designed state.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash95	VEHICLE INFO	Transport for Commerce	Provide support for the entry and maintenance of a field to indicate whether vehicle's primary use is for the transportation of goods, property, or people for commerce.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash96	VEHICLE INFO	Number of Trailing Units	Provide support for the entry and maintenance of a field to identify the number of units trailing the power unit in a combination vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name. V17. Vehicle Trailing Element (Definition: Identify whether this vehicle had any attached trailing units or was towing another motor vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash97	VEHICLE INFO	Related Factors — Vehicle Level Element	Provide support for the entry and maintenance of a field to capture factors related to this vehicle to facilitate identifying and tracking ongoing or emerging issues associated with these vehicle characteristics.	Y	Refer to MMUCC 6th Edition Data Element Name: V44. Related Factors – Vehicle Level Element (Definition: Records factors related to this vehicle to identify and track ongoing or emerging issues associated with these vehicle characteristics.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash98	VEHICLE CREDENTIALS	Owner Names	Provide PDF417 barcode scanning for all 50 states and automatically fill in field values from a driver's license. Provide support for the entry and maintenance of a field to identify the individual(s) to whom the vehicle is registered.	Y	Refer to MMUCC 6th Edition Data Element Name: V4. Vehicle Owner and Address (Definition: The name and address of the owner of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash99	VEHICLE CREDENTIALS	Owner Address	Provide support for the entry and maintenance of a field to identify the point of contact for vehicle owner(s) in the form of an address	Y	Refer to MMUCC 6th Edition Data Element Name: V4. Vehicle Owner and Address (Definition: The name and address of the owner of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash100	VEHICLE CREDENTIALS	Owner Home Phone	Provide support for the entry and maintenance of a field to record the vehicle owner's phone number in order to contact them following the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash101	VEHICLE CREDENTIALS	Owner Other Phone	Provide support for the entry and maintenance of a field to record an alternate phone number for contacting the vehicle owner following the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash102	VEHICLE CREDENTIALS	Vehicle Make	Provide support for the entry and maintenance of a field to record the vehicle make. This value should be auto-populated based on the entry of a valid VIN.	Y	Refer to MMUCC 6th Edition Data Element Name. V10. Motor Vehicle Make Element (Definition: The manufacturer-assigned name applied to a group of motor vehicles.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash103	VEHICLE CREDENTIALS	Vehicle Model	Provide support for the entry and maintenance of a field to record the vehicle model name. This value should be auto-populated based on the entry of a valid VIN.	Y	Refer to MMUCC 6th Edition Data Element Name: V12. Motor Vehicle Model (Definition: The manufacturer-assigned name denoting a family of motor vehicles (within a make) that have a degree of similarity in construction, such as body, chassis, etc.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash104	VEHICLE CREDENTIALS	Model Year	Provide support for the entry and maintenance of a field to record the year in which the vehicle was manufactured. This value should be auto-populated based on the entry of a valid VIN.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash105	VEHICLE CREDENTIALS	Body Type	Provide support for the entry and maintenance of a field to record the general configuration or shape of a motor vehicle. This value should be auto-populated based on the entry of a valid VIN.	Y	Refer to MMUCC 6th Edition Data Element Name. V13. Motor Vehicle Body Type Category (Definition: The category indicating the general configuration or shape of a motor vehicle distinguished by characteristics such as number of doors, rows of seats, windows, or roof line.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash106	VEHICLE CREDENTIALS	Color	Provide support for the entry and maintenance of a field to record the color description of the vehicle involved. This value should be auto-populated based on the entry of a valid VIN; however, allow the value to be changed (to support after market color changes to vehicle's original color).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash107	VEHICLE CREDENTIALS	VIN	Provide support for the entry and maintenance of the vehicle VIN, a unique combination of 17 alphanumeric characters assigned to a specific motor vehicle designated by the manufacturer. The VIN entry should be validated against a validation service to ensure the accuracy of the data entry. Upon successful lookup of the VIN, automatically populate associated attributes such as the auto manufacturer, body type, color, etc. and allow color to overridden if necessary.	Y	Refer to MMUCC 6th Edition Data Element Name: V2. Vehicle Identification Number (VIN) (Definition: A unique combination of alphanumeric characters assigned to a specific motor vehicle that is designated by the manufacturer.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash108	VEHICLE CREDENTIALS	Plate Class	Provide support for the entry and maintenance of a field to identify the type of registration for the vehicle			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash109	VEHICLE CREDENTIALS	Plate Number	Provide support for the entry and maintenance of a field to record the combination of letters and numbers displayed on the license plate or tag affixed to the motor vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: V9. Motor Vehicle License Plate Number (Definition: The alphanumeric identifier or other characters, exactly as displayed, on the registration plate or tag affixed to the motor vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash110	VEHICLE CREDENTIALS	Registration State	Provide support for the entry and maintenance of a field to identify the state, territory, government, etc. issuing the license plate for the vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash111	VEHICLE CREDENTIALS	Registration Year	Provide support for the entry and maintenance of a field to identify the year in which the vehicle's registration expires.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash112	VEHICLE CREDENTIALS	Registration Status	Provide support for the entry and maintenance of a field to identify the indicate whether the vehicle was in compliance with applicable motor vehicle registration laws at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash113	VEHICLE CREDENTIALS	Liability Insurance	Provide support for the entry and maintenance of a field to identify the indicate whether the vehicle involved in the crash was covered by auto liability insurance at the time of the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash114	VEHICLE CREDENTIALS	Insurance Company	Provide support for the entry and maintenance of a field to identify the name of the company insuring the involved vehicle at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash115	VEHICLE CREDENTIALS	Insurance Policy Number	Provide support for the entry and maintenance of a field to record the insurance policy number covering the involved vehicle			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash116	VEHICLE CREDENTIALS	Insurance Expiration Date	Provide support for the entry and maintenance of a field to identify the date after which the insurance policy is no longer valid.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash117	VEHICLE CREDENTIALS	Insurance Agent	Provide support for the entry and maintenance of a field to identify the point of contact to verify validity of insurance.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash118	VEHICLE SPECIFIC CRASH LOCN	Direction of Travel Prior to Crash	Provide support for the entry and maintenance of a field to record the direction the motor vehicle was traveling prior to the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash119	VEHICLE SPECIFIC CRASH LOCN	Applicable Speed Limit (MPH)	Provide support for the entry and maintenance of a field to record the speed limit which applies to this particular vehicle at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V24. Motor Vehicle Posted or Statutory Speed Limit (Definition: The posted or statutory speed limit for this motor vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash120	VEHICLE SPECIFIC CRASH LOCN	Roadway Description	Provide support for the entry and maintenance of a field to record the general description of the roadway layout and flow.	Y	Refer to MMUCC 6th Edition Data Element Name: V25. Trafficway Flow Element (Definition: Identify whether the trafficway associated with this vehicle serves one-way or two-way traffic, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash121	VEHICLE SPECIFIC CRASH LOCN	Median Barrier Presence	Provide support for the entry and maintenance of a field to identify whether the trafficway associated with this vehicle included a median barrier, just prior to this vehicle's involvement in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V26. Median Barrier Presence Element (Definition: Identify whether the trafficway associated with this vehicle included a median barrier, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash122	VEHICLE SPECIFIC CRASH LOCN	Total Lanes In Roadway	Provide support for the entry and maintenance of a field to record the number of lanes on the roadway which the vehicle was traveling. Populate this value from the WVDOT LRS System with ability for the user to override.	Y	Refer to MMUCC 6th Edition Data Element Name. V27. Number of Open Lanes in Vehicle's Environment Element (Definition: Total number of open lanes in this motor vehicle's environment, just prior to this vehicle's involvement in the crash, including through lanes, turn lanes, acceleration or deceleration lanes, HOT or HOV lanes, or any other lanes.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash123	VEHICLE SPECIFIC CRASH LOCN	Traffic Control Device	Provide support for the entry and maintenance of a field to identify the type of traffic control device that was applicable to the vehicle at the crash location.	Y	Refer to MMUCC 6th Edition Data Element Name. V31. Traffic Control Device Element (Definition: The traffic control device (TCD) applicable to this motor vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash124	VEHICLE SPECIFIC CRASH LOCN	Traffic Control Device Function	Provide support for the entry and maintenance of a field to indicate whether the traffic control device that was applicable to the vehicle was functioning properly at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V32. Device Functioning (Definition: Identify whether the traffic control device recorded for this vehicle in the data element TRAFFIC CONTROL DEVICE was functioning properly, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash125	VEHICLE SPECIFIC CRASH LOCN	Horizontal Roadway Alignment	Provide support for the entry and maintenance of a field to indicate the horizontal geometry or layout of the roadway in the direction the vehicle was traveling.	Y	Refer to MMUCC 6th Edition Data Element Name: V28. Roadway Alignment Element (Definition: The geometric or layout characteristics of the roadway in the direction of travel for this vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-Category/ Field Name	Business Functional Requirements	MMUCC Req. Required?	MMUCC Reference Information	Score (0 - 5)	Vendor Response	Configuration Change Available	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash126	VEHICLE SPECIFIC CRASH LOCN	Vertical Roadway Alignment (Roadway Grade)	Provide support for the entry and maintenance of a field to indicate the vertical geometry or layout of the roadway in the direction the vehicle was traveling.	Y	Refer to MMUCC 6th Edition Data Element Name: V29. Roadway Grade (Definition: The inclination characteristics of the roadway in the direction of travel for this vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash127	VEHICLE SPECIFIC CRASH LOCN	Roadway Surface Condition	Provide support for the entry and maintenance of a field to identify the roadway surface condition for this vehicle, just prior to this vehicle's involvement in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V30. Roadway Surface Condition Element (Definition: The roadway surface condition for this vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash128	VEHICLE SPECIFIC CRASH LOCN	Property Damaged	Provide support for the entry and maintenance of a field to indicate property which was damaged by this vehicle during the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash129	VEHICLE SPECIFIC CRASH LOCN	Property Damage - Pole Number	Provide support for the entry and maintenance of a field to indicate the number of the pole that was damaged by a vehicle during the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash130	VEHICLE SPECIFIC CRASH LOCN	Property Damage Owner	Provide support for the entry and maintenance of a field to identify the owner of the property damaged in the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash131	VEHICLE SPECIFIC CRASH LOCN	Property Damage Owner - Other	Provide support for the entry and maintenance of a field to identify the owner of the property damaged in the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash132	VEHICLE SPECIFIC CRASH LOCN	Property Damage Location	Provide support for the entry and maintenance of a field to describe the location of property damaged by this vehicle			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash133	VEHICLE CRASH EVENTS	Impact Role	Provide support for the entry and maintenance of a field to identify the role that the vehicle played in the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash134	VEHICLE CRASH EVENTS	Underride Override	Provide support for the entry and maintenance of a field to identify whether the crash involved a vehicle that either slides under or rides up on another vehicle during a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V42. Vehicle Underride or Override Element (Definition indicates whether this vehicle experienced an underride or override with another vehicle during the crash. An underride refers to this motor vehicle sliding under another motor vehicle during a crash. An override refers to this motor vehicle riding up over another motor vehicle during a crash. Either can occur with a parked or moving motor vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash135	VEHICLE CRASH EVENTS	Vehicle Maneuver/Action (Vehicle Status Prior to Critical Event)	Provide support for the entry and maintenance of a field to record the controlled maneuver of this vehicle prior to the beginning of the sequence of events.	Y	Refer to MMUCC 6th Edition Data Element Name: V33. Vehicle Status Prior to Critical Event Element (Definition: The controlled maneuver for this motor vehicle, just prior to this vehicle's involvement in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash136	VEHICLE CRASH EVENTS	Crash Avoidance Maneuver	Provide support for the entry and maintenance of a field to record the maneuver of the vehicle at the onset of the crash to attempt to prevent the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Attempted Avoidance Maneuver Element (Definition: Identify movements or actions taken by the driver after the driver realizes there is an impending danger. This element assesses what the driver's action was in response to this realization.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash137	VEHICLE CRASH EVENTS	Contributing Circumstances, Motor Vehicle Element	Provide support for the entry and maintenance of a field to record re-existing motor vehicle defects or maintenance conditions that may have contributed to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V47. Contributing Circumstances Motor Vehicle Element (Definition: Pre-existing motor vehicle defects or maintenance conditions that may have contributed to the occurrence or severity of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash138	VEHICLE CRASH EVENTS	Occurrence of Fire	Provide support for the entry and maintenance of a field to indicate whether a vehicle fire occurred as a result of the crash or as a result of vehicle equipment failure or malfunction.	Y	Refer to MMUCC 6th Edition Data Element Name: V43. Fire Occurrence Element (Definition: Identify whether a fire in any way related to the crash occurred in this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash139	VEHICLE CRASH EVENTS	Sequence of Events	Provide support for the entry and maintenance of a field to record the most important sequential crash events of this motor vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: V37. Sequence of Events Element (Definition: Events in sequence related to this motor)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash140	VEHICLE CRASH EVENTS	Most Harmful Event	Provide support for the entry and maintenance of a field to record the single event that resulted in the most severe injury involving this motor vehicle. If no one was injured, the event responsible for producing the greatest property damage to this vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: V38. Most Harmful Event for this Motor Vehicle (Definition: Event that resulted in the most severe injury or, if no injury, the greatest property damage involving this motor vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash141	VEHICLE CRASH DAMAGE	Extent of Damage	Provide support for the entry and maintenance of a field to record the estimation of the total damage to the vehicle in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V36. Extent of Damage Element (Definition: identify the extent to which the damage identified in DAMAGED AREAS affects the vehicle's operability rather than the cost to repair.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash142	VEHICLE CRASH DAMAGE	Manner Left Scene (Vehicle Towed)	Provide support for the entry and maintenance of a field to describe how the vehicle was removed from the scene following the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V40. Vehicle Towed Element (Definition: identify whether the vehicle was towed or carried from the scene of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash143	VEHICLE CRASH DAMAGE	Towed To	Provide support for the entry and maintenance of a field to indicate where a vehicle that was towed from the scene was taken following the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash144	VEHICLE CRASH DAMAGE	Towed By	Provide support for the entry and maintenance of a field to indicate who was responsible for towing a disabled or damaged vehicle following the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash145	VEHICLE CRASH DAMAGE	Vehicle Damage Diagram Type	The system shall allow entry of multiple vehicle records for a single crash, with each vehicle assigned one body type. For each vehicle, the system shall provide a diagram-based tool to record both the initial contact point (single-select) and all applicable damaged areas (multi-select). If "No Damage" is selected, the extent of damage must automatically be set to "No Damage" and no other damage areas may be selected. The vehicle may also include motorcycle, tractor trailer, etc.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash146	VEHICLE CRASH DAMAGE	Damaged Area(s)	Provide support for the entry and maintenance of a field to indicate the areas of the vehicle receiving damage in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V35. Damaged Areas Element (Definition: Identify all areas damaged on the vehicle as a result of this crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash147	VEHICLE CRASH DAMAGE	Area of Initial Impact (Initial Contact Point)	Provide support for the entry and maintenance of a field to record the indicate the area of the vehicle that received the initial impact in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: V34. Initial Contact Point (Definition: The approximate contact point (depicted on a clock-point diagram) for this vehicle associated with this vehicle's first harmful event.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash148	VEHICLE CRASH DAMAGE	Most Damaged Area	Provide support for the entry and maintenance of a field to indicate the area of the vehicle that received the most damage in the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash149	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Owner Same As Power Unit	Provide PDF417 barcode scanning for all 50 states and automatically fill in field values from the vehicle registration or license plate. Fill in appropriate fields with the scanned information.				Meets with modification to Base Code		Ability to scan Vehicle Registration to parse data for vehicle information license plate scanning is available today	RMS-Crash		
Crash150	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Owner Same As Power Unit	Provide support for the entry and maintenance of a field to indicate if the owner of the trailing unit is the same as the power unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash151	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Owner Name	Provide support for the entry and maintenance of a field to indicate the identify the motor carrier or owner of the trailing unit(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash152	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Address	Provide support for the entry and maintenance of a field to indicate the contact information for the motor carrier or owner of the trailing unit(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash153	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 City	Provide support for the entry and maintenance of a field to indicate the contact information for the motor carrier or owner of the trailing unit(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash154	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 State	Provide support for the entry and maintenance of a field to indicate the contact information for the motor carrier or owner of the trailing unit(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash155	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Zip	Provide support for the entry and maintenance of a field to indicate the contact information for the motor carrier or owner of the trailing unit(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash156	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Phone	Provide support for the entry and maintenance of a field to record the unique combination of letters and numbers assigned to a specific motor vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: V18. Trailer VIN Element (Definition: A unique combination of alphanumeric characters assigned to each trailer designated by the manufacturer.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash157	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 VIN	Provide support for the entry and maintenance of a field to record the type of registration for this trailing unit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash158	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 License Plate Class	Provide support for the entry and maintenance of a field to record the combination of letters and numbers displayed on the registration plate or tag affixed to the trailing unit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash159	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 License Plate Number	Provide support for the entry and maintenance of a field to identify the state, territory, government, etc. issuing the registration plate for the trailing unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash160	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Registraoon State	Provide support for the entry and maintenance of a field to record the year in which the trailing unit's registration expires.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash161	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Registration Year	Provide support for the entry and maintenance of a field to record the distinctive name distinguishing a motor vehicle's manufacturer.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash162	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Make	Provide support for the entry and maintenance of a field to record the manufacturer assigned name denoting a group of vehicles that have a degree of similarity in construction.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash163	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Model	Provide support for the entry and maintenance of a field to record the year in which the trailing unit was manufactured			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash164	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Model Year	Provide support for the entry and maintenance of a field to record the indicate the general configuration or shape of a motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash165	VEHICLE TRAILING UNITS INFO	Trailing Unit 1 Body Type	Provide support for the entry and maintenance of a field to indicate if the owner of the trailing unit is the same as the power unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash166	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Owner Same As Power Unit	Provide support for the entry and maintenance of a field to record the identify individual(s) to whom the vehicle is registered.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash167	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Owner Name				H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub Category/ Field Name	Business/Functional Requirement	MMUCC Data Element?	MMUCC Reference Information	Priority Designation	Vendor Response	Customer Acceptance Acceptable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash168	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Address	Provide support for the entry and maintenance of a field to provide a point of contact for the vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash169	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 City	Provide support for the entry and maintenance of a field to provide a point of contact for the vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash170	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 State	Provide support for the entry and maintenance of a field to provide a point of contact for the vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash171	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Zip	Provide support for the entry and maintenance of a field to provide a point of contact for the vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash172	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Phone	Provide support for the entry and maintenance of a field to provide a means of contacting the vehicle owner following the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash173	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 VIN	Provide support for the entry and maintenance of a field to record the unique combination of letters and numbers assigned to a specific motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash174	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 License Plate Class	Provide support for the entry and maintenance of a field to indicate the type of registration for this trailing unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash175	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 License Plate Number	Provide support for the entry and maintenance of a field to record the combination of letters and numbers displayed on the registration plate or tag affixed to the trailing unit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash176	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Registration State	Provide support for the entry and maintenance of a field to identify the state, territory, government, etc. issuing the registration plate for the trailing unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash177	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Registration Year	Provide support for the entry and maintenance of a field to identify the year in which the trailing unit's registration expires.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash178	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Make	Provide support for the entry and maintenance of a field to record the distinctive name distinguishing a motor vehicle's manufacturer			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash179	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Model	Provide support for the entry and maintenance of a field to record the manufacturer assigned name denoting a group of vehicles that have a degree of similarity in construction.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash180	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Model Year	Provide support for the entry and maintenance of a field to record the year in which the trailing unit was manufactured			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash181	VEHICLE TRAILING UNITS INFO	Trailing Unit 2 Body Type	Provide support for the entry and maintenance of a field to record the general configuration or shape of a motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash182	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Owner Same As Power Unit	Provide support for the entry and maintenance of a field to indicate if the Owner of the trailing unit is the same as the power unit. Further, triple towing is not permitted in West Virginia, and, as a result, a popup warning or reminder should be issued to the law enforcement officer entering the crash report denoting that this is a violation.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash183	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Owner Name	Provide support for the entry and maintenance of a field to record the individual(s) to whom the vehicle is registered			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash184	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Address	Provide support for the entry and maintenance of a field to record the provide a point of contact for vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash185	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 City	Provide support for the entry and maintenance of a field to provide a point of contact for vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash186	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 State	Provide support for the entry and maintenance of a field to provide a point of contact for vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash187	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Zip	Provide support for the entry and maintenance of a field to provide a point of contact for vehicle owner(s).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash188	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Phone	Provide support for the entry and maintenance of a field to provide a means to contact the vehicle owner following the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash189	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 VIN	Provide support for the entry and maintenance of a field to record the unique combination of letters and numbers assigned to a specific motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash190	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 License Plate Class	Provide support for the entry and maintenance of a field to indicate the type of registration for this trailing unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash191	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 License Plate Number	Provide support for the entry and maintenance of a field to record the combination of letters and numbers displayed on the registration plate or tag affixed to the trailing unit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash192	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Registration State	Provide support for the entry and maintenance of a field to identify the state, territory, government, etc. issuing the registration plate for the trailing unit			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash193	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Registration Year	Provide support for the entry and maintenance of a field to identify the year in which the trailing unit's registration expires.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash194	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Make	Provide support for the entry and maintenance of a field to record the distinctive name distinguishing a motor vehicle's manufacturer			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash195	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Model	Provide support for the entry and maintenance of a field to record the manufacturer assigned name denoting a group of vehicles that have a degree of similarity in construction.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash196	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Model Year	Provide support for the entry and maintenance of a field to record the year in which the trailing unit was manufactured.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash197	VEHICLE TRAILING UNITS INFO	Trailing Unit 3 Body Type	Provide support for the entry and maintenance of a field to indicate the general configuration or shape of a motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash198	VEHICLE CMV INFO	VEHICLE CMV INFO LINK	Provide support for the entry and maintenance of a field to indicate if a link CMV data to Vehicle Number from Vehicle Data Page. The system shall provide support for the entry and maintenance of a field to link Commercial Motor Vehicle (CMV) data to the corresponding Vehicle Number from the Vehicle Data Page. This link shall be triggered when the CMV condition is met. The system shall also support integration with driver logbook data to provide relevant CMV information. Rewritten requirement : Provide support for a single, editable field that creates a link between a Commercial Motor Vehicle (CMV) record and the Vehicle Number. This field shall indicate whether the link is "present" (e.g., "Yes"),or "absent" (e.g., "No"). When a record satisfies the defined "CMV condition" (i.e., the business rule that identifies a vehicle as a CMV), the system shall automatically set the link field to "Yes" and establish the association with the corresponding Vehicle Number. Authorized users should be able to add, modify, or remove the link at any time through the same entry screen used for the Vehicle Data Page. The solution shall integrate driver-logbook data so that any CMV-related logbook information is available when the link is viewed or edited				Meets the requirement out-of-the-box			RMS-Crash		
Crash199	VEHICLE CMV INFO	Motor Carrier Name	Provide support for the entry and maintenance of a field to indicate the identify the name of the business entity, individual, partnership, corporation, or religious organization responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address (Definition: The name and address of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property. Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash200	VEHICLE CMV INFO	Motor Carrier Address	Provide support for the entry and maintenance of a field to identify the address of the principle place of business of an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address (Definition: Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash201	VEHICLE CMV INFO	Motor Carrier City	Provide support for the entry and maintenance of a field to identify the address of the principle place of business of an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address (Definition: The name and address of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property. Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash202	VEHICLE CMV INFO	Motor Carrier State	Provide support for the entry and maintenance of a field to identify the address of the principle place of business of an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address (Definition: The name and address of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property. Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash203	VEHICLE CMV INFO	Motor Carrier Zip Code	Provide support for the entry and maintenance of a field to identify the address of the principle place of business of an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address (Definition: Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash204	VEHICLE CMV INFO	Motor Carrier Country	Provide support for the entry and maintenance of a field to identify the address/country of the principle place of business of an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV.	Y	Refer to MMUCC 6th Edition Data Element Name: V7. Motor Carrier or Responsible Entity Name and Address(Definition: The name and address of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property. Multiple sub-fields associated with this data element)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Subcategory/ Field Name	Business/Functional Requirement	MMUCC 5th Required	MMUCC Reference Information	Vendor Response	Customization Example if Applicable	Capability Planned for Future Release	Core Modules	Third Party Solution(s)	Comments/Notes
Crash205	VEHICLE CMV INFO	Motor Carrier US DOT Number	Provide support for the entry and maintenance of a field to record the unique identifier assigned to an individual, partnership, or corporation responsible for the transportation of persons or property contained in the CMV by the US DOT for any commercial carrier with a Gross Vehicle Weight Rating equal to or greater than 10,001 pounds or designed to carry greater than eight passengers, including the driver.	Y	Refer to MMUCC 6th Edition Data Element Name: V5. Motor Carrier or Responsible Entity Identification Element (Definition: The identification number (or numbers) of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash206	VEHICLE CMV INFO	Motor Vehicle Registration State or Country	Provide support for the entry and maintenance of a field to indicate the Motor Vehicle Registration State or Country (i.e., The State, commonwealth, territory, Indian Nation, U.S. Government, foreign country, etc., issuing the registration plate displayed on the motor vehicle.).	Y	Refer to MMUCC 6th Edition Data Element Name: V8. Motor Vehicle Registration State or Country, note that Canada and Mexico support is also required.	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash207	VEHICLE CMV INFO	Motor Carrier State ID Number	Provide support for the entry and maintenance of a field to record the unique identifier assigned to an individual, partnership or corporation responsible for the transportation of persons or property contained in the CMV by the State for any commercial carrier not eligible for a US DOT Number.	Y	Refer to MMUCC 6th Edition Data Element Name: V5. Motor Carrier or Responsible Entity Identification Element (Definition: The identification number (or numbers) of the business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property.) Note that Canada and Mexico support is also required.	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash208	VEHICLE CMV INFO	Lessee Lessor Name	Provide support for the entry and maintenance of a field to identify an individual, partnership, or corporation transporting persons or property contained in the CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash209	VEHICLE CMV INFO	Lessee Lessor Address	Provide support for the entry and maintenance of a field to identify the address of an individual, partnership, or corporation transporting persons or property contained in the CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash210	VEHICLE CMV INFO	Lessee Lessor City	Provide support for the entry and maintenance of a field to identify the address of an individual, partnership, or corporation transporting persons or property contained in the CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash211	VEHICLE CMV INFO	Lessee Lessor State	Provide support for the entry and maintenance of a field to identify the address of an individual, partnership, or corporation transporting persons or property contained in the CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash212	VEHICLE CMV INFO	Lessee Lessor Zip Code	Provide support for the entry and maintenance of a field to identify the address of an individual, partnership, or corporation transporting persons or property contained in the CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash213	VEHICLE CMV INFO	Lessee Lessor US DOT Number	Provide support for the entry and maintenance of a field to identify the unique identifier assigned to an individual, partnership, or corporation transporting persons or property contained in the CMV, for any commercial carrier with a Gross Vehicle Weight Rating equal to or greater than 10,001 pounds or designed to carry greater than eight passengers, including the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash214	VEHICLE CMV INFO	Lessee Lessor State ID Number	Provide support for the entry and maintenance of a field to identify the unique identifier assigned to an individual, partnership or corporation transporting persons or property contained in the CMV by the State for any commercial carrier not eligible for a US DOT Number.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash215	VEHICLE CMV INFO	Carrier Classification	Provide support for the entry and maintenance of a field to identify the category of operating authority for the entity recorded in the Carrier Name.	Y	Refer to MMUCC 6th Edition Data Element Name: V6. Type of Motor Carrier or Responsible Entity Element (Definition: The type of business entity, individual, partnership, corporation, or organization responsible for the transportation of people or property.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash216	VEHICLE CMV INFO	Carrier Information Source	Provide support for the entry and maintenance of a field to identify the source of the Commercial Carrier Information provided on this page.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash217	VEHICLE CMV INFO	Carrier Information Source – Other	Provide support for the entry and maintenance of a field to identify the source of the Commercial Carrier Information provided on this page.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash218	VEHICLE CMV INFO	Placard Number – Top	Provide support for the entry and maintenance of a field to identify the type of hazardous material the CMV was carrying, regardless of whether a spill occurred. The system shall provide a field to record the Hazardous Materials Placard Top Number (hazard class/division) when a vehicle is placarded. The value shall be validated against the list of DOT hazard classes and divisions in 49 CFR.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash219	VEHICLE CMV INFO	Placard Number – Bottom	Provide support for the entry and maintenance of a field to identify the type of hazardous material the CMV was carrying, regardless of whether a spill occurred. The system shall provide a field to record the Hazardous Materials Placard Bottom Number (UN/NA four-digit number) when a vehicle is placarded. The value shall be validated as a four-digit numeric code that matches the Hazardous Materials Table in 49 CFR.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash220	VEHICLE CMV INFO	Release of Hazardous Materials	Provide support for the entry and maintenance of a field to indicate whether the vehicle's hazardous material was spilled from its cargo compartment.	Y	Refer to MMUCC 6th Edition Data Element Name: Hazardous Materials (Definition: Indication of the hazardous materials identification and class being transported by the motor vehicle, and whether hazardous materials were released.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash221	VEHICLE CMV INFO	CRTS Crash	Provide support for the entry and maintenance of a field to identify crashes occurring on specially designated CRTS Routes.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash222	VEHICLE CMV INFO	CMV Configuration	Provide support for the entry and maintenance of a field to indicate the general size and design of this motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash223	VEHICLE CMV INFO	Commercial Cargo Body Type	Provide support for the entry and maintenance of a field to record the CMV's primary cargo carrying capability.	Y	Refer to MMUCC 6th Edition Data Element Name: V15. Cargo Body Type (Power Unit Only) Element (Definition: The primary cargo-carrying capability of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash224	VEHICLE CMV INFO	GVWR - Power Unit	Provide support for the entry and maintenance of a field to indicate the weight recommended by the vehicle's manufacturer to be the recommended maximum loaded weight of the power unit.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash225	VEHICLE CMV INFO	GCWR - All Units	Provide support for the entry and maintenance of a field to indicate the weight recommended by the vehicle's manufacturer to be the total of the recommended maximum loaded weights of all units of a combination (articulated) motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash226	VEHICLE CMV INFO	Last Known Commodity	Provide support for the entry and maintenance of a field to identify the last known commodity carried by this CMV.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash227	VEHICLE CMV INFO	Cargo Compartment Empty or Full	Provide support for the entry and maintenance of a field to indicate whether the CMV was loaded at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash228	VEHICLE CMV INFO	# of Passengers in CMV	Provide support for the entry and maintenance of a field to indicate the number of passengers in a commercial motor vehicle.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash229	VEHICLE CMV INFO	Passenger Permission	Provide support for the entry and maintenance of a field to indicate whether the passengers of a commercial motor vehicle were traveling with written permission of the carrier.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash230	VEHICLE CMV INFO	CMV Self Insured	Provide support for the entry and maintenance of a field to indicate whether the commercial motor vehicle involved in the crash was self-insured.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash231	VEHICLE CMV INFO	Proof of Self Insurance	Provide support for the entry and maintenance of a field to indicate whether the commercial motor vehicle involved in the crash was self-insured.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash232	PERSON INVOLVED INDIVIDUALS	Individual Number	Provide support for the entry and maintenance of a field to assign a unique identifying number to each individual involved in a crash. **Comments:** • Semantically, Individual Number defines individuals that may exist in multiple contexts, and the solution will need to accommodate these. For example: • Each individual involved in a crash will need to be identified with a unique number (1-n) to identify the person/individual • An individual can be a driver, passenger, vehicle/trailer owner, or non-motorist, and will be associated with a Vehicle Number that uniquely identifies the vehicle in each crash record • As a driver, the driver's credentials will need to be captured • As a driver, any violation and/or citations will need to be captured • As a passenger, they will be tied to a specific Vehicle Number involved in the crash • As an involved non-motorist, the non-motorist (individual) will be tied to the crash	Y	Refer to MMUCC 6th Edition Data Element Name: P1. Person Number. (Definition: This element identifies a number for the motor vehicle occupant in the motor vehicle they occupied, or for each non-motorist, in consecutive order.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash233	PERSON INVOLVED INDIVIDUALS	Reporting Agency Record Number	Provide support for the entry and maintenance of a field to record an agency-specific, unique identifier for the given year that identifies the crash report			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash234	PERSON INVOLVED INDIVIDUALS	Last Name	Provide support for the entry and maintenance of a field to identify person involved in crash.	Y	Refer to MMUCC 6th Edition Data Element Name. P2. Name of Person Involved (Definition: A data element to record the name of the individual involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reproting

Req. #	Category	Sub-Category Field Name	Business/Functional Requirement	MMUCC 5th Required	MMUCC Reference Information	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash235	PERSON INVOLVED INDIVIDUALS	First Name	Provide support for the entry and maintenance of a field to identify person involved in crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P2. Name of Person Involved (Definition: A data element to record the name of the individual involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash236	PERSON INVOLVED INDIVIDUALS	Middle Initial	Provide support for the entry and maintenance of a field to identify person involved in crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P2. Name of Person Involved (Definition: A data element to record the name of the individual involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash237	PERSON INVOLVED INDIVIDUALS	Suffix	Provide support for the entry and maintenance of a field to identify person involved in crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P2. Name of Person Involved (Definition: A data element to record the name of the individual involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash238	PERSON INVOLVED INDIVIDUALS	Occupant/Person Type	Provide support for the entry and maintenance of a field to identify the role of an individual involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name, P5, Person Type Element (Definition: The role of this person involved in the crash)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash239	PERSON INVOLVED INDIVIDUALS	Social Security	Provide support for the entry and maintenance of a field to record the Social Security Number of the individual involved in the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash240	PERSON INVOLVED INDIVIDUALS	Date of Birth	Provide support for the entry and maintenance of a field to identify the birthdate of the involved individual	Y	Refer to MMUCC 6th Edition Data Element Name, P3. Date of Birth (Definition. A data element to record the date of birth of the person involved in this crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash241	PERSON INVOLVED INDIVIDUALS	Age	Provide support for the entry and maintenance of the age of the involved individual at the time of the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash242	PERSON INVOLVED INDIVIDUALS	Gender	Provide support for the entry and maintenance of a field to identify the sex of the person involved in the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P4. Sex or Gender (Definition: A data element to record the sex or gender of the person involved in the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash243	PERSON INVOLVED INDIVIDUALS	Person Special Function	Provide support for the entry and maintenance of a field to record whether this person involved in the crash was performing a unique function at the time of the crash	Y	Refer to MMUCC 6th Edition Data Element Name: P6. Special Function Element (Definition: Identifies if this person involved in the crash was performing a unique function at the time of the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash244	PERSON INJURY	Injury Severity	Provide support for the entry and maintenance of a field to indicate the injury severity level for an individual involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name, P7. Injury Status (Definition. Identifies the injury severity level for a person involved in a crash using the KABCO scale.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash245	PERSON INJURY	Medical Transport	Provide support for the entry and maintenance of a field to indicate whether and by whom an individual was transported from the crash scene for medical treatment.	Y	Refer to MMUCC 6th Edition Data Element Name: P8. Transported to First Medical Facility By (Definition: A data element for the Type of unit providing transport to the first medical facility receiving the patient)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash246	PERSON INJURY	EMS Response Agency ID	Provide support for the entry and maintenance of a field to identify the EMS Agency responsible for transporting an individual.	Y	Refer to MMUCC 6th Edition Data Element Name, P9. EMS Response Agency Element (Definition: The agency identifier and run number of the EMS agency that responded to this crash and attended to this person.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash247	PERSON INJURY	EMS Run Number	Provide support for the entry and maintenance of a field that uniquely identifies the EMS Response Run Number for an individual.	Y	Refer to MMUCC 6th Edition Data Element Name: P9. EMS Response Agency Element (Definition: The agency identifier and run number of the EMS agency that responded to this crash and attended to this person.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash248	PERSON INJURY	Receiving Medical Facility Name	Provide support for the entry and maintenance of a field to identify the health care facility which received an individual for medical treatment who was involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P10. Medical Facility Receiving Patient Element (Definition: Name of the first hospital, clinic, or trauma center that received the patient for treatment.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash249	PERSON INJURY	EMS UUID	Provide support for the entry and maintenance of a field to record the Universally Unique Identifier of the EMS patient care report for this person.	Y	Refer to MMUCC 6th Edition Data Element Name: P11. EMS UUID Element (Definition: The Universally Unique Identifier of the EMS patient care report for this person.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash250	PERSON INJURY	EMS Notified Time	Provide support for the entry and maintenance of a field to indicate the time at which a particular EMS unit was first called to the scene of a crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash251	PERSON INJURY	EMS Scene Time	Provide support for the entry and maintenance of a field to indicate the time at which this particular EMS unit arrived at the scene of a crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash252	PERSON INJURY	EMS Hospital Time	Provide support for the entry and maintenance of a field to indicate the time at which this particular EMS unit arrived at the receiving facility.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash253	PERSON INJURY	Date of Death	Provide support for the entry and maintenance of a field to indicate the date of death for an individual who died at the scene or within 30 days of being injured in a crash as a result of those injuries.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash254	PERSON INJURY	Time of Death	Provide support for the entry and maintenance of a field to indicate the time at which an individual, who died as a result of injuries received in a crash, died.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash255	PERSON INJURY	Place of Death	Provide support for the entry and maintenance of a field to indicate the location at the time of their death of the person who died as a result of injuries received in a crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash256	PERSON DRIVER CREDENTIALS	Driver Same as Vehicle Owner	Provide support for the entry and maintenance of a field to indicate whether the driver is the same as the vehicle owner			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash257	PERSON DRIVER CREDENTIALS	Address	Provide support for the entry and maintenance of a field to indicate the point of contact (i.e., address) for drivers involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D2. Driver Address (Definition: A data element to record physical address of the driver of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash258	PERSON DRIVER CREDENTIALS	City	Provide support for the entry and maintenance of a field to indicate the point of contact (i.e., address) for drivers involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D2. Driver Address (Definition: A data element to record physical address of the driver of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash259	PERSON DRIVER CREDENTIALS	State	Provide support for the entry and maintenance of a field to indicate the point of contact (i.e., address) for drivers involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D2. Driver Address (Definition: A data element to record physical address of the driver of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash260	PERSON DRIVER CREDENTIALS	Zip Code	Provide support for the entry and maintenance of a field to indicate the point of contact (i.e., address) for drivers involved in a crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D2. Driver Address (Definition: A data element to record physical address of the driver of this vehicle.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash261	PERSON DRIVER CREDENTIALS	Home Phone	Provide support for the entry and maintenance of a field to provide a point of contact (i.e., phone number) for drivers involved in a crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash262	PERSON DRIVER CREDENTIALS	Other Phone	Provide support for the entry and maintenance of a field to provide a point of contact (i.e., alternate phone number) for drivers involved in a crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash263	PERSON DRIVER CREDENTIALS	License Type	Provide support for the entry and maintenance of a field to identify the type of driving license issued to a driver, as well as indicates the classification of Commercial Vehicles for which a driver with a CDL license is permitted to operate.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash264	PERSON DRIVER CREDENTIALS	CDL Class	Provide support for the entry and maintenance of a field to indicate the CDL Class in which the driver is licensed			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash265	PERSON DRIVER CREDENTIALS	Issuing State	Provide support for the entry and maintenance of a field to identify the State in which the person's driving license was issued.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash266	PERSON DRIVER CREDENTIALS	License Number	Provide support for the entry and maintenance of a field to record the unique number assigned to a driver by the issuing agency			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash267	PERSON DRIVER CREDENTIALS	Lic Restriction - None	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash268	PERSON DRIVER CREDENTIALS	Lic Restriction - Corrective Lenses	Provide support for the entry and maintenance of a field to identify whether corrective lenses is a restriction placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash269	PERSON DRIVER CREDENTIALS	Lic Restriction - Mech Devices	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash270	PERSON DRIVER CREDENTIALS	Lic Restriction - Prosthetic Aid	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash271	PERSON DRIVER CREDENTIALS	Lic Restriction - Auto Transmission	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash272	PERSON DRIVER CREDENTIALS	Lic Restriction - Outside Mirror	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash273	PERSON DRIVER CREDENTIALS	Lic Restriction - Daylight Only	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash274	PERSON DRIVER CREDENTIALS	Lic Restriction - Employment	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash275	PERSON DRIVER CREDENTIALS	Lic Restriction - Accompanied by Adult	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash276	PERSON DRIVER CREDENTIALS	Lic Restriction - Limited Other	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash277	PERSON DRIVER CREDENTIALS	Lic Restriction - CDL Intrastate Only	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash278	PERSON DRIVER CREDENTIALS	Lic Restriction - Veh w/o Air Brakes	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash279	PERSON DRIVER CREDENTIALS	Lic Restriction - Military Veh	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash280	PERSON DRIVER CREDENTIALS	Lic Restriction - Except Class A Bus	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash281	PERSON DRIVER CREDENTIALS	Lic Restriction - Except Class A and B Bus	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-Category/ Field Name	Business Functional Requirement	MMUCC 5th Required	MMUCC Reference Information	Priority	Vendor Response	Customization Required or Available	Capability Planned for Future Release	Core Modules	Third Party Solutions	Comments/Notes
Crash282	PERSON DRIVER CREDENTIALS	Lic Restriction - Except Tractor Trailer	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash283	PERSON DRIVER CREDENTIALS	Lic Restriction - Farm Waiver	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash284	PERSON DRIVER CREDENTIALS	Lic Restriction - Other	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash285	PERSON DRIVER CREDENTIALS	Lic Restriction - Other Specific	Provide support for the entry and maintenance of a field to identify restrictions placed on the driver by a license examiner at the time of licensing.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash286	PERSON DRIVER CREDENTIALS	License Endorsements 1 - 5	Provide support for the entry and maintenance of a field to indicate whether driver has successfully completed a specialized test that qualifies them to operate specific types of vehicles, allowing up to five (5) different entries.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash287	PERSON DRIVER CREDENTIALS	License Status	Provide support for the entry and maintenance of a field to indicate the status of the driving license at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash288	DRIVER CONDITIONS INFO	Driver Condition	Provide support for the entry and maintenance of a field to indicate the believed condition of the driver at the time of the crash			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash289	DRIVER CONDITIONS INFO	Related Factors - Driver Level	Provide support for the entry and maintenance of a field to identify factors related to this driver.	Y	Refer to MMUCC 6th Edition Data Element Name: D10. Related Factors - Driver Level Element (Definition: Identifies factors related to this driver.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash290	DRIVER CONDITIONS INFO	Driver Action 1 - 4	Provide support for the entry and maintenance of a field to indicate the actions of a driver that in the reporting officer's opinion contributed to a crash, allowing up to four (4) values.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash291	DRIVER CONDITIONS INFO	Alcohol Suspected	Provide support for the entry and maintenance of a field to indicate law enforcement suspicion that the driver was under the influence of alcohol at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash292	DRIVER CONDITIONS INFO	Alcohol Test Given	Provide support for the entry and maintenance of a field to indicate whether a test was given to determine the presence of alcohol.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash293	DRIVER CONDITIONS INFO	Alcohol Test Type 1 - 2	Provide support for the entry and maintenance of a field to indicate the type of test used to collect alcohol concentration, supporting up to two (2) values.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash294	DRIVER CONDITIONS INFO	Alcohol Test Type – Other	Provide support for the entry and maintenance of a field to indicate the type of test used to collect alcohol concentration (as a freeform text field).			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash295	DRIVER CONDITIONS INFO	PBT Results	Provide support for the entry and maintenance of a field to indicate whether the driver passed or failed a Preliminary Breath Test.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash296	DRIVER CONDITIONS INFO	Alcohol Test Results	Provide support for the entry and maintenance of a field to indicate the blood alcohol concentration found when the suspected impaired driver was tested			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash297	DRIVER CONDITIONS INFO	Drug Use Suspected	Provide support for the entry and maintenance of a field to indicate law enforcement suspicion that the driver was under the influence of drugs at the time of the crash.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash298	DRIVER CONDITIONS INFO	Drug Test Given	Provide support for the entry and maintenance of a field to indicate whether a test was given to determine the presence of drugs			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash299	DRIVER CONDITIONS INFO	Drug Test Type	Provide support for the entry and maintenance of a field to indicate the type of test used to detect drugs.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash300	DRIVER CONDITIONS INFO	Driver - No Drugs Found	Provide support for the entry and maintenance of a field to indicate if drugs were found in driver's system			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash301	DRIVER CONDITIONS INFO	Driver – Marijuana	Provide support for the entry and maintenance of a field to indicate if marijuana was found in driver's system.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash302	DRIVER CONDITIONS INFO	Driver – Cocaine	Provide support for the entry and maintenance of a field to indicate if cocaine was found in driver's system			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash303	DRIVER CONDITIONS INFO	Driver – Opiate	Provide support for the entry and maintenance of a field to indicate if opiate was found in driver's system.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash304	DRIVER CONDITIONS INFO	Driver – Amphetamine	Provide support for the entry and maintenance of a field to indicate if amphetamine was found in driver's system			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash305	DRIVER CONDITIONS INFO	Driver – PCP	Provide support for the entry and maintenance of a field to indicate if PCP was found in driver's system.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash306	DRIVER CONDITIONS INFO	Driver - Other Controlled Substance	Provide support for the entry and maintenance of a field to indicate if another controlled substance was found in driver's system			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash307	DRIVER CONDITIONS INFO	Driver - Other Drug Found	Provide support for the entry and maintenance of a field to indicate the other drug found.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash308	DRIVER CONDITIONS INFO	Driver - Results Pending	Provide support for the entry and maintenance of a field to indicate if the drug results are pending. Provide a pull down box showing that the results are being completed by: State Police Lab, Hospital, or Other.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash309	DRIVER CONDITIONS INFO	Distracted By	Provide support for the entry and maintenance of a field to indicate driver distractions in or out of the vehicle that may have contributed to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: D8. Driver Distraction (Definition: Identifies this driver's attention to driving prior to the driver's realization of an impending critical event or just prior to impact if realization of an impending critical event does not occur. This element reports on the presence of any distractions that may or may not have contributed to the crash. Distraction from the primary task of driving occurs when drivers divert their attention from the driving task to some other activity.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash310	DRIVER CONDITIONS INFO	Driver's Vision Obscured by	Provide support for the entry and maintenance of a field to record impediments to a driver's visual field.	Y	Refer to MMUCC 6th Edition Data Element Name: D8. Driver's Vision Obscured By Definition: This data element records impediments to a driver's visual field.	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash311	DRIVER VIOLATION	DVio - No Violations	Provide support for the entry and maintenance of a field to indicate if there were violations given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash312	DRIVER VIOLATION	DVio - Negligent Homicide	Provide support for the entry and maintenance of a field to indicate if a negligent homicide violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash313	DRIVER VIOLATION	DVio - Reckless Driving	Provide support for the entry and maintenance of a field to indicate if a reckless driving violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash314	DRIVER VIOLATION	DVio - Inattentive, Careless Improper Driving	Provide support for the entry and maintenance of a field to indicate if a improper driving violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash315	DRIVER VIOLATION	DVio - Fleeing or Eluding Law Enforcement	Provide support for the entry and maintenance of a field to indicate if a fleeing or eluding law enforcement violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash316	DRIVER VIOLATION	DVio - Failure to Obey LE	Provide support for the entry and maintenance of a field to indicate if a failure to obey LE violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash317	DRIVER VIOLATION	DVio - Hit and Run, Failure to Stop	Provide support for the entry and maintenance of a field to indicate if a hit & run violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash318	DRIVER VIOLATION	DVio - Serious Violation Resulting in Death	Provide support for the entry and maintenance of a field to indicate if a serious violation that resulted in death was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash319	DRIVER VIOLATION	DVio - DW Intoxicated or BAC Above Limit	Provide support for the entry and maintenance of a field to indicate if a DW intoxicated or BAC above limit violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash320	DRIVER VIOLATION	DVio - DW Impaired	Provide support for the entry and maintenance of a field to indicate if a DW impaired violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash321	DRIVER VIOLATION	DVio - DUI of Controlled Substance	Provide support for the entry and maintenance of a field to indicate if a DUI of Controlled Substance violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash322	DRIVER VIOLATION	DVio - DUI of Non-Controlled Substance	Provide support for the entry and maintenance of a field to indicate if a DUI of Non-Controlled Substance violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash323	DRIVER VIOLATION	DVio - Drinking While Operating	Provide support for the entry and maintenance of a field to indicate if a drinking while operating violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash324	DRIVER VIOLATION	DVio - Illegal Possession of Alcohol or Drugs	Provide support for the entry and maintenance of a field to indicate if an illegal Possession of Alcohol or Drugs violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash325	DRIVER VIOLATION	DVio - Driving w/ Detectable Alcohol	Provide support for the entry and maintenance of a field to indicate if a Driving w/ Detectable Alcohol violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash326	DRIVER VIOLATION	DVio - Refusal to Submit to Chemical Test	Provide support for the entry and maintenance of a field to indicate if a Refusal to Submit to Chemical Test violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash327	DRIVER VIOLATION	DVio - Failure to Maintain Control of Vehicle	Provide support for the entry and maintenance of a field to indicate if a Failure to Maintain Control of Vehicle violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash328	DRIVER VIOLATION	DVio - Racing	Provide support for the entry and maintenance of a field to indicate if a Racing violation was given to the driver.	Y	Refer to MMUCC 6th Edition Data Element Name: D5. Speeding-Related Element (Definition: The investigating officer indicates that the driver involved in the crash was speeding.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash329	DRIVER VIOLATION	DVio - Speeding (Above SL)	Provide support for the entry and maintenance of a field to indicate if a Speeding violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash330	DRIVER VIOLATION	DVio - Speed Greater than Prudent	Provide support for the entry and maintenance of a field to indicate if a Speed Greater than Prudent violation was given to the driver.	Y	Refer to MMUCC 6th Edition Data Element Name: D5. Speeding-Related Element (Definition: The investigating officer indicates that the driver involved in the crash was speeding.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash331	DRIVER VIOLATION	DVio - Exceeding Special Limit	Provide support for the entry and maintenance of a field to indicate if a Exceeding Special Limit violation was given to the driver.	Y	Refer to MMUCC 6th Edition Data Element Name: D5. Speeding-Related Element (Definition: The investigating officer indicates that the driver involved in the crash was speeding.)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reproting

Req. #	Category	Sub Category/ Field Name	Business (Functional) Requirement	MMUCC 5.0 Required	MMUCC Reference Information	Priority (H - Mandatory, M - Optional)	Vendor Response	Customization Estimate if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash332	DRIVER VIOLATION	DVio - Driving too Slowly	Provide support for the entry and maintenance of a field to indicate if a Driving too Slowly violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash333	DRIVER VIOLATION	DVio - Failure to Stop for Red Signal	Provide support for the entry and maintenance of a field to indicate if a Failure to Stop for Red Signal violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash334	DRIVER VIOLATION	DVio - Failure to Stop for Flashing Red Signal	Provide support for the entry and maintenance of a field to indicate if a Failure to Stop for Flashing Red Signal violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash335	DRIVER VIOLATION	DVio - Violation of Turn on Red	Provide support for the entry and maintenance of a field to indicate if a Violation of Turn on red violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash336	DRIVER VIOLATION	DVio - Failure to Obey Flashing Signal - Y or R	Provide support for the entry and maintenance of a field to indicate if a Failure to Obey Flashing Signal violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash337	DRIVER VIOLATION	DVio - Failure to Obey Signal - Generally	Provide support for the entry and maintenance of a field to indicate if a Failure to Obey Signal violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash338	DRIVER VIOLATION	DVio - Violation of RR Grade Crossing	Provide support for the entry and maintenance of a field to indicate if a Violation of RR Grade Crossing violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash339	DRIVER VIOLATION	DVio - Failure to Obey STOP Sign	Provide support for the entry and maintenance of a field to indicate if a Failure to Obey STOP Sign violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash340	DRIVER VIOLATION	DVio - Failure to Obey YIELD Sign	Provide support for the entry and maintenance of a field to indicate if a Failure to Obey YIELD Sign violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash341	DRIVER VIOLATION	DVio - Failure to Obey Traffic Control Device	Provide support for the entry and maintenance of a field to indicate if a Failure to Obey Traffic Control Device violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash342	DRIVER VIOLATION	DVio - Unsafe or Prohibited Lane Change	Provide support for the entry and maintenance of a field to indicate if a Unsafe or Prohibited Lane Change violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash343	DRIVER VIOLATION	DVio - Improper Use of Lane	Provide support for the entry and maintenance of a field to indicate if an Improper Use of Lane violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash344	DRIVER VIOLATION	DVio - Certain Traffic to Use Right Lane	Provide support for the entry and maintenance of a field to indicate if a Certain Traffic to Use Right Lane violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash345	DRIVER VIOLATION	DVio - Lane Violations Generally	Provide support for the entry and maintenance of a field to indicate if a Lane Violations Generally violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash346	DRIVER VIOLATION	DVio - Driving Wrong Way on 1 Way St	Provide support for the entry and maintenance of a field to indicate if a Driving Wrong Way on 1 Way St violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash347	DRIVER VIOLATION	DVio - Driving on Left, Wrong Side of Rd	Provide support for the entry and maintenance of a field to indicate if a Driving on Left, Wrong Side of Rd violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash348	DRIVER VIOLATION	DVio - Improper Unsafe Passing	Provide support for the entry and maintenance of a field to indicate if an Improper Unsafe Passing violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash349	DRIVER VIOLATION	DVio - Passing on Rt	Provide support for the entry and maintenance of a field to indicate if a Passing on Rt violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash350	DRIVER VIOLATION	DVio - Passing Stopped School Bus	Provide support for the entry and maintenance of a field to indicate if a Passing Stopped School Bus violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash351	DRIVER VIOLATION	DVio - Failure to Give Way	Provide support for the entry and maintenance of a field to indicate if a Failure to Give Way violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash352	DRIVER VIOLATION	DVio - Following Too Closely	Provide support for the entry and maintenance of a field to indicate if a Following Too Closely violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash353	DRIVER VIOLATION	DVio - Wrong Side, Generally	Provide support for the entry and maintenance of a field to indicate if a Wrong Side violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash354	DRIVER VIOLATION	DVio - Turn in Violation of Traffic Control	Provide support for the entry and maintenance of a field to indicate if a Turn in Violation of Traffic Control violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash355	DRIVER VIOLATION	DVio - Improper Method and Position of Turn	Provide support for the entry and maintenance of a field to indicate if an Improper Method and Position of Turn violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash356	DRIVER VIOLATION	DVio - Failure to Signal for Turn or Stop	Provide support for the entry and maintenance of a field to indicate if a Failure to Signal for Turn or Stop violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash357	DRIVER VIOLATION	DVio - Failure to Yield to Emerg Veh	Provide support for the entry and maintenance of a field to indicate if a Failure to Yield to Emerg Veh violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash358	DRIVER VIOLATION	DVio - Failure to Yield Generally	Provide support for the entry and maintenance of a field to indicate if a Failure to Yield Generally violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash359	DRIVER VIOLATION	DVio - Enter Intersection w/ Insufficient Space	Provide support for the entry and maintenance of a field to indicate if a Enter Intersection w/ Insufficient Space violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash360	DRIVER VIOLATION	DVio - DW License Suspended	Provide support for the entry and maintenance of a field to indicate if a DW License Suspended violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash361	DRIVER VIOLATION	DVio - Other License Restrictions	Provide support for the entry and maintenance of a field to indicate if a Other License Restrictions violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash362	DRIVER VIOLATION	DVio - Commercial Driver Violations	Provide support for the entry and maintenance of a field to indicate if a Commercial Driver Violations violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash363	DRIVER VIOLATION	DVio - Vehicle Registration Violations	Provide support for the entry and maintenance of a field to indicate if a Vehicle Registration Violations violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash364	DRIVER VIOLATION	DVio - Failure to Carry Insurance Card	Provide support for the entry and maintenance of a field to indicate if a Failure to Carry Insurance Card violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash365	DRIVER VIOLATION	DVio - Driving Uninsured Vehicle	Provide support for the entry and maintenance of a field to indicate if a Driving Uninsured Vehicle violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash366	DRIVER VIOLATION	DVio - Non - Moving Violations Generally	Provide support for the entry and maintenance of a field to indicate if a Non-Moving violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash367	DRIVER VIOLATION	DVio - Lamp Violations	Provide support for the entry and maintenance of a field to indicate if a Lamp violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash368	DRIVER VIOLATION	DVio - Brake Violations	Provide support for the entry and maintenance of a field to indicate if a Brake violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash369	DRIVER VIOLATION	DVio - Failure to Require Restraint Use	Provide support for the entry and maintenance of a field to indicate if a Failure to Require Restraint Use violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash370	DRIVER VIOLATION	DVio - MC Equipment Violations	Provide support for the entry and maintenance of a field to indicate if a MC Equipment violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash371	DRIVER VIOLATION	DVio - Vio of Haz Cargo Regs	Provide support for the entry and maintenance of a field to indicate if a Haz Cargo Regs violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash372	DRIVER VIOLATION	DVio - Size Wgt. Load Violations	Provide support for the entry and maintenance of a field to indicate if a Size Wgt. Load violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash373	DRIVER VIOLATION	DVio - Equip Vio Generally	Provide support for the entry and maintenance of a field to indicate if a Equip violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash374	DRIVER VIOLATION	DVio - Parking	Provide support for the entry and maintenance of a field to indicate if a Parking violation was given to the driver			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash375	DRIVER VIOLATION	DVio - Theft, Unauthorized Use of Veh	Provide support for the entry and maintenance of a field to indicate if a Theft, Unauthorized Use of Veh violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash376	DRIVER VIOLATION	DVio - Driving where Prohibited	Provide support for the entry and maintenance of a field to indicate if a Driving where Prohibited violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash377	DRIVER VIOLATION	DVio - Other Moving Violation	Provide support for the entry and maintenance of a field to indicate if an Other Moving violation was given to the driver.			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash378	DRIVER VIOLATION	Citation Charge 1 - 4	Provide support for the entry and maintenance of a field to indicate a citation given to the driver not listed above, allowing up to four (4) entries and include the ability to start an Electronic Citation from this box that would import the date, time, driver, vehicle, etc.	Y	Refer to MMUCC 6th Edition Data Element Name: D9. Citations Issued Element (Definition: The violations, citations, or infractions of the State's vehicle code issued to this driver in this crash, regardless of whether the driver survived the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash379	DRIVER VIOLATION	Citation Code 1 - 4	Provide support for the entry and maintenance of a field to indicate the code of a citation given to the driver not listed above, allowing up to four (4) entries.	Y	Refer to MMUCC 6th Edition Data Element Name: D9. Citations Issued Element (Definition: The violations, citations, or infractions of the State's vehicle code issued to this driver in this crash, regardless of whether the driver survived the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash380	DRIVER VIOLATION	Citation Number 1 - 4	Provide support for the entry and maintenance of a field to indicate the number of a citation given to the driver not listed above, allowing up to four (4) entries.	Y	Refer to MMUCC 6th Edition Data Element Name: D9. Citations Issued Element (Definition: The violations, citations, or infractions of the State's vehicle code issued to this driver in this crash, regardless of whether the driver survived the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash381	DRIVER VIOLATION	Warning 1 - 4	Provide support for the entry and maintenance of a field to indicate if said citation was a warning, allowing up to four (4) entries.	Y	Refer to MMUCC 6th Edition Data Element Name: D9. Citations Issued Element (Definition: The violations, citations, or infractions of the State's vehicle code issued to this driver in this crash, regardless of whether the driver survived the crash.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash382	DRIVER INVOLVED INDIVIDUALS INFO	Seating Position Row	Provide support for the entry and maintenance of a field to indicate the location of an individual in, on, or outside of the motor vehicle prior to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P13. Seating Position Element (Definition: The location for this occupant in, on, or outside of the motor vehicle prior to the first event in the SEQUENCE OF EVENTS.)	H	Meets the requirement out-of-the-box			RMS-Crash		
Crash383	DRIVER INVOLVED INDIVIDUALS INFO	Seating Position Seat	Provide support for the entry and maintenance of a field to indicate the location of an individual in, on, or outside of the motor vehicle prior to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P13. Seating Position Element (Definition: The location for this occupant in, on, or outside of the motor vehicle prior to the first event in the SEQUENCE OF EVENTS.)	H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Crash Reporting

Req. #	Category	Sub-category / Field Name	Business Functional Requirement	MMUCC 5th Required?	MMUCC Reference Information	[illegible]	Vendor Response	Customization Estimate if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash384	DRIVER INVOLVED INDIVIDUALS INFO	Seating Position Other	Provide support for the entry and maintenance of a field to indicate the location of an individual in, on, or outside of the motor vehicle prior to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P13. Seating Position Element (Definition: The location for this occupant in, on, or outside of the motor vehicle prior to the first event in the SEQUENCE OF EVENTS.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash385	DRIVER INVOLVED INDIVIDUALS INFO	Occupant Protection Type	Provide support for the entry and maintenance of a field to indicate the restraint equipment in use by a vehicle occupant or helmet use by a motorcyclist, ATV Rider, etc. at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: P14. Restraint System Use Element (Definition: The restraint equipment in use by the occupant and any indication of improper use of the available restraint system at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash386	DRIVER INVOLVED INDIVIDUALS INFO	Occupant Protection Proper Use	Provide support for the entry and maintenance of a field to indicate whether the occupant protection being used by an individual was being used properly.	Y	Refer to MMUCC 6th Edition Data Element Name: P14. Restraint System Use Element (Definition: The restraint equipment in use by the occupant and any indication of improper use of the available restraint system at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash387	DRIVER INVOLVED INDIVIDUALS INFO	Approved Helmet (Helmet Use)	Provide support for the entry and maintenance of a field to indicate whether the helmet used by a motorcyclist, ATV Rider, etc. was an appropriate and approved helmet.	Y	Refer to MMUCC 6th Edition Data Element Name: P15. Helmet Use Element (Definition: Records the type of helmet in use, and any indications of misuse of the helmet, by motor vehicle occupants of MOTOR VEHICLE BODY TYPE CATEGORY All-Terrain Vehicle or All-Terrain Cycle (ATV or ATC), Snowmobile, Moped, Multipurpose Off-Highway Utility Vehicle (MOHUV) or Recreational Off-Highway Vehicle (ROV), 2-Wheeled Motorcycle, 3-Wheeled Motorcycle (trike), and Autocycle at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash388	DRIVER INVOLVED INDIVIDUALS INFO	Air Bag Deployed	Provide support for the entry and maintenance of a field to indicate airbag deployment, relative to an individual's seating position.	Y	Refer to MMUCC 6th Edition Data Element Name: P16. Air Bag Deployed Element (Definition: Deployment status of an air bag relative to the position in the vehicle for this occupant.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash389	DRIVER INVOLVED INDIVIDUALS INFO	Trapped-Extricated	Provide support for the entry and maintenance of a field to indicate whether an individual was trapped in the vehicle as a result of the crash.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash390	DRIVER INVOLVED INDIVIDUALS INFO	Ejected	Provide support for the entry and maintenance of a field to indicate whether an individual was completely or partially thrown from the interior of the motor vehicle.	Y	Refer to MMUCC 6th Edition Data Element Name: P17. Ejection Element (Definition: Identifies if the occupant was completely or partially thrown from the interior of the motor vehicle as a result of this crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash391	DRIVER INVOLVED INDIVIDUALS INFO	Ejection Path	Provide support for the entry and maintenance of a field to indicate the path through which an individual was ejected from the vehicle during a crash.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash392	NON-MOTORIST	Unit Number of Striking Vehicle	Provide support for the entry and maintenance of a field to identify the vehicle which struck the non-motorist during the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM1. Vehicle Number of Motor Vehicle Striking Non-Motorist Element (Definition: Number assigned to identify the first motor vehicle that struck the non-motorist in the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash393	NON-MOTORIST	Action Prior to Crash	Provide support for the entry and maintenance of a field to identify the action of the non-motorist just prior to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM2. Non-Motorist Status Prior to Critical Event Element (Definition: The status of the non-motorist immediately prior to the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash394	NON-MOTORIST	Location Prior to Crash	Provide support for the entry and maintenance of a field to identify the location of the non-motorist just prior to the first harmful event of the crash				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash395	NON-MOTORIST	Non-Motorist Distraction Element	Provide support for the entry and maintenance of a field to identify this non-motorist's attention prior to the non-motorist's involvement in this crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM3. Non-Motorist Distraction Element (Definition: Identifies this non-motorist's attention prior to the non-motorist's involvement in this crash. This element reports on the presence of any distractions that may or may not have contributed to the crash. Distraction for a non-motorist occurs when a non-motorist's attention is diverted from the task of navigation in public to some other activity.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash396	NON-MOTORIST	NM Contributing Action1	Provide support for the entry and maintenance of a field to identify the actions of the non-motorist at the time of the crash that may have contributed to the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM4. Non-Motorist Contributing Circumstances Element (Definition: The actions or circumstances of the non-motorist at the time of the crash that may have contributed to the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash397	NON-MOTORIST	NM Contributing Action2	Provide support for the entry and maintenance of a field to identify the actions of the non-motorist at the time of the crash that may have contributed to the crash.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash398	NON-MOTORIST	NM Contributing Action - Narrative	Provide support for the entry and maintenance of a field to identify the actions of the non-motorist at the time of the crash that may have contributed to the crash.	Y	This data element has been defined based on the MMUCC 5th Edition Requirement defined as "Other (explain in narrative)."Refer to MMUCC 6th Edition Data Element Name: NM4. Non-Motorist Contributing Circumstances Element (Definition: The actions or circumstances of the non-motorist at the time of the crash that may have contributed to the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash399	NON-MOTORIST	Location at Time of Crash	Provide support for the entry and maintenance of a field to identify the non-motorist's location with respect to the roadway at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM7. Non-Motorist Specific Location Element (Definition: The location of the non-motorist with respect to the trafficway at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash400	NON-MOTORIST	Non-Motorist at Intersection	Provide support for the entry and maintenance of a field to identify the location of the non-motorist with respect to an intersection at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM05 Non-Motorist at Intersection Element (Definition: The location of the non-motorist with respect to an intersection at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash401	NON-MOTORIST	Non-Motorist in Crosswalk	Provide support for the entry and maintenance of a field to identify the location of the non-motorist with respect to a crosswalk at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM06 Non-Motorist in Crosswalk Element (Definition: The location of the non-motorist with respect to a crosswalk at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash402	NON-MOTORIST	NM Safety Equipment 1-2	Provide support for the entry and maintenance of a field to identify safety equipment, if any, being utilized by the non-motorist at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM8. Non-Motorist Safety Equipment Element (Definition: The safety equipment used by this non-motorist.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash403	NON-MOTORIST	Non-Motorist Device Type Element	Provide support for the entry and maintenance of a field to identify the type of transport device and motorization of the device operated by the non-motorist.	Y	Refer to MMUCC 6th Edition Data Element Name. NM 9. Non-Motorist Device Type Element (Definition: The type of transport device and motorization of the device operated by the non-motorist.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash404	NON-MOTORIST	NM Traffic Control Device 1-2	Provide support for the entry and maintenance of a field to indicates the type of traffic control device that was applicable to the non-motorist at the time of the crash.	Y	Refer to MMUCC 6th Edition Data Element Name: NM10. Non-Motorist Traffic Control Device Element (Definition: The traffic control device applicable to this non-motorist at the time of the crash.)		H	Meets the requirement out-of-the-box			RMS-Crash	
Crash405	NON-MOTORIST	NM Condition at Time of Crash	Provide support for the entry and maintenance of a field to indicates the apparent condition of the non-motorist at the time of the crash.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash406	NON-MOTORIST	Alcohol Suspected	Provide support for the entry and maintenance of a field to indicates law enforcement suspicion that a non-motorist was under the influence of alcohol at the time of the crash.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash407	NON-MOTORIST	Alcohol Test Given	Provide support for the entry and maintenance of a field to indicates whether a test was given to determine the presence of alcohol.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash408	NON-MOTORIST	Alcohol Test Type1	Provide support for the entry and maintenance of a field to indicates the type of test used to collect alcohol concentration				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash409	NON-MOTORIST	Alcohol Test Results	Provide support for the entry and maintenance of a field to indicates the blood alcohol concentration found when the suspected impaired driver was tested.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash410	NON-MOTORIST	Drug Use Suspected	Provide support for the entry and maintenance of a field to indicates law enforcement suspicion that the non-motorist was under the influence of drugs at the time of the crash				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash411	NON-MOTORIST	Drug Test Given	Provide support for the entry and maintenance of a field to indicates whether a test was given to determine the presence of drugs.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash412	NON-MOTORIST	Drug Test Type	Provide support for the entry and maintenance of a field to indicates the type of test used to detect drugs				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash413	NON-MOTORIST	Non-Motorist - Drug Test Results 1-4	Provide support for the entry and maintenance of a field to indicates the results of the test used to detect the presence of drugs.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash414	NON-MOTORIST	NM - Violation 1-4	Provide support for the entry and maintenance of a field to indicate any violations of the law that the reporting officer either suspects or knows were committed by the non-motorist. Does not necessarily indicate that a citation was issued for the violation.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash415	NON-MOTORIST	Citation Charge1	Provide support for the entry and maintenance of a field to indicates any citations issued to the non-motorist as a result of the crash investigation.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash416	NON-MOTORIST	Citation Code1	Provide support for the entry and maintenance of a field to indicates the code reference for the law that was violated.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash417	NON-MOTORIST	Citation Number1	Provide support for the entry and maintenance of a field to indicates the number of citation used				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash418	NON-MOTORIST	Warning1	Provide support for the entry and maintenance of a field to indicates if a warning was issued instead of a citation.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash419	DMV-LICENSE	DMV-LICENSE	Provide the ability to provide the ability to scan a state-issued Driver License (barcode/magnetic stripe/MRZ) to auto-populate all available license data fields.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash420	DMV-LICENSE	DMV-LICENSE	Provide the ability to allow the officer to override, correct, or manually update any auto-populated DMV-License information.				H	Meets the requirement out-of-the-box			RMS-Crash	
Crash421	DMV-LICENSE	DMV-LICENSE	Provide the ability to support adding and managing passenger information, including name, date of birth, seating position, injury status, and ID/Driver License scan (if available).				H	Meets the requirement out-of-the-box			RMS-Crash	

WVDOT Crash Citation System
Requirements - Crash Reproting

Req. #	Category	Sub Category/ Field Name	Business (Functional) Requirement	MMUCC Sub Element(s)	MMUCC Reference Information	Priority (H, M, L)	Vendor Response	Customization Hours - Automation	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
Crash422	DMV-LICENSE	DMV-LICENSE	Provide the ability to maintain an audit log of all officer overrides or manual edits to DMV-License or passenger information			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash423	DMV-VEHICLE	DMV-LICENSE	Provide the ability to provide the ability to scan a vehicle registration document to auto-populate vehicle and owner information (VIN, plate, make/model, expiration, owner data).			H	Meets with modification to Base Code		Ability to scan Vehicle Reg	RMS-Crash		
Crash424	DMV-VEHICLE	DMV-LICENSE	Provide the ability to allow the officer to override or manually update any auto-populated vehicle or owner information			H	Meets the requirement out-of-the-box			RMS-Crash		
Crash425	DMV-VEHICLE	DMV-LICENSE	Provide the ability to validate VIN, plate number, and expiration formats and flag inconsistencies for officer review.			H	Out-of-the-Box with configuration required to meet		Need to integrate with external system to help with validation.	RMS-Crash		
Crash426	DMV-VEHICLE	DMV-LICENSE	Provide the ability to display a side-by-side comparison of scanned data and officer entered data to resolve discrepancies in case of review.			H	Does Not / CANNOT Meet Requirement	Medium: Medium customization(s) requiring a total of 80 to 160 hours for specification, development, and unit testing		RMS-Crash		Mark43 will be able to pre-fill data based on integrations to the state but will allow for overwrite. The audit trail can capture the changes a user made on a report.
Crash427	DMV-VEHICLE	DMV-LICENSE	Provide the ability to support adding and maintaining an email address for drivers involved in the crash			H	Meets the requirement out-of-the-box			RMS-Crash		

WVDOT Crash Citation System
Requirements - Citations

Req. #	Category	Sub-Category/ Field Name	Business (Functional) Requirement	Priority H = High M = Medium	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
CIT1	Violator Information Management	Violator Information Management	Provide PDF417 barcode scanning for all 50 states and automatically fill in field values from a driver's license.	H	Meets with modification to Base Code		Ability to scan Vehicle Registration to parse data for vehicle information. license plate scanning is avaialble today	RMS-Citation		
CIT1	Violator Information Management	Violator Information Management	Provide support for the entry and maintenance of a field to indicate if violator full name is complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT2	Violator Information Management	Violator Information Management	Provide support for the entry and maintenance of a field to indicate if address is complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT3	Violator Information Management	Violator Information Management	Provide support for the entry and maintenance of a field to indicate if date of birth, gender, height, weight, and eye color are complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT4	Violator Information Management	Violator Information Management	Provide support for the entry and maintenance of a field to indicate if drivers license information is complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT5	Violator Information Management	Violator Information Management	Provide support for the entry and maintenance of a field to indicate if GDL or permit type is captured.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT5	Violator Information Management	Violator Information Management	Provide PDF417 barcode scanning for all 50 states and automatically fill in field values from a vehicle registration or license plate.	H	Meets with modification to Base Code		Ability to scan Vehicle Registration to parse data for vehicle information. license plate scanning is avaialble today	RMS-Citation		
CIT6	Vehicle Information Management	Vehicle Information Management	Provide support for the entry and maintenance of a field to indicate if vehicle license plate information is complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT7	Vehicle Information Management	Vehicle Information Management	Provide support for the entry and maintenance of a field to indicate if VIN, make, model, color, and body style are complete.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT8	Vehicle Information Management	Vehicle Information Management	Provide support for the entry and maintenance of a field to indicate if vehicle owner/lessee information is recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT9	Vehicle Information Management	Vehicle Information Management	Provide support for the entry and maintenance of a field to indicate if CMV details are recorded when applicable.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT10	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if citation number is within an assigned block.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT11	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if one violation is linked per charge.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT12	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if violation description is linked to WV Code or municipal ordinance.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT13	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if speeding details are recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT14	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if location details are recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT15	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if GPS coordinates are captured.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT16	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if officer details are recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT17	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if type of roadway is recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT18	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if citation includes mandatory in-person plea violations.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT19	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if citation includes an Out of Service Order violation.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT20	Violation Details	Violation Details	Provide support for the entry and maintenance of a field to indicate if citation includes Non-Resident Violators Compact applicability.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT21	Violation Details	Violation Details	Once a citation has been printed/issued, it should be locked down to eliminate the ability for it to be changed after the fact. Any additional changes will need to be handled through the disposition process.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT23	Violation Details	Violation Details	Provide the ability to print a citation in different formats (i.e. page size to accomodate mobile printers, full page printers, and print to PDF.		Meets the requirement out-of-the-box			RMS-Citation		
CIT24	Violation Details	Violation Details	Provide the ability to link citation to a crash report		Meets the requirement out-of-the-box			RMS-Citation		
CIT25	Violation Details	Violation Details	Provide the ability for an agency reference to incident by free typing text box (i.e. agency reporting to associate this to a non-crash report incident number)		Meets the requirement out-of-the-box			RMS-Citation		
CIT37	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if court name, address, and phone are captured.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT38	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if court appearance date is provided.	H	Meets the requirement out-of-the-box			RMS-Citation		

WVDOT Crash Citation System
Requirements - Citations

Req. #	Category	Sub-Category/ Field Name	Business (Functional) Requirement	Priority H = High M = Medium	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
CIT39	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if violator acknowledgment signature is recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT40	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if plea choice is recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT41	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if court disposition is entered for each charge.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT42	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if conviction and reduced charge codes are entered.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT43	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if license action and fine amount are recorded.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT44	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if case numbers are linked to the citation.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT45	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if a citation was voided by an officer.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT46	Court & Disposition Information	Court & Disposition Information	Provide support for the entry and maintenance of a field to indicate if a citation was forwarded to WV DMV or WV Highway Safety Program or WV DNR.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT47	Citation Location	Geo-location	Provide the ability to provide the officer the ability to geo-locate the citation using GPS at the point of issuance.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT48	Citation Location	Geo-location	Provide the ability to automatically map the captured location to roadway, route, milepoint, and jurisdiction attributes when LRS services are available.	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT49	Citation Location	Geo-location	Provide the ability to allow the officer to override and manually adjust the location to match the correct Linear Referencing System (LRS) values (e.g., route ID, milepoint, direction, offset).	H	Meets the requirement out-of-the-box			RMS-Citation		
CIT50	Citation-DNR	DNR	Provide the ability to capture and maintain hunting/fishing license number and license type on Citations		Meets the requirement out-of-the-box			RMS-Citation		
CIT51	Citation-DNR	DNR	Provide the ability to support the scanning of hunting/fishing licenses to auto-populate license fields (and allow override if necessary)		Meets the requirement out-of-the-box			RMS-Citation		Assume these licenses contain data in the barcode similar to a driver's license
CIT52	Citation-DNR	DNR	Provide the ability to allow boat/watercraft information to be entered in place of in addition to vehicle information.		Meets the requirement out-of-the-box			RMS-Citation		
CIT53	Citation-DNR	DNR	Provide the ability to capture and maintain a field to record state-mandated wildlife replacement costs, with manual entry of automated business rules.		Meets the requirement out-of-the-box			RMS-Citation		
CIT54	Citation-DNR	DNR	Provide the ability to capture and maintain fields to document confiscated property (such as firearms, equipment, wildlife, etc.)		Meets the requirement out-of-the-box			RMS-Citation		
CIT55	Citation-DNR	DNR	Provide the ability to capture and maintain officer notes for supplemental comments for court or agency review.		Meets the requirement out-of-the-box			RMS-Citation		
CIT56	Citation-DNR	DNR	Provide the ability to support notification routing to DNR, similar to the existing WVDMV and Highway Safety Notifications		Meets the requirement out-of-the-box			RMS-Citation		Mark43 has the ability to integrate data to external systems

WVDOT Crash Citation System
Requirements -- Reporting

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RFF1	Reports for Sale	Reports for Sale	The system shall support the generation of required reports that are optionally purchasable. Each agency can denote whether their crash reports are available for sale and at what price point (base report, charge per photo, charge per video, etc.). When payment is necessary, the system shall direct the user to the State Treasurer's Office website to complete the transaction, likely via a token and will wait for the Treasurer's Office to return the token with a status of "funds collected" or "funds not collected --- along with a reason code." The system shall not capture or store payment details, and reports shall only be released (for download) upon confirmation of successful payment from the Treasurer's Office.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing		RMS-Crash		
RFF2	Reports for Sale	Reports for Sale	Provide the capability of defining reports that agencies might offer for sale	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF3	Reports for Sale	Reports for Sale	Provide capability for each agency to opt in or out of selling reports (e.g., Y/N)	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF4	Reports for Sale	Reports for Sale	Provide capability for each agency to opt in or out of specific pre-defined reports	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF5	Reports for Sale	Reports for Sale	Provide capability for each agency to set the selling price for each sellable report, attachments, photo, or video (if available)	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF6	Reports for Sale	Reports for Sale	Provide the capability of selling any combination of • Crash Reports • Crash Reconstruction • Other document types, such as attachments, pictures, videos, etc. For these types of add ons, provide the ability to select single, multiple, or all.	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF7	Reports for Sale	Reports for Sale	Provide the capability of defining fields to be redacted on these reports by the agency selling the report, based on business rules established by the agency	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF8	Reports for Sale	Reports for Sale	Provide the ability for the agency to redact information on juveniles (minors)	H	Meets the requirement out-of-the-box			RMS-Crash		
RFF9	Reports for Sale	Reports for Sale	Provide the capability to define business rules which determine whether a report is eligible to be sold online or not	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Crash		
RFF10	Report Features and Functions	General	Provide an Information Exchange option, able to be printed and distributed both at the crash scene and from the admin console that complies with WV State Code §17C-4-7(b), utilizing the information entered into this report Note: *§17C-4-7(b) Within 24 hours of a motor vehicle crash, the investigating law-enforcement officer shall provide the owner, operator, and insurance information upon request for all the involved parties to each of the other involved parties, and to each party's respective insurance agents. This information shall be made available, at no cost, whether or not the accident report has been*	H	Meets the requirement out-of-the-box			RMS-Crash		
RFF11	Report Features and Functions	General	Provide the ability to create information exchange report(s) for drivers involved in a crash	H	Meets the requirement out-of-the-box			RMS-Crash		
RFF12	Report Features and Functions	General	Provide the ability to create a Reconstruction Report for a crash	H	Meets the requirement out-of-the-box			RMS-Crash		
RFF13	Report Features and Functions	General	Provide pre-defined reports that are automatically generated and distributed (pushed to the user, report portal, etc.) to support day-to-day business functions; provide the necessary tools to configure reports, and copy existing reports as the basis for additional reports.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF14	Report Features and Functions	General	Provide sufficient control reports and proactive monitoring to ensure the operational integrity of business operations (e.g. control totals, record counts, brought forward/carried forward totals, etc.).	M	Meets the requirement out-of-the-box			RMS-Analytics		

WVDOT Crash Citation System
Requirements -- Reporting

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RFF15	Report Features and Functions	General	Provide self-service reports and downloads that are either pre-defined and selected (pulled by the user) or created ad-hoc from a pre-populated user-friendly database structure using report tools commonly associated with data warehousing methodologies.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF16	Report Features and Functions	General	Provide interactive analysis capabilities that help decision makers use communication technologies, data, documents, knowledge, and analytical models to identify and solve problems.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF17	Report Features and Functions	General	Support pre-built data structures and data transformations through upgrades with new versions of and patches to the operational application suite.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF18	Report Features and Functions	General	Provide a reporting and analysis toolset that does not require knowledge and training on the toolset's proprietary language or configuration for most users (i.e., non-power users).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF19	Report Features and Functions	General	Provide a solution architecture to have 24-hour, 7-day-a-week access (excluding defined maintenance windows) to the reporting functions.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF20	Report Features and Functions	General	Support read-only access to data via Open Database Connectivity (ODBC) with appropriate security.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF21	Report Features and Functions	General	Support user access to predefined reports via the web without installation of client software, apps or any widgets 100% of the time, along with access to self-service reports and export/downloads via the web a minimum of 80% of the time.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF22	Report Features and Functions	General	Leverage the roles and security definitions setup of the system solution within the reporting and business function to minimize duplication of security administration functions.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF23	Report Features and Functions	General	Support utilization of the same system specifications (architectural landscape) that are required for the Crash and Citation Reporting operational platform for the reporting environment to the extent feasible.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF24	Report Features and Functions	Report Portal	Provide users with a user specific personalized report portal that allows access to only those reports that the user is authorized to see consistent with role-based security definitions.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF25	Report Features and Functions	Report Portal	Provide access to rows and/or columns within the report to be restricted based on the user's role (e.g. the user can only view data according to their defined security role, etc.).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF26	Report Features and Functions	Report Portal	Provide a list of the reports that have been distributed / are available to the user via the portal (i.e. the user has been granted authorization to view a report by the designated report publisher/owner).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF27	Report Features and Functions	Report Portal	List saved personalized reports and ad-hoc queries that the user has authority to either create or modify in the user's personal reports list.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF28	Report Features and Functions	Report Portal	Allow an authorized user to search the existing reports inventory and subscribe to reports after requesting and receiving permission from the report owner/publisher.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF29	Report Features and Functions	Report Portal	Allow for designated report publishers to un-publish reports to individual users or groups of users.	M	Meets the requirement out-of-the-box			RMS-Analytics		

WVDOT Crash Citation System
Requirements -- Reporting

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RFF30	Report Features and Functions	Report Portal	Support users sharing saved personalized reports and ad-hoc queries for use by another user aligned with defined user roles.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF31	Report Features and Functions	Report Portal	Allow for users to delete shared reports from their personal reports list without deleting the shared report from another user's personal reports list.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF32	Report Features and Functions	Report Portal	Support a user refreshing (running) saved personal reports or ad-hoc queries from the portal with an option to run in the background and send a notification to the user upon completion.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF33	Report Features and Functions	Standard Report Features	Allow a user to execute reports and modify report query parameters on-line and allow a user to save modified report versions as personal versions without impacting the base query.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF34	Report Features and Functions	Standard Report Features	Support drill down from summary information to the supporting detail transactions and drill up from the detail transaction to the summary information where appropriate	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF35	Report Features and Functions	Standard Report Features	Provide the option, as part of drill down functionality, to print the expanded sections of the drill down results with the content of the original query results.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF36	Report Features and Functions	Standard Report Features	Link the report generator directly to the data dictionary to provide point and click data item selection and drag-and-drop formatting by the user.	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Analytics		
RFF37	Report Features and Functions	Standard Report Features	Allow for a user to define or modify the sort order of reports.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF38	Report Features and Functions	Standard Report Features	Support searching for data, transactions or documents using a range of data values.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF39	Report Features and Functions	Standard Report Features	Support searching, filtering, and reordering of data within a results set.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF40	Report Features and Functions	Standard Report Features	Support free-form text searching that includes embedded, attached, or linked documents.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF41	Report Features and Functions	Standard Report Features	Support free-form text searching that includes the specification of words that are in a given range of words.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF42	Report Features and Functions	Standard Report Features	Support free-form text searching that includes the specification of wildcards (such as * and ? in strings) as well as %LIKE% string searches that provide a broader support for searching string fields.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF43	Report Features and Functions	Standard Report Features	Allow for a user to save a personal copy for later execution of a pre-defined report with a set of specific selection criteria.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF44	Report Features and Functions	Standard Report Features	Support standard print capabilities such as those typically available in Windows-based products such as print preview, print a range of pages, print a number of copies, print to device, print to PDF, etc.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF45	Report Features and Functions	Standard Report Features	Allow for on-line reports to be run in the background and allow users to continue processing such that report results can then be accessed through the report portal with an online user notification provided when the report is generated.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF46	Report Features and Functions	Standard Report Features	Support scheduling a report to run automatically if certain conditions (business rules) are met, including event-triggered, day and time of week triggered, etc.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF47	Report Features and Functions	Standard Report Features	Support export of query and report results as an external database, word processing format (.doc or .docx), text file (.txt), standard portable flat file formats (comma delimited, tab delimited, etc.) with option to choose delimiter, XML, or JSON formats.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF48	Report Features and Functions	Standard Report Features	Support report distribution based on events, process milestones, or predefined data thresholds or values, e.g., based on data values contained within the report (i.e., conditional operators >, <, =, etc.).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF49	Report Features and Functions	Standard Report Features	Support distributing reports by a variety of methods such as sending links to reports via email, web, or push to mobile devices.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF50	Report Features and Functions	Standard Report Features	Support printing of reports on special forms.	M	Meets the requirement out-of-the-box			RMS-Crash, RMS-Citation		Clarification: For this feature, we recognize the need to print out crash or citation to specific export formats. For analytical reports, the exort format will follow that our own internal BI tool output.
RFF51	Report Features and Functions	Standard Report Features	Support effective date selection and query including Boolean operations such as date ranges.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF52	Report Features and Functions	Standard Report Features	Support incorporating derived field values into reports resulting from formulas, functions, and mathematical calculations.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF53	Report Features and Functions	Standard Report Features	Allow an authorized user to create and specify report templates.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF54	Report Features and Functions	Standard Report Features	Provide wizards to guide the users through report building steps.	M	Does Not / CANNOT Meet Requirement			RMS-Analytics		
RFF55	Report Features and Functions	Standard Report Features	Support graphical report layout tools and drag-and-drop features to assist users in formatting reports and inquiries.	M	Does Not / CANNOT Meet Requirement			RMS-Analytics		
RFF56	Report Features and Functions	Standard Report Features	Support the use of unstructured data in query results (e.g., Microsoft® Word®, Microsoft® Excel®, scanned images, and other documents attached to transactions).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF57	Report Features and Functions	Standard Report Features	Support the creation of various charts from the reporting tool.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF58	Report Features and Functions	Standard Report Features	Support linking from reporting tool to Microsoft Office or Google Workspace graphic, spreadsheet and presentation applications.	M	Meets the requirement out-of-the-box			RMS-Analytics		

WVDOT Crash Citation System
Requirements -- Reporting

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
RFF59	Report Features and Functions	Standard Report Features	Provide the ability to generate reports and notifications for Failure to Appear (FTA) and Failure to Pay (FTP) events to designated agencies.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF60	Management Reporting	Ad-hoc Query	Provide a robust ad-hoc query facility.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF61	Management Reporting	Ad-hoc Query	Support a user building ad-hoc queries to report on any fields in the Crash and Citation applications for which they are authorized using one or more or a combination of different criteria; provide online access to a data dictionary showing data element and table to assist.	H	Customization Required to Meet	Small: Small customization(s) requiring up to a total of 80 hours for specification, development, and unit testing		RMS-Analytics		
RFF62	Management Reporting	Ad-hoc Query	Ensure that a user cannot access information through an ad-hoc query if they are not authorized to view this information in the operational Crash and Citation application.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF63	Management Reporting	Ad-hoc Query	Allow for a user to save an ad-hoc query for later execution without impacting any base query that was used as a start point.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF64	Management Reporting	Ad-hoc Query	Display a user's saved ad-hoc queries by the user-defined descriptive name on the user's report portal.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF65	Management Reporting	Ad-hoc Query	Allow for a user to authorize one or more additional users to have access to a saved ad-hoc query through the report portal.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF66	Management Reporting	Ad-hoc Query	Display any ad-hoc queries authorized by one user for use by a second user on the second user's report portal.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF67	Management Reporting	Ad-hoc Query	Support natural language (NL), i.e., English-like entry of ad hoc queries (such as using an LLM AI toolset to write sophisticated SQL (Structured Query Language) statements to create reports from the database.	M	Does Not / CANNOT Meet Requirement			RMS-Analytics		
RFF68	Reporting Architecture & Performance	Report Administration	Provide a solution architected to centrally manage the reporting tool set to ensure that any updates are distributed to users and that all users are accessing the same version of the reporting software.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF69	Reporting Architecture & Performance	Report Administration	Ensure the reporting solution is architected so system performance is not impacted when a large report or query is being run.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF70	Reporting Architecture & Performance	Report Administration	Support scheduling, viewing and modifying the start time for batch printing including any dependencies on certain business conditions or events.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF71	Reporting Architecture & Performance	Report Administration	Allow the system administrator or other authorized user to define limits on the execution time for a report or query and/or the number of records/rows being retrieved.	H	Meets the requirement out-of-the-box			RMS-Analytics		
RFF72	Reporting Architecture & Performance	Report Administration	Automatically cancel a query or report job if it fails to meet system administrator defined criteria (e.g., time limits, infinite loops, excessive pages, etc.).	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF73	Reporting Architecture & Performance	Report Administration	Allow the system administrator or other authorized user to terminate any query or report that significantly reduces system performance.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF74	Reporting Architecture & Performance	Report Administration	Allow the system administrator or other authorized user to override parameters for an individual query or report.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF75	Reporting Architecture & Performance	Report Administration	Support auditing of exports of report data and modifications to report definitions.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF76	Reporting Architecture & Performance	Report Administration	Support configuration of report definitions to suppress information based on a user's role and permissions.	M	Meets the requirement out-of-the-box			RMS-Analytics		
RFF77	Reporting Architecture & Performance	Report Administration	Report on user production statistics by user ID, time of day, length of job, etc. to determine who is viewing a report, what reports are being used and resources consumed by business unit/user	H	Meets the requirement out-of-the-box			RMS-Analytics		

WVDOT Crash Citation System
Requirements - Application Architecture

Req. #	Category	Sub Category	Business (Functional) Requirement	Priority (H = High, M = Medium)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
AA1	Application Architecture	General	Provide a solution that provides law enforcement with a tool for easily entering crash and citation information that is robust and effective --- filling in values based on the user profile (i.e., default values are automatically filled based on the identity of the end user), but support the ability for the user to override these default values as required. Anytime a default value has been overriden by the end-user, flag the record as such, indicating that the default was overrident or not accepted.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA2	Application Architecture	General	Provide a solution that implements logical edit checks across all relevant data fields to ensure data fidelity and data integrity. These edit checks must validate that values entered in one field are consistent with values entered in other related fields. Additionally the system shall dynamically control field visibility, displaying only those fields that are logically related to prior user inputs. The system solution must: • Enforce cross-field validation rules that prevent contradictory, incomplete, or illogical data combinations. • Automatically reveal or hide dependent fields based on earlier selections or entries; • Ensure that only contextually valid values are available for selection in any dependent field; • Support complex multi-field logic (e.g., hierarchical, nested, or multi-variable conditions); • Provide real-time feedback to the end user when an entry violates a logical rule; and • Allow administrative configuration of validation rules without requiring code changes. Example (for clarity, not limiting): If the user selects a vehicle type of "Motorcycle" or "ATV," the system must automatically display the "Helmet Use" field and restrict its values to those appropriate for motorcycle/ATV operation. If the vehicle type is not one of these, the "Helmet Use" field must remain hidden or disabled.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA3	Application Architecture	Archiving	Provide reporting and analysis tools which guide the crash and citation data administrator in determining which data is appropriate and available (meaning there are no open related transactions that would inhibit good archive practices) to archive.	H	Meets the requirement out-of-the-box					
AA4	Application Architecture	Archiving	Store asset related data for an indefinite period (e.g., some or all asset related data may be retained for an indefinite period, while other data may be able to be archived after certain user-defined periods based on record retention policies).	H	Meets the requirement out-of-the-box					
AA5	Application Architecture	Archiving	Allow an authorized user to mark records for deletion. Deleted records and attachments will be archived in the database with an indicator of "deleted".	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA6	Application Architecture	Archiving	Allow an authorized user to unmark records which have been flagged in the database for deletion (maintaining referential integrity).	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA7	Application Architecture	Archiving	Support purge, archive, and restore of inactive records based on user-defined criteria and track history.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA8	Application Architecture	Archiving	Allow system administrator or other authorized user to define archiving criteria for different types of data	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA9	Application Architecture	Archiving	Support restoring of archived data by various parameters including the date range of the archiving process and other user-defined business rules.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA10	Application Architecture	Audit Trail	Maintain an audit trail of all user actions that update and access the database including at a minimum user ID, action performed, and time/date stamp; this includes any update via online, batch, web services or self-service functions.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA11	Application Architecture	Audit Trail	Support monitoring the audit trail logs via an auto alert based on user-defined business rules.	H	Meets the requirement out-of-the-box			Mark43 Fortified		Administrators are able to track report edits and changes, utilize an audit tool to track various types of system changes, and utilize Mark43s's security (Fortified) platform.
AA12	Application Architecture	Audit Trail	Support notifications via email to designated users when certain auditable events occur.	H	Meets the requirement out-of-the-box					
AA13	Application Architecture	Audit Trail	Provide a timestamp and user ID of the system user when a record was last changed or inserted.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA14	Application Architecture	Audit Trail	Store the program ID of the program that inserted, deleted or last changed the record, along with the old and new value of the data changed. That is, provide full traceability for all inserts, changes, and deletes of content.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

WVDOT Crash Citation System
Requirements - Application Architecture

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority H = High M = Medium	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
AA15	Application Architecture	Audit Trail	Manage the retention and archiving of audit trails based on user-defined business rules.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA16	Application Architecture	Audit Trail	Maintain an audit trail of report execution including report requested, user requesting report and time/date stamp.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA17	Application Architecture	Document Management	Provide basic document management capabilities within the Crash and Citation applications (that is, the ability to store and link files to a master or transaction record, etc.).	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA18	Application Architecture	Document Management	Support configuring specific workflows or transactions to access different document locations based on the location of the document, either stored in the Crash and Citation applications or stored in the Department's enterprise document management systems / shared directory.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA19	Application Architecture	Document Management	Support purging or archiving a document or attachment without purging or archiving the related transaction. Record all changes to a transaction in a separate log (e.g., creation, revision, update, deletion).	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA20	Application Architecture	Document Management	Provide an indicator within the user interface part of the system that there is one or more relevant documents associated with the displayed record that are stored in the Crash and Citation system; the user must be able to click on the indicator to retrieve and display the image/soft copy of the document.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA21	Application Architecture	Functions and Features	Support the importing/exporting of Google Sheets/Docs, Microsoft Office, and Microsoft Office365 objects as well as industry standard formats (.doc, .docx, .pdf, .txt, .csv, .xml, .json).	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA22	Application Architecture	Functions and Features	Support the generation of notifications (email messages/Texts) by the system based on various system/business events using standard e-mail protocols including but not limited to IMAP, MAPI, POP3, SMTP, etc.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA23	Application Architecture	Functions and Features	Support wildcard or partial searches.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA24	Application Architecture	Functions and Features	Support default of the value of a field based on the value of another field according to user-defined business rules.	H	Meets the requirement out-of-the-box					
AA25	Application Architecture	Functions and Features	Provide user-defined data fields within each Crash and Citation function (estimated 10% of total defined fields in each major system function).	H	Meets the requirement out-of-the-box					
AA26	Application Architecture	Functions and Features	Track and store effective date changes throughout the systems and across modules.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA27	Application Architecture	Functions and Features	Utilize effective and expiration dates to version reference tables and data.	H	Meets the requirement out-of-the-box					
AA28	Application Architecture	Functions and Features	Support mass changes to defined groups of transactions or data with appropriate audit trails.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA29	Application Architecture	Functions and Features	Support back out (rollback) of previously entered batches and individual transactions.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA30	Application Architecture	Functions and Features	Provide a sequential unique identifier for a batch.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA31	Application Architecture	Functions and Features	Support use of bar code, QR code or RFID scanners with the proposed software solution to support data input for electronic identification of medical data (see MMUCC requirements for more detail). Allow the use of hand-held readers/printers to support all system transactions.	H	Customization Required to Meet	Medium: Medium customization(s) requiring a total of 80 to 160 hours for specification, development, and unit testing				
AA32	Application Architecture	Functions and Features	Suppport PDF417 scanning of driver's license		Customization Required to Meet	Medium: Medium customization(s) requiring a total of 80 to 160 hours for specification, development, and unit testing				
AA33	Application Architecture	Functions and Features	Support PDF417 scanning of vehicle registration and/or license plate		Customization Required to Meet	Medium: Medium customization(s) requiring a total of 80 to 160 hours for specification, development, and unit testing				
AA34	Application Architecture	Functions and Features	Support the use of the "print screen" function and export to standard formats (xls., doc, pdf, google sheet/doc, csv, pdf, xml, .json, etc.) from any screen	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

WVDOT Crash Citation System
Requirements - Application Architecture

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AA35	Application Architecture	Functions and Features	Provide multi-language support with spell check and dictionary support, along with support for a user-defined dictionary of terms.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA36	Application Architecture	Functions and Features	Support set-up of user-defined and standard document, form and letter templates at either the Department-wide or department/business unit level for use throughout the Crash and Citation solutions with names, titles, labels, pre-defined backgrounds, etc.	M	Meets the requirement out-of-the-box					
AA37	Application Architecture	Functions and Features	Support copying of a system item to create a new system item of the same type as a productivity tool to reduce manual data entry requirements.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA38	Application Architecture	Functions and Features	Allow the system administrator or other authorized users to broadcast messages to all or a specific subset of system users.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 has a mass system notification tool, that allows notifications to all users or users within a designated role
AA39	Application Architecture	Functions and Features	Support scheduling of broadcast messages with a start and end date/time.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

WVDOT Crash Citation System
Requirements - Application Architecture

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AA40	Application Architecture	Functions and Features	Support use of electronic signatures to initiate or approve a business event within the proposed software solution through authentication of the user to the system by entry of valid user credentials at the time the user signs on to the system. Record the application of electronic signatures in the record transaction log.	L	Meets the requirement out-of-the-box					
AA41	Application Architecture	Functions and Features	Integrate with Department specific standard email systems (at a minimum, Gmail and Microsoft Outlook).	L	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA42	Application Architecture	General	Share all related business information across functional areas and organizations (subject to application security and user-defined business rules)	H	Meets the requirement out-of-the-box					
AA43	Application Architecture	General	Provide an integrated data management structure that is utilized across the proposed software solution to minimize system processing or administration required on data integration points.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA44	Application Architecture	General	Provide user-controlled definition and maintenance of system values and business rules in tables without requiring programmer intervention.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 has robhust administrative tools to change field selections, edit field names, and edit requirements of fields
AA45	Application Architecture	General	Support update of all related modules and tables with a single entry (e.g., a change to a project attribute or project status information is made only once but takes effect throughout the system).	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA46	Application Architecture	General	Allow the application administrator or other authorized users to manage and maintain system tables and data field values.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		We refer to data fields as attributes, in the end, these are 100% managed by the agency. Mark43 is able to support questions and work to make changes on behalf of the agency (if required)
AA47	Application Architecture	General	Support the addition of user-defined fields that updates the supporting tables/queries as well as the screens.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA48	Application Architecture	General	Support persistence in terms of field labels such that a screen label defined in one place would be referred to the same way everywhere.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA49	Application Architecture	General	Perform transactions in real-time in the sense that online access will display the most current element value (e.g., if a user changes the value of a data element on one screen, the newly changed data value will be shown when the user moves to another screen with that element)	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		In Mark43, if changes are made to data in one screen, and another screen is opened, if the user refreshes he or she will see the apparent change
AA50	Application Architecture	General	Edit all system input according to user-defined business rules so that the rules are appropriately applied, and data is validated at the time the data is being entered into the system either on-line or through a batch transaction.	H	Meets the requirement out-of-the-box					
AA51	Application Architecture	General	Support multiple concurrent application sessions for each user; each concurrent session must utilize the same security profile.	H	Meets the requirement out-of-the-box					
AA52	Application Architecture	General	Maintain security logs and audit trails distinctly for each concurrent user session.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA53	Application Architecture	General	Provide a metadata editor to modify/relabel terms, screen and field captions across the application, by department or line of business and/or by screen by role; user configured terms shall reflect on reports; retain original terms allowing revert; re-apply modified captions after upgrades/releases.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 allows the systematic changes to fields and we track the history of changes, which allows the users to ammend/change the field to its orginal state.
AA54	Application Architecture	General	Provide the application administrator or other authorized user with screen layout configuration capabilities including movement of fields around a screen and/or across tabs, removal of fields, addition of user-defined fields, reorder or consolidation of tabs, buttons to enable prints and selection of related reports, links to other business objects (e.g., project records, contract records, project contacts, etc.).	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA55	Application Architecture	General	Comply with the Rehabilitation Act of 1973 and Americans with Disabilities Act (ADA) Section 508 standards for accessibility for all system functions; comply with the latest version of the Web Content Accessibility Guidelines (WCAG) and ensure the Crash and Citation applications can work with industry leading assistive technology products such as screen readers. All screens/windows/forms accessible to the public must be WCAG 2.1 Level AA compliant	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA56	Application Architecture	General	Support encryption or masking of any fields with access restricted to authorized users by department/business unit and role and responsibility.	L	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA57	Application Architecture	General	Support indicating at the field level user classes or individual users who are authorized to view masked or encrypted fields.	L	Does Not / CANNOT Meet Requirement					
AA58	Application Architecture	General	Provide support for field-level "Tool Tips" feature.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA59	Application Architecture	Help	Provided a centrally stored and maintained system wide help function.	H	Meets the requirement out-of-the-box					
AA60	Application Architecture	Help	Provide context-sensitive, field-level on-line help features for all screen elements, screen errors and error codes, along with the ability for an authorized user to make revisions to these on-line help features and content.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA61	Application Architecture	Help	Identify processing or navigation path for a screen.	H	Meets the requirement out-of-the-box					
AA62	Application Architecture	Help	Provide user documentation that is comprehensive, clear and easy to use (e.g., user documentation must provide quick answers to questions regarding the navigation of application screens, execution of pre-defined reports, and use of the ad-hoc query capability); it must also contain clear and thorough descriptions of all screen and batch processing functions, screen data, programs, system reports, and any processing parameters.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA63	Application Architecture	Help	Provide comprehensive search functions for on-line documentation, including search strings with wild cards, and linked content by topic area.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA64	Application Architecture	Help	Provide table-driven error message handling that can be modified by authorized users.	M	Meets the requirement out-of-the-box					
AA65	Application Architecture	Help	Ensure any customized help files carry forward automatically during upgrades.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

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AA66	Application Architecture	Security	Integrate with Active Directory, the State of West Virginia specific identification and authentication systems and processes to allow for access to the Crash and Citation through a single user sign-on to the Department network.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA67	Application Architecture	Security	Comply with the WVDOT and any applicable State of West Virginia, United States Department of Transportation (USDOT), National Highway Transportation Safety Administration (NHTSA), Model Minimum Uniform Crash Criteria (MMUCC), and Homeland Security Administration security policies. Conform to the requirements in the State of West Virginia Office of Technology Information Security Policy at https://librarycommission.wv.gov/Librarian/Documents/SecurityPol0107.pdf	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA68	Application Architecture	Security	Comply with the encryption requirements in Information Exchange Package Documentation (IEPD) standards.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA69	Application Architecture	Security	Comply with ISO/IEC 15408: Common Criteria for Information Technology Security Evaluation.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA70	Application Architecture	Security	Support secure hypertext transfer protocol (HTTPS).	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA71	Application Architecture	Security	Comply with FEDRAMP requirements.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA72	Application Architecture	Security	Support role-based security and privileges and access rights by position and department/business unit.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA73	Application Architecture	Security	Support granular management and administrator control over transactions, forms access, field updates, row locking, interfacing events, data queries and other types of authorizations using role-based security.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA74	Application Architecture	Security	Provide for a security administrator function/role that allows for separate controls for view, add, change, inactivate update, approve, and query access privileges.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA75	Application Architecture	Security	Support secure communications authentication, authorization, confidentiality and data integrity (e.g. HTTPS, SSL) for internet-based transactions and/or support for FIPS 140-2 data encryption for system transactions.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA76	Application Architecture	Security	Support role-based security for automated workflow components including establishing access and update privileges for work lists, page access related to the selection of a word list item, and definition of which users are included workgroups. This should include roles for crash, citation, and DNR-based roles and permissions.	H	Meets the requirement out-of-the-box					
AA77	Application Architecture	Security	Allow the system administrator or other authorized user to define users to the system, including the following information about each user: unique user identification; user first name; user last name; department/business unit; user email address and effective date of user access to the system.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA78	Application Architecture	Security	Allow the system administrator or other authorized user to define user access groups based on job responsibilities to ensure separation of duties; the system administrator must enter the user group name, a user group code and a description of the role and capabilities of the user group.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA79	Application Architecture	Security	Allow the system administrator or other authorized user to grant user groups access to each system function and to establish the type of access to be allowed (add, change, inquire, retire, delete) and establish an effective start and end date for this access.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

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AA80	Application Architecture	Security	Allow the system administrator or other authorized user to assign users to one or more user groups including an effective date and optional end date for inclusion in each user group.	H	Meets the requirement out-of-the-box					
AA81	Application Architecture	Security	Log incidents of security violations within the system capturing user identification, system function for which unauthorized access was attempted and date and time of security violation.	H	Meets the requirement out-of-the-box					
AA82	Application Architecture	Security	Provide an online function for review of the logs of invalid password attempts or security violations by the system administrator or other authorized users	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA83	Application Architecture	Security	Apply the system security roles and privileges to report and ad-hoc query results such that users cannot access data through reports and queries for which they are not authorized in the operational system.	H	Meets the requirement out-of-the-box					
AA84	Application Architecture	Security	Support access to the Crash and Citation solutions by authorized third-party business partners through virtual private network and/or Internet self-service portal capabilities, subject to the Department security procedures for external access.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA85	Application Architecture	Security	Allow users to choose from multiple user groups/roles as sign-on if the user is assigned more than one role.	H	Meets the requirement out-of-the-box					Mark43 allows individual users to belong to more than 1 role at login
AA86	Application Architecture	Security	Allow system administrator or other authorized user to define the allowable period for user inactivity while logged on.	H	Meets the requirement out-of-the-box					SSO and CJIS requirements are followed by the platform
AA87	Application Architecture	Security	Disconnect or log out a user session when it exceeds the allowable period of inactivity as established by the system administrator and configured in the system.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA88	Application Architecture	Security	Warn users that they will be disconnected before automatically logging off users.	H	Does Not / CANNOT Meet Requirement					
AA89	Application Architecture	Security	Support trusted, secure access to external links (for repair manuals, parts lists, etc.).	M	Meets the requirement out-of-the-box					Saas solution provides logout timers based on inactivity
AA90	Application Architecture	Security	Provide that if two distinct security roles are needed to perform a business function and both roles are held by the same user, the user must log on separately under each security role to perform the full business transaction.	M	Does Not / CANNOT Meet Requirement			RMS - Citations and Crash Reporting		
AA91	Application Architecture	Security	Allow authorized Department managers to use a workflow within Crash and Citation (including DNR citatioins) to request employee access privileges to specific system functions and obtain management approval based on enterprise and business unit rules for this access; based on the Department management approvals, request will then be forwarded to the system administrator or other authorized user for review and potential action.	M	Does Not / CANNOT Meet Requirement					Unsure of request
AA92	Application Architecture	Security	Allow a system administrator or other authorized user to define or reset a user's password by entering a password or selecting a system generated unique, random temporary password; password must be capable of being emailed upon a change and through self-service based on a user successfully answering challenge questions. Note in the system log that a change to a user password occurred on a specific date/time stamp.	M	Does Not / CANNOT Meet Requirement					
AA93	Application Architecture	Security	Allow external users to reset their own password using standard password reset protocols to validate the identity of the user. Internal Department users shall change their password through the Department's identity management system.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA94	Application Architecture	Security	Support the use of security challenge questions for authenticating a user, as well as allow for users to provide and store unique answers for a subset of these security challenge questions to be subsequently used if a user forgets a password.	M	Does Not / CANNOT Meet Requirement					SSO integration will asssist with this requirement
AA95	Application Architecture	Security	Support digital certificates.	L	Meets the requirement out-of-the-box					
AA96	Application Architecture	Security	Support public key infrastructure (PKI).	L	Meets the requirement out-of-the-box					
AA97	Application Architecture	Security	Personally identifiable information (PII) should be viewable or masked based on user role.(definable by the System Administrator).	H	Meets the requirement out-of-the-box					
AA98	Application Architecture	Security	Support integrating with identify management systems utilized by local agencies; further, the applications must also be able to support local users where there are no SSO capabilities to conform to.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA99	Application Architecture	Security	Support the ability for any given user to have one or more assigned roles.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA100	Application Architecture	Security	Support the ability for any authorized user to delegate their role responsibility to another user for a time-limited period (e.g., a supervisor can delegate their role while out of the office for a period of time).	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		In the Mark43, users can have more than one role, and we can define abilities between roles that allow for both shared responsibility, but also, allow for seperation between system capabilities
AA101	Application Architecture	Upgradeability	Provide the ability to maintain or retain user configurations in the Crash and Citation applications through upgrade or release of new versions of the software.	M	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA102	Application Architecture	User Documentation	Enable users to incorporate user-defined documentation into system documentation (e.g., user procedures, business rules, etc.) which is accessible from the Crash and Citation applications.	H	Meets the requirement out-of-the-box					Mark43 provides this in rms and on the report as a hyper llink
AA103	Application Architecture	User Documentation	Support maintaining version control of user-defined documentation.	L	Meets the requirement out-of-the-box					
AA104	Application Architecture	User Interface	Utilize a consistent user interface across the core components of the Crash and Citation solution (excluding third-party software components) including user-definable hot keys; screen naming functions; navigation patterns; consistent use of controls; online help and menus (as defined by the user's security profile).	H	Meets the requirement out-of-the-box					
AA105	Application Architecture	User Interface	Support both manual entry and contextually validated drop-down lists of all valid values for each validated field.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA106	Application Architecture	User Interface	Allow a user to navigate between multiple, related input screens without losing information input on the original (or header) screen until all information is committed to the database.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA107	Application Architecture	User Interface	Allow a user to cancel a transaction and/or exit any document or screen without saving changes.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

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AA108	Application Architecture	User Interface	Provide a visual identification (e.g., highlighting) of all required fields for entry on any screen.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA109	Application Architecture	User Interface	Support search and filter capability on user screens containing columns of data.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA110	Application Architecture	User Interface	When a crash report falls under FMCSA requirements, the solution should dynamically hide/show FMCSA-related fields to the end user for data entry.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		As a part of the implemenation we work with the agency on what the perscribed workflows are, for users to do their job. Any chagnes to the system, that are required to support new workflows or changes to exisiting workflow, we teach the agency on how to do/make without vendor involvement.
AA111	Application Architecture	Workflow	Provide tools for modifying preconfigured workflows or developing new workflows.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA112	Application Architecture	Workflow	Support the establishment of user-defined rules-based workflows for any system event or transaction.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA113	Application Architecture	Workflow	Support bi-directional electronic routing of documents for approval or other tasks through workflow.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA114	Application Architecture	Workflow	Support initiation of workflows from both online real-time and batch driven/initiated events based on user-defined business rules.	H	Customization Required to Meet	Large: Large customization(s) requiring greater than 160 hours for specification, development, and unit testing				
AA115	Application Architecture	Workflow	Allow for reversal of any approvals and return the workflow transaction to the originating user and any other users who had previously approved the transaction if one or more reviewers disapproves a transaction.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA116	Application Architecture	Workflow	Support copying, modifying and extending preconfigured workflows to meet specific Department business requirements.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		As a part of the implemenation we work with the agency on what the perscribed workflows are, for users to do their job. Any changes to the system, that are required to support new workflows or changes to exisiting workflow, we teach the agency on how to do/make without vendor involvement.
AA117	Application Architecture	Workflow	Support multiple levels of approvals for transactions based on profile security and other user-defined criteria.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA118	Application Architecture	Workflow	Allow a user to enter descriptive information in a note field or to upload and attach a file to content items within the workflow and store these notes with user ID and date/time stamp.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA119	Application Architecture	Workflow	Ensure a transaction is not finalized until all required approval workflows are complete.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA120	Application Architecture	Workflow	Allow a workflow to be designed to support either simultaneous actions or require consecutive actions, as defined by an authorized user	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 has a workflow automation tool
AA121	Application Architecture	Workflow	Provide a dashboard which displays the status of workflows including workflows pending for a user-defined period of time.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA122	Application Architecture	Workflow	Allow for a supervisor to temporarily route transactions for workload balancing, absences, etc.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 has the capbilities of re-assigning reports to new users and re-route reports to be approved by another supervisor.
AA123	Application Architecture	Workflow	Track workflow approvals and rejections.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		Mark43 has a dedicated dashboard to track reports that are in either a draft, rejected, pending 1st approval, pending 2nd approval, and completed status
AA124	Application Architecture	Workflow	Support various user-defined transaction statuses, including approved, rejected, pending, under consideration, etc.	H	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		
AA125	Application Architecture	Workflow	Support electronic signatures for approvals and rejections of workflows based on a user authenticating themselves to the system.	L	Meets the requirement out-of-the-box			RMS - Citations and Crash Reporting		

WVDOT Crash Citation System
Requirements - Technical Architecture

Req. #	Category	Sub-Category	Business (Functional) Requirement	[illegible]	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
TA1	Technical Architecture	Batch Error Handling	Allow an authorized user to edit a transaction in error and resubmit it.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA2	Technical Architecture	Business Continuity	Provide an architecture which supports fail-over to a parallel load balanced environment on a real time basis.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA3	Technical Architecture	Business Continuity	Provide a system design which is architected to ensure that normal system operations are restored within four hours of a catastrophic disruption of a production system component 99% of the time.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA4	Technical Architecture	Business Continuity	Support performing full backups, incremental backups and recovery capabilities for data and application components. Back-ups shall not require maintenance windows; backups shall be able to function in the background of a production SOA or clustered environment and not impact system availability.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA5	Technical Architecture	Business Continuity	Provide the means to execute disaster recovery operations for test and live conditions.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA6	Technical Architecture	Custom Development	Allow for identification/reporting of new user-defined fields.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA7	Technical Architecture	Custom Development	Allow for identification/reporting of new user-defined objects.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA8	Technical Architecture	Data Integration	Provide supported Application Program Interface (API) data definitions and file structures for all key reference sets to support batch loading of data. For example, the ability to load full crash record data or citation data via an input file, such as csv, xml, etc.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA9	Technical Architecture	Data Integration	Support data encryption where appropriate based on user-defined business rules following Advanced Encryption Standards (AES) for data both in transit and at rest in all file structures.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA10	Technical Architecture	Data Integration	Encrypt all data with personally identifiable information (PII) or Department confidential information in transit and at rest in all file structures.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA11	Technical Architecture	Data Integration	Support executing interfaces with other systems on a pre-defined schedule, event, or on the request of an authorized user.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA12	Technical Architecture	Data Integration	Support modern architectural interface data exchange protocols with other WV systems in real-time (e.g., HTTPS, OAuth2/token-based authorization, web services, RESTful, SOAP, Msg Broker, etc.)	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA13	Technical Architecture	Data Integration	Place records not passing validation into a suspense status within the Crash and Citation system solution.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA14	Technical Architecture	Data Integration	Provide the ability to correct suspended records within the Crash and Citation system.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA15	Technical Architecture	Data Integration	Support EDI including ASC X12.	L	Meets the requirement out-of-the-box			RMS Citations and Crash		This requirement is not applicable. Under Mark43's SaaS delivery model, the function described is inherently fulfilled within the fully managed service environment, eliminating the need for customer action or separate support.
TA16	Technical Architecture	Database	Support implementation of the proposed solution on the most current production release and one major release back of any major database product, such as Oracle® or Microsoft SQL Server®, along with the ability to maintain this state over time.	H	Does Not / CANNOT Meet Requirement			RMS Citations and Crash		This requirement is not applicable. The proposed solution is delivered as a SaaS offering with fully managed infrastructure, including the database layer. The platform does not depend on customer-hosted database versions and is continuously maintained on current, supported production releases as part of the service.
TA17	Technical Architecture	Database	Maintain referential integrity of data through either database referential integrity declarations or application code.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA18	Technical Architecture	Database	Utilize high availability and advanced security features of the database to the extent appropriate.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA19	Technical Architecture	Database	Support data replication, load balancing, and synchronization across multiple physical or virtual servers.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA20	Technical Architecture	Database	Exploit DBMS database features and database and application design to reduce contention between updates by online users and those of concurrently running batch processes.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA21	Technical Architecture	Database	Ensure that on-line search queries will not be delayed by waiting for locks to be released.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA22	Technical Architecture	Database	Ensure in a two-user scenario when both users retrieve data and attempt to update data one after another, to avoid loss of updates and/or to avoid overwriting of each other's data the system must notify the second user as the data is being updated by the first user (provide selection of "first in wins", last, etc.).	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA23	Technical Architecture	Database	Ensure that in a two-transaction read/update cycle, the user will always update ONLY what was being read, avoiding the so-called 'update collision' or 'deadly embrace'.	H	Does Not / CANNOT Meet Requirement			RMS Citations and Crash		Mark43's SaaS solution does not natively enforce this specific two-transaction read/update constraint. However, the platform maintains comprehensive audit logging and transaction traceability, enabling identification and review of any update collision or "deadly embrace" events should they occur.
TA24	Technical Architecture	Database	Support automatic "clean up" of partial database updates after suspended network sessions or after other failures.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA25	Technical Architecture	Database	Provide database monitoring tools and capabilities within the proposed solution for the recommended database platform to enable administration and performance tuning of the database environment.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA26	Technical Architecture	Database	Support record locking at the row level.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA27	Technical Architecture	Database	Support field-level locking.	M	Does Not / CANNOT Meet Requirement			RMS Citations and Crash		Mark43 manages this function via permissions
TA28	Technical Architecture	Database	Support configuration of data attributes by the system administrator.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Mark43 does not support locking at the field-level

WVDOT Crash Citation System
Requirements - Technical Architecture

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority H = High M = Medium L = Low	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
TA29	Technical Architecture	Database	Provide access for/to structured query language (SQL) capabilities for database queries.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Mark43 manages this funciton via a datalake
TA30	Technical Architecture	Enterprise Application Integration	Provide communication services that guarantee message delivery and handle queuing and encryption for various types of communication (e.g., publish and subscribe, request/reply, etc.).	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA31	Technical Architecture	Enterprise Application Integration	Provide message queue monitor and management operations to address queue backlogs and problems.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA32	Technical Architecture	Enterprise Application Integration	Provide configurable data-transformation services to handle data validation, calculations, lookups, padding, scrambling, truncation, etc.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services
TA33	Technical Architecture	Enterprise Application Integration	Provide business process flow services to group and link data flows to automate the steps in a business transaction.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services
TA34	Technical Architecture	Enterprise Application Integration	Support Universal Description, Discovery and Integration (UDDI) extensible mark-up language.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		JSON APIs and SQL datalake provided. Can integrate to any 3rd party system protocol
TA35	Technical Architecture	Enterprise Application Integration	Support Web Services Description Language (WSDL).	H	Meets the requirement out-of-the-box			RMS Citations and Crash		JSON APIs and SQL datalake provided. Can integrate to any 3rd party system protocol
TA36	Technical Architecture	Enterprise Application Integration	Support web services using Simple Object Access Protocol (SOAP).	H	Meets the requirement out-of-the-box			RMS Citations and Crash		JSON APIs and SQL datalake provided. Can integrate to any 3rd party system protocol
TA37	Technical Architecture	ETL Tools	Provide data integration and data management tools with a range of extract, transform and load (ETL) capabilities.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services
TA38	Technical Architecture	ETL Tools	Support integrating the proposed solution with third-party ETL tools to perform required ETL functions.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services
TA39	Technical Architecture	ETL Tools	Validate and handle exceptions during transformation.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services with consult of customer

WVDOT Crash Citation System
Requirements - Technical Architecture

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority (H=High, M=Medium, L=Low)	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
TA40	Technical Architecture	ETL Tools	Verify and maintain referential integrity as part of any transformation process.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services with consult of customer
TA41	Technical Architecture	ETL Tools	Support mapping data from multiple source systems into multiple target source systems.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Managed by mark43 as part of implementation services
TA42	Technical Architecture	ETL Tools	Support incremental loads; allow for taking advantage of pipelined and partitioned parallelism to meet acceptable timeframes.	M	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA43	Technical Architecture	General	Provide a non-propriety solution architecture with an expandable configuration and horizontal and vertical scalability.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA44	Technical Architecture	General	Provide a service-oriented architecture (SOA) design/capability which is platform and protocol independent and complies with OASIS (Advancing Open Standards for the Information Society) standards such as WS-Security, WS-Reliability, etc. and other open standards such as XML, SOAP, WSDL, and UDDI.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Developers.mark43.com shows API surface area to interact with the system. Datalake offers bulk data access
TA45	Technical Architecture	General	Separate database tier from application tier.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA46	Technical Architecture	General	Provide for separation of some or all the web server (presentation) tier from the application server tier.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA47	Technical Architecture	General	Support virtualization for all tiers.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA48	Technical Architecture	General	Support use of XML standards for communications (data exchange) to external parties.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		JSON preferred, XML supported for integrations
TA49	Technical Architecture	General	Provide a solution that supports offline entry of data independent of the ability to communicate with the backend database (i.e., a solution that works regardless of whether the application is connected). Note: • Input of crash data should continue independent of a network connection and supports "catching up" or synchronizing the entered data once a connection has been re-established. • During the period of non-connect, all relevant data entry functions need to be available; however, non-essential functions like reports, queries, etc., can be omitted. • For issuing or printing of a citation, the citation should be able to be printed locally regardless of the connection state.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA50	Technical Architecture	General	Deliver content via the current and most recent supported versions of popular browsers (i.e., Microsoft Edge, Mozilla Firefox, Chrome, Safari, etc.)	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA51	Technical Architecture	General	Deliver content via browser without Active X controls or plug-in support (Java Runtime Environment, Adobe Flash, etc.).	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA52	Technical Architecture	General	The system shall provide support for integration with printers and other peripheral equipment commonly used in law enforcement operations (e.g., mobile ticket printers, in-vehicle peripherals). • The system shall maintain backward compatibility with equipment currently deployed in the field (e.g., Zebra printers) and shall be adaptable to the specific equipment standards, procurement policies, and operational needs of various agencies. • The system shall also be designed to accommodate future peripheral technologies or other equipment types without requiring significant re-engineering. • The solution should be capable of full and partial page (i.e., adjustable) printing options in the field based on type of printer available in the field.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA53	Technical Architecture	General	The system shall allow configuration of agency-specific fields/forms for DNR Workflows (e.g., off-road crash fields, replacement cost tables, etc.)	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA54	Technical Architecture	Job Scheduling and Processing	Provide a central enterprise job scheduler with the proposed solution that can schedule jobs across platforms and across multiple servers within a platform.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA55	Technical Architecture	Job Scheduling and Processing	Integrate with a third-party scheduler to provide job scheduling functionality for the proposed solution.	H	Does Not / CANNOT Meet Requirement			RMS Citations and Crash		This requirement is not applicable. Under Mark43's SaaS delivery model, the function described is inherently fulfilled within the fully managed service environment, eliminating the need for customer action or separate support.
TA56	Technical Architecture	Job Scheduling and Processing	Allow scheduling of report and query jobs.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA57	Technical Architecture	Performance	Ensure that batch processing does not adversely impact on-line responsiveness or availability.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA58	Technical Architecture	Performance	Provide a solution which is architected to support access to data for pre-defined reports, ad-hoc queries and business intelligence without impacting online transaction performance.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA59	Technical Architecture	Performance	Support utilization of industry leading third party performance monitoring tools for real-time monitoring by administrators of response time, system use and capacity, concurrent users, and system errors.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA60	Technical Architecture	Performance	Allow user-initiated reports and queries to be limited by elapsed time and the number of records retrieved.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA61	Technical Architecture	Performance	Allow limits to be defined for other types of query functions such as table joins, multiple sorts, etc.	M	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA62	Technical Architecture	Supportability	Allow at a minimum for configuration across multiple environments including production, test/train, development / sand box.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA63	Technical Architecture	System Tools	Provide report design and generation tools within the application suite.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA64	Technical Architecture	System Tools	Provide tools for system upgrade administration within the application suite.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		
TA65	Technical Architecture	System Tools	Provide tools for system monitoring within the application suite.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		As part of the SaaS solution Mark43 manages the stated function
TA66	Technical Architecture	System Tools	Provide configuration management tools within the application suite.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		

WVDOT Crash Citation System
Requirements - Technical Architecture

Req. #	Category	Sub-Category	Business (Functional) Requirement	Priority H = High M = Medium L = Low	Vendor Response	Customization Estimate, if Applicable	Capability Planned for Future Release	Core Module(s)	Third Party Solution(s)	Comments/Notes
TA67	Technical Architecture	System Tools	Provide end user interface design tools within the application suite. This should include the ability for an authorized user to be able to add/delete/change values in drop-down menus and add new forms.	L	Meets the requirement out-of-the-box			RMS Citations and Crash		Meets the requirement out-of-the-box
TA68	Technical Architecture	Data Integrity	Utilize a phone validation service to validate all phone number data entry fields.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Mark43 can govern the min/max of the phone number field; Mark43 would need to integrate with an external system to validate the phone against any other database
TA69	Technical Architecture	Data Integrity	Utilize a VIN validation service to validate VIN number data entry fields.	H	Meets the requirement out-of-the-box			RMS Citations and Crash		Mark43 can govern the min/max of the VIN field; Mark43 would need to integrate with an external system to validate the VIN against any other database

Attachment B - Proposed Approach for Executing Project

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Proposed Approach for Executing Project and Work Plan

Customer Question: Describe the Vendor's proposed approach for executing the project. Provide a high-level timeline for completing the work, depicting key tasks/activities and milestones. As an attachment (not counted in page limit), provide an initial project work plan for the project.

The Mark43 team will follow a phased, multifaceted approach to achieve WVDOT's objectives. Mark43 brings a proven, phased implementation methodology to deliver West Virginia a modern, fully MMUCC 6th Edition-compliant Crash Reporting and E-Citation system. Our approach is designed to minimize risk, accelerate time-to-value, and ensure that the West Virginia State Police, local law enforcement agencies, courts, and the DMV are fully supported from day one. Our implementation process integrates project management, design thinking, and an embedded approach to deliver a modern, highly available, and redundant public safety platform. This approach prioritizes your functional requirements and reduces impact on your operations. Below we describe our execution approach and high-level timeline across five phases spanning approximately 21 months. A detailed project work plan is provided as an attachment to this response.

Implementation Methodology

The Mark43 Implementation Team follows the Project Management Institute's (PMI) global standards for project management to ensure professional excellence for all client projects. Mark43 follows an iterative, milestone-driven Professional Services methodology refined across dozens of successful public safety deployments. This approach incorporates policy, technical, testing, and training considerations. WVDOT workflow decision makers and project managers work together with Mark43's project team, including relevant partners, to identify and document the requirements for implementation. Our approach is organized into five phases spanning approximately 21 months, each with defined deliverables, acceptance criteria, and stakeholder checkpoints. This structure ensures transparency, accountability, and continuous alignment with WVDOT objectives throughout the project lifecycle.

To ensure successful delivery, we follow a phased methodology that incorporates comprehensive planning (including development of a detailed project plan outlining tasks, milestones, timelines, deliverables, and resources); application set-up; integration/data migration activities; testing; enablement and training; pilot deployment; statewide deployment;

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and project close-out. With this approach, we will meet the technical, interface development, data conversion, implementation, training, ongoing support, and maintenance required by WVDOT. Our proposal reflects the team's ability to satisfy the desired technical and functional requirements for your needs today and in the future.

West Virginia's transition to MMUCC 6th Edition compliance represents a significant increase in the volume and complexity of data elements officers must capture. Mark43's modern interface is purpose-built to address this challenge, through intelligent form logic, automated data population, and real-time validation, Mark43 Crash can reduce report-writing time by up to 75% while ensuring every report meets full MMUCC compliance.

Mark43 eCitations modernizes one of the most frequent - and highest-risk - interactions between officers and the public. Today, paper-based citations can take 10-20 minutes to issue, approximately 12 days to reach the courts, and roughly 10-15% are dismissed due to illegibility or incomplete information. Mark43 eCitations is a cloud-native, mobile-first solution that streamlines the entire citation workflow - from writing and printing to issuing and submitting - in a single app, even when offline. Officers can scan driver licenses, VIN barcodes, and license plates to automatically prefill key citation fields, and Universal Search allows officers to instantly query state databases and NCIC, returning person and vehicle details directly into the citation workflow. This eliminates repetitive manual data entry, reduces errors, and shortens roadside stop duration - directly improving officer safety. Mark43 eCitations supports standalone deployment or full integration with RMS, and agencies can scale between configurations without replacing the system.

Deployment Methodology / Phases

Pre-Sale

0 Pre-Execution

- RFP Responde and Scoping Validation
  - Business Goals
  - Product Requirements
  - Data Migration
  - Interfaces

Post-Sale

1 Project Management

- Contract Review
- Project Governance
- Project Kick-off
  - Customer Journey Overview
  - PS Overview
  - SoW/DoS Review
- Project Documentation
  - Project plan & Structure
  - Resource scheduling

2 Application Design & Test

- Operational Enablement Workshop
- Tenant Provisioning
- Crash Setup and Configuration
- Citation Setup and Configuration
- Mapping Setup
- Technical Support Configurations
  - SSO Setup
  - Servers and hardware setup
  - Data Migration S3 setup
- Data Lake stood up

3 Interfaces and Data Migration

- Interface setup and testing
  - Development
  - Setup and Configuration
  - Validation
  - Deployment
- Data Migration
  - Mapping Configurations
  - ETL Process Development
  - 3 Migrations Rounds
  - Migration Validation

4 Training

- Review Practice Scenarios
- Configuration Validation Checklist
- Training Preparation
- Training Logistics
- Training Delivery (OOTB)
  - In-Person
  - On-Demand
- Agency Workflow Training
- Sustainment Preparation

5 Pilot and Statewide Launch

- Pre-Launch Support
  - Cutover checklist
  - Tenant Review
  - Customer Success Engagement Review
  - Final Production Data Migration
  - Go/No Go meeting
- Launch!
  - Go Live Support
- Post-Launch Support
  - Catch-up Production Data Migration

6 Ongoing Support

- Deployment close out report
- Deployment review
- Deployment best practices and lessons learned
- Handover to Customer Success

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Program Management (Month 0–1)

The project begins with a formal kickoff and comprehensive planning process, initiated within 10 days of contract execution, consistent with WVDOT requirements. Key milestones and deliverables include the Project Kick-off, an Approved Project Plan with Project Schedule (submitted within 30 days of contract execution), establishment of a bi-weekly meeting cadence (led by the Mark43 Project Manager), and the Governance Framework. Mark43 will also prepare and submit for Agency approval a Project Management Plan, Risk Management Plan, and Quality Assurance (QA) Plan within 45 days of contract execution. A project collaboration environment will be established and maintained throughout the project, incorporating a risk register, action item log, issues log, and decision log accessible to all project team members.

Project Kickoff Activities:

- Mark43 Introduction, including an introduction to the project manager and necessary team.
- Mark43's Implementation Methodology overview.
- Project Organization, Roles, and Responsibilities for both Mark43 and WVDOT, including WVDOH, WVDMV, and WVOT stakeholders.
- Project Communication Plan.
- Overview of product and project deliverables.

Project Planning and Documentation Review:

- Review Project Plan including work plans, stakeholders, and user experience interviews.
- Review Schedule and Meeting Cadence; establish bi-weekly status reporting to WVDOT covering tasks completed, milestones reached, deliverables provided, upcoming tasks, project concerns, and items needed from the Agency.
- Review Project Communication Plan, Project Responsibilities, SOW and associated documents.
- Review Mark43 Application Scope, Interface Scope Documents, and Data Migration Scope Plan.
- Review Project Governance, Resource Scheduling, Training Plan, and Change Control Procedure, including a formal scope change management process governing change requests, approval levels, risk impacts, and associated costs.

Milestone: Approved Project Plan, Project Schedule, Governance Framework, bi-weekly meeting cadence established, and all required management plans submitted for Agency approval within 30–45 days of contract execution.

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Solution Design, Setup and Test (Months 1-12)

Phase 2 is the most comprehensive phase, encompassing application setup, testing, interfaces, data migration, and training. It is organized into parallel workstreams to maximize efficiency:

Phase	Workstream	Timeline	Key Deliverables (eCitation & Crash)
Program Management	Project Kickoff & Planning	Month 0–1	Approved Project Plan; Project Schedule; Governance Framework; Roles & Responsibilities; Communication Plan; Risk, QA, and Change Management Plans
Solution Design, Setup and Test	Crash & eCitation Configuration	Months 1-12	Crash form configuration (MMUCC 6th Edition-compliant); eCitation workflow setup; GIS/Mapping; CJIS/DEx setup; Data Lake setup; Admin & mobile/NCIC configuration; SDDD; RTM
Solution Design, Setup and Test	Structured Testing (Unit, System, Integration, Security, Performance, UAT)	Months 1-12	Master Test Plan; Unit, System, Integration, Security, and Performance Test Reports; Agency-led UAT; Test Results & Issue Log Resolution; Regression Test Plan

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Phase	Workstream	Timeline	Key Deliverables (eCitation & Crash)
Integrations	System Integrations	Months 1-12+	DMV driver/vehicle registry integration; court case management system integration; 3rd Party VIN integration; state/federal reporting (FARS, NHTSA); Active Directory integration; five (5) reserve medium-complexity interfaces; Interface Scope Documents
Data Conversion	Legacy Data Migration	Months 1-21	Migration of five (5) years of crash and citation data from ReportBeam-based system; ETL development; reference value mapping; minimum two (2) full mock data conversions; data validation; Data Migration Plan and Scope Document
Ongoing Training	Initial Core Team Training	Months 12-21	Hands-on start-up training for up to 25 WVDOH, WVDMV, WVOT, law enforcement agency staff, and consultant team members; Mark43 Academy e-learning; Training Plan & Materials

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Phase	Workstream	Timeline	Key Deliverables (eCitation & Crash)
Pilot Phase	Pilot Go-Live; Pilot Training; Issue Remediation	Months 12-15	Pilot Go-Live; Four (4) 2-day Train-the-Trainer sessions; recorded training content; custom help guides; Pilot Close-Out Report; adjustments incorporated
Statewide Deployment	Staggered Statewide Rollout; End-User Training (~3,500 personnel)	Months 15-21	Statewide Go-Live; ~3,500 personnel trained; co-delivered training program (e-learning, classroom, virtual); Training Completion Report; Go-Live Readiness Report

Solution Design, Setup and Test - Application Setup (Months 1-12): The Mark43 project team hosts on-site configuration sessions with WVDOT agency SMEs to identify existing workflows, configure the system, and provide best practices for setting up all in-scope modules. Mark43 will prepare a System Detailed Design Document (SDDD) and a Requirements Traceability Matrix (RTM) for Agency review and approval, documenting system architecture, integration points, business and technical requirements, and all configuration decisions. Key deliverables include a Mark43-led Configuration Workshop, Tenant Provisioning, Module Setup, CJIS Systems Interface/DEx Setup, Data Lake Setup, and Refined Workflows and Processes. Configuration covers crash reporting (including MMUCC 6th Edition-compliant crash forms, crash diagrams, and state-specific data elements), e-citation workflows, all report types and modules, workflow enhancement features, GIS/Mapping, Insights and Data Lake, admin settings, technical setup, and mobile/NCIC configuration. Mark43 will also perform a fit analysis against Agency requirements, identify any potential gaps, and present recommended solutions to the WVDOT Project Steering Committee for approval.

Solution Design, Setup and Test - Structured Testing (Months 1-12): Mark43 will develop and execute a comprehensive Master Test Plan approved by WVDOT, covering all required test phases in sequence: (1) Unit Testing - Vendor-developed configuration and FRICEW elements tested individually; (2) Sprint/Iterative Testing - WVDOT and partner agency staff validate system functions through iterative sprints as functionality is completed; (3) System Testing - validates major business functions and integration points within the Vendor solution; (4) Integration Testing - end-to-end validation including all external interface points and a mock

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data conversion; (5) Security Testing - demonstrates that the Vendor solution meets all security requirements, including StateRAMP, CJIS, and West Virginia security standards; (6) Performance Testing - validates that the solution meets performance requirements, including support for up to 500 concurrent law enforcement users; (7) User Acceptance Testing (UAT) - WVDOT-planned and managed test; Mark43 establishes and manages the UAT environment, supports test execution, documents results, and remediates identified issues; and (8) Regression Testing - performed for post-pilot system changes and any post-Go-Live enhancements. After each formal test phase, Mark43 will submit a test report to WVDOT documenting results, anomalies, corrective actions required, and re-test procedures. A defect log will be maintained throughout all testing phases and will be accessible to WVDOT at all times.

Integrations (Months 1-12+): Running in parallel with application setup, Mark43 establishes all system integrations identified in Attachment C, plus a reserve of five (5) additional medium-complexity interfaces as may be identified during design. For each interface, the process follows a structured lifecycle: Scoping (resulting in an agreed-upon Interface Scope Document), Development (if needed and in-scope), Setup & Configuration (internally verified by Mark43 in a testing/staging tenant), Customer Validation (WVDOT tests and verifies functionality against the ISD), and Deployment (validated interface replicated in the live tenant). Timelines are dependent on third-party interface access, scope, and availability. Mark43 will prepare functional and technical design specifications, extract/transform mapping rules, and provide production support for the overall interface architecture through the post-production support period. This includes integrations with DMV driver/vehicle registries, court case management systems, a 3rd Party VIN integration, State Active Directory (single sign-on), and state/federal reporting systems such as FARS and NHTSA.

Data Conversion (Months 1-21): Also running in parallel, Mark43 will lead interactive data migration strategy and assessment sessions to develop a comprehensive Data Migration Plan for crash reports and e-Citations. Mark43 will migrate five (5) years of crash and citation data from the existing ReportBeam-based system. The Data Migration Plan will include discovery and profiling of legacy data, data cleansing rules, data transformation rules, de-duplication logic, reconciliation procedures, test migration runs, validation scripts, and a rollback strategy. Mark43 will conduct a minimum of two (2) full mock data conversions - one prior to integration testing and one prior to user acceptance testing - and will ensure data fidelity for new MMUCC 6th Edition fields by only populating new fields with values reliably inferred from legacy data. Key deliverables include the Data Migration Scope Document and Completed Data Migration and Validation Acceptance.

Ongoing Training (Months 12-21): Mark43 will provide hands-on start-up training on all elements of the proposed software solution for up to 25 WVDOH, WVDMV, West Virginia Office of Technology (WVOT), law enforcement agency staff, and consultant team members assigned to the project. Training is delivered in role-based sessions tailored to each participant group, ensuring that agency staff responsible for crash reporting, e-citations, system administration, and records functions are fully prepared to support configuration, testing, and go-live activities.

Core team training sessions include, but are not limited to, the following modules: Crash Reporting (covering MMUCC 6th Edition-compliant crash form workflows, field-level validation, and submission processes); eCitation Workflow (including mobile app usage, barcode scanning, offline functionality, and court submission); System Administration (covering user account setup, role and permission configuration, and admin settings); and Records Staff Functions (including

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report approval, redaction, and audit capabilities). Training may be delivered on-site or virtually. On-site sessions accommodate up to 30 participants per session for end-user tracks and up to 15 participants per session for Train-the-Trainer tracks; virtual sessions accommodate up to 30 participants per session for most modules and up to 10 participants for administrator-level tracks.

Prior to any on-site training, WVDOT will provide a participant roster to Mark43 no less than two weeks before training begins, and all trainees must have active accounts with correct roles assigned in the Mark43 system. Training offerings also include access to Mark43 Academy e-learning and webinars covering all in-scope modules and report types, providing on-demand reference support throughout the project lifecycle.

Milestone: Configured and validated system across all modules; all integrations and data migration complete; Master Test Plan approved and all test phases successfully completed; core team training delivered; system ready for Pilot deployment.

Pilot Phase (Months 12-15)

Following successful completion of all testing phases, Mark43 will support a Pilot Phase deployment to a defined subset of agencies, prior to statewide rollout. Mark43 conducts the following activities to ensure WVDOT achieves a successful Pilot:

Pre-Pilot Support:

- Final Tenant Walkthrough.
- Production Tenant Setup.
- Review Launch Support and Triage Plan.
- Review Support Plan for post-Launch.
- Launch Issue Tracker.
- Go/No-Go Meeting, Pilot go-live is contingent on successful completion and Agency approval of all required test phases, with no open Critical (Severity 1) or unmitigated High (Severity 2) issues/deficiencies.

Pilot Training:

- Four (4) 2-day Train-the-Trainer sessions delivered before the Pilot deployment.
- Recorded training content and instructional video creation for public-facing "how to" functionality.
- Custom help guides and West Virginia-specific training materials incorporating state business processes and data, including end-to-end process flows with integration hand-offs.

Milestone: Successful Pilot Go-Live with in-person and virtual support; Pilot Close-Out Report; adjustments identified and documented for incorporation into statewide deployment.

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Statewide Deployment (Months 15-21)

Following successful Pilot completion and incorporation of any necessary adjustments, Mark43 will support a staggered statewide deployment to all remaining West Virginia State Police, local law enforcement agencies, courts, and DMV personnel. End-user training will be provided to approximately 3,500 State and local law enforcement agency personnel through a joint Mark43/State training delivery model.

Training Program: Four (4) 2-day Train-the-Trainer sessions, including sessions before and during the statewide deployment. Co-delivered training with State training team through e-learning, classroom-based, and virtual platforms as defined in the approved Training Plan. Mark43 will manage the training environment for the duration of training and for at least 90 days post-Go-Live, including required refreshes of the training database. Role-based training delivered for officers, supervisors, court staff, and DMV personnel.

Statewide Launch Support: Staggered agency-by-agency Go-Live with in-person and virtual support, including on-site presence by the original project team throughout the hypercare period. Final data migration execution and cut-over to production per the approved cut-over plan. Mark43 will perform knowledge transfer to WVDOH, WVDMV, and WVDOT IT or OT staff serving as system administrators throughout the duration of the project and the production support period, per the approved Knowledge Transfer Plan.

Transition to Customer Success: Formal handoff to Mark43's Customer Success team for ongoing SLA-backed support, regular software updates, MMUCC alignment updates as standards evolve, and quarterly business reviews. WVDOT will be assigned a dedicated Customer Success Manager (CSM) who serves as a named point of contact for the State, focused on long-term system optimization, adoption, and satisfaction, ensuring continuity of relationship and institutional knowledge beyond the implementation phase.

Milestone: Go-Live Readiness Report; successful statewide Launch (Go-Live) with in-person and virtual support; Training Completion Report; all approximately 3,500 personnel trained.

Ongoing Support (Month 21 and Onward)

Following the go-live of the final law enforcement agency, Mark43 provides dedicated post-launch support (hypercare) for at least 90 days and transitions WVDOT to steady-state operations. Mark43 may request Final System Acceptance following 90 days of continuous operations with no Critical defects; in the event a Critical defect occurs, the clock for system acceptance may be reset at the Agency's option.

Upon transition to steady-state, WVDOT will be assigned a dedicated Customer Success Manager (CSM) - a named Mark43 resource accountable for the ongoing health, optimization, and success of the West Virginia deployment. The CSM is not a full-time embedded resource but serves as WVDOT's primary strategic point of contact within Mark43, responsible for proactive system monitoring, feature adoption guidance, coordination of quarterly business reviews, escalation management, and alignment with new platform capabilities as they are released. This dedicated relationship ensures that WVDOT has a consistent, knowledgeable advocate within Mark43 who understands the State's operational context, priorities, and long-term objectives, without the cost of a full-time on-site resource.

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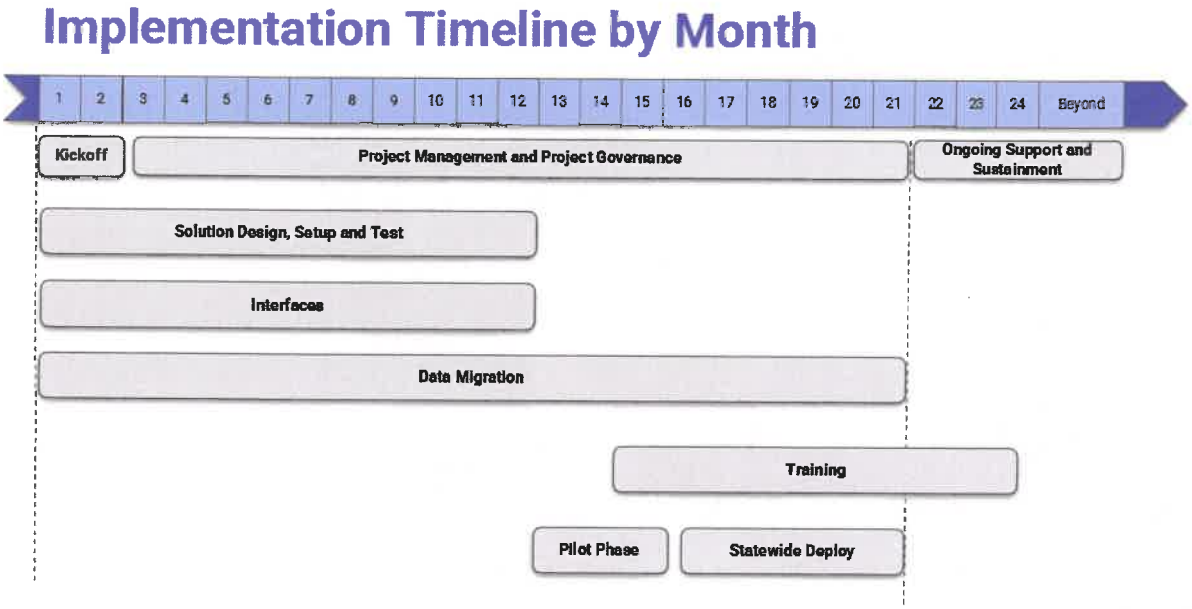
Gantt Chart with Task Dependencies, Resource Assignments, and Milestone Dates



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Attachment C - Project Organization for Delivery of Services

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Illdo Choi, Project Manager | Sr. Program Manager

Mr. Illdo Choi has 25+ years of experience in professional services, operations, and implementation. At Mark43, he leads end-to-end solution deployment for public safety agencies as the primary customer contact.

Primary Responsibilities

- Manages project timelines, deliverables, and cross-functional coordination to meet SOW commitments and milestones.
- Aligns stakeholders, optimizes processes, mitigates risk, and oversees public safety system integration and compliance.

Illdo Choi – Project Manager | Senior Program Manager – Past Projects

New Orleans Police Department – RMS/3rd Party Integrations, Data Migrations

Duration	July 2024 – Present
Role	Senior Program Manager
Description	Led NOPD's first enterprise SaaS deployment (1,400+ sworn, 18+ agencies), satisfying consent decree requirements and replacing a 20-year legacy system.

Illinois Agencies -RMS/CAD/3rd Party integrations, Data Migrations

Duration	June 2024 - Present
Role	Senior Program Manager
Description	Leads end-to-end implementation across eight Illinois agencies (1,000+ sworn), driving statewide collaboration and shared best practices.

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Cumbria Constabulary, United Kingdom – RMS/3rd Party Integrations, Data Migrations

Duration	June 2024 – Feb 2025
Role	Senior Program Manager
Description	Led Mark43's first international RMS deployment for Cumbria Constabulary (7,000 sworn), navigating cross-border regulatory challenges and resetting deliverables.

Port Authority of NY and NJ (PANYNJ) – CAD/RMS/3rd-Party Integrations, Data Migrations

Duration	October 2023 – July 2024
Role	Senior Program Manager
Description	Designed the implementation approach for PANYNJ (2,200+ sworn) across airports, tunnels, bridges, and marine environments. Managed multi-jurisdictional complexity, third-party integrations, and aggressive timelines.

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Shawn Driscoll, Project Functional Lead | Vice President of Federal Services & Support

Shawn Driscoll is a Product Delivery Manager at Mark43 who has led numerous successful implementations. Starting as an Implementation Lead, he now serves as a trusted advisor to partner agencies, aligning goals early to ensure smooth project execution and customer success. He brings prior experience from the public utility, education, and financial sectors.

Primary Responsibilities

- Scopes professional services, defines goals, and drives customer adoption from early engagement.
- Manages implementation portfolios, contract negotiations, and cross-functional coordination.
- Oversees platform configuration, software provisioning, and agency workflow transitions.
- Develops training programs, documentation, and process standards to improve efficiency.

Shawn Driscoll – Project Functional Lead | Vice President of Federal Services & Support – Past Projects

Chicago Police Department, Crime Prevention and Information Center (CPIC) Fusion Center, RMS

Duration	October 2019 - April 2020
Role	Implementation Lead
Description	Shawn partnered with the Chicago Fusion Center to modernize its RMS, improving data entry accuracy, data sharing, and analytics capabilities. He managed the full project lifecycle, coordinated internal and external stakeholders, configured the Mark43 platform, and developed a training plan to ensure a smooth transition.

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Boston Police Department, RMS Implementation

Duration	October 2018 - September 2019
Role	Implementation Lead
Description	Shawn implemented a new RMS to streamline report writing and ensure NIBRS data accuracy, deploying in under a year to meet critical deadlines. He coordinated cross-functional teams, designed data migration and interface scope, configured the Mark43 platform, and provided hands-on support for confident adoption.

Atlanta Police Department, RMS Implementation

Duration	December 2019 - September 2020
Role	Implementation Lead
Description	Shawn led the Mark43 RMS implementation for the Atlanta Police Department, completing the project within eight months to streamline reporting and achieve NIBRS compliance. He managed the project plan, designed data migration and interface scope, and coordinated internal and external resources to maintain alignment and momentum.

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Christopher Brown, Project Functional Lead | Data Migration Manager

Christopher Brown is a senior public safety technology leader at Mark43 with progressive experience spanning RMS architecture and data migration management. Since joining in September 2023, he has held multiple leadership roles supporting full lifecycle RMS implementations nationwide. With prior experience in sworn law enforcement and public safety leadership, Christopher brings a strong ability to align operational needs with enterprise RMS system design and deployment across agencies of all sizes.

Primary Responsibilities

- Leads a team of five Data Migration Engineers supporting RMS implementations nationwide.
- Oversees legacy data mapping, transformation logic, validation strategy, and reconciliation processes.
- Provides strategic oversight across multiple concurrent implementation projects.
- Partners with Functional Leads and Technical Architects to align migration efforts with operational and compliance requirements.
- Manages risk mitigation, escalations, and executive-level reporting.

Christopher Brown – Project Functional Lead | Data Migration Manager – Past Projects

Data Migration Manager

Duration	February 2026 - Present
Role	Data Migration Manager
Description	Christopher leads a team of five Data Migration Engineers supporting RMS implementations nationwide, overseeing data mapping, transformation, validation, and reconciliation to ensure accurate and compliant migrations. He provides strategic oversight across multiple concurrent projects, partners with Functional Leads and Technical Architects to align migration efforts with operational requirements, and manages risk, escalations, and executive reporting to support successful outcomes.

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Lead Records Management System (RMS) Architect

Duration	July 2025 – February 2026
Role	Lead RMS Architect
Description	Christopher led three RMS Architects and provided senior functional oversight for complex RMS implementations, directing discovery, requirements alignment, and governance to ensure high quality project delivery.

RMS Architect

Duration	September 2023 – October 2024
Role	Implementation Lead
Description	Christopher facilitated discovery sessions with patrol, investigations, records, and agency leadership to gather operational requirements. Chris configured RMS modules to align with agency workflows and reporting standards and supported configuration testing, documentation, and go live execution to ensure a successful implementation.

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Colby Tibbet, Project Technical Lead | Product Manager

Colby Tibbet is a Lead Product Manager at Mark43 with over 8 years of product experience in the public safety sector, working across CAD, RMS, and RTCC software. He manages the entire product development lifecycle for RMS and Mobile products at Mark43. Prior to Mark43, Colby held product management roles at Motorola Solutions.

Primary Responsibilities

- Works across multiple Mark43 products, including OnScene, CAD, and RMS (reports, cases, evidence, and warrants), and contributes throughout the entire product development lifecycle of RMS and Mobile products at Mark43.
- Responsible for Product Strategy and Agile Methodologies, Data Analytics, SaaS Development, and Cross-functional Team Leadership.

Colby Tibbet – Product Technical Lead | Product Manager – Past Projects

Mark43 Records Management System (RMS)

Duration	January 2022 - Present
Role	Product Manager
Description	Led the end-to-end product development lifecycle for the Mark43 RMS, a cloud-native SaaS platform serving law enforcement agencies. Managed strategy, roadmap, and delivery for core modules including reports, cases, evidence, and warrants. Applied agile methodologies and data analytics to drive cross-functional feature development and improve product-market fit.

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Mark43 OnScene

Duration	April 2022 - Present
Role	Product Manager
Description	Led the launch and development of Mark43 OnScene, a mobile-first application providing first responders with real-time field access to critical data. Managed product strategy, UX, and cross-functional delivery while driving product-market fit for mobile and in-vehicle software. Coordinated platform-wide integration efforts across OnScene, RMS, and CAD.

Mark43 Computer Aided Dispatch (CAD)

Duration	April 2022 – August 2023
Role	Product Manager
Description	Served as Technical Lead for the Mark43 CAD system, a cloud-native platform for real-time dispatch and incident management. Oversaw product development and architectural decisions while mentoring engineers. Partnered with DevOps to optimize AWS infrastructure, ensuring scalability and reliability for mission-critical public safety operations.

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Thomas Howell, Project Technical Lead | Technical Services Engineer

Thomas Howell is a Technical Services Engineer at Mark43 with over 25 years of experience in Information Technology across enterprise architecture, SaaS design, and technical support. He has held senior leadership and consulting roles, including Enterprise Architect at Acquia and Fractional CTO, where he guided organizations on scalable cloud architecture, development best practices, and long-term technology strategy. Thomas applies strong expertise in Java and JavaScript to develop and maintain applications, support workflow and PDF solutions, and partner closely with clients and internal teams to deliver reliable, high performing outcomes.

Primary Responsibilities

- Develops and maintains applications using Java and JavaScript to support client specific workflows and platform enhancements.
- Translates client requirements into actionable technical solutions, including configuration of PDF and workflow tools.
- Serves as a technical liaison between clients and internal teams to ensure clear communication, issue resolution, and successful implementations.
- Provides ongoing technical support, monitor solution performance, and recommend improvements to optimize reliability and user experience.

Thomas Howell – Project Technical Lead | Technical Services Engineer – Past Projects

Amah Health - Freelance

Duration	June 2023 - January 2025
Role	Fractional Chief Technical Officer
Description	Thomas served in a fractional leadership role providing strategic guidance on SaaS architecture and technology decisions, partnering with executive leadership to prepare the product for market, and overseeing AI vendor relationships to ensure high quality, scalable delivery.

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aMack Design LLC

Duration	July 2023 – October 2023
Role	Consultant to Owner
Description	Provided strategic guidance on SaaS and PaaS architecture and AWS hosting, collaborated with vendors on early prototype development with a focus on user experience, and advised on technical troubleshooting and solution optimization.

Acquia

Duration	April 2016 – December 2022
Role	Enterprise Architect
Description	Provided strategic guidance on SaaS/PaaS software architecture, development methodologies, and AWS hosting options. Collaborated with external vendors during initial prototype development, focusing on user experience. Provided recommendations for troubleshooting technical issues.
Duration	**July 2011 – April 2016**
Role	Principal Technical Support Engineer
Description	Led Drupal CMS training for over 50 support staff and mentored junior engineers, resolved systemic platform issues, and provided direct client support across Drupal and Linux environments. Thomas also managed critical escalations and authored knowledge base content to strengthen team capabilities and improve customer enablement.

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Attachment D - Software License and Services Agreement (SLSA)

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SOFTWARE LICENSE AND SERVICES AGREEMENT

This Software License and Services Agreement (this "**Agreement**") is effective as of _____ (the "**Effective Date**") by and between Mark43, Inc. ("**Mark43**"), with a place of business at 8 West 40th Street, 2nd Floor, New York, NY 10018, and [City/Town/State/Etc on behalf of its Police Department/Sheriff's Office/Etc] ("**Subscriber**"), with a place of business at _____.

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS.

1.1 "**Affiliate**" means, with respect to any entity, any other entity who, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such entity. The term "control" means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, whether through the ownership of voting securities, by contract or otherwise.

1.2 "**Affiliated Agency**" means any government agency to which Subscriber is legally or contractually permitted to share certain Subscriber Data and/or access to an Application.

1.3 "**Applicable Law(s)**" means, with respect to any party, any foreign, federal, state or local law, including, without limitation, statutes, regulations, ordinances, and similar authorities, applicable to such party's performance hereunder.

1.4 "**Applications**" means the object code versions of Mark43's software applications for which Subscriber is purchasing subscriptions under an Order Form, as described in such Order Form, and all Updates made available by Mark43 to Subscriber under this Agreement.

1.5 "**Authorized Users**" means employees of Subscriber and any Affiliated Agency who are authorized to access and use the Applications on Subscriber's behalf in accordance with the applicable security designation(s), pursuant to which full or limited access to the applicable Applications may be granted.

1.6 "**Documentation**" means the documentation regarding the functionality and use of the Applications made available to Subscriber by Mark43, including the technical requirements described at https://mark43.com/tech-requirements, which technical requirements may be updated from time to time upon reasonable advance written notice (email acceptable) to Subscriber.

1.7 **"Go Live"** means the date of cutover to each respective Mark43 Application.

1.8 **"Interface Software"** means the object code version of any interface software made available by Mark43 to Subscriber under this Agreement for download and installation in connection with Subscriber's use of the Applications with its own systems.

1.9 "**Intellectual Property Rights**" means all intellectual and industrial property rights, whether now existing or existing in the future, including (a) all patent rights, including any rights in pending patent applications and any related rights; (b) all copyrights and other related rights throughout the world in works of authorship, including all registrations and applications therefor; (c) all trademarks, service marks, trade dress or other proprietary trade designations, including all registrations and applications thereof; (d) all rights throughout the world to proprietary know-how, trade secrets and other confidential information, whether arising by law or pursuant to any contractual obligation of non-disclosure; and (e) all other rights covering industrial or intellectual property recognized in any jurisdiction.

1.10 "**Mark43 Integrated Application**" means a third-party product, service, database, or application, other than Subscriber Integrated Applications, that is incorporated in, integrated with, accessed through, or used to host the SaaS Services.

1.11 "**Mark43 Integrated Application Data**" means all data, information, content and other materials provided or made available by a Mark43 Integrated Application.

1.12 "**Mark43 Materials**" means, collectively, the Website, Applications, SaaS Services, Updates, Documentation, Interface Software, Work Product, Mark43 Integrated Applications, and Mark43 Integrated Application Data.

1.13 "**Order Form**" means each Mark43 order form agreed to and executed by a duly authorized representative of each of Mark43 and Subscriber that references this Agreement and that identifies the Applications and/or Professional Services ordered by Subscriber and the fees to be paid by

SAMPLE

Subscriber thereunder. An Order Form may include a Statement of Work. Each Order Form is incorporated into and subject to the terms of this Agreement.

1.14 "**Professional Services**" means any implementation, training, project management, consulting and other services (outside the scope of the Support Services) that are described in a Statement of Work.

1.15 "**SaaS Services**" means Mark43's provision of the Applications to Subscriber on a software-as-a-service basis for remote access use by Subscriber and its Authorized Users.

1.16 "**Services**" means, collectively, the SaaS Services, Support Services, and any Professional Services.

1.17 "**Statement of Work**" means a written description of the Professional Services ordered by Subscriber that is agreed to and executed by a duly authorized representative of each of Mark43 and Subscriber and that references this Agreement. Each Statement of Work is incorporated into and subject to the terms of this Agreement.

1.18 "**Subscriber Data**" means (a) all data, information, content and other materials transmitted by Subscriber or any Authorized User to the Applications, (b) all Subscriber Integrated Application Data, and (c) all Subscriber-specific output resulting from Subscriber's and its Authorized Users' use of the Applications that is displayed to Subscriber on the Applications, excluding in all cases Third-Party Data, data owned, provided, or made available by Mark43, and data imported by Mark43 from third-party software at Subscriber's request for data migration purposes.

1.19 "**Subscriber Integrated Application**" means a third-party product, service, database, or application set forth on an Order Form that will be installed, linked or enabled by or on behalf of Subscriber for use in connection with the SaaS Services (e.g. NCIC).

1.20 "**Subscriber Integrated Application Data**" means all data, information, content and other materials provided or made available by a Subscriber Integrated Application.

1.21 "**Subscriber Integrated Application Provider**" means the third party who provides or makes available the applicable Subscriber Integrated Application, which may include other vendors, Affiliated Agencies, state agencies and local agencies.

1.22 "**Support Services**" means the support services provided by or on behalf of Mark43 with respect to Subscriber's use of the Applications and the service level agreement, as described at https://mark43.com/support-services/, which is incorporated herein by this reference, and which may be updated from time to time by Mark43, provided such updates do not materially degrade Mark43's support offering.

1.23 "**Third-Party Data**" means any data, information, content and other materials made available by any third party, including Subscriber Integrated Application Data and Mark43 Integrated Application Data.

1.24 "**Updates**" means any and all new releases, new versions, modifications, enhancements, patches and other updates for the Applications that Mark43 makes generally available without additional charge to its other subscribers to such Applications.

1.25 "**Website**" means any internet website through which Mark43 provides the SaaS Services under this Agreement.

1.26 "**Work Product**" means all materials, software, tools, data, inventions, works of authorship and other innovations of any kind that Mark43, or personnel working for or through Mark43, may make, conceive, develop or reduce to practice, alone or jointly with others, in the course of performing Professional Services or as a result of such Professional Services, whether or not eligible for patent, copyright, trademark, trade secret or other legal protection, including any customizations or configurations to the Applications or Interface Software.

2. PROVISION OF THE SERVICES AND SOFTWARE.

2.1 **SaaS Services**. Subject to the terms of this Agreement, and during the Term, Mark43 hereby grants to Subscriber a non-exclusive, non-transferable (except as permitted by Section 11.2), non-sublicensable (a) right to access and use, and to permit Authorized Users to access and use solely for the benefit of Subscriber and its Affiliated Agencies, the Applications, and (b) license to download and install on Subscriber's servers, and use in connection with Subscriber's use of the Applications hereunder, any Interface Software, in each case of (a) and (b), solely in furtherance of Subscriber's legitimate internal business purposes and in accordance with this Agreement and the Documentation. Mark43 will be responsible for hosting the Website and the Applications, and

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Subscriber and its Authorized Users will be responsible for obtaining internet connections and other third-party software, hardware and services necessary for them to access the Website through the internet, including as set forth in the Documentation. Subscriber will be responsible to Mark43 for each Authorized User's compliance with the restrictions on use and other terms and conditions of this Agreement and for each Authorized User's acts and omissions in connection with their use of the SaaS Services.

2.2 **Professional Services**. Subject to the terms and conditions of this Agreement, Mark43 will provide to Subscriber the Professional Services agreed to by Subscriber and Mark43 and set forth in a Statement of Work. To the extent any Professional Services involve the development of any Work Product, all Intellectual Property Rights to such Work Product will be solely owned by Mark43, will be deemed to be included in the definition of SaaS Services and will be provided to Subscriber on the terms set forth herein.

2.3 **Access to Documentation**. Mark43 will provide Subscriber via the Website or other means with access to the Documentation, as may be updated from time to time. Subscriber may print copies of, use, and permit its Authorized Users to use, the Documentation solely in connection with the use of the SaaS Services.

2.4 **Support Services**. Subject to the terms and conditions of this Agreement, Mark43 will provide to Subscriber the Support Services.

2.5 **Restrictions on Use.** Except as expressly permitted in this Agreement or the Documentation, Subscriber and its Authorized Users will not, directly or indirectly, and will not permit any other party to: (a) share Subscriber's or any Authorized User's login credentials to the Applications, Support Services and Documentation; (b) reverse engineer, decompile, disassemble, or otherwise attempt to discern the source code, underlying ideas, algorithms, file formats, or interface protocols of any of the Mark43 Materials or of any files contained in or generated by any Mark43 Materials; (c) copy, modify, adapt or translate any of the Mark43 Materials, or otherwise make any use, resell, distribute or sublicense any of the Mark43 Materials; (d) make any of the Mark43 Materials available on a "service bureau" basis or otherwise provide to or allow any third parties to access or use any of the Mark43 Materials; (e) remove or modify any proprietary marking or restrictive legends of Mark43 or its suppliers in or on any of the Mark43 Materials; (f) use any of the Mark43 Materials in violation of any Applicable Law; (g) use any of the Mark43 Materials or any Mark43 Integrated Applications to create or augment any mapping or navigation related dataset, business listings database, mailing list, or telemarketing list, for use in connection with any products or services other than the SaaS Services; (h) introduce into any of the Mark43 Materials any viruses, worms, defects, Trojan horses, malware, or any items of a destructive nature; (i) use any of the Mark43 Materials to post advertising or listings; (j) use any of the Mark43 Materials to defame, abuse, harass, stalk, or threaten others; (k) if Subscriber's organization is based in the United States, permit access or use of any of the Mark43 Materials by any individual located outside the United States; (l) hide or obscure any Authorized User's location; (m) access or use or permit others to access or use, any of the Mark43 Materials (i) for any activities other than to enhance Subscriber's own services and professional judgment, or (ii) in any manner such that the Mark43 Materials are the only resources being utilized by Subscriber or any Authorized User to make a decision that could lead to death, personal injury, or property damages; or (n) access or use any of the Mark43 Materials to create a competitive product or service. In addition, Subscriber and its Authorized Users may not access or use any of the Mark43 Materials if in direct competition with Mark43, and will not allow access to or use of any of the Mark43 Materials by any party who is in direct competition with Mark43, except with Mark43's prior written consent. Subscriber shall comply with all additional restrictions relating to its use of any Mark43 Integrated Applications and Subscriber Integrated Applications.

2.6 **Security Obligations.** Subscriber and its Authorized Users shall securely manage their respective password(s) for access to the Applications. Subscriber shall notify Mark43 as soon as practicable in the event it becomes aware of any unauthorized access or use of the Applications, or of any of its or its Authorized Users' passwords or accounts. Unless expressly stated otherwise in the applicable Order Form, a single username or password may not be used by more than one (1) Authorized User. In addition, Authorized Users may log into the Applications from only one location at any given time; concurrent usage (or sign in) under a single username is prohibited, unless Subscriber has a business justification for concurrent usage, in which case Subscriber must obtain Mark43's prior written approval for such usage . Subscriber is responsible for all activities conducted using its and its Authorized Users' user accounts in use of the Applications. Subscriber shall comply with all Applicable Laws in connection with use of the Services and Applications, including all those related to data privacy and the transmission of technical or personal data. Subscriber agrees to (a) provide

Contract

true, accurate, current and complete registration data for each account it creates via the Applications, and (b) maintain and promptly update the registration data to keep it true, accurate, current and complete.

2.7 **Changes to SaaS Services**. Mark43 may make changes and Updates to the Applications and SaaS Services, provided that it does not materially derogate the overall quality of the Applications or SaaS Services. Mark43 does not guarantee that the Applications or SaaS Services are or will remain compatible with any particular third-party software or equipment, and may, upon written notice, terminate its support for any software or equipment of Subscriber that Mark43 determines are incompatible with the operation of the SaaS Services.

2.8 **Data Sharing**. Mark43 will allow Subscriber to grant Affiliated Agencies specified levels of access to Subscriber Data pursuant to an executed data-sharing agreement between Subscriber and the applicable Affiliated Agency, and with permissions subject to the parameters laid out in such data-sharing agreement. Subscriber shall provide Mark43 with a copy of the executed data-sharing agreement prior to Mark43's allowing of any such data-sharing. As between Mark43 and Subscriber, Subscriber will be solely responsible for any damages, losses and liabilities that arise as a result of such data-sharing. For the avoidance of doubt, in the event Subscriber enables Affiliate Agencies to access Subscriber Data without providing proof of a data-sharing agreement, Subscriber shall be solely responsible for any damages, losses and liabilities that arise as a result of such data-sharing.

2.9 **No Charge Access**. If any Applications or SaaS Services are provided or made available to Subscriber for pilot, evaluation, beta, pre-release, or otherwise for free, as identified by Mark43 (each, a "**Pilot Service**"), Mark43 hereby grants to Subscriber a limited, non-exclusive, non-transferable, non-sublicensable right to access and use such Pilot Service pursuant to the terms of this Agreement, solely for the purpose of internally evaluating the Pilot Service in consideration of a purchase of a full, non-evaluation subscription to such Pilot Service ("**Non-Pilot Subscription**"). Notwithstanding the foregoing or any other provision set forth herein, Subscriber acknowledges and agrees: (a) that such access and use right will terminate on the end date of the predetermined period set forth in the applicable Order Form or otherwise agreed in writing by the parties ("**Pilot Term**"), or may be terminated earlier upon written notice provided by either party to the other; (b) that such Pilot Service and any associated Documentation are provided to Subscriber "AS IS" and "AS AVAILABLE" without any Mark43 warranties, indemnification obligations, or support obligations of any kind, express or implied; and (c) that in no event will Mark43's or any of its suppliers' total and aggregate liability arising out of or related to such Pilot Service exceed $1,000. The parties may agree in the applicable Order Form or otherwise in writing for Subscriber's use of the Pilot Service to convert automatically into a Non-Pilot Subscription upon the expiration of the Pilot Term without having to enter into an additional Order Form. Except to the extent such terms conflict with this Section, all other terms of this Agreement will apply to each such Pilot Service.

3. PROPRIETARY RIGHTS.

3.1 **Ownership of Subscriber Data.** As between Mark43 and Subscriber, Subscriber owns the Subscriber Data. Subscriber hereby grants to Mark43, a royalty-free, worldwide, non-transferable (except as permitted by Section 11.2), non-sublicensable (except to Mark43's contractors on a need-to-know basis to assist Mark43 in providing the Services), license to use the Subscriber Data to configure and provide the Services to Subscriber, to prevent or address service or technical problems, in accordance with this Agreement and the Documentation, and otherwise in accordance with Subscriber's requests or instructions. Mark43 may also use Subscriber Data in anonymized and/or aggregated form to develop analytics and improvements that may be used in connection with the Mark43 products and services, provided that Mark43 may not sell or offer for sale any Subscriber Data on a standalone basis, whether in Subscriber identifiable, or anonymized and aggregated form.

3.2 **Ownership of and Reservation of Rights to Mark43 Materials.** As between Mark43 and Subscriber, Mark43, its Affiliates or its or their suppliers own all right, title and interest in and to the Mark43 Materials and all related technology and Intellectual Property Rights. Subject to the limited rights expressly granted hereunder, Mark43, its Affiliates and its and their suppliers reserve all rights, title and interest in and to the Mark43 Materials and all related technology and Intellectual Property Rights. No rights or licenses are granted to Subscriber hereunder other than as expressly set forth in this Agreement.

3.3 **Subscriber Feedback**. Subscriber and its Authorized Users may elect to provide Mark43 with suggestions, enhancement requests, recommendations and other feedback concerning the Mark43 Materials (the "**Subscriber Feedback**"). Subscriber hereby assigns and agrees to assign all Subscriber Feedback and all Intellectual Property Rights therein to Mark43 without lien or

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encumbrance and agrees that Subscriber Feedback will be the sole property of Mark43 and that Mark43 may use Subscriber Feedback in its discretion without obligation to Subscriber. Mark43 has no obligation to make Subscriber Feedback an improvement. For the avoidance of doubt, Subscriber Feedback does not constitute Confidential Information of Subscriber hereunder.

3.4 **Usage Data**. Mark43 may collect certain information in connection with Subscriber's access to or use of the Services, such as access records, date and time stamps, transaction and activity records and system performance data ("**Usage Data**"). As between Mark43 and Subscriber, Mark43 owns all Usage Data. Mark43 will provide Subscriber with access to those subcategories of Usage Data to which Subscriber must be granted access in accordance with the Criminal Justice Information Services ("**CJIS**") Security Policy.

3.5 **Data Security**. Terms applicable to the privacy and security of Subscriber Data are set forth in Mark43's data processing addendum set forth at https://mark43.com/data-processing-addendum/, which is incorporated herein by this reference, and which may be updated from time to time by Mark43, provided such updates do not materially degrade Mark43's data security obligations (the "**Data Processing Addendum**").

4. INTEGRATED APPLICATIONS.

4.1 **Mark43 Integrated Applications**. Mark43 Integrated Applications may be included by Mark43 and provided or made available to Subscriber through the SaaS Services. In connection with the functionality provided by or through such Mark43 Integrated Applications, Subscriber hereby accepts and agrees to be bound by the terms and conditions applicable to such Mark43 Integrated Applications as set forth at https://mark43.com/integrated-application-terms/ which may be updated from time to time upon reasonable advance written notice (email acceptable) to Subscriber (the "**Mark43 Integrated Application Terms**"). In the event of any inconsistency or conflict between the applicable Mark43 Integrated Application Terms and the terms of this Agreement, the Mark43 Integrated Application Terms shall govern with respect to Subscriber's access to and use of the applicable Mark43 Integrated Application.

4.2 **Subscriber Integrated Applications; Third-Party Data**. To the extent Subscriber installs, links to or enables any Subscriber Integrated Application for use with the Applications or SaaS Services, Subscriber grants and agrees to grant (and will cause the applicable Subscriber Integrated Application Provider to grant) to Mark43 permission to access, retrieve, view, store, copy, modify and process Subscriber Integrated Application Data from Subscriber's existing account(s) on each such Subscriber Integrated Application to the extent necessary to facilitate the interoperation of such Subscriber Integrated Application with the Applications or SaaS Services. To the extent Subscriber requires a Subscriber Integrated Application Provider's assistance to install, link to or enable any Subscriber Integrated Application for use with the Applications or SaaS Services, Subscriber shall separately contract with each such Subscriber Integrated Application Provider for any such assistance. In no event will Mark43 be responsible or liable for any Subscriber Integrated Application or any Subscriber Integrated Application Data or other Third-Party Data, or for any failure of a Subscriber Integrated Application to properly interoperate with any Application or the SaaS Services; provided, however, to the extent that Mark43 creates, pursuant to a Statement of Work, an interface for a Subscriber Integrated Application, Mark43 shall be responsible for such interface only, subject to the terms and conditions of this Agreement and the applicable Statement of Work. Mark43 may at any time, in its sole reasonable discretion, including upon the request of a Subscriber Integrated Application Provider or due to an actual or potential security threat, disable any connection between a Subscriber Integrated Application and the Applications or SaaS Services, and any access, retrieval and viewing of Subscriber Integrated Application Data via the Applications or SaaS Services. For the avoidance of doubt, Subscriber's access to and use of Subscriber Integrated Applications and Subscriber Integrated Application Data shall be at Subscriber's sole risk and subject to the terms and conditions of Subscriber's separate agreement(s) with the applicable Subscriber Integrated Application Providers.

5. FEES AND PAYMENT TERMS.

5.1 **Fees for the Services**. Subscriber will pay the fees as stated in the relevant Order Form (the "**Fees**") in accordance with the payment schedules set forth therein. Mark43 will invoice Subscriber for Fees in accordance with the invoice schedules set forth in the relevant Order Form. Except as expressly set forth herein, all payment obligations are non-cancelable and all payments of Fees are non-refundable. All amounts stated in this Agreement or on any invoice are in U.S. dollars, and all payments will be made in U.S. dollars.

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5.2 **Overdue Payments**. Any payment not received from Subscriber by the due date shall accrue late charges at the rate of 1.5% of the outstanding balance per month, or the maximum rate permitted by Applicable Law, whichever is lower, from the date such payment was due until the date paid.

5.3 **Taxes.** Subscriber will pay all taxes, including sales, use, excise, and other governmental fees, duties, and charges (and any penalties, interest, and other additions thereto) that are imposed on Subscriber or Mark43 with respect to the transactions and payments under this Agreement (excluding taxes based on Mark43's income or employment) ("**Taxes**"). All Fees are exclusive of Taxes. If any such Taxes are required to be withheld on any payment, Subscriber will pay such additional amounts as are necessary so that the net amount received by Mark43 is equal to the amount then due and payable under this Agreement.

6. TERM AND TERMINATION.

6.1 Term.

(a) Term of this Agreement. This Agreement begins on the Effective Date and, unless terminated earlier in accordance with the terms of this Agreement, will continue until the expiration of all periods of performance specified in an Order Form (the "**Term**").

(b) Term of Order Forms. The initial term of each Order Form will commence on the start date set forth in such Order Form and, unless earlier terminated in accordance with the terms of this Agreement, will remain in effect through the "end date" specified therein, and will renew per the terms specified therein.

6.2 Termination; Suspension of Services.

(a) Termination for Breach by Either Party. Either party may terminate this Agreement or an Order Form upon written notice to the other party, if the other party materially breaches this Agreement and such breach remains uncured for thirty (30) days after the other party's receipt of such notice.

(b) Termination for Non-Appropriation. If Subscriber is a government agency, Subscriber's payment obligations under this Agreement extend only to funds appropriated annually by Subscriber or Subscriber's governing body for the purpose of this Agreement. For each succeeding fiscal period covered by this Agreement, Subscriber agrees or shall cause the applicable agency or department responsible for Subscriber's payment obligations under this Agreement to agree to include in its budget request appropriations sufficient to cover Subscriber's annual financial obligations under this Agreement. If, after making reasonable efforts to obtain relevant funding, Subscriber is appropriated insufficient funds to continue annual payments under a specific Order Form, Subscriber may terminate that Order Form by giving Mark43 not less than thirty (30) days' prior written notice. Upon termination under this paragraph, Subscriber shall compensate Mark43 or, where applicable, its reseller or distributor for all Services rendered prior to the effective date of termination the Fees for which remain outstanding.

(c) Suspension of Services. To the extent permitted by Applicable Law, in addition to any other rights or remedies it may have under this Agreement or Applicable Law, Mark43 may immediately suspend provision of the Services without liability to Subscriber: (a) if Subscriber's account is more than sixty (60) days past due, until paid in full; (b) if Subscriber breaches Section 2.5 (Restrictions on Use) or Section 2.6 (Security Obligations); (c) to avoid harm or liability to Mark43, its Affiliates or its other customers, including in the case of denial of service attacks or other disruptions; or (d) if required by Applicable Law or a governmental authority. Subscriber shall remain liable for any Fees and other amounts payable under this Agreement during any period of suspension. Mark43 will use commercially reasonable efforts to restore Subscriber's rights to use and access those portions of the Services or accounts that gave rise to the suspension promptly after Subscriber has resolved the problem giving rise to the suspension.

6.3 Effect of Termination. In the event of any termination or expiration of this Agreement,

(a) Subscriber will pay all amounts payable hereunder as of the termination or expiration date;

(b) All rights, licenses and access granted hereunder to Subscriber (as well as all rights granted to any Authorized Users of Subscriber) will immediately cease, including but not limited to all use of the Mark43 Materials;

(c) Upon Subscriber's written request prior to the effective date of termination, Mark43 will provide Subscriber with a copy of the Subscriber Data within ninety (90) days of the effective date of termination; and

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(d) Subscriber will either return to Mark43 or at Mark43's option, destroy, all documents, computer files and other materials containing any Confidential Information of Mark43 that are in Subscriber's possession or control. Upon the written request of Mark43, Subscriber will provide a written certification of its compliance with this paragraph.

6.4 **Survival.** This Section 6.4 and the following sections will survive any termination or expiration of this Agreement: Section 3 ("Proprietary Rights"), Section 4 ("Integrated Applications"), Section 5 ("Fees and Payment Terms"), Section 6.3 ("Effect of Termination"), Section 7 ("Confidentiality"), Section 8.3 ("Disclaimer"), Section 9 ("Limitation of Liability"), Section 10 ("Indemnification"), and Section 11 ("Miscellaneous").

7. CONFIDENTIALITY.

7.1 **Definition of Confidential Information.** For the purposes of this Agreement, "**Confidential Information**" means: (a) with respect to Mark43, the Mark43 Materials, and any and all source code relating thereto, as well as any non-public information or material regarding Mark43's legal or business affairs, products, technology, financing, pricing, customers, properties or data, and (b) with respect to Subscriber, the Subscriber Data and any non-public information or material regarding Subscriber's legal or business affairs, technology, properties or data. Notwithstanding any of the foregoing, Confidential Information does not include information which: (i) is generally publicly available at the time of disclosure or becomes generally publicly available after disclosure through no fault of the party to which the Confidential Information has been disclosed (the "**Receiving Party**"); (ii) is documented as being known to the Receiving Party free of any confidentiality obligations prior to its disclosure by the other party (the "**Disclosing Party**"); (iii) is independently developed by the Receiving Party without reference or access to the Confidential Information of the Disclosing Party and is so documented; or (iv) is obtained by the Receiving Party, free of any confidentiality obligations, from a third person who was rightly in possession of such information.

7.2 **Use and Disclosure of Confidential Information.** The Receiving Party will, with respect to all Confidential Information disclosed by the Disclosing Party before or after the Effective Date: (i) use such Confidential Information only to perform its obligations or exercise its rights under this Agreement; (ii) subject to Section 7.4 below, restrict disclosure of such Confidential Information within the Receiving Party's organization to only those of the Receiving Party's employees and independent contractors who have a need to know such Confidential Information in connection with the Receiving Party's performance of this Agreement and who are subject to confidentiality obligations with respect to such Confidential Information no less restrictive than those set forth herein; and (iii) except as expressly provided herein, not disclose such Confidential Information to any third party unless authorized in writing by the Disclosing Party to do so.

7.3 **Protection of Confidential Information.** The Receiving Party will protect the confidentiality of all Confidential Information disclosed by the Disclosing Party using at least the degree of care that it uses to protect its own confidential information (but no less than a reasonable degree of care).

7.4 **Employee and Independent Contractor Compliance.** The Receiving Party will, prior to providing any employee or independent contractor access to any Confidential Information of the Disclosing Party in accordance with Section 7.2, inform such employee or independent contractor of the confidential nature of such Confidential Information and require such employee or independent contractor to comply with the Receiving Party's obligations hereunder with respect to such Confidential Information.

7.5 **Compelled Disclosure**. A disclosure by one party of Confidential Information of the other party to the extent required by Applicable Law will not be considered a breach of this Agreement, provided the party so compelled promptly provides the other party with prior notice of such compelled disclosure (to the extent legally permitted) and provides reasonable assistance, at the other party's request and cost, if the other party wishes to contest the disclosure.

7.6 **Public Records**.

(a) For purposes of this Section 7 (Confidentiality), the term "**Public Records Request**" shall mean any request for the disclosure of records pursuant to a state public records law or "sunshine" law, federal Freedom of Information Act or other comparable law.

(b) To the extent Subscriber is subject to a Public Records Request that seeks the disclosure of any information or materials provided by Mark43 to Subscriber prior to, during or after the Term, Subscriber shall, prior to any such disclosure, promptly notify Mark43 of such Public Records Request in writing (to the extent legally permitted to do so) and provide reasonable assistance,

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at Mark43's request and cost, if Subscriber plans to release specific information or materials that Mark43 believes are exempt from disclosure requirements. Subscriber shall also identify for Mark43 the information or materials it intends to disclose, and provide Mark43 at least ten (10) days to review prior to disclosure, or if such time is not available or permitted under Applicable Law, at least as much time as would be reasonable to allow Mark43 to meaningfully review and seek appropriate relief. For the avoidance of doubt, and without limiting the foregoing, Subscriber hereby acknowledges that Mark43 shall have no implicit or explicit obligation to challenge, oppose or defend against any request described herein.

7.7 CJIS Standards; Employee Background Checks.

(a) Subscriber understands and agrees that Mark43 utilizes Cloud Providers (as defined in the Data Processing Addendum) to host the Applications, SaaS Services and Subscriber Data.

(b) Subscriber may request reasonable records from Mark43 from time to time to assess Mark43's adherence to requirements of the applicable CJIS Security Policy promulgated by the FBI. For the avoidance of doubt, Subscriber may need the consent of Cloud Providers to obtain any records or information from Cloud Providers.

(c) Subscriber will have the opportunity to run, at Subscriber's request and expense, reasonable background checks on Mark43 employees who will have unescorted access to unencrypted Subscriber Data in Subscriber's production environment (such employees, the "**Covered Employees**"), provided that Mark43 may assume that a Covered Employee has been cleared by Subscriber if Mark43 does not receive an adverse response from Subscriber within thirty (30) days of a submission of a background check request.

8. REPRESENTATIONS AND WARRANTIES.

8.1 Power and Authority. Each party represents and warrants that it has the full right, power and authority to enter into this Agreement and to discharge its obligations hereunder and that the person signing this Agreement on behalf of the party has the authority to bind that party. Subscriber represents and warrants that it has obtained, and shall have throughout the Term, all necessary approvals, consents, and authorizations necessary for procurement under this Agreement and that its obligations under this Agreement do not, and shall not, exceed any budget authority limitations during the Term of this Agreement.

8.2 Services Warranty.

(a) Mark43 represents and warrants that the Applications and SaaS Services will be made available to Subscriber in accordance in all material respects with the Documentation. Subscriber's sole remedy and Mark43's sole obligation with respect to a breach of the foregoing warranty is for Mark43, through the Support Services, to use commercially reasonable efforts to remedy the breach within a commercially reasonable amount of time.

(b) Mark43 represents and warrants that the Professional Services will be provided in a professional manner and that for a period of thirty (30) days from Go Live (the "**Warranty Period**"), the Work Product will operate in material accordance with the specifications provided by Mark43 or otherwise agreed between the parties in writing (including in the applicable Statement of Work). Subscriber's sole remedy and Mark43's sole obligation with respect to a breach of the foregoing warranty is for Mark43 to use commercially reasonable efforts to work with Subscriber to resolve the issue causing such breach within a commercially reasonable amount of time. After the Warranty Period, if Subscriber experiences any issue with the Work Product, the parties must enter into a new Statement of Work to address such issues at Mark43's then-current Professional Services pricing. For clarity, Mark43's Support Services do not apply to or provide support for any Professional Services or Work Product.

8.3 Disclaimer. USE OF THE MARK43 MATERIALS IS NOT, AND IS NOT INTENDED TO BE, A SUBSTITUTE FOR THE PROFESSIONAL JUDGMENT OF AUTHORIZED PARTIES, INCLUDING DISPATCHERS, LAW ENFORCEMENT OFFICERS, INVESTIGATORS OR FIRST RESPONDERS. THE MARK43 MATERIALS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND THE DATA PROVIDED OR MADE AVAILABLE BY MARK43 OR ITS SUPPLIERS IN CONNECTION WITH THE MARK43 MATERIALS SHOULD NOT REPLACE OTHER EMERGENCY INFORMATION AND SHOULD NOT BE EXCLUSIVELY RELIED-UPON IN AN EMERGENCY SCENARIO. SUBSCRIBER SHALL BE SOLELY RESPONSIBLE FOR ALL ITS OWN ACTIONS OR FAILURE TO ACT IN CONNECTION WITH ITS AND ITS AUTHORIZED USERS' USE OF THE MARK43 MATERIALS AND ANY THIRD-PARTY DATA, INCLUDING WITH RESPECT TO COMPLIANCE

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WITH APPLICABLE LAWS, AND MARK43 AND ITS SUPPLIERS ASSUME NO RESPONSIBILITY, LIABILITY OR RISK FOR SUBSCRIBER'S USE OR MISUSE OF, OR FAILURE TO USE, THE INFORMATION PROVIDED OR MADE AVAILABLE BY MARK43 OR ITS SUPPLIERS THROUGH THE MARK43 MATERIALS OR ANY THIRD-PARTY DATA. SUBSCRIBER AND THE APPLICABLE AUTHORIZED USERS ARE SOLELY RESPONSIBLE FOR, AND SUBSCRIBER WILL BE SOLELY LIABLE FOR, (a) VERIFYING THE ACCURACY, COMPLETENESS, AND SUITABILITY OF ANY DATA USED IN CONNECTION WITH THE SERVICES, AND (b) ANY CONSEQUENCES OF A "HARD DELETE" (i.e., WHEN DATA IS PERMANENTLY REMOVED FROM A DATABASE) OF ANY SUBSCRIBER DATA PERFORMED BY OR AT THE REQUEST OF SUBSCRIBER OR ANY OF ITS AUTHORIZED USERS. SUBSCRIBER ACKNOWLEDGES THAT THE MARK43 MATERIALS DO NOT CONTAIN OR PROVIDE LEGAL ADVICE. EXCEPT FOR THE LIMITED WARRANTIES PROVIDED BY MARK43 IN SECTION 8.1 AND SECTION 8.2, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, MARK43 AND ITS SUPPLIERS MAKE NO WARRANTIES OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, AND SPECIFICALLY DISCLAIM ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE MARK43 MATERIALS. MARK43 AND ITS SUPPLIERS DO NOT WARRANT THAT THE MARK43 MATERIALS WILL BE ERROR FREE OR UNINTERRUPTED. MARK43 AND ITS SUPPLIERS SHALL NOT BE LIABLE FOR DELAYS, INTERRUPTIONS, SERVICE FAILURES OR OTHER PROBLEMS INHERENT IN USE OF THE INTERNET AND ELECTRONIC COMMUNICATIONS OR OTHER SYSTEMS OUTSIDE OF THEIR REASONABLE CONTROL. NEITHER MARK43 NOR ANY OF ITS SUPPLIERS MAKES ANY REPRESENTATIONS OR WARRANTIES WHATSOEVER TO SUBSCRIBER OR ANY OTHER PARTIES WITH RESPECT TO ANY MARK43 INTEGRATED APPLICATIONS, MARK43 INTEGRATED APPLICATION DATA, SUBSCRIBER INTEGRATED APPLICATIONS, SUBSCRIBER INTEGRATED APPLICATION DATA, OR ANY THIRD-PARTY DATA.

SUBSCRIBER ACKNOWLEDGES AND AGREES THAT THE SERVICES AND APPLICATIONS MAY INCLUDE, INCORPORATE, AND/OR BE DERIVED FROM, AND THAT IN PROVIDING THE SERVICES MARK43 MAY UTILIZE OR EMPLOY, SYSTEMS, APPLICATIONS, MODELS (INCLUDING LARGE LANGUAGE MODELS), ALGORITHMS, TOOLS, OR SERVICES THAT PERFORM TASKS COMMONLY ASSOCIATED WITH HUMAN INTELLIGENCE, SUCH AS LEARNING, REASONING, PREDICTIVE ANALYTICS, OR GENERATIVE CONTENT CREATION ("AI TECHNOLOGY"). SUBSCRIBER FURTHER ACKNOWLEDGES AND AGREES THAT AI TECHNOLOGY, AS WELL AS ANY DATA, RECOMMENDATIONS, PREDICTIONS, TEXT, OR OTHER MATERIAL PRODUCED, IN WHOLE OR IN PART, THROUGH THE USE OF AI TECHNOLOGY ("AI-GENERATED OUTPUT"), ARE PROBABILISTIC IN NATURE AND MAY GENERATE INCOMPLETE, INACCURATE, OR INAPPROPRIATE RESULTS. ACCORDINGLY, AI TECHNOLOGY AND AI-GENERATED OUTPUT ARE PROVIDED "AS IS". MARK43 MAKES NO WARRANTIES, REPRESENTATIONS, GUARANTEES, OR COVENANTS OF ANY KIND, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, WITH RESPECT TO AI TECHNOLOGY OR AI-GENERATED OUTPUT, INCLUDING WITHOUT LIMITATION ANY WARRANTY OR REPRESENTATION THAT AI-GENERATED OUTPUT WILL BE ACCURATE, COMPLETE, ERROR-FREE, RELIABLE, CURRENT, FIT FOR A PARTICULAR PURPOSE, NON-INFRINGING, OR COMPLIANT WITH SUBSCRIBER'S INTERNAL POLICIES OR ANY APPLICABLE LAW OR REGULATION.

9. LIMITATION OF LIABILITY.

9.1 **Limitation of Liability.** TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL MARK43'S OR ANY OF ITS SUPPLIERS' TOTAL AND AGGREGATE LIABILITY ARISING OUT OF OR RELATED TO THIS AGREEMENT, WHETHER IN CONTRACT, TORT OR OTHERWISE, EXCEED THE AGGREGATE AMOUNT OF FEES RECEIVED BY MARK43 PURSUANT TO THIS AGREEMENT DURING THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE FIRST DATE ON WHICH SUCH LIABILITY ARISES. THE FOREGOING LIMITATION IS CUMULATIVE, WITH ALL PAYMENTS FOR CLAIMS OR DAMAGES BEING AGGREGATED TO DETERMINE SATISFACTION OF THE LIMIT, AND THE EXISTENCE OF ONE OR MORE CLAIMS WILL NOT ENLARGE THAT LIMIT. NEITHER MARK43 NOR ANY PROVIDER OF ANY MARK43 INTEGRATED APPLICATIONS, MARK43 INTEGRATED APPLICATION DATA, SUBSCRIBER INTEGRATED APPLICATIONS, OR SUBSCRIBER INTEGRATED APPLICATION DATA SHALL HAVE ANY LIABILITY TO SUBSCRIBER OR ANY OTHER PARTY UNDER THIS AGREEMENT ARISING OUT OF OR RELATING TO SUBSCRIBER'S USE OF SUCH INTEGRATED APPLICATIONS OR DATA, OR FOR ANY OTHER THIRD-PARTY DATA.

9.2 **Exclusion of Damages**. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL MARK43 OR ITS SUPPLIERS HAVE ANY LIABILITY TO SUBSCRIBER OR ANY OTHER PARTY FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, CONSEQUENTIAL, PERSONAL INJURY OR PROPERTY DAMAGES, HOWEVER CAUSED, OR FOR ANY LOST PROFITS, LOSS OF USE, LOSS OF DATA, COST OF DATA RECONSTRUCTION OR COST OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING OUT OF OR RELATED TO THIS AGREEMENT, INCLUDING BUT NOT LIMITED TO THE USE OR INABILITY TO USE THE MARK43 MATERIALS, SERVICES, OR THIRD-PARTY DATA, OR FOR ANY INTERRUPTION, INACCURACY, ERROR OR OMISSION IN THE USE THEREOF, EVEN IF MARK43 OR ITS SUPPLIERS HAVE BEEN PREVIOUSLY ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGES.

9.3 **Exceptions.** NOTWITHSTANDING THE FOREGOING, THE EXCLUSIONS AND LIMITATIONS OF LIABILITY SET FORTH IN SECTION 9.1 AND SECTION 9.2 SHALL NOT APPLY TO MARK43'S LIABILITY FOR ITS INDEMNITY OBLIGATIONS UNDER THIS AGREEMENT, ITS GROSS NEGLIGENCE OR WILLFUL MISCONDUCT.

10. INDEMNIFICATION.

10.1 **Indemnification by Mark43**. Mark43 shall defend and hold harmless Subscriber, and its employees, officers, and directors (the "**Subscriber Indemnified Parties**") against any third-party claim (each, a "**Third-Party Claim**") brought against them, and shall indemnify the applicable Subscriber Indemnified Parties for all losses, damages and expenses (including reasonable attorneys' fees) ("**Losses**") arising from such Third-Party Claim, to the extent such Third-Party Claim alleges that Subscriber's use of an Application as provided by Mark43 and when used in accordance with the Documentation and in compliance with this Agreement infringes that third party's U.S. copyright, U.S. patent issued as of the Effective Date, or U.S. trademark, or misappropriates that third party's trade secret. Mark43 shall have no obligation or liability under this Section 10.1 (Indemnification by Mark43) to the extent the Third-Party Claim arises from: (a) Subscriber's or any Authorized User's failure to incorporate any Update made available by Mark43 that would have avoided the alleged infringement or misappropriation; (b) modification of the Applications by anyone other than Mark43; (c) specifications, instructions, features, functions or designs or other elements provided by or requested by Subscriber or any of its Authorized Users; (d) use of the Applications in combination with any other product, service, data, process or material not provided by Mark43 (including any Subscriber Integrated Applications or Subscriber Integrated Application Data or any other Third-Party Data); or (e) use of the Applications in a manner not contemplated by this Agreement or the Documentation. If any of the Applications are (or Mark43 reasonably believes are likely to become) the subject of a claim for which Mark43 would be obligated to defend and indemnify pursuant to this Section, then Mark43 may, at its sole option, obtain for Subscriber the right to continue use of such Applications or replace or modify such Applications, as applicable, provided there is no material loss of functionality. If neither of the foregoing options is reasonably available to Mark43, in its reasonable judgment, then use of such Applications may be terminated at the option of Mark43 and Mark43 will refund any prepaid fees paid by Subscriber for such Applications applicable to the periods following the effective date of termination. The remedies provided in this Section 10.1 (Indemnification by Mark43) are Subscriber's sole and exclusive remedies for any third-party claims of infringement or misappropriation of Intellectual Property Rights by the Applications.

10.2 **Indemnification by Subscriber**. To the extent consistent with Applicable Law, Subscriber shall defend and hold harmless Mark43, its Affiliates, suppliers, and their respective employees, officers, and directors (the "**Mark43 Indemnified Parties**") against any Third-Party Claim brought against them, and shall indemnify the applicable Mark43 Indemnified Parties for all Losses arising from such Third-Party Claim, to the extent such Third-Party Claim arises out of or is related to (a) Subscriber's breach of Section 2.5 (Restrictions on Use), Section 2.6 (Security Obligations) or Section 3.2 (Ownership of and Reservation of Rights to Mark43 Materials); (b) Mark43's, Subscriber's or any Authorized User's use or processing of any Subscriber Data, Subscriber Integrated Applications, or Subscriber Integrated Application Data, including any Third-Party Claim alleging that any Subscriber Data, Subscriber Integrated Applications, or Subscriber Integrated Application Data infringes, misappropriates or violates the rights, including Intellectual Property Rights or privacy rights, of a third party or violates any Applicable Law; or (c) Mark43's disabling a connection to a Subscriber Integrated Application at Subscriber's request.

10.3 **Procedures**. Each indemnified party shall give the indemnifying party prompt written notice of any Third-Party Claim to which an indemnification obligation under this Section 10 (Indemnification) may apply and shall reasonably cooperate with the indemnifying party, at its expense, in the defense or

settlement of any such Third-Party Claim. An indemnifying party's obligations under this Section 10 (Indemnification) will be diminished to the extent that it is materially prejudiced by the indemnified party's non-compliance with the foregoing procedures.

11. MISCELLANEOUS.

11.1 **Notices**. Unless otherwise specified herein, all notices and other communications between the parties required or permitted by this Agreement or by Applicable Law, will be deemed properly given, if given by (i) personal service, (ii) registered or certified mail, postage prepaid, return receipt requested, or (iii) nationally recognized private courier service, to the respective addresses of the parties set forth below, with, in each case, a copy to the email addresses provided below. Each party may designate a new address by like notice; each party may also designate a new address in an Order Form, provided that the new address is expressly noted as being for such purpose. Notices given hereunder will be effective upon (a) receipt by the party to which notice is given; or (b) on the fifth (5th) business day following mailing, whichever occurs first. For notices relating to Security Incidents (as defined in the Data Processing Addendum), notice shall be sent exclusively to the email address(es) specified as the security contact below.

If to Mark43:

Mark43, Inc.
8 West 40th Street
2nd Floor
New York, NY 10018
Attn: CFO
Email: contractnotices@mark43.com

Copy to:

Mark43, Inc.
8 West 40th Street
2nd Floor
New York, NY 10018
Attn: General Counsel
Email: legal@mark43.com

If to Subscriber:

Copy to:

Subscriber Security Contact:

Name:
Email:

SAMPLE

11.2 **Assignment.** Neither party may assign or otherwise transfer any of its rights or obligations under this Agreement without the prior, written consent of the other party; provided, however, that a party may, without the consent of the other party, assign or otherwise transfer this Agreement in its entirety to any of its Affiliates or to an entity with or into which it is merged or consolidated or to which it sells all or substantially all of its assets, stock or other equity interests. Any assignment or other transfer in violation of this section will be null and void. Subject to the foregoing, this Agreement will be binding upon and inure to the benefit of the parties hereto and their permitted successors and assigns.

11.3 **Governing Law**. This Agreement will be governed by the internal laws of the state in which Subscriber is geographically located, and any disputes between the parties may be resolved in a state or federal court of competent jurisdiction within such state. EACH PARTY HEREBY WAIVES ANY RIGHT TO A JURY TRIAL IN CONNECTION WITH ANY ACTION OR LITIGATION IN ANY WAY ARISING OUT OF OR RELATED TO THIS AGREEMENT.

11.4 **Dispute Resolution**. Prior to the initiation of any legal proceeding other than one for equitable relief as described in subsection (d) below, the parties shall first attempt to resolve their dispute informally, as follows:

(a) Within five (5) business days following the written request of a party, designated individual(s) from Mark43 and Subscriber shall meet to resolve such dispute.

(b) The representatives referred to in paragraph (a) shall meet as often as the parties reasonably deem necessary in order to gather and furnish to the other all information with respect to the matter at issue that the parties believe to be appropriate and germane in connection with its resolution. The representatives shall discuss the problem and negotiate in good faith in an effort

to resolve the dispute without the necessity of formal legal proceedings. The specified format for the discussions will be left to the discretion of the designated representatives, but may include the preparation of agreed upon statements of fact or written statements of position.

(c) If the representatives referred to in paragraph (a) above are unable to resolve the dispute within thirty (30) days after the dispute is escalated to them, then either party may escalate the dispute to the Chief Financial Officer or similar of Mark43 and the Chief or Sheriff or comparable Subscriber official, for their review and resolution.

(d) The provisions of this Section 11.4 shall not be construed to prevent a party from instituting, and a party is authorized to institute, judicial or other proceedings either to (i) seek injunctive relief or (ii) avoid the expiration of any applicable legal or contractual limitations period.

11.5 **Force Majeure.** Except with respect to failure to pay any amount due under this Agreement, nonperformance of either party will be excused to the extent that performance is rendered impossible by strike, fire, flood, epidemics, pandemics, governmental acts that are not caused by or within the control of the nonperforming party, orders or restrictions, failure of suppliers, or any other reason where failure to perform is beyond the control and not caused by the negligence of the non-performing party.

11.6 **No Waiver**. The failure of either party to enforce at any time for any period any provision hereof will not be construed to be a waiver of such provision or of the right of such party thereafter to enforce each such provision, nor shall any single or partial exercise of any right or remedy hereunder preclude any other or further exercise thereof or the exercise of any other right or remedy. No waiver of any rights is to be charged against any party unless such waiver is in writing signed by an authorized representative of the party so charged.

11.7 **Amendment**. No modification, change or amendment to this Agreement shall be effective unless in writing signed by duly authorized representatives of each of Subscriber and Mark43. No term included in any invoice, estimate, confirmation, acceptance, purchase order or any other similar document (other than Order Forms or Statements of Work) in connection with this Agreement will be effective unless expressly stated otherwise in a separate writing signed by duly authorized representatives of each of Subscriber and Mark43.

11.8 **Relationship of the Parties**. The relationship of the parties established by this Agreement is that of independent contractors and nothing contained herein will be construed to (a) give any party any right or authority to create or assume any obligation of any kind on behalf of any other party or (b) constitute the parties as partners, joint ventures, co-owners or otherwise as participants in a joint or common undertaking.

11.9 **Use of Vendors**. Subscriber agrees that Mark43 may provide information, data and materials that Mark43 receives in connection with this Agreement (including Subscriber Data) to draw on the resources of, and subcontract certain of its obligations hereunder to, its Affiliates and independent contractors engaged by Mark43 (each, a "**Mark43 Vendor**") for internal, administrative and compliance purposes or in connection with the hosting or provision of the SaaS Services and other products and services to be provided by Mark43 pursuant to this Agreement. Mark43 shall be responsible in accordance with the terms of this Agreement for each Mark43 Vendor's compliance with the terms of this Agreement and for its acts and omissions that cause Mark43 to breach its obligations under this Agreement.

11.10 **Severability**. Any term or provision of this Agreement that is invalid or unenforceable in any jurisdiction will, to the extent the economic benefits conferred thereby to the parties remain substantially unimpaired, be ineffective to the extent of such invalidity or unenforceability without rendering invalid or unenforceable the remaining terms and provisions or affecting the validity or enforceability of any of such terms or provisions in any other jurisdiction.

11.11 **Headings; Construction**. The titles and headings contained in this Agreement are for reference purposes only and shall not in any manner limit the construction or interpretation of this Agreement. Use of the term "including" herein shall be deemed to be followed by "without limitation."

11.12 **Counterparts**. This Agreement may be executed, including by electronic signature, in two or more counterparts, each of which shall be an original and all such counterparts together shall constitute one and the same instrument. Electronically executed or electronically transmitted (including via facsimile transmission) signatures have the full force and effect of original signatures.

SAMPLE

11.13 **Cumulative Remedies**. All remedies for breach of this Agreement are cumulative, and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

11.14 **Export Compliance**. In connection with this Agreement, each party will comply with all applicable import, re-import, export, and re-export control laws and regulations, including the Export Administration Regulations, the International Traffic in Arms Regulations, and country-specific economic sanctions programs implemented by the Office of Foreign Assets Control. When applicable, Subscriber will provide Mark43 with information about Subscriber's export and distribution activities as may be required for Mark43 to meet its obligations under the United States export control laws and regulations.

11.15 **Compliance with Laws**. Each party shall comply with all Applicable Laws relating or pertaining to the performance of its obligations and the exercise of its rights under this Agreement. Subscriber shall ensure that its use of all Subscriber Data complies with all Applicable Laws relating to the privacy of third parties and the protection of their personal data promulgated by any governmental, municipal, or legal authority having jurisdiction over Subscriber or the Subscriber Data covered by this Agreement. Each party shall comply with local anti-bribery laws as well as the U.S. Foreign Corrupt Practices Act, as well as any other Applicable Laws and regulations. In connection with its performance under this Agreement, neither party shall directly or indirectly: (A) offer, pay, promise to pay, or authorize the payment of any money, gift or other thing of value to any person who is an official, agent, employee, or representative of any government or instrumentality thereof or to any candidate for political or political party office, or to any other person while knowing or having reason to believe that all or any portion of such money, gift or thing of value will be offered, given, or promised, directly or indirectly, to any such official, agent, employee, or representative of any government or political party, political party official or candidate; (B) offer, promise or give any person working for, or engaged by, the other party a financial or other advantage to (i) induce that person to perform improperly a relevant function or activity; or (ii) reward that person for improper performance of a relevant function or activity; or (C) request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with this Agreement. Each party represents and warrants that it shall be responsible for compliance with this provision by all third parties engaged by it to perform services related to this Agreement and shall require that such third parties agree to comply with all legal requirements required of such party under this Agreement.

11.16 **Entire Agreement**. This Agreement supersedes all previous understandings, agreements and representations between the parties or any affiliates or agents thereof, written or oral, and constitutes the entire agreement and understanding between the parties with respect to the subject matter of this Agreement, and incorporates all representations, warranties, covenants, commitments and understandings on which they have relied in entering into this Agreement, and, except as provided for herein, neither party makes any covenant or other commitment concerning its future action nor does either party make any promises, representations, conditions, provisions or terms related thereto.

11.17 **Supporting Documents**.

The following documents, along with all Order Forms and Statements of Work, are expressly incorporated into this Agreement and are collectively referred to herein as the "**Supporting Documents**:"

- Technical Requirements: https://mark43.com/tech-requirements
- Support Services: https://mark43.com/support-services/
- Data Processing Addendum: https://mark43.com/data-processing-addendum/
- Mark43 Integrated Application Terms: https://mark43.com/integrated-application-terms/

This Agreement and the Supporting Documents shall be construed to be mutually complementary and supplementary whenever possible. In the event of a conflict that cannot be resolved, the provisions of the body of this Agreement shall control over any conflicting provisions in any of the Supporting Documents.

SAMPLE

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives.

MARK43, INC.	**SUBSCRIBER**
By:_____	By:_____
Name:_____	Name:_____
Title:_____	Title:_____
Date:_____	Date:_____

SAMPLE

Attachment E - Screenshots of Mark43's Crash Report System

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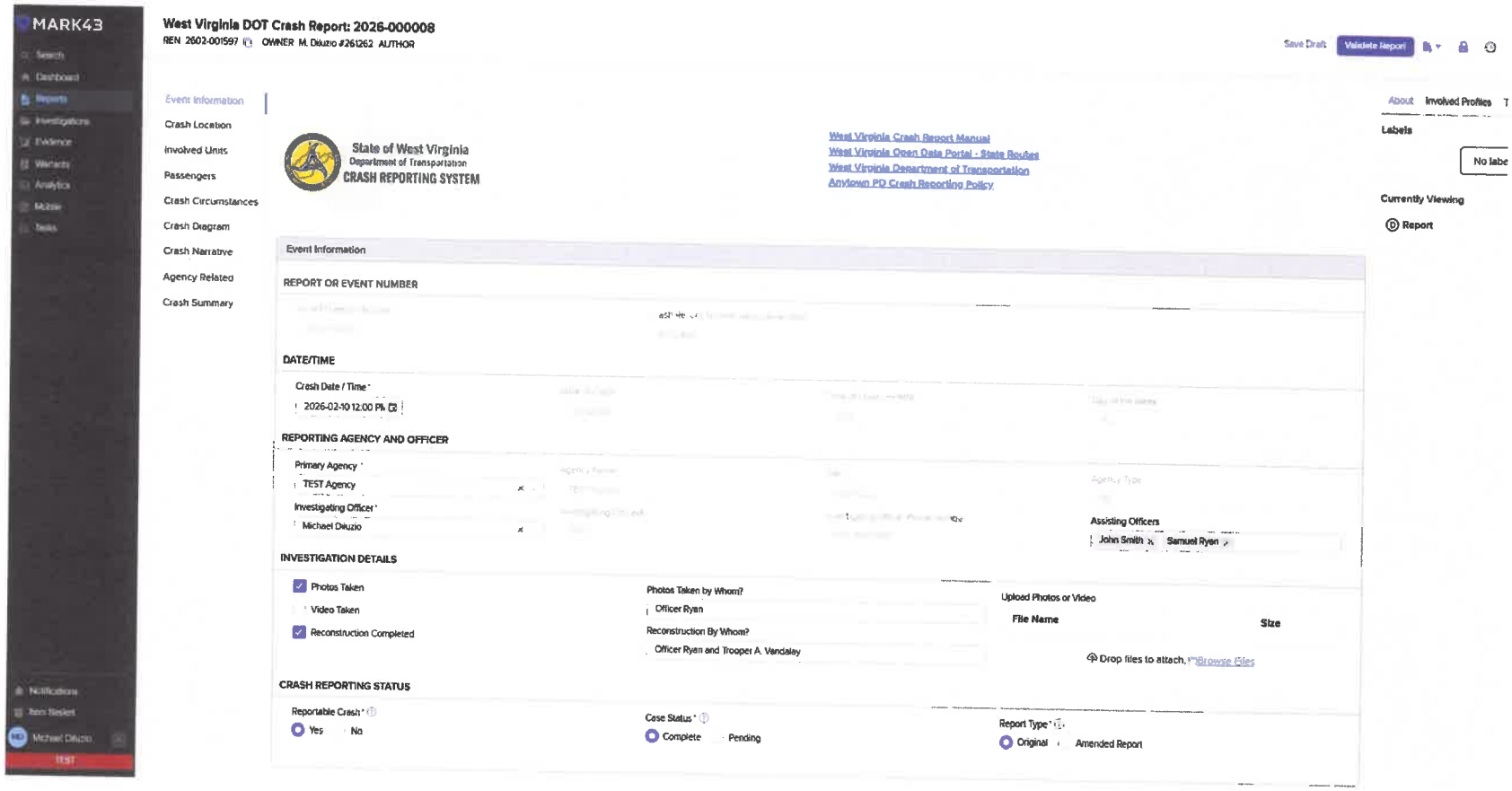
MARK43
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Dashboard
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Evidence
Warrants
Analytics
Mobile
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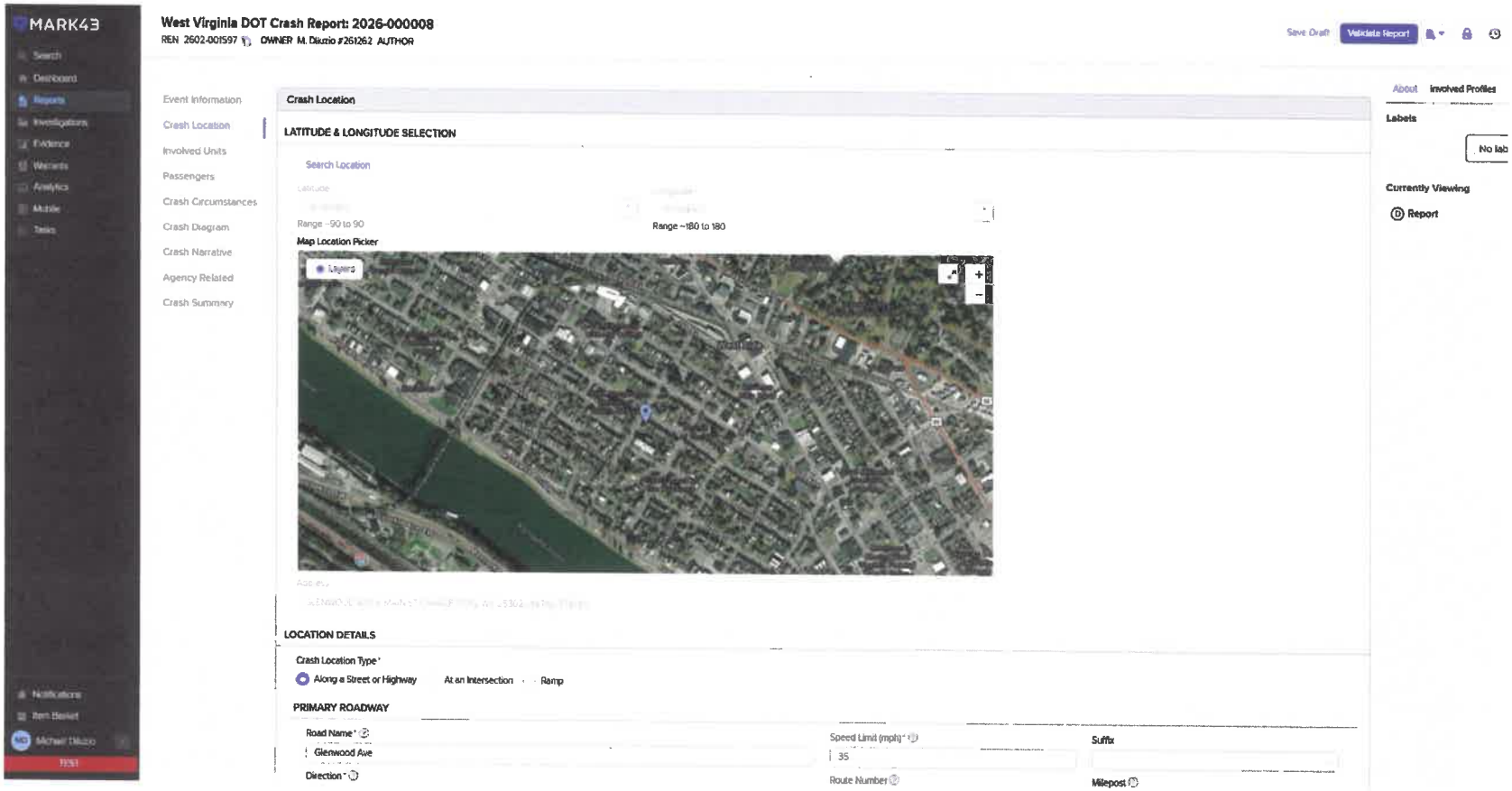
Notifications
Item Basket
Michael Dituzio
TEST
West Virginia DOT Crash Report: 2026-000008
REN 2602-001597 OWNER M. Dituzio #261262 AUTHOR
Save Draft
Validate Report
Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary
State of West Virginia
Department of Transportation
CRASH REPORTING SYSTEM
West Virginia Crash Report Manual
West Virginia Open Data Portal - State Routes
West Virginia Department of Transportation
Anytown PD Crash Reporting Policy
About
Involved Profiles
Labels
No labe
Currently Viewing
Report
Event Information
REPORT OR EVENT NUMBER
DATE/TIME
Crash Date / Time *
2026-02-10 12:00 PM
REPORTING AGENCY AND OFFICER
Primary Agency *
TEST Agency
Investigating Officer *
Michael Dituzio
Assisting Officers
John Smith
Samuel Ryan
INVESTIGATION DETAILS
Photos Taken
Video Taken
Reconstruction Completed
Photos Taken by Whom?
Officer Ryan
Reconstruction By Whom?
Officer Ryan and Trooper A. Vandalay
Upload Photos or Video
File Name
Size
Drop files to attach, or Browse Files
CRASH REPORTING STATUS
Reportable Crash *
Yes
No
Case Status *
Complete
Pending
Report Type *
Original
Amended Report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REN 2602-001597 OWNER M. Dilizio #261262 AUTHOR
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Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary
Crash Location
LATITUDE & LONGITUDE SELECTION
Search Location
Range -90 to 90
Range -180 to 180
Map Location Picker
Layers
LOCATION DETAILS
Crash Location Type*
Along a Street or Highway
At an Intersection
Ramp
PRIMARY ROADWAY
Road Name*
Glenwood Ave
Speed Limit (mph)*
35
Suffix
Direction*
Route Number
Milepost
About
Involved Profiles
Labels
No lab
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Reports
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Evidence
Warrants
Analytics
Mobile
Tasks

Notifications
Item Basket
Michael Dilucio
TEST

West Virginia DOT Crash Report: 2026-000008
REN 2602-001597 OWNER M. Dilucio #261262 AUTHOR LAST SAVED 1 minute ago

Save Draft | Validate Report

Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary

Unit 1 | Unit 2 | + Add Unit

About | Involved Profil

Labels

Currently Viewing
Report

Unit Type

Unit Type: Vehicle

Hit & Run (offender)
Parked Vehicle
Responding to Emergency

Driver Information

Hit and Run - No Known Driver Information

Vehicle

Hit and Run - No Known Vehicle Information

VEHICLE INFORMATION

Edit Vehicle | Remove Vehicle

VIN	Vehicle Make*	Vehicle Model*	Vehicle Year
12345678912345678	Ford	F150	2006

Vehicle Color	License Plate Number	License Plate State	Registration Expiration Date
BK – Black	ABC123	WV – West Virginia	12302026

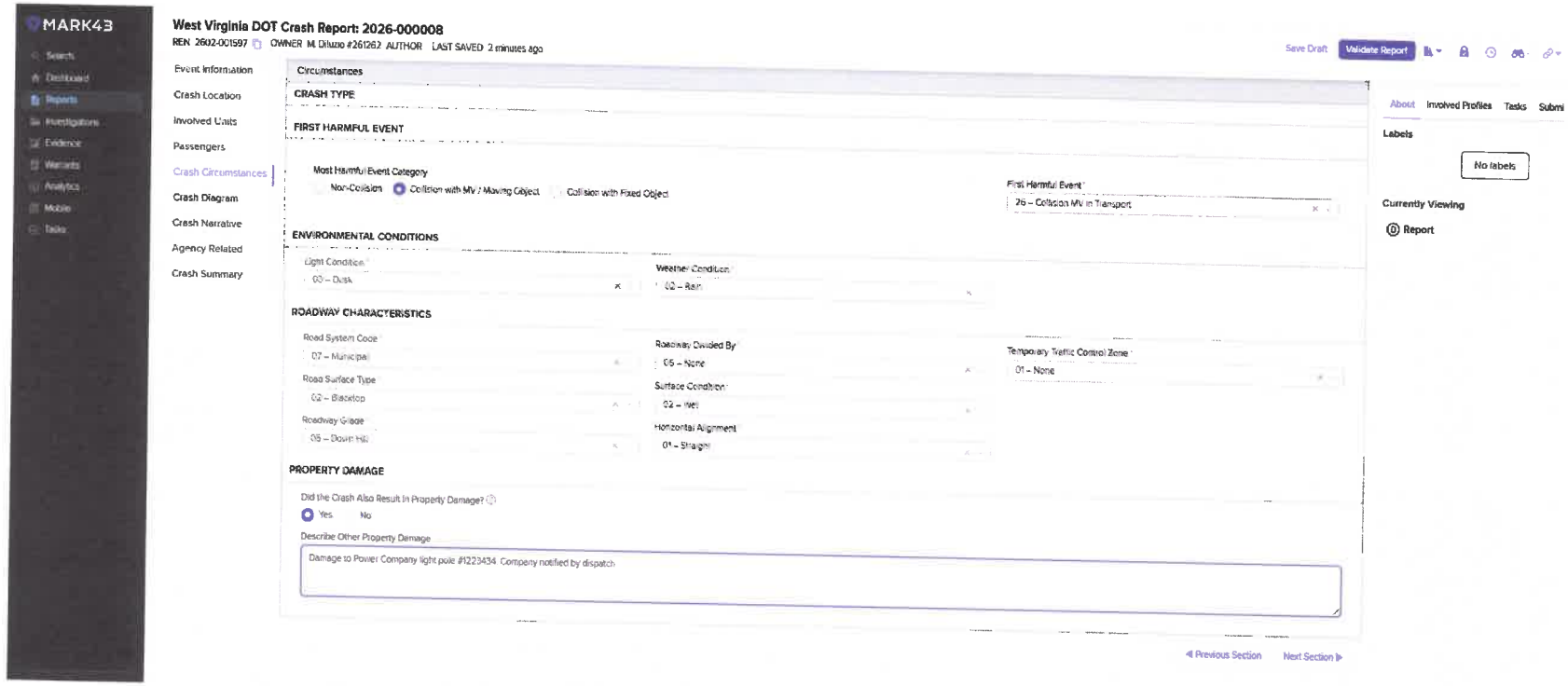
VEHICLE OWNER

Vehicle Owner Type
Same as Driver
New Person
Business or Government

Business or Government Name*: Joe's Lawncare

Street Address	City	State	Zip Code
123 Main St	Elkins	WV – West Virginia	26241

INSURANCE INFO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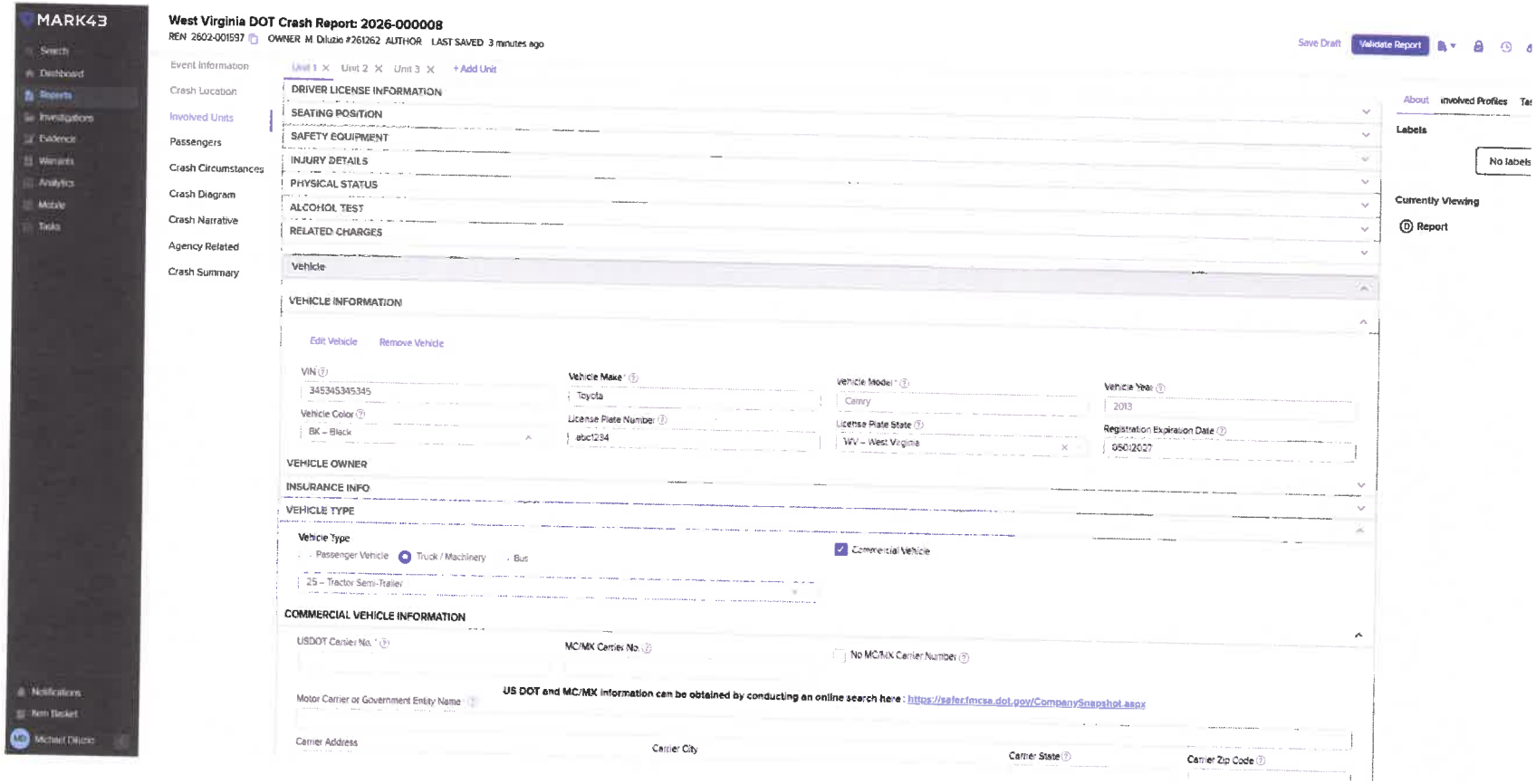
REN 2602-001597 OWNER M Dilizio #261262 AUTHOR LAST SAVED 2 minutes ago
Save Draft
Validate Report
Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary
Circumstances
CRASH TYPE
FIRST HARMFUL EVENT
Most Harmful Event Category
Non-Collision
Collision with MV / Moving Object
Collision with Fixed Object
First Harmful Event
26 – Collision MV in Transport
ENVIRONMENTAL CONDITIONS
Light Condition
03 – Dusk
Weather Condition
02 – Rain
ROADWAY CHARACTERISTICS
Road System Code
07 – Municipal
Road Surface Type
02 – Blacktop
Roadway Grade
05 – Down Hill
Roadway Divided By
05 – None
Surface Condition
02 – Wet
Horizontal Alignment
01 – Straight
Temporary Traffic Control Zone
01 – None
PROPERTY DAMAGE
Did the Crash Also Result In Property Damage?
Yes
No
Describe Other Property Damage
Damage to Power Company light pole #1223434. Company notified by dispatch
About
Involved Profiles
Tasks
Submi
Labels
No labels
Currently Viewing
Report
Previous Section
Next Section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Reports
Investigations
Evidence
Warrants
Analytics
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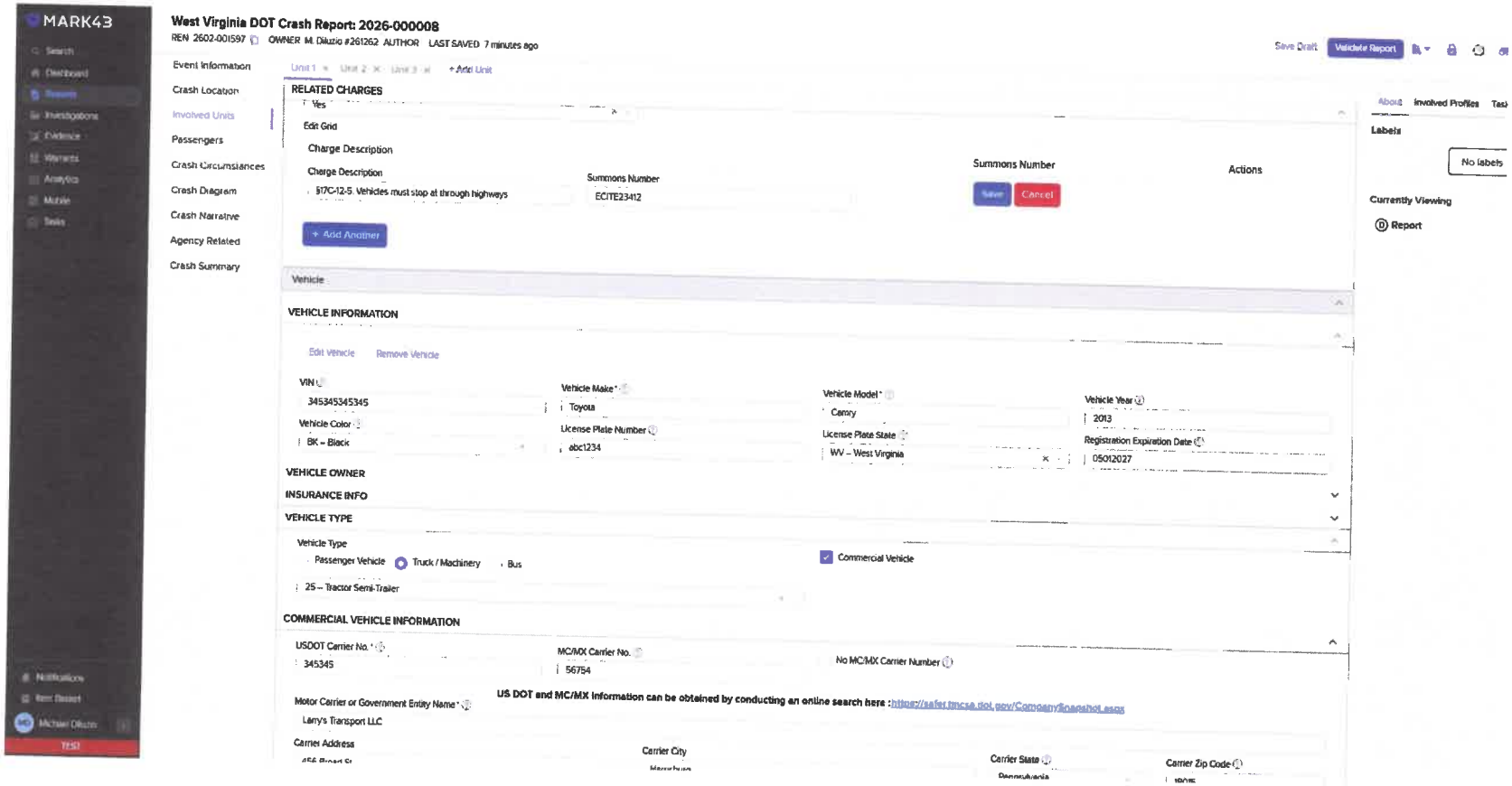
Notifications
Item Basket
Michael Dilizio
West Virginia DOT Crash Report: 2026-000008
REN 2602-001597 OWNER M Dilizio #261262 AUTHOR LAST SAVED 3 minutes ago
Save Draft
Validate Report
Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary
Unit 1
Unit 2
Unit 3
+ Add Unit
DRIVER LICENSE INFORMATION
SEATING POSITION
SAFETY EQUIPMENT
INJURY DETAILS
PHYSICAL STATUS
ALCOHOL TEST
RELATED CHARGES
Vehicle
VEHICLE INFORMATION
Edit Vehicle
Remove Vehicle
VIN
345345345345
Vehicle Make
Toyota
Vehicle Model
Camry
Vehicle Year
2013
Vehicle Color
BK – Black
License Plate Number
abc1234
License Plate State
WV – West Virginia
Registration Expiration Date
06/01/2027
VEHICLE OWNER
INSURANCE INFO
VEHICLE TYPE
Vehicle Type
Passenger Vehicle
Truck / Machinery
Bus
Commercial Vehicle
25 – Tractor Semi-Trailer
COMMERCIAL VEHICLE INFORMATION
USDOT Carrier No.
MC/MX Carrier No.
No MC/MX Carrier Number
Motor Carrier or Government Entity Name
US DOT and MC/MX information can be obtained by conducting an online search here : https://safer.fmcsa.dot.gov/CompanySnapshot.aspx
Carrier Address
Carrier City
Carrier State
Carrier Zip Code
About
Involved Profiles
Labels
No labels
Currently Viewing
Report


MARK43
West Virginia DOT Crash Report: 2026-000008
REN 2602-001597 OWNER M. Dilizio #261262 AUTHOR LAST SAVED 7 minutes ago
Save Draft
Validate Report
Event Information
Crash Location
Involved Units
Passengers
Crash Circumstances
Crash Diagram
Crash Narrative
Agency Related
Crash Summary
Unit 1
Unit 2
Unit 3
+ Add Unit
RELATED CHARGES
Yes
Edit Grid
Charge Description
Charge Description
§17C-12-5. Vehicles must stop at through highways
Summons Number
ECITE23412
Summons Number
Actions
Save
Cancel
+ Add Another
Vehicle
VEHICLE INFORMATION
Edit Vehicle
Remove Vehicle
VIN
345345345345
Vehicle Make
Toyota
Vehicle Model
Camry
Vehicle Year
2013
Vehicle Color
BK – Black
License Plate Number
abc1234
License Plate State
WV – West Virginia
Registration Expiration Date
05012027
VEHICLE OWNER
INSURANCE INFO
VEHICLE TYPE
Vehicle Type
Passenger Vehicle
Truck / Machinery
Bus
Commercial Vehicle
25 – Tractor Semi-Trailer
COMMERCIAL VEHICLE INFORMATION
USDOT Carrier No.
345345
MC/MX Carrier No.
56754
No MC/MX Carrier Number
US DOT and MC/MX Information can be obtained by conducting an online search here :https://safer.fmcsa.dot.gov/CompanySnapshot.aspx
Motor Carrier or Government Entity Name
Larry's Transport LLC
Carrier Address
Carrier City
Carrier State
Carrier Zip Code
About
Involved Profiles
Labels
No labels
Currently Viewing
Report

Attachment F – Signed Addendums

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	Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	**State of West Virginia** **Centralized Request for Proposals** **Info Technology**

Proc Folder: 1883460 **Doc Description:** *Crash Reporting and e-Citation System Modernization* **Proc Type:** Central Master Agreement			**Reason for Modification:** ADDENDUM NO_1 Vendor Questions and Responses Modify Tech Specs Revised Version of Attachment A Bi..... See Page 2 for complete info
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2026-02-13	2026-03-12 13:30	CRFP 0803 DOT2600000002	2

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code: N/A

Vendor Name : Mark43, Inc.

Address : 8 West

Street : 40 Street, 2nd Floor

City : New York

State : NY **Country :** United States **Zip :** 10018

Principal Contact : Scott Crouch

Vendor Contact Phone: (212) 651-9154 **Extension:**

FOR INFORMATION CONTACT THE BUYER
John W Estep
304-558-2566
john.w.estep@wv.gov

Vendor Signature X **FEIN#** 46-1256121 **DATE** March 12, 2026

All offers subject to all terms and conditions contained in this solicitation

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DOT2600000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge the addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

[X]	*Addendum No. 1*	[ ]	*Addendum No. 6*
[ ]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

I understand that failure to confirm the receipt of the addenda may be cause for rejection of this bid. I further understand that that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Mark 43, Inc.
Company

Authorized Signature

March 12, 2026
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

	Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130	**State of West Virginia** **Centralized Request for Proposals** **Info Technology**

Proc Folder: 1883460 **Doc Description:** *Crash Reporting and e-Citation System Modernization* **Proc Type:** Central Master Agreement			**Reason for Modification:** ADDENDUM NO_2 Vendor Questions and Responses
Date Issued	**Solicitation Closes**	**Solicitation No**	**Version**
2026-02-20	2026-03-12 13:30	CRFP 0803 DOT2600000002	3

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Customer Code: N/A

Vendor Name : Mark 43, Inc.

Address : 8 West

Street : 40th Street, 2nd Floor

City : New York

State : NY **Country :** United States **Zip :** 10018

Principal Contact : Scott Crouch

Vendor Contact Phone: (212) 651-9154 **Extension:**

FOR INFORMATION CONTACT THE BUYER
John W Estep
304-558-2566
john.w.estep@wv.gov

Vendor Signature X **FEIN#** 46-1256121 **DATE** March 12, 2026

All offers subject to all terms and conditions contained in this solicitation

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFP DOT2600000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge the addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

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(Check the box next to each addendum received)

[ ]	*Addendum No. 1*	[ ]	*Addendum No. 6*
[X]	Addendum No. 2	[ ]	Addendum No. 7
[ ]	Addendum No. 3	[ ]	Addendum No. 8
[ ]	Addendum No. 4	[ ]	Addendum No. 9
[ ]	Addendum No. 5	[ ]	Addendum No. 10

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Mark43, Inc.
Company

Authorized Signature

March 12, 2026
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

REQUEST FOR PROPOSAL

West Virginia Department of Transportation RFP

AGREED:

Name of Agency:_____

Signature:_____

Title:_____

Date:_____

Name of Vendor: Mark43, Inc.

Signature: _____
Scott Crouch

Title: Co-Founder and Head of Customer Management

Date: March 12, 2026

Attachment G - Exceptions and Clarifications

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Mark43 Legal Exceptions: State of West Virginia Centralized Request for Proposals Info Technology, Solicitation Number CRFP-DOT2600000002

Please see Mark43's Software License and Services Agreement ("SLSA"), which is tailored to the provision of SaaS and related services. Mark43 has included specific exceptions below and proposes that the parties utilize the SLSA as the basis for the contractual arrangement. Mark43 is willing to modify the SLSA to address any required local legal requirements.

Page Number	Section Number	Provision	Exception or Clarification
13	3. General Terms and Conditions, 1	Contractual Agreement	Mark43 has identified specific exceptions and clarifications within its proposal and would like to clarify that Mark43's submission is not intended to constitute unconditional acceptance of all RFP terms. In the event of award, we would expect that the parties will negotiate a mutually agreed contract, including alignment with Mark43's standard Software License and Services Agreement, as modified, to address applicable State requirements.
17	3. General Terms and Conditions, 8	Insurance	Mark43 proposes modifying Section 8 to clarify that Vendor will provide prompt written notice to the Agency only in the event of cancellation, non-renewal, or a material reduction in coverage below the insurance limits required under the Contract.
18, 60	3. General Terms and Conditions, 11	Liquidated Damages	Mark43 proposes that performance timing and remedies be addressed through mutually agreed service levels and contractual remedies consistent with SaaS industry standards, in lieu of liquidated damages. As such, we propose removing this liquidated damages provision and any other references thereto.

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Page Number	Section Number	Provision	Exception or Clarification
			We would like to clarify that removal of liquidated damages includes the language included on page 60 under Section 4.2.3.1, Complete implementation of the project within the agreed-upon timelines. There are many factors that could contribute to delays in the context of a SaaS implementation and the State will have the benefit of a milestone payment structure to align incentives.
18	3. General Terms and Conditions, 13	Pricing	Mark43 proposes modifying this provision to clarify that subscription fees will remain firm during the initial contract term and that renewal term pricing may be subject to mutually agreed adjustments. Additionally, Mark43 would like to clarify that pricing may be adjusted to reflect increased usage, additional products, or expanded scope. Lastly, the requirement to extend publicly advertised sale pricing is not applicable to SaaS subscription services and we propose removal of this language.
19	3. General Terms and Conditions, 18	Funding	Mark43 proposes modifying this provision to clarify that upon termination due to non-appropriation, the State would be responsible for paying all fees for services rendered as of the termination date, as set forth in Mark43's SLSA Sections 6.2(b) (Termination for Non-Appropriation).
19	3. General Terms and Conditions, 19	Cancellation	Mark43 proposes modifying this provision to allow termination by either party for a material breach of the contract, as set forth in Mark43's SLSA, Section 6.2(a) (Termination for Breach by Either Party).

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Page Number	Section Number	Provision	Exception or Clarification
			Mark43 also proposes removing the language allowing cancellation upon 30 days' written notice. We would propose that termination for convenience, if required by statute, include that the State would be responsible for paying all fees for services rendered as of the termination date, as set forth in Mark43's SLSA Sections 6.2(b) (Termination for Non-Appropriation).
19	3. General Terms and Conditions, 20	Time	Mark43 proposes modifying this provision to reflect that time commitments should be subject to mutual agreement based on performance obligations of each party.
19	3. General Terms and Conditions, 22	Compliance with Laws	Mark43 proposes that compliance with laws apply mutually.
20	3. General Terms and Conditions, 26	Subsequent Forms	Mark43 proposes modifying this provision to clarify that it does not supersede or invalidate the SLSA, which includes incorporated terms and policies available via hyperlink.
20	3. General Terms and Conditions, 27	Assignment	Mark43 proposes modifying this language so that assignments are permitted in the event of a change of control, merger, or sale of assets (and similar transactions), similar to what is included in Mark43's SLSA, Section 11.2 (Assignment). Any successor will be required to assume the obligations of the agreement and any orders placed under it.
20	3. General Terms and Conditions, 28	Warranty	Mark43 proposes that warranty obligations be governed by its SLSA, Section 8.2 (Services Warranty), which includes standard commercial warranties relating to SaaS software and related professional services.

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Page Number	Section Number	Provision	Exception or Clarification
20	3. General Terms and Conditions, 30	Privacy, Security, and Confidentiality	Mark43 proposes that confidentiality obligations apply mutually and be governed by Section 7 (Confidentiality) of the SLSA.
22	3. General Terms and Conditions, 36	Indemnification	Mark43 proposes removal of this broad general indemnification provision. As is standard in the SaaS industry, Mark43 provides a third-party intellectual property infringement indemnity, as set forth in its SLSA, Section 10.1 (Indemnification by Mark43). Additionally, Mark43 proposes to include an appropriate limitation of liability provision with a limit on the types of covered damages and an appropriate monetary cap of 12 months of fees, similar to what is included in Mark43's SLSA, Section 9 (Limitation of Liability).
53	4.2.2.12	Provide a solution designed for high availability and reliability	Mark43 proposes modifying the disaster recovery provision to clarify that disaster recovery obligations would be governed by Mark43's documented business continuity and disaster recovery program and subject to commercially reasonable recovery time objectives.
54	4.2.2.13	Provide a solution with a consistent and intuitive user interface that fully complies with relevant usability standards	Mark43 would like to clarify that it can provide a VPAT, and its accessibility efforts are documented therein.

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59-62	4.2.3.3	Table 1, Table 2, Plus the associated terms and service credits	Mark43 proposes that service level classifications, commitments, and service credits be governed exclusively by Mark43's Service Level Agreement ("SLA"), available at https://mark43.com/support-services/.
83	Software as a Service Addendum, 1	Definitions	Mark43 proposes aligning the definitions with those set forth in its SLSA and its Data Processing Addendum (DPA), the link to which is https://mark43.com/data-processing-addendum.
84	Software as a Service Addendum, 2	Data Ownership	While the public jurisdiction would retain ownership of its data, for the sake of clarity, Mark43 proposes clarifying that the State will retain ownership of its "Subscriber Data" and Mark43 will retain ownership of its software, platform, documentation, and derivative works as set forth in the SLSA. Mark43 includes robust ownership provisions in its SLSA, Section 3 (Proprietary Rights; Subscriber Data), and we would suggest relying on those terms.
84-88	Software as a Service Addendum, 3-5	Data Protection and Privacy; Security Incident or Data Breach Notification; Breach Responsibilities	Mark43 provides its customers with a standard Data Processing Addendum (DPA), the link to which is https://mark43.com/data-processing-addendum. Mark43 proposes that the SLSA and DPA govern data protection, security incident notification, and breach responsibilities, and that any inconsistent provisions in this Addendum be modified to conform to the SLSA and DPA. As a note, although we are proposing relying on Mark43's DPA for all provisions here, we have also included specific proposed modifications and clarifications below.

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87	Software as a Service Addendum, 4	Security Incident or Data Breach Notification	Mark43 proposes modifying the 24-hour notification requirement to provide that notice will be given without undue delay and no later than seventy-two (72) hours after confirmation of a Security Incident involving the Public Jurisdiction's data.
88	Software as a Service Addendum, 5(b)	Breach Responsibilities	Mark43 proposes revising this provision to reflect that Mark43 would provide commercially reasonable information reasonably necessary to describe the security incident, including summary incident reports, impact analysis, and audit logs specific to the affected Public Jurisdiction data. We would like to clarify that such disclosures would be subject to the protection of confidential information, trade secrets, attorney-client privilege, and the security and confidentiality of other customers and Mark43's platform.
88	Software as a Service Addendum, 5(e)	Breach Responsibilities	Mark43 proposes that breach-related obligations apply only to the extent caused by Mark43's negligence, willful misconduct, or failure to comply with its contractual obligations. We further propose clarifying that any breach-related costs or liabilities arising under these provisions would be subject to the limitation of liability set forth in its SLSA, Section 9 (Limitation of Liability). Additionally, Mark43 proposes that any obligation to provide credit monitoring or similar remediation services would only apply to the extent required by applicable law. Mark43 would also like to clarify that, while no public statement regarding a data breach would be made without the Public

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			Jurisdiction's prior written consent (except as required by law), Mark43 may disclose information regarding a security incident to its affiliates, subcontractors, cloud providers, forensic investigators, outside counsel, cyber insurance carriers, and other third parties reasonably necessary to investigate, remediate, or comply with legal obligations, provided such disclosures are subject to appropriate confidentiality protections. To the extent legally permitted, Mark43 would provide prompt notice to the Public Jurisdiction of such disclosures.
89	Software as a Service Addendum, 7(c)	Termination and Suspension of Service	Instead of this tiered approach to data return and deletion, Mark43 proposes modifying these provisions to align with the data transition set forth in its SLSA, Section 6.3 (Effect of Termination).
89	Software as a Service Addendum, 8	Background Checks	Mark43 proposes removal of this provision and instead relying on the background checks provision set forth in its SLSA, Section 7.7 (CJIS Standards; Employee Background Checks).
90	Software as a Service Addendum, 10	Access to Security Logs and Reports	Mark43 proposes modifying this provision to clarify that it would make available commercially reasonable user access logs and security reports relating to the Public Jurisdiction's accounts and data through the application or other mutually agreed means. Mark43 would also like to clarify that it would not be required to provide system-level logs, multi-tenant environment logs, logs relating to other customers, or other information that could compromise the security, confidentiality, or integrity of its platform or other customers' data.

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90	Software as a Service Addendum, 12	Data Center Audit	Mark43 proposes modifying this provision to clarify that it would ensure that its data center(s) and/or hosting environment are subject to an annual independent third-party audit conducted by the entity that owns and/or operates such data centers. This requirement may be satisfied through a SOC 2 Type II report (or a substantially equivalent industry-recognized audit framework). Further, Mark43 proposes that any identified deficiencies shall not constitute grounds for termination unless such deficiencies are material and remain uncured following the applicable notice and cure period set forth in Mark43's SLSA, Section 6.2(a) (Termination for Breach by Either Party), which includes notice and a cure period of 30 days.
90	Software as a Service Addendum, 13	Change Control and Advance Notice	Mark43 proposes modifying this provision to be limited to notifications for upgrades that would materially degrade availability and performance of its product.
91	Software as a Service Addendum, 19	Right to Remove Individuals	Mark43 proposes removing the last sentence in this provision that states, "The service provider shall not assign the person to any aspect of the contract without the public jurisdiction's consent." We instead propose language that clarifies that the public jurisdiction's consent for assignment of personnel would only be required with respect to professional services being delivered.
92	Software as a Service Addendum, 20	Business Continuity and	Mark43 proposes removal of the sentence that states, "Lack of a plan will entitle the

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		Disaster Recovery	public jurisdiction to terminate this contract for cause." We instead propose that termination would be as set forth in Mark43's SLSA, Section 6.2(a) (Termination for Breach by Either Party), which includes notice and a cure period of 30 days.
92	Software as a Service Addendum, 21	Compliance with Accessibility Standards	Mark43 would like to clarify that it can provide a VPAT, and its accessibility efforts are documented therein.
92	Software as a Service Addendum, 24	Subscription Terms	Mark43 proposes modifying this provision to align with the license grant provided in its SLSA, Section 2.1 (SaaS Services).
92	Software as a Service Addendum, 25	Equitable Relief	Mark43 proposes modifying this provision to apply mutually.

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