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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



40

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

Bureau of TSMO
April 12, 2022

REQUESTED ACTION

1. Authorize the New Hampshire Department of Transportation to enter into a Tri-State Agreement with the Maine Department of Transportation (MaineDOT) and the Vermont Agency of Transportation (VTrans) for the New England Compass Advanced Transportation Management System and Traveler Information System (ATMS/TIS) upon Governor and Council approval.
2. Authorize the New Hampshire Department of Transportation to enter into a **sole source** contract with Southwest Research Institute (SwRI), (Vendor 257260) of San Antonio, Texas, in the amount of \$10,129,071.94 for the purpose of providing an Advanced Transportation Management Software – New England Compass. This contract is effective upon Governor and Council approval through April 30, 2026 with an option to extend, at the sole discretion of the State, for up to three (3) additional two (2) year extension periods up to, but not beyond, April 30, 2032, subject to Governor and Council approval. Funding is 35.8% Federal Funds and 64.2% Other Funds (States of Maine and Vermont).

Funds to support this request are available in the following account in State FY 2022 and State FY 2023, and funding is contingent upon the availability and continued appropriation of funds in FY 2024, FY 2025 and FY 2026, with the ability to adjust encumbrances between State Fiscal Years through the Budget Office if needed and justified:

04-96-96-963515-3054	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>
Consolidated Federal Aid			
038-500177	\$788,317.01	\$2,975,664.78	\$2,783,661.40
Software License/Maint			
	<u>FY 2025</u>	<u>FY 2026</u>	
	\$2,476,860.47	\$1,104,568.28	

Project Financial Responsibilities of MaineDOT, VTrans, and NHDOT:

The total cost of the Project shall not exceed \$10,129,071.94 (the "Project Costs"). Of that total, 30.8% of the Project Costs or \$2,963,815.47 shall be the responsibility of MaineDOT; 33.4% of the Project costs or \$3,213,815.47 shall be the responsibility of VTrans, and 35.8% of the Project Costs or \$3,451,441.00 shall be the responsibility of NHDOT. The remaining \$500,000.00 not otherwise accounted for in the specified Party shares is a contingency for unforeseen System modifications (the "Contingency Amount"). Said Contingency Amount, or any portion thereof, will only be expended if required and approved by the Change Control Board and through the change order process with the

Vendor per the terms of NHDOT Contract 2022-097. Depending on the System improvements implemented, approved expenditures from the Contingency Amount could be allocated between the Parties or the responsibility of one or two Parties. Therefore, the table below shows each Party's potential maximum contribution toward the Contingency Amount. Allocation of each Party's share for any expenditures from the Contingency Amount shall be established by the CCB based on the associated improvement(s) and the relative benefit to each Party.

AGENCY	NHDOT	VTRANS	MAINE DOT	TOTAL
COST	\$3,451,441.00	\$3,213,815.47	\$2,963,815.47	\$9,629,071.94
PERCENT	35.8%	33.4%	30.8%	100%
Contingency	Up to \$500,000	Up to \$500,000	Up to \$500,000	Up to \$500,000.00
Not to Exceed	\$3,951,441.00	\$3,713,815.47	\$3,463,815.47	\$10,129,071.94

EXPLANATION

This request is **sole source** because the current Advanced Transportation Management System (ATMS), New England Compass was developed and is currently maintained by Southwest Research Institute (SwRI). New Hampshire Department of Transportation has been partnering with SwRI since 2014 in the development and operation of New England Compass. New England Compass is a tri-state system used and funded by NH, VT and ME. NH is the lead for this system and holds the contract with SwRI. NHDOT is requesting to enter a sole source contract with SwRI to continue the use of this system and enhance to current software standards. The current contract has a termination date of September 2022 with no extensions permitted. The current system was accepted as operational in 2016. Since that time several system security requirements have changed and the Departments' dependency on the system has grown such that several enhancements are needed to meet needs.

Some of the enhancements include:

- **Move to a modern Browser:** The current version operates on Internet Explorer, which is no longer being supported by Microsoft. The new version will run on all web browsers.
- **Tablet/Phone Interface:** Modify so users are able to access New England Compass from phones, tablets, and laptops/desktops.
- **Automation and AI:** Improve the ability to create alerts and automate responses. The improvement will allow us to mix data (like speed and road conditions) to create alerts/events/messages.
- **Integrate with the Departments ESRI GIS maps and functionality:** This will provide asset location and tracking as needed with any base map the Department has.
- **Cybersecurity:** The new requirements will bring the current system to current security requirements.

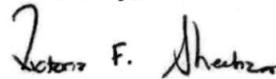
The Department, along with ME and VT explored the option of issuing a Request for Proposal and selecting a new Vendor. Through the exploration it was decided that continuing to work with SwRI is the most cost effective and efficient solution at this time. By continuing to work with SwRI the transition to the new system will be seamless due to their knowledge of the existing ATMS codebase,

and our existing and future requirements. SWRI has been dependable, available, and is always ready to explore ways to improve the ATMS.

The contract has been approved by the Attorney General as to form and execution. The Department of Information Technology (DoIT) has reviewed and approved the agreement. The Department has verified that the necessary funds are available. Copies of the fully executed agreement are on file at the Secretary of State's Office and the Department of Administrative Services, and subsequent to your approval, will be on file at the Department.

We respectfully request your approval of this resolution.

Sincerely,

A handwritten signature in black ink that reads "Victoria F. Sheehan". The signature is written in a cursive style with a large initial "V".

Victoria F. Sheehan
Commissioner

Attachments



STATE OF NEW HAMPSHIRE
DEPARTMENT OF INFORMATION TECHNOLOGY

27 Hazen Dr., Concord, NH 03301
Fax: 603-271-1516 TDD Access: 1-800-735-2964
www.nh.gov/doi

Denis Goulet
Commissioner

April 12, 2022

Victoria F. Sheehan, Commissioner
Department of Transportation
State of New Hampshire
7 Hazen Drive
Concord, NH 03302

Dear Commissioner Sheehan:

This letter represents formal notification that the Department of Information Technology (DoIT) has approved your agency's request to enter into a contract with Southwest Research Institute (SwRI), San Antonio, TX as described below and referenced as DoIT No. 2022-097.

The Department of Transportation (NHDOT) requests approval to enter into a contract with Southwest Research Institute (SwRI) for the design, installation, integration and testing of a modular software solution "System" that included a central Advance Transportation Management System (ATMS) software, a regional Traveler Information System and a Data Fusion Hub.

The cost of the contract is not to exceed \$10,129,071.94 and it shall become effective upon Governor and Council approval through April 30, 2026.

A copy of this letter should accompany your Agency's submission to Governor and Executive Council for approval.

Sincerely,

A handwritten signature in black ink that reads "Denis Goulet".

Denis Goulet

DG/RA
DoIT #2022-097

cc: Charles Burns, IT Lead

"Innovative Technologies Today for New Hampshire's Tomorrow"

STATE OF NEW HAMPSHIRE
STATE OF VERMONT
STATE OF MAINE

New England Compass
Advanced Transportation Management System and
Traveler Information System (ATMS/TIS)

Tri-State Agreement

Revision Table

Version	Date	Description	Approval
0.1	3/10/13	Initial MOMA	
0.2	4/18/13	Incorporate NHDOT Revisions Separated MOMA from background materials.	
1.3		Responded to MaineDOT, Maine IT, and Contracts input - Combined documents	
1.4		Incorporated Vermont AG comments into draft document	
1.5		Incorporated comments from Vermont Independent Review	
1.6		Incorporated comments from Maine's Independent Review	
1.7	1/3/14	Incorporated comments from Vermont and NH Attorney General's Office	
1.8	1/23/14	Incorporated comments from NH AG's office	
1.9	2/20/14	Incorporated comments from Vermont AG and DII	
2.0	4/14/14	Clarified Appendix C, Table 1 and related elements.	
2.1	2022	Updated Tri-state agreement	

STATE OF NEW HAMPSHIRE

STATE OF VERMONT

STATE OF MAINE

Tri-State Agreement

THIS TRI-STATE Agreement (the "Tri-State Agreement") is made and entered into by and between the New Hampshire Department of Transportation (NHDOT), the Maine Department of Transportation (MaineDOT) and the Vermont Agency of Transportation (VTrans), hereinafter referred to individually as a Party or DOT and collectively as the Parties or DOTs.

WHEREAS, the Parties collaboratively use an existing system known as New England Compass to operate, maintain and enhance the transportation systems in Maine, New Hampshire and Vermont, including Intelligent Transportation Systems (ITS) to monitor the transportation systems and provide traveler information; and

WHEREAS, with mutual support of all Parties, NHDOT, through a sole source process entered into a contract with Southwest Research Institute (the "Vendor") to modernize and transition the New England Compass system to a web-browser based Advanced Transportation Management System and Traveler Information System (ATMS/TIS), which will continue to be known as New England Compass; and

WHEREAS, the proposed contract between NHDOT and the Vendor (the "Vendor Contract") cannot take effect unless and until the New Hampshire Governor and Executive Council approve it; and

WHEREAS the Parties desire to submit the Vendor Contract to the New Hampshire Governor and Council for approval; and

WHEREAS, the Parties have entered into Terms of Engagement executed by NHDOT and MaineDOT on _____, 2022 and NHDOT and VTrans on _____, 2022; and

WHEREAS, NHDOT may not present the Vendor Contract to New Hampshire's Governor and Executive Council for approval unless and until the Parties have entered into a Tri-State Agreement and a financial agreement to modernize and enhance the current New England Compass System; and

WHEREAS, the Parties desire to enter into this Tri-State Agreement, including the Financial Agreement attached hereto and made a part hereof, to advance the New England Compass System and to enable NHDOT to enter into the Vendor Contract.

NOW THEREFORE, the Parties, intending to be legally bound, agree to the following terms and conditions:

1. GENERAL

1.1. Document Purpose

The **Parties** are bound by and subject to the Terms of Engagement and this Tri-State Agreement, which constitutes the controlling operational agreement between the Parties for the purposes of managing the enhancement of New England Compass, including all operation and maintenance, changes, future enhancements and funding requirements.

2. DEFINITIONS

See Appendix A.

3. TERMS AND CONDITIONS

3.1. Initial Term

This Tri-State Agreement is subject to the execution of the Vendor Contract and the approval of the same by New Hampshire's Governor and Executive Council, and this Tri-State Agreement shall have no force or effect, and shall not obligate any of the Parties hereto, unless and until these conditions occur.

The initial term of this Tri-State Agreement shall be four (4) years, starting on the date when all Parties have signed the Terms of Engagement and this Tri-State Agreement, conditioned on the subsequent approval of those documents and the Vendor Contract by New Hampshire's Governor and Council. The initial term shall include the system development and acceptance period, which is anticipated to be three (3) years followed by one (1) year of maintenance and operation. In the event of the need to either extend its term, request additional funding, or amend the allocated shares of the Parties, this Tri-State Agreement shall be updated, signed by all Parties and approved by New Hampshire Governor and Council.

3.1.1. Renewal/Cancellation

After the initial term as set forth in section 3.1 this Tri-State Agreement can be renewed for 3 two-year periods, contingent upon funding availability, legislative appropriation and New Hampshire Governor and Council approval, subject to cancellation by any Party by providing written notice to the other Parties at least ninety calendar days prior to any renewal term.

3.2. Ownership of Data

Each Party shall maintain ownership of its own data, subject to the individual software licensing agreement that each Party has entered into with the Vendor.

3.3. Change Control Board

Each Party shall designate members to serve on the Change Control Board (CCB) as referenced in Appendix C. Operational contact information for each of the Parties is attached as Appendix B. All Parties shall promptly provide and maintain up to date contact information to the CCB.

3.4. Vendor Contract

NHDOT is the contracting party with the Vendor. The Vendor maintains the New England Compass system (the "System"). Pursuant to this Tri-State Agreement, this System is maintained for the benefit of New Hampshire, Vermont, and Maine.

3.5. Deliverables

The list of deliverables as presented in the Vendor Contract (which is also identified as The State of New Hampshire Department of Transportation Advanced Transportation Management System (ATMS) NE Compass Contract 2022-097, and sometimes referred to herein as the “NHDOT Contract 2022-097”) shall be submitted to all three Parties simultaneously. Each deliverable must be fully integrated, tested and accepted by each of the three Parties before payment is made to the Vendor.

The States of New Hampshire, Vermont and Maine shall each be granted direct access to the Southwest Research Institute FTP site and software management tool, currently known as Confluence, containing the project document deliverable repository as described in NHDOT Contract 2022-097.

Notwithstanding any provision to the contrary, NHDOT shall have the authority, on behalf of the shared System and all Parties, to address any sudden or unforeseen issues that threaten the normal functioning of the shared System.

4. ROLES AND RESPONSIBILITIES

The following table outlines the roles and responsibilities of the Parties with regard to the New England Compass System enhancements, development, operation and maintenance changes, and enhancements of functionality affecting more than one Party. Each Party shall assume all roles and responsibilities for modules affecting only that Party. An action that affects more than one Party may be brought to the CCB for review and resolution by all Parties.

Index Number	Action	NHDOT	VTrans	MaineDOT
4.1	Final System Design	P	S	S
4.2	Acceptance Testing / System Monitoring	P	S	S
4.3	Incident Notification and Closeout	P	P	P
4.4	Troubleshooting / Repair	P	P	P
4.5	Scheduled Maintenance / Software Updates	P	S	S
4.6	Network Performance Monitoring	P	P	P
4.7	Change Control Board (to include Design Change Orders)	P	S	S

4.8	Future System Modification and Asset Replacement	P	P	P
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P=Primary: S= Secondary

Primary is defined as the Party with lead coordination and facilitation responsibility for decisions that are directly linked to the design, operations, monitoring and maintenance of the System. When more than one Primary stakeholder is listed, each is primary for the decisions that affect the System(s) in their state only. Secondary is defined as secondary stakeholder, which will be impacted by the decision, therefore with responsibility for participating in the decision-making process.

4.1. Final System Design

NHDOT shall take the lead in facilitating final System design review and approval and shall work with input from the CCB and all three DOT project managers. NHDOT shall utilize and manage NHDotIT and Quality Assurance (QA) consultant support for final design submittal approvals with NHDOT procuring the services of any such QA consultants (the “QA Consultants”) as appropriate. VTrans and MaineDOT shall be secondary participants as both Parties are responsible for ensuring that their respective functional requirements are met. VTrans shall utilize Vermont IT support for activities impacting the VTrans network in coordination with NHDOT and NHDotIT. MaineDOT shall utilize Maine IT support for activities impacting the MaineDOT network in coordination with NHDOT and NHDotIT.

4.2. Acceptance Testing/System Monitoring

NHDOT shall take the lead facilitation role in acceptance testing. Each Party shall lead and perform its own acceptance testing toward this effort. NHDOT shall coordinate New Hampshire acceptance testing activities with NHDotIT. VTrans shall utilize Vermont IT support for site acceptance testing activities impacting the VTrans network, in collaboration with NHDOT and NHDotIT. MaineDOT shall utilize Maine IT support for site acceptance testing activities impacting the MaineDOT network, in collaboration with NHDOT and NHDotIT.

NHDotIT shall support NHDOT for System monitoring with VTrans supported by Vermont IT support and MaineDOT supported by Maine IT support. All three Parties shall be responsible for performing relevant System monitoring based on the Vendor solution.

4.3. Troubleshooting/Repair

Upon acceptance of any part of the System, failures will be categorized by their severity and impact to the System as discussed in Exhibit B of NHDOT CONTRACT 2022-097 and in the Service Level Agreements (“SLA”) table below. If the System cannot be returned to functionality within a specified interval, the NHDOT CONTRACT 2022-097 under Exhibit B details the penalty process.

Required Response Times and Deficiency Categories

SLAs*				
Activities	Measure	Performance	SLA Response Time and Penalty (Per Hour)	
<u>Resolve service request:</u> – Restore application service in the event of a service failure. – Resolve service requests with high business impact (such as urgent data fixes, special reports, etc.) – Resolve service requests with minimal business impact (such as non-urgent data fixes, non-urgent special reports and data extracts, user and technical documentation updates, etc.)	Time to Resolution	Critical Failure = within and up to 4 consecutive hours from initial notification	Within 4 hours of notification	0%
			Past 4 hours	2%
		Moderate Failure = within and up to 12 consecutive hours* from initial notification	Within 12 hours of notification	0%
			Past 12 hours	.5%
		External Failure = within and up to 24 consecutive hours from initial notification	No Penalties	0%
			Minor Failure = within and up to 24 consecutive hours from initial notification	Within 24 hours of notification
Past 24 hours	.5%			

*Notes:

1. Resolution is defined as follows:

- a. Critical Failure: System is operational; all requirements are satisfied.
- b. Moderate Failure: Affected subsystem or driver is operational; all requirements are satisfied.
- c. External Failure: External system point of contact (POC) has acknowledged receipt of the issue.
- d. Minor Failure: Vendor has resolved the failure; all requirements are satisfied.

If any equipment of the shared New England Compass System needs to be replaced up to the demarcation point for any or all of the Parties' networks, the Parties shall share these costs

equally. Each Party shall be responsible for replacement equipment costs within its own network as well as Vendor and QA Consultant costs to configure equipment within each Party's network.

4.4. Scheduled Maintenance/Software Updates

NHDOT shall schedule and coordinate routine Vendor maintenance on network equipment and shared System hardware and shall notify the Parties of work to be done five (5) business days in advance unless otherwise agreed to by all Parties and the Vendor. When Parties conduct maintenance on non-shared equipment they shall notify NHDOT twenty-four (24) hours in advance. Conflicts with regard to scheduled maintenance shall be resolved by the affected Party whenever possible. NHDOT shall decide in the case of an unresolved conflict.

NHDOT shall schedule and coordinate software updates ("new builds") under the guidance of the CCB. NHDOT and NHDOT shall coordinate with VTrans and Vermont IT support and MaineDOT and Maine IT support as appropriate and depending on the vendor solution. Except where required by the Vendor Contract or software requirements, there is no specific requirement in this Tri-State Agreement that the non-shared software (individual DOT ATMS) be upgraded at all three states simultaneously.

Conflicts with regard to scheduled maintenance and software updates shall be resolved by the affected Party whenever possible. NHDOT shall decide in the case of an unresolved conflict. NHDOT shall not render a unilateral decision in these cases that renders major System functionality unusable by another DOT without that DOT's agreement.

4.5. Network Performance Monitoring

Network connections between the remote hosting facilities and the NHDOT, VTrans, and MaineDOT TMCs will be monitored by the Vendor. NHDOT, VTrans, and MaineDOT shall be responsible for the following regarding the network and access to the network:

- Providing the VPN / firewall appliance.
- Providing VPN login access to the NHDOT, VTrans, and MaineDOT ITS networks.

4.6. Change Control Board

The CCB shall meet no less than quarterly, or more if needed or at the request of any Party, to

discuss and manage System elements, performance, or changes. The structure of the CCB is detailed in Appendix C.

4.7. Future System Modification and Asset Replacement

The CCB shall govern all System enhancements and modifications.

Any Party seeking modification to the shared System shall provide written justification for the modification, including purpose, costs, benefits, and impact to present operations to NHDOT for distribution to the CCB. Before the CCB may authorize the modification, all Parties must concur, and concurrence shall not be unreasonably withheld.

The following table outlines the CCB's roles and responsibilities regarding development and procurement activities that would impact System services to any of the DOTs.

Activity	Role and Responsibility
New England Compass Modules	The addition of individual modules to New England Compass, beyond those required by NHDOT's contract with the Vendor, must be coordinated and approved by the CCB.
Software Development for systems outside New England Compass	Individual software development (such as upgrading a work zone traffic monitoring system) that is outside of New England Compass is solely the responsibility of the procuring DOT. Any integration efforts (from the work zone system into the Data Hub) that will involve the New England Compass Integrator must be coordinated, determined, and approved by the CCB.
Additional New England Compass Procurements	To be determined by the CCB. An example could be a new 511 vendor at the conclusion of the initial operating period.
System (IT) Security Activities	To be coordinated by the CCB, subject to the policies of individual DOTs.
Device Control and Connectivity	Individual ITS deployments (such as an RWIS) are solely the responsibility of the procuring DOT. Any integration efforts into the New England Compass Data Hub that will involve the New England Compass Integrator must be coordinated, determined, and approved by the CCB.
ArcGIS Online Hosting of TIS	To be coordinated by the CCB as deemed necessary, subject to the policies of individual DOTs.

The CCB shall coordinate all three DOTs' activities that will not require Vendor actions but that will impact the shared System. Parties are not required to notify other Parties or the CCB of changes

that do not impact other Parties' operations or system components, such as taking field equipment defined only to that DOT's New England Compass offline. The Parties agree to provide each other with at least thirty (30) calendar days' notice of changes to equipment, networks, or facilities that may impact New England Compass shared operations or shared system components. Examples include, but are not limited to:

1. Taking field equipment offline when known to impact another Party's New England Compass;
2. Changing communications systems to ITS field equipment or operations centers;
3. Closing operations centers; and
4. Upgrading controllers in field devices or systems interfacing to New England Compass.

Emergency repair work is excluded from the notification requirement. However, the Parties shall provide notification of emergency repair work to the other Parties as soon as practical.

4.8. Conflict Resolution

The Parties agree to work together and with the Vendor to facilitate the implementation, operation, and maintenance of the New England Compass System. The CCB shall strive to resolve disagreements between the Parties. If the CCB cannot unanimously resolve a disagreement between the Parties, then the CCB shall refer the disagreement to all Parties' Maintenance and Operation (M&O) Directors for second-level conflict resolution. If the M&O Directors cannot unanimously resolve the conflict, then NHDOT shall utilize a consultant to provide an independent review of the technical/contractual issue. Costs incurred by the use of an independent consultant will be shared equally by the Parties in disagreement. The decision or opinion of the independent consultant and any factual findings that the independent consultant may make will be brought back to the M & O Directors for final conflict resolution.

5. COST ALLOCATION

This section is for reference only. The Financial Agreement between the Parties is located in Appendix D of this Tri-State Agreement. In the event of a conflict between this section and the Financial Agreement in Appendix D, the Financial Agreement shall control.

The following table outlines the cost allocation for the build of enhancements in Contract, maintenance, and operation of New England Compass that the Parties agree to.

COST	ALLOCATION
Initial New England Compass Costs	The Vendor Contract to be approved by New Hampshire's Governor and Executive Council will identify the initial New England Compass System cost to be borne all Parties.
Additional Functionality	<p>Each Party shall be responsible for incremental costs relating to additional System functionality (additional modules) specific to that Party. If two or more Parties collaborate on additional functionality, the Vendor costs may be shared:</p> <ol style="list-style-type: none"> 1. based on the % of the total Vendor Contract amendment; or 2. negotiated between the Parties to reflect implementation or usage costs. <p>These costs shall include additional communications and hosting costs if applicable.</p>
Unforeseen New England Compass Costs	If an unforeseen Vendor activity (such as replacing or designing around legacy communications equipment that has been retired by a DOT) is required to make the New England Compass System functional, and this cost is the responsibility of the Parties, additional payments shall be authorized by the CCB. The cost shall be shared equally by the Parties if the cost is associated with a shared System component, or borne by a single Party if it is attributed to that Party.
State Resources	<p>The CCB may, at the Parties' shared expense, invite additional subject matter experts or consultants to attend meetings for specific discussion topics if necessary.</p> <p>Except for QA Consultants hired by NHDOT to support all Parties, Parties are responsible and shall not be reimbursed for their own employee or contractor activities supporting this project, including travel expenses.</p> <p>Parties are responsible for and shall not be reimbursed for costs associated with communicating and controlling their own ATMS field equipment, including network equipment, field devices, or leased communications costs.</p>

QA Consultant Costs	<p>QA Consultant activities required to support the enhancement and modernization of New England Compass system prior to site acceptance testing shall be under the direction of NHDOT.</p> <p>The QA costs of shared New England Compass System components shall be shared by the Parties (based on the percentages of the total Vendor Contract for which the Parties are responsible under the attached Financial Agreement) unless otherwise negotiated between the Parties to reflect implementation costs.</p> <p>QA Consultant costs to review those deliverables that are tailored to each individual Party shall be the responsibility of each Party. Refer to the Deliverables, Milestones, and Activities Schedule in Exhibit A of the Vendor contract (NHDOT CONTRACT 2022-097).</p> <p>QA consultant costs (such as investigating a field device communications issue, or HVAC/power issue or QA of a single DOT's ATMS system functionality) that are specific to an individual Party will be paid for by that Party.</p>
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Any Party requesting reimbursement of a cost shall provide complete and auditable documentation of the request. NHDOT shall maintain a historical record of all requests of the Parties for cost allocation so that the total cost of the shared system can be determined on an ongoing basis.

The Parties agree to pay any allocated costs not to exceed the maximum limiting amounts set forth in the Financial Agreement within sixty (60) days after receipt of an invoice.

This Agreement may be amended in a written agreement signed by all Parties to provide for a different cost allocation method in the future which may consider additional funding opportunities, project participants, system functionality, relative levels of maintenance, utility, replacement, and other costs borne by the Parties in their operation of New England Compass.

6. SOVEREIGN IMMUNITY

This Agreement does not abridge or limit, nor shall it be interpreted as abridging or limiting, the sovereign or official immunity to which any Party or its representatives and agents are lawfully entitled.

7. THIRD PARTIES

The Parties hereto do not intend to benefit any third parties, and this Agreement shall not be construed to confer any such benefit.

8. LAWFUL AND DILIGENT COOPERATION

The Parties agree to comply with and abide by all applicable state and federal laws.

9. AMENDMENT

Any part of this Tri-State Agreement may be amended in writing at any time upon the written approval of all Parties.

10. TERMINATION

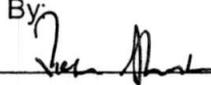
Any Party may postpone, suspend, abandon or otherwise terminate this Tri-State Agreement, including the Financial Agreement appended hereto, upon thirty (30) days written notice to the other Parties as the result of any failure by any of the Parties to perform any of the services required under this Tri-State Agreement to the satisfaction of another Party and failure of such Party to cure deficiency within such 30 day notice period. In the event of termination, the Parties will be responsible for their share of any costs, expenses, penalties and/or liabilities expended, committed or imposed in connection with the Project scope and the Project contracts, including Vendor Contract, as of such date of termination. Each Party will be individually responsible for any FHWA payback requirements imposed on that Party by FHWA due to such termination, if applicable. In no event, shall any action taken in accordance with this paragraph be deemed a breach of contract.

IN WITNESS WHEREOF, VTrans, MaineDOT and NHDOT, through the undersigned officials, have hereunto affixed their signatures to this Tri-State Agreement effective on the date last signed below.

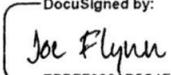
**NEW HAMPSHIRE
DEPARTMENT OF
TRANSPORTATION**

**VERMONT AGENCY OF
TRANSPORTATION**

**MAINE DEPARTMENT OF
TRANSPORTATION**

By: 

Commissioner

By: 

Secretary

By: _____
Commissioner

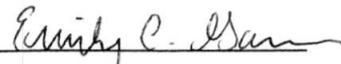
Date: 4/21/22

Date: 4/7/2022

Date: _____

Approved as to Form:

Dated: 5/2/2022


Assistant Attorney General

State of New Hampshire

Authorized to enter into Agreement as approved by NH Governor & Council on

IN WITNESS WHEREOF, VTrans, MaineDOT and NHDOT, through the undersigned officials, have hereunto affixed their signatures to this Tri-State Agreement effective on the date last signed below.

**NEW HAMPSHIRE
DEPARTMENT OF
TRANSPORTATION**

By: 

Commissioner

Date: 4/21/22

Approved as to Form:

Dated: _____

Assistant Attorney General

State of New Hampshire

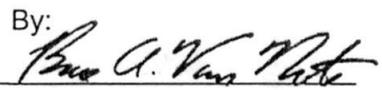
Authorized to enter into Agreement as approved by NH Governor & Council on

**VERMONT AGENCY OF
TRANSPORTATION**

By: _____
Secretary

Date: _____

**MAINE DEPARTMENT OF
TRANSPORTATION**

By: 

Commissioner

Date: April 1st, 2022

Appendix A - Definitions

ATMS	Advanced Transportation Management Systems
CCB	Change Control Board
FHWA	Federal Highway Administration
JIRA SOFTWARE	Vendor Incident Tracking System
ITS	Intelligent Transportation Systems
MaineDOT	Maine Department of Transportation
M & O	Maintenance and Operations unit of a Party's transportation agency
Maine IT	Maine Office of Information Technology
NHDoIT	New Hampshire Department of Information Technology
NHDOT	New Hampshire Department of Transportation
QA	Quality Assurance
QC	Quality Control
RFP	Request for Proposals
RWIS	Road and Weather Information System
TIS	Traveler Information System
TMC	Transportation Management Center
Vermont IT	Vermont Department of Information and Innovation
VPN	Virtual Private Network
VTrans	Vermont Agency of Transportation

Appendix B - Operational Contact Information

NHDOT Operational Contact Information:

NHDOT TSMO Bureau Administrator
New Hampshire Department of Transportation
110 Smokey Bear Boulevard
Concord, NH 03301
603-271-6862

VTrans Operational Contact Information:

TMC Manager
Vermont Agency of Transportation
Operations & Safety Bureau
2178 Airport Road Unit A
Barre, VT 05641
802-498-8109

MaineDOT Operational Contact Information

Assistant Highway Maintenance Engineer
Bureau of Maintenance and Operations
Maine Department of Transportation
2 Child Street
Augusta, ME 04330
207-624-3600

Appendix C - Change Control Board (CCB) Structure

Overview

The CCB shall be responsible for coordinating the technical, financial, and schedule aspects of the project for the Parties. The CCB shall:

1. Support NHDOT in managing Southwest Research Institute,
2. Provide for individual state IT requirements,
3. Review, approve, and coordinate System changes and/or expansions that the Parties may propose,
4. Ensure compatibility with in-state ITS designs and integration efforts,
5. Provide configuration management control, and
6. Govern cost sharing and grant application processes.

Structure

The structure of the CCB is detailed below.

Position	Organization / Individual	Role
CCB Voting Members - 3 members		
Chair	NHDOT	Leads the CCB Responsible for meeting coordination and documentation.
Co-Chairs	MaineDOT, VTrans	Co-Leaders
CCB Non-Voting Members (support to CCB Voting Members)		
IT Support	Each Party's IT Representative	IT Technical Guidance and compliance with each Party's IT regulations
FHWA	NH Division ITS Operations Engineer	Project Oversight, compliance with FHWA requirements, federal aid participation.
Project Oversight	NHDOT Asst. Director of Operations	Senior Oversight - Ensures compliance with NHDOT organizational and financial requirement
Project Resolution Oversight	NHDOT, VTrans, and MaineDOT M&O Directors	Project Oversight/Support to provide second level of conflict resolution prior to escalating to an independent review
QA Support	Contractors Hired by DOT(s)	Technical Guidance in evaluation of Vendor actions and technical changes.
Vendor	Southwest Research, Institute.	System Integrator

Table 1: CCB Structure

Change Process

Any Party may bring proposed financial, software, governance, or other project changes to the CCB Chair and/or the CCB Co-Chairs, who shall in turn present them to the entire CCB for consideration, if needed. The Vendor may develop a proposed change in collaboration with impacted CCB Parties and present that change in writing to the CCB on at least one Party's behalf. Prior to bringing a proposed change to the CCB for consideration, the Party proposing the change shall vet the change through the QA Consultant and impacted IT support if appropriate. For software changes that a Party brings to the CCB, the impacted Party shall provide:

1. The identified need for a change; and
2. The impact of the change on the System (i.e., value, cost, schedule).

The voting members, and non-voting members as appropriate, of the CCB shall evaluate the proposed change. The Parties or the Vendor shall submit proposed changes in writing to the CCB Chair at least one week prior to the next scheduled CCB meeting. The CCB Chair shall provide the proposed change to the CCB members (both voting and non-voting as appropriate) at least five days prior to the next CCB meeting. The CCB shall authorize the Vendor to incorporate any approved change into the existing New England Compass system with appropriate documentation. The CCB shall document all actions on proposed changes and preserve these documents in its files for at least three years after the termination of this Tri-State Agreement.

The CCB shall review and approve any request to terminate by convenience the Vendor contract.

Additional Responsibilities

Some of the additional responsibilities of the CCB are detailed in the following table:

Individual Vendor Contracts and Agreements	
Data and Video Sharing	Access, use, and integration will be coordinated by the CCB, subject to applicable licensing agreements.
Maintenance Agreements	Will be coordinated by the CCB.

Table 2: Role of the CCB in Coordinating Individual Vendor Contracts and Agreements

Appendix D - Financial Agreement

NH STATE VENDOR#: 257260

NH STATE PROJECT#: 43883

NH FEDERAL PROJECT#: TSMO Programmatic

MAINE STATE PROJECT#: 77728/022037.22

MAINE FEDERAL PROJECT#:77728/022037.22

VERMONT STATE PROJECT#: NEC2022

VERMONT FEDERAL PROJECT#: NEC2022

The Financial provisions set out below (the "Financial Agreement") are effective on the same date as the Tri-State Agreement to which this Financial Agreement is appended. Defined terms are the same as those defined in the Tri-State Agreement unless otherwise indicated.

WITNESSETH:

WHEREAS, the Parties have entered into the Tri-State Agreement to which this Financial Agreement is appended to define their roles and responsibilities in advancing and managing an Advanced Transportation Management System/Traveler Information System (ATMS/TIS) Project (the "Project"); and

WHEREAS, NHDOT desires to act as Sponsor and Manager of the Project; and

WHEREAS, MaineDOT and VTrans desire to cooperate with NHDOT in accomplishing the Project; and

WHEREAS, following completion and acceptance of the Project, NHDOT, MaineDOT, and VTrans shall own and maintain three (3) separate Advanced Transportation Management Systems as well as share maintenance and hosting costs of a shared Data Fusion Hub and a Traveler Information System; and

WHEREAS, the Parties desire to enter into this Financial Agreement to establish their roles and responsibilities in financing the Project.

NOW, THEREFORE, in consideration of the above premises and in further consideration of the agreements herein set forth by and between the Parties hereto, it is mutually agreed as follows:

I. PROJECT MANAGEMENT RESPONSIBILITIES:

- A. MaineDOT, VTRANS, AND NHDOT shall comply with all federal and state laws, including those applicable under the Federal-Aid Highway Program for Federal-Aid Construction Contracts.
- B. NHDOT, MaineDOT, and VTRANS individually certify, by signing this Financial Agreement, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency. If any Party is unable to certify to this statement, it shall attach an explanation to this Financial Agreement and promptly notify the other Parties if it or its principals become debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.
- C. Nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State of New Hampshire or the NHDOT, the State of Maine or the MaineDOT, or the State of Vermont or VTrans, which immunity is hereby reserved. This covenant shall survive the termination of this Financial Agreement.
- D. MaineDOT, VTrans, and NHDOT shall convene a meeting within thirty days after signing this Financial Agreement to discuss the Project's scope, budget, and schedule. NHDOT shall subsequently provide the Parties with a schedule showing Project milestones with dates.

II. PROJECT FINANCIAL RESPONSIBILITIES OF MaineDOT, VTrans, and NHDOT:

- A. The total cost of the Project shall not exceed Ten Million One Hundred Twenty-Nine Thousand Seventy-One Dollars and Ninety-Four Cents (\$10,129,071.94) (the "Project Costs"). Of that total, thirty and eight tenths percent (30.8%) of the Project Costs in the amount of Two Million Nine Hundred Sixty-Three Thousand Eight Hundred Fifteen Dollars and Forty-Seven Cents (\$2,963,815.47) shall be the responsibility of MaineDOT; thirty-three and four tenths percent (33.4%) of the Project costs in the amount of Three Million Two Hundred Thirteen Thousand Eight Hundred Fifteen Dollars and Forty-Seven Cents (\$3,213,815.47) shall be the responsibility of VTrans, and a total of thirty-five and eight tenths percent (35.8%) of the Project Costs in the amount of Three Million Four Hundred Fifty-One Thousand Four Hundred Forty-One Dollars and Zero Cents (\$3,451,441.00) shall be the responsibility of NHDOT. The remaining Five Hundred Thousand Dollars (\$500,000.00) not otherwise accounted for in the specified Party shares is a contingency for unforeseen System modifications (the "Contingency Amount"). Said Contingency Amount, or any portion thereof, will only be expended if required and approved by the CCB and through the change order process with the Vendor per the terms of NHDOT Contract 2022-097. Depending on the System improvements implemented, approved expenditures from the Contingency Amount could be allocated between the Parties or the responsibility of one or two Parties. Therefore, the table below shows each Party's potential maximum contribution toward the Contingency Amount. Allocation of each

Party's share for any expenditures from the Contingency Amount shall be established by the CCB based on the associated improvement(s) and the relative benefit to each Party.

AGENCY	NHDOT	VTRANS	MAINE DOT	TOTAL
COST	\$3,451,441.00	\$3,213,815.47	\$2,963,815.47	\$9,629,071.94
PERCENT	35.8%	33.4%	30.8%	100%
Contingency	Up to \$500,000	Up to \$500,000	Up to \$500,000	Up to \$500,000.00
Not to Exceed	\$3,951,441.00	\$3,713,815.47	\$3,463,815.47	\$10,129,071.94

- B. NHDOT agrees to initially pay upfront for 100% of the total Project Costs for the work described in Paragraph II-B, subject to the cost sharing provisions set out herein. NHDOT shall submit progress reports and invoices generated by the Vendor to MaineDOT and VTrans. The invoice structure shall include details of work completed consistent with the scope of work as set forth and agreed upon at the scoping meeting, as well as backup information to support the invoiced charges. Prior to seeking reimbursement from MaineDOT and VTrans, NHDOT shall certify that the invoices properly represent payment in full for work that has been completed by the Vendor and paid for by NHDOT. NHDOT shall provide proof of payment by NHDOT to the Vendor to MaineDOT and VTrans prior to requesting reimbursement.
- C. NHDOT shall not incur any additional Project costs nor enter into any additional agreements with any third party, including but not limited to consultants, contractors, or engineers for this Project unless and until such time that it receives written concurrence of scope and cost from the NHDOT, MaineDOT, and VTrans members of the CCB.
- D. All Parties shall maintain all Project and financial records pertinent to the development of the Project for three (3) years beyond the date of NHDOT's final voucher. NHDOT shall send a letter to MaineDOT and VTrans with the date of this final voucher within thirty days after that date.
- E. This Financial Agreement is contingent upon the appropriation of sufficient funds from the State of New Hampshire Legislature, the State of Vermont Legislature, the State of Maine Legislature, and/or FHWA. In the event of a reduction or termination of appropriated funds, an affected Party may terminate this Agreement immediately upon giving the other Parties notice of such reduction or termination. Notwithstanding anything to the contrary, the terminating Party shall pay for its allocated share of any services performed and accepted under the Vendor Contract as of the date of such termination.
- F. The participation of NHDOT in this Agreement is contingent upon the approval of the Governor and Executive Council of the State of New Hampshire.

**STATE OF NEW HAMPSHIRE
STATE OF VERMONT
TERMS OF ENGAGEMENT**

THESE TERMS OF ENGAGEMENT (“TOE”) are made and entered into by and between the New Hampshire Department of Transportation (NHDOT) and the Vermont Agency of Transportation Department of Transportation (VTrans), hereinafter referred to as “the PARTIES”.

WITNESSETH:

WHEREAS, the PARTIES collaboratively use New England Compass system together to operate, maintain, and enhance the transportation systems in both Vermont and New Hampshire, including Intelligent Transportation Systems (ITS) to monitor transportation systems and provide traveler information; and

WHEREAS, the PARTIES desire to collaborate on the design of a modernized and web-browser based New England Compass; and

WHEREAS, the PARTIES have completed Concepts of Operations for an Advanced Transportation Management System; and

WHEREAS, to that end, the PARTIES intend to jointly implement the modernization of and transition to a web-browser based Advanced Transportation Management System and Traveler Information System (ATMS/TIS), known as New England Compass through a sole source contract between NHDOT and Southwest Research Institute; and.

WHEREAS, in anticipation of the PARTIES agreeing to procure the modernized ATMS/TIS system, they intend to enter into a tri-state agreement, also including the Maine Department of Transportation, to set out the terms by which the parties thereto or their contractors will operate and maintain the ATMS/ TIS system for a minimum of four (4) years with the option to extend for up to 3 two-year extensions for a total possible of ten (10) years (the “Tri-State Agreement”); and

WHEREAS, the PARTIES intend for NHDOT to be responsible for contractual management, administration, supporting operation and maintenance of the modernized New England Compass system, for the agreed upon terms pursuant to the Tri-State Agreement.

NOW THEREFORE, the PARTIES agree to the following terms and conditions:

NHDOT and VTrans shall actively participate in the development of requirements to enhance New England Compass through NHDOT’s contract with Southwest Research Institute (the “SWRI Contract”).

NHDOT shall be solely responsible for procuring and administering the SWRI Contract and making all payments to Southwest Research Institute upfront in accordance with the Terms in the

SwRI Contract, subject to the cost sharing provisions and financial responsibilities set out in the Tri-State Agreement. VTrans shall not be a party to the SWRI Contract.

The PARTIES shall work cooperatively to create a) a contractual agreement that outlines each PARTY's ATMS/TIS requirements and financial obligations and b) the Tri-State Agreement, together with VTRANS, to support such agreed upon terms.

The Tri-State Agreement shall further define the roles and responsibilities of each party thereto, including but not limited to the operation and maintenance of New England Compass.

The Tri-State Agreement shall include the establishment of a governing structure for the parties thereto to control New England Compass changes, enhancements, and funding.

The Tri-State Agreement shall include representation of additional states, if any, that enter into an agreement with the parties thereto to participate in the New England Compass project.

IN WITNESS WHEREOF, VTrans and NHDOT, through their undersigned officials, have hereunto affixed their signatures.

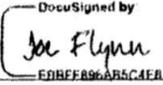
**NEW HAMPSHIRE
DEPARTMENT OF
TRANSPORTATION**

By: 

Commissioner

Date: 4/21/22

**VERMONT AGENCY OF
TRANSPORTATION**

By: 

Secretary

Date: 4/7/2022

Approved as to Form:

Dated: 5/2/2022



Assistant Attorney General
State of New Hampshire

STATE OF NEW HAMPSHIRE
STATE OF MAINE
TERMS OF ENGAGEMENT

THESE TERMS OF ENGAGEMENT (“TOE”) are made and entered into by and between the New Hampshire Department of Transportation (NHDOT) and the Maine Department of Transportation (MaineDOT), hereinafter referred to as “the PARTIES”.

WITNESSETH:

WHEREAS, the PARTIES collaboratively use New England Compass system together to operate, maintain, and enhance the transportation systems in both Maine and New Hampshire, including Intelligent Transportation Systems (ITS) to monitor transportation systems and provide traveler information; and

WHEREAS, the PARTIES desire to collaborate on the design of a modernized and web-browser based New England Compass; and

WHEREAS, the PARTIES have completed Concepts of Operations for an Advanced Transportation Management System; and

WHEREAS, to that end, the PARTIES intend to jointly implement the modernization of and transition to a web-browser based Advanced Transportation Management System and Traveler Information System (ATMS/TIS), known as New England Compass through a sole source contract between NHDOT and Southwest Research Institute; and.

WHEREAS, in anticipation of the PARTIES agreeing to procure the modernized ATMS/TIS system, they intend to enter into a tri-state agreement, also including the Vermont Agency of Transportation, to set out the terms by which the parties thereto or their contractors will operate and maintain the ATMS/ TIS system for a minimum of four (4) years with the option to extend for up to 3 two-year extensions for a total possible of ten (10) years (the “Tri-State Agreement”); and

WHEREAS, the PARTIES intend for NHDOT to be responsible for contractual management, administration, supporting operation and maintenance of the modernized New England Compass system, for the agreed upon terms pursuant to the Tri-State Agreement.

NOW THEREFORE, the PARTIES agree to the following terms and conditions:

NHDOT and MaineDOT shall actively participate in the development of requirements to enhance New England Compass through NHDOT’s contract with Southwest Research Institute (the “SWRI Contract”).

NHDOT shall be solely responsible for procuring and administering the SWRI Contract and making all payments to Southwest Research Institute upfront in accordance with the Terms in the

SwRI Contract, subject to the cost sharing provisions and financial responsibilities set out in the Tri-State Agreement. MaineDOT shall not be a party to the SWRI Contract.

The PARTIES shall work cooperatively to create a) a contractual agreement that outlines each PARTY's ATMS/TIS requirements and financial obligations and b) the Tri-State Agreement, together with VTRANS, to support such agreed upon terms.

The Tri-State Agreement shall further define the roles and responsibilities of each party thereto, including but not limited to the operation and maintenance of New England Compass.

The Tri-State Agreement shall include the establishment of a governing structure for the parties thereto to control New England Compass changes, enhancements, and funding.

The Tri-State Agreement shall include representation of additional states, if any, that enter into an agreement with the parties thereto to participate in the New England Compass project.

IN WITNESS WHEREOF, MaineDOT and NHDOT, through their undersigned officials, have hereunto affixed their signatures.

**NEW HAMPSHIRE
DEPARTMENT OF
TRANSPORTATION**

By:



Commissioner

Date:

4/21/22

**MAINE DEPARTMENT OF
TRANSPORTATION**

By:



Commissioner

Date: April 4th, 2022

Approved as to Form:

Dated: 5/2/2022



Assistant Attorney General
State of New Hampshire



STATE OF NEW HAMPSHIRE

New Hampshire Department of Transportation:
Advanced Transportation Management Software-New England
Compass
ATMS-NE Compass – 2022-097

STATE OF NEW HAMPSHIRE
Department of Transportation
2022-097 – ATMS-NE Compass
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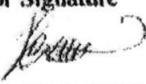
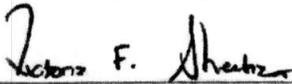
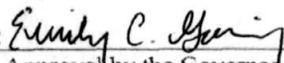
STATE OF NEW HAMPSHIRE
Department of Transportation
2022-097 – ATMS-NE Compass
STATE OF NEW HAMPSHIRE GENERAL PROVISIONS - P37

FORM NUMBER P-37 (version 12/11/2019)

Notice: This agreement and all of its attachments shall become public upon submission to Governor and Executive Council for approval. Any information that is private, confidential or proprietary must be clearly identified to the agency and agreed to in writing prior to signing the contract.

AGREEMENT
The State of New Hampshire and the Contractor hereby mutually agree as follows:
GENERAL PROVISIONS

I. IDENTIFICATION.

1.1 State Agency Name New Hampshire Department of Transportation		1.2 State Agency Address 110 Smokey Bear Blvd Concord, NH 03301	
1.3 Contractor Name Southwest Research Institute		1.4 Contractor Address 6220 Culebra Rd San Antonio, TX 78238-5166	
1.5 Contractor Phone Number (210) 522-5652	1.6 Account Number 04-96-96-963515-3054	1.7 Completion Date 4/30/2026	1.8 Price Limitation \$10,129,071.94
1.9 Contracting Officer for State Agency Transportation		1.10 State Agency Telephone Number 603 271-6862	
1.11 Contractor Signature  Date: 2/25/2022		1.12 Name and Title of Contractor Signatory Heather M. Bates, Assistant Director A&G Contracts	
1.13 State Agency Signature  Date: 4/21/22		1.14 Name and Title of State Agency Signatory Victoria F. Sheehan, Commissioner	
1.15 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By:  Director, On:			
1.16 Approval by the Attorney General (Form, Substance and Execution) (if applicable) By:  On: 5/2/2022			
1.17 Approval by the Governor and Executive Council (if applicable)			
G&C Item number:		G&C Meeting Date:	

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Contractor Initials: 
Date: 2/25/2022

STATE OF NEW HAMPSHIRE
Department of Transportation
2022-097 – ATMS-NE Compass

STATE OF NEW HAMPSHIRE GENERAL PROVISIONS - P37

2. SERVICES TO BE PERFORMED. The State of New Hampshire, acting through the agency identified in block 1.1 (“State”), engages contractor identified in block 1.3 (“Contractor”) to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT B which is incorporated herein by reference (“Services”).

3. EFFECTIVE DATE/COMPLETION OF SERVICES.

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, if applicable, this Agreement, and all obligations of the parties hereunder, shall become effective on the date the Governor and Executive Council approve this Agreement as indicated in block 1.17, unless no such approval is required, in which case the Agreement shall become effective on the date the Agreement is signed by the State Agency as shown in block 1.13 (“Effective Date”).

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed. Contractor must complete all Services by the Completion Date specified in block 1.7.

4. CONDITIONAL NATURE OF AGREEMENT.

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds affected by any state or federal legislative or executive action that reduces, eliminates or otherwise modifies the appropriation or availability of funding for this Agreement and the Scope for Services provided in EXHIBIT B, in whole or in part. In no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or

termination of appropriated funds, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to reduce or terminate the Services under this Agreement immediately upon giving the Contractor notice of such reduction or termination. The State shall not be required to transfer funds from any other account or source to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

5. CONTRACT PRICE/PRICE LIMITATION/PAYMENT.

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT C which is incorporated herein by reference.

5.2 The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance hereof, and shall be the only and the complete compensation to the Contractor for the Services. The State shall have no liability to the Contractor other than the contract price.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8.

6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/ EQUAL EMPLOYMENT OPPORTUNITY.

6.1 In connection with the performance of the Services, the Contractor shall comply with all applicable statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal employment opportunity laws. In addition, if this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all federal executive orders, rules, regulations and statutes, and with any rules, regulations and guidelines as the State or the United States issue to implement these

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regulations. The Contractor shall also comply with all applicable intellectual property laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of race, color, religion, creed, age, sex, handicap, sexual orientation, or national origin and will take affirmative action to prevent such discrimination.

6.3. The Contractor agrees to permit the State or United States access to any of the Contractor's books, records and accounts for the purpose of ascertaining compliance with all rules, regulations and orders, and the covenants, terms and conditions of this Agreement.

7. PERSONNEL.

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 Unless otherwise authorized in writing, during the term of this Agreement, and for a period of six (6) months after the Completion Date in block 1.7, the Contractor shall not hire, and shall not permit any subcontractor or other person, firm or corporation with whom it is engaged in a combined effort to perform the Services to hire, any person who is a State employee or official, who is materially involved in the procurement, administration or performance of this Agreement. This provision shall survive termination of this Agreement.

7.3 The Contracting Officer specified in block 1.9, or his or her successor, shall be the State's representative. In the event of any dispute concerning the interpretation of this Agreement, the Contracting Officer's decision shall be final for the State.

8. EVENT OF DEFAULT/REMEDIES.

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder ("Event of Default"):

8.1.1 failure to perform the Services satisfactorily or on schedule;

8.1.2 failure to submit any report required hereunder; and/or

8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) days from the date of the notice; and if the Event of Default is not timely cured, terminate this Agreement, effective two (2) days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 give the Contractor a written notice specifying the Event of Default and set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 give the Contractor a written notice specifying the Event of Default, treat the Agreement as breached, terminate the Agreement and pursue any of its remedies at law or in equity, or both.

8.3. No failure by the State to enforce any provisions hereof after any Event of Default shall be deemed a waiver of its rights with regard to that Event of Default, or any subsequent Event of Default. No express failure to enforce any Event of Default shall be deemed a waiver of the right of the State to enforce each and all of the provisions hereof upon any further or other Event of Default on the part of the Contractor.

9. TERMINATION.

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part, by thirty (30) days written notice to the Contractor that the State is exercising its option to terminate the Agreement.

9.2 In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall, at the State's discretion, deliver to the Contracting Officer, not later than fifteen (15) days after the date of termination, a report ("Termination Report") describing in detail all Services performed, and the contract price earned, to and including the date of termination. The form, subject matter, content, and number of copies of the Termination Report shall be identical to those of any Final Report described in the attached EXHIBIT B. In addition, at the State's discretion, the Contractor shall, within 15 days of notice

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of early termination, develop and submit to the State a Transition Plan for services under the Agreement.

10. DATA/ACCESS/CONFIDENTIALITY/PRESERVATION.

10.1 As used in this Agreement, the word “data” shall mean all information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

10.2 All data and any property which has been received from the State or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

10.3 Confidentiality of data shall be governed by N.H. RSA chapter 91-A or other existing law. Disclosure of data requires prior written approval of the State.

11. CONTRACTOR’S RELATION TO THE STATE.

In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers’ compensation or other emoluments provided by the State to its employees.

12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.

12.1 The Contractor shall not assign, or otherwise transfer any interest in this Agreement without the prior written notice, which shall be provided to the State at least fifteen (15) days prior to the assignment, and a written consent of the State. For purposes of this paragraph, a Change of Control shall constitute assignment. “Change of Control” means (a) merger, consolidation, or a transaction or series of related transactions in which a third party, together with its affiliates, becomes the direct or indirect owner of fifty percent (50%) or more of the voting shares or similar equity interests, or combined voting power of the Contractor, or (b) the sale of all or substantially all of the assets of the Contractor.

12.2 None of the Services shall be subcontracted by the Contractor without prior written notice and consent of the State. The State is entitled to copies of all subcontracts and assignment agreements and shall not be bound by any provisions contained in a subcontract or an assignment agreement to which it is not a party.

13. INDEMNIFICATION. Unless otherwise exempted by law, the Contractor shall indemnify and hold harmless the State, its officers and employees, from and against any and all claims, liabilities and costs for any personal injury or property damages, willful and reckless U.S. patent or U.S. copyright infringement, or other claims asserted against the State, its officers or employees, which arise out of (or which may be claimed to arise out of) the acts or omission of the Contractor, or subcontractors, including but not limited to the negligence, reckless or intentional conduct. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph 13. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

14. INSURANCE.

14.1 The Contractor shall, at its sole expense, obtain and continuously maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 commercial general liability insurance against claims of bodily injury, death or property damage, in amounts of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate or excess; and

14.1.2 RESERVED

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements., and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or his or her successor, a certificate(s) of insurance for all insurance required under this Agreement. Contractor shall also furnish to the Contracting Officer identified in block 1.9, or his or her successor, certificate(s) of insurance for all renewal(s) of insurance required under this Agreement no later than ten (10) days after to the renewal date of each insurance policy. The certificate(s) of insurance and any renewals thereof shall be attached and are incorporated herein by reference.



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15. WORKERS' COMPENSATION.

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. The Contractor shall furnish the Contracting Officer identified in block 1.9, or his or her successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

16. NOTICE. Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

17. AMENDMENT. This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire unless no such approval is required under the circumstances pursuant to State law, rule or policy.

18. CHOICE OF LAW AND FORUM. This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of New

Hampshire, and is binding upon and inures to the benefit of the parties and their respective successors and assigns. The wording used in this Agreement is the wording chosen by the parties to express their mutual intent, and no rule of construction shall be applied against or in favor of any party. Any actions arising out of this Agreement shall be brought and maintained in New Hampshire Superior Court which shall have exclusive jurisdiction thereof.

19. CONFLICTING TERMS. In the event of a conflict between the terms of this P-37 form (as modified in EXHIBIT A) and/or attachments and amendment thereof, the terms of the P-37 (as modified in EXHIBIT A) shall control.

20. THIRD PARTIES. The parties hereto do not intend to benefit any third parties and this Agreement shall not be construed to confer any such benefit.

21. HEADINGS. The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

22. SPECIAL PROVISIONS. Additional or modifying provisions set forth in the attached EXHIBIT A are incorporated herein by reference.

23. SEVERABILITY. In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

24. ENTIRE AGREEMENT. This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings with respect to the subject matter hereof.

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EXHIBIT A – SPECIAL PROVISIONS

EXHIBIT A - SPECIAL PROVISIONS

The terms outlined in the P-37 General Provisions are modified as set forth below:

A.1 Provision 3, Effective Date/Completion of Services, is updated with the following addition:

3.3 The Term may be extended for up to three 2-year extensions, (“Extended Term”) at the sole option of the State, subject to the parties prior written Agreement on applicable fees for each extended Term, up to but not beyond April 30, 2032 under the same terms and conditions, subject to approval of the Governor and Executive Council.

A.2 Provision 5, Contract Price/Price Limitation/ Payment, is updated with the following addition:

5.5 The State’s liability under this Agreement shall be limited to monetary damages not to exceed the contract price pursuant to Paragraph 5.2. The Contractor agrees that it has an adequate remedy at law for any breach of this Agreement by the State and hereby waives any right to specific performance or other equitable remedies against the State. Subject to applicable laws and regulations, in no event shall the State be liable for any consequential, special, indirect, incidental, punitive, or exemplary damages. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved to the State.

A.3 Provision 8, Event of Default/Remedies, is updated with the following addition:

8.4 Procure Services that are the subject of the Contract from another source and Contractor shall be liable for reimbursing the State for the replacement Services, and all administrative costs directly related to the replacement of the Contract and procuring the Services from another source, such as costs of competitive bidding, mailing, advertising, applicable fees, charges or penalties, and staff time costs; all of which shall be subject to the limitations of liability set forth in the Contract.

A.4 Provision 9, Termination, is deleted and replaced with the following:

9. TERMINATION

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. The State shall be liable for cost of all Services and Deliverables for which Acceptance has been given by the State, provided through the date of termination but will not be liable for any costs for incomplete Services or winding down the Contract activities. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

9.2 Termination Procedure



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- 9.2.1** Upon termination of the Contract, the State, in addition to any other rights provided in the Contract, may require Contractor to deliver to the State any property, including without limitation, Software and Written Deliverables, for such part of the Contract as has been terminated.
- 9.2.2** After receipt of a notice of termination, and except as otherwise directed by the State, Contractor shall:
- a.** Stop work under the Contract on the date, and to the extent specified, in the notice;
 - b.** Promptly, but in no event longer than ten (10) days after termination, terminate its orders and subcontracts related to the work which has been terminated, and settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the State to the extent required, which approval or ratification shall be final for the purpose of this Section;
 - c.** Take such action as the State directs, or as necessary to preserve and protect the property related to the Contract which is in the possession of Contractor and in which the State has an interest;
 - d.** Take no action to intentionally erase any State data until directed by the State;
 - e.** Transfer title to the State and deliver in the manner, at the times, and to the extent directed by the State, any property which is required to be furnished to the State and which has been accepted or requested by the State;
 - f.** Implement an orderly return of State data in a CSV or another mutually agreeable format at a time agreed to by the parties and the subsequent secure disposal of State data;
 - g.** Securely dispose of all requested data in all of its forms, such as disk, CD / DVD, backup tape and paper, when requested by the State. Data shall be permanently deleted and shall not be recoverable, according to National Institute of Standards and Technology (NIST)-Special Publication (SP) 800-88 approved methods. Certificates of destruction shall be provided to the State; and
 - h.** Provide written Certification to the State that Contractor has surrendered to the State all said property and after 180 days has erased all State data.
- 9.2.3** If the Contract has expired, or terminated prior to the Completion Date, for any reason, the Contractor shall provide, for a period up to ninety (90) days after the expiration or termination, all transition services requested by the State, at no additional cost, to allow for the expired or terminated portion of the Services to continue without interruption or adverse effect, and to facilitate the orderly transfer of such Services to the State or its designees (“Transition Services”).
- 9.2.4** This covenant in paragraph 9 shall survive the termination of this Contract.

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A.5 Provision 10, Data/Access/Confidentiality/Preservation, is updated with the following addition:

10.4 In performing its obligations under this Agreement, Contractor may gain access to Confidential Information of the State. Confidential Information includes any and all information owned or managed by the State of NH - created, received from or on behalf of any Agency of the State or accessed in the course of performing contracted Services - of which collection, disclosure, protection, and disposition is governed by state or federal law or regulation. This information includes, but is not limited to Protected Health Information (PHI), Personally Identifiable Information (PII), Personal Financial Information (PFI), Federal Tax Information (FTI), Social Security Numbers (SSN), Payment Card Industry (PCI), and or other sensitive and Confidential Information. The Contractor shall not use the Confidential Information developed or obtained during the performance of, or acquired, or developed by reason of the Agreement, except as directly connected to and necessary for the performance of the Agreement. Contractor shall maintain the confidentiality of and protect from unauthorized use, disclosure, publication, and reproduction (collectively “release”), all Confidential Information.

10.4.1 In the event of the unauthorized release of Confidential Information, Contractor shall immediately notify the State, and the State may immediately be entitled to pursue any remedy at law and in equity, including, but not limited to, injunctive relief.

10.5 Subject to applicable federal or State laws and regulations, Confidential Information shall not include information which:

- a. shall have otherwise become publicly available other than as a result of disclosure by the receiving Party in breach hereof;
- b. was disclosed to the receiving Party on a non-confidential basis from a source other than the disclosing Party, which the receiving Party believes is not prohibited from disclosing such information as a result of an obligation in favor of the disclosing Party;
- c. is developed by the receiving Party independently of, or was known by the receiving Party prior to, any disclosure of such information made by the disclosing Party; or
- d. is disclosed with the written consent of the disclosing Party.

10.6 A receiving Party also may disclose Confidential Information to the extent required by an order of a court of competent jurisdiction. Any disclosure of the Confidential Information shall require the prior written approval of the State. Contractor shall immediately notify the State if any request, subpoena or other legal process is served upon Contractor regarding the Confidential Information, and Contractor shall cooperate with the State in any effort the State undertakes to contest the request, subpoena or other legal process, at no additional cost to the State.

10.7 Contractor Confidential Information. Contractor shall clearly identify in writing all information it claims to be confidential or proprietary upon providing such information to the State. For the purposes of complying with its legal obligations, the State is under no obligation to accept the Contractor’s designation of material as confidential.



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Contractor acknowledges that the State is subject to State and federal laws governing disclosure of information including, but not limited to, RSA Chapter 91-A. In the event the State receives a request for the information identified by Contractor as confidential, the State shall notify Contractor and specify the date the State will be releasing the requested information. At the request of the State, Contractor shall cooperate and assist the State with the collection and review of Contractor's information, at no additional expense to the State. Any effort to prohibit or enjoin the release of the information shall be Contractor's sole responsibility and at Contractor's sole expense. If Contractor fails to obtain a court order enjoining the disclosure, the State shall release the information on the date specified in the State's notice to Contractor, without any liability to the State.

10.8 This covenant in paragraph 10 shall survive the termination of this Contract.

A.6 **Provision 12, Assignment/Delegation/Subcontracts, is updated with the following addition:**

12.3 In the event that Contractor should change ownership for any reason whatsoever that results in a change of control of the Contractor, the State shall have the option of:

- a. continuing under the Agreement with Contractor, its successors or assigns for the full remaining Term of the Agreement or for such period of time as determined necessary by the State;
- b. immediately terminate the Agreement without liability to or further compensation owed to Contractor, its successors or assigns.

A.7 **The following Provisions are added and made part of the P37:**

25. FORCE MAJEURE

25.1 Neither Contractor nor the State shall be responsible for delays or failures in performance resulting from events beyond the control of such Party and without fault or negligence of such Party. Such events shall include, but not be limited to, acts of God, strikes, lock outs, riots, and acts of War, epidemics, acts of Government, fire, power failures, nuclear accidents, earthquakes, and unusually severe weather.

25.2 Except in the event of the foregoing, Force Majeure events shall not include the Contractor's inability to hire or provide personnel needed for the Contractor's performance under the Contract.

26. EXHIBITS/ATTACHMENTS

The Exhibits and Attachments referred to in and attached to the Contract are incorporated by reference as if fully included in the text of the Contract.

27. NON-EXCLUSIVE CONTRACT

The State reserves the right, at its discretion, to retain other vendors to provide any of the Services or Deliverables identified under this Agreement. Contractor shall make best efforts to coordinate work with all other State vendors performing Services which relate to the work

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or Deliverables set forth in the Agreement. The State intends to use, whenever possible, existing Software and hardware contracts to acquire supporting Software and hardware.

28. GOVERNMENT APPROVALS

Contractor shall obtain all necessary and applicable regulatory or other governmental approvals necessary to perform its obligations under the Contract.

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EXHIBIT B – STATEMENT OF WORK
BUSINESS / TECHNICAL REQUIREMENTS AND DELIVERABLES

EXHIBIT B – STATEMENT OF WORK (SOW) BUSINESS AND TECHNICAL REQUIREMENTS AND DELIVERABLES

The Statement of Work, Business and Technical Requirements, and Deliverables are set forth below:

1 STATEMENT OF WORK

The Contractor shall monitor and maintain the existing New England Compass ATMS, comprised of a central ATMS system software, a regional Advanced Traveler Information System, and a Data Fusion Hub. The Contractor shall adhere to all system uptime requirements for all components of the ATMS. The Contractor shall respond to all bugs and failures submitted by the States (New Hampshire, Vermont, Maine) as outlined in this Contract. The Contractor shall perform all major enhancements to the ATMS, including developing mockups for individual enhancements, providing progress builds for review by the States, and testing enhancements prior to implementation within the ATMS. The Contractor shall be responsible for hosting the ATMS and ATMS facilities. The Contractor shall attend meetings with the States and other clients.

2 BUSINESS / TECHNICAL REQUIREMENTS

Business and Technical Requirements are identified in Exhibit G: Attachment 1

2.1 Compliance Requirements

Agency Compliance Documents are identified in Exhibit G: Attachment 5 & 6

3 ACTIVITY, DELIVERABLE, AND MILESTONE

Below is the payment schedule with estimated milestone dates. The amount will be paid upon approval of each task identified.

Task	Milestone	Estimated Date	Invoice Amount
Lonestar Integration	Progress report showing 25%	5/2/2022	\$ 97,500.00
Admin Tasks	Public HTTPS and replicated database access	5/30/2022	\$ 32,497.09
Lonestar Integration	Progress report showing 50%	5/30/2022	\$ 97,500.00
Admin Tasks	Approval of Load Testing Performance Report Format	6/27/2022	\$ 32,497.09
Lonestar Integration	Progress report showing 75%	6/27/2022	\$ 97,500.00
ATIS Deployment	Approval of TIS- Go Live	6/30/2022	\$ 75,677.08
Initial Documentation	Deliver approved Task Documents	7/11/2022	\$ 40,000.00
Admin Tasks	Report showing system monitor results, security evaluation, server hardening	7/25/2022	\$ 32,497.08
Lonestar Integration	Progress report showing 100%	8/8/2022	\$ 97,500.00
Initial Deployment	Partial ATP for initial deployment delivered and approved	9/5/2022	\$ 16,911.75
Initial Deployment	Implementation of new TomTom routes (NH only)	09/16/2022	\$ 27,625.54

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BUSINESS / TECHNICAL REQUIREMENTS AND DELIVERABLES

Initial Deployment	Complete and approve partial ATP on initial deployment	10/3/2022	\$ 16,911.75
EM Configuration	EM Configuration Story Mapping approved	11/14/2022	\$ 114,667.00
ESRI Setup	ESRI Servers Provisioned	11/14/2022	\$ 116,500.00
ESRI Customization	Device Feature Layer Story Mapping approved	11/28/2022	\$ 48,125.00
EM Configuration	EM Configuration Progress Demo	12/26/2022	\$ 114,667.00
ESRI Customization	Device Feature Layer Complete	1/23/2023	\$ 48,125.00
EM Configuration	EM Configuration Complete and approved	2/6/2023	\$ 114,666.00
ESRI Customization	ESRI URL Configuration Story Mapping approved	2/6/2023	\$ 48,125.00
DSS	DSS Configuration Story Mapping approved	3/6/2023	\$61,180.75
EM Development	EM Event Form Story Mapping approved	3/6/2023	\$ 83,227.38
DSS	DSS Configuration Progress Demo	4/3/2023	\$ 61,180.75
ESRI Customization	ESRI URL Configuration Complete and ESRI Measure and Zoom Story Mapping approved	4/3/2023	\$ 96,250.00
EM Development	EM Event Form Progress Demo	4/17/2023	\$ 83,227.38
DSS	DSS Configuration Complete	5/1/2023	\$ 61,180.74
ESRI Customization	ESRI Measure and Zoom Complete	5/15/2023	\$ 48,125.00
DSS	DSS Interface Story Mapping Acceptance	5/29/2023	\$ 61,180.74
ESRI Customization	ESRI Bookmarks and Sessions Story Mapping approved	5/29/2023	\$ 48,125.00
DSS	DSS Interface Progress Demo	6/26/2023	\$ 61,180.74
EM Development	EM Response Plan Story Mapping approved and Event Form complete and approved	6/26/2023	\$ 166,454.78
ESRI Customization	ESRI Bookmarks and Sessions Complete	6/26/2023	\$ 48,125.00
ESRI LRS Implementation	ESRI LRS Story Mapping approved	7/24/2023	\$ 63,000.00
DSS	DSS Interface Complete	8/7/2023	\$ 61,180.74
EM Development	EM Response Plan Progress Demo	8/7/2023	\$ 83,227.38
ESRI LRS Implementation	ESRI LRS Progress Demo	9/4/2023	\$ 63,000.00
EM Development	EM Response Plan Complete	9/18/2023	\$83,227.38
SAS	SAS Story Mapping approved	9/18/2023	\$ 43,056.48
ESRI LRS Implementation	ESRI LRS ICD approved	10/16/2023	\$ 63,000.00
SAS	SAS Progress Demo	10/30/2023	\$ 43,056.47
ESRI EM Implementation	ESRI EM Story Mapping approved	11/13/2023	\$ 42,742.56
SAS	SAS Complete	12/11/2023	\$ 43,056.47
ESRI EM Implementation	ESRI EM Progress Demo	1/8/2024	\$ 42,742.56

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Minor Enhancements	DMS Enhancements Story Mapping approved	1/8/2024	\$47,136.62
Minor Enhancements	DMS Enhancements Progress Demo	2/5/2024	\$47,136.62
Reporting Software	Setup cloud-based reporting software solution	2/5/2024	\$ 162,469.07
ESRI EM Implementation	ESRI EM Complete and approved	3/4/2024	\$ 42,742.56
Minor Enhancements	DMS Enhancements Complete and approved	3/4/2024	\$47,136.62
Minor Enhancements	EDS CAD Driver Story Mapping approved	4/1/2024	\$47,136.62
Reporting Software	Reporting software integration into Compass approved	4/1/2024	\$ 162,469.07
Data Hub/Data Warehouse	Data Hub/Data Warehouse Story Mapping approved	4/29/2024	\$ 80,000.00
Minor Enhancements	EDS CAD Progress Demo	4/29/2024	\$47,136.62
Reports Creation	Reporting Story Mapping approved	5/13/2024	\$ 62,500.00
Minor Enhancements	EDS CAD Driver Complete and approved	5/27/2024	\$47,136.62
Data Hub/Data Warehouse	Setup cloud-based Data Warehouse using ActiveDX and approved	6/10/2024	\$ 80,000.00
Minor Enhancements	CNA/SAA Enhancements Story Mapping approved	6/24/2024	\$ 47,136.62
Reports Creation	C2C reporting enhancements complete and approved	6/24/2024	\$ 62,500.00
Data Hub/Data Warehouse	Datafeed integration for CAD and WAZE into ActiveDX and approved	7/8/2024	\$ 80,000.00
Minor Enhancements	CNA/SAA Enhancements Complete and approved	7/22/2024	\$ 47,136.6
Data Hub/Data Warehouse	Data Warehouse translation service completed and approved	8/5/2024	\$ 80,000.00
Reports Creation	DMS reporting enhancements complete and approved	8/5/2024	\$ 62,500.00
Minor Enhancements	TSS/TTA Enhancements Story Mapping approved	8/19/2024	\$ 47,136.62
Data Hub/Data Warehouse	Data Warehouse secure access feature completed and approved	9/2/2024	\$ 80,000.00
Minor Enhancements	TSS/TTA Enhancements Complete and approved	9/16/2024	\$ 47,136.62
Reports Creation	EDS reporting enhancements complete and approved	9/16/2024	\$ 62,500.00
Data Hub/Data Warehouse	Publish 3rd party external API to Data Warehouse approved	9/30/2024	\$ 80,000.00
Minor Enhancements	ITS Device Enhancements Story Mapping approved	10/14/2024	\$ 47,136.62
Data Hub/Data Warehouse	Setup online analysis service using Data Warehouse	10/28/2024	\$ 80,000.00

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Reports Creation	Smart Workzone reporting complete and approved	10/28/2024	\$ 62,500.00
Minor Enhancements	ITS Device Enhancements Complete and approved	11/11/2024	\$ 47,136.62
Data Hub/Data Warehouse	Data Hub functionality complete and approved	11/25/2024	\$ 80,000.00
Minor Enhancements	CCTV Enhancements Story Mapping approved	12/9/2024	\$ 47,136.62
Reports Creation	Snow accumulation report complete and approved	12/9/2024	\$ 62,500.00
Data Hub/Data Warehouse	Data Warehouse functionality complete and approved	12/23/2024	\$ 80,000.00
Minor Enhancements	CCTV Enhancements Complete and approved	1/6/2025	\$ 47,136.62
Reports Creation	TSS reporting enhancements complete and approved	1/20/2025	\$ 62,500.00
Reports Creation	Reporting functionality complete and approved	3/3/2025	\$ 62,500.00
ATP	ATP Dry Runs complete and approved and ATP with Tristates complete and approved	4/25/2025	\$ 107,439.36
Finalize Documentation	Deliver approved Requirements Documents	3/31/2025	\$ 65,449.74
Burn-In Complete	Completion of successful 45-day burn in		\$ 343,333.45
	DEVELOPMENT TOTAL		\$ 5,544,036.59

4 DELIVERABLE REVIEW AND ACCEPTANCE

4.1 Non-Software and Written Deliverables Review and Acceptance

- i. The Contractor shall provide a written Certification that a non-software, written deliverable (such as the Test Plan) is final, complete, and ready for Review. After receiving such Certification from the Contractor, the State will Review the Deliverable to determine whether it meets the requirements outlined in this Exhibit. The State will notify the Contractor in writing of its Acceptance or rejection of the Deliverable, or its partial or conditional Acceptance of the Deliverable, within seven (7) business days of the State’s receipt of the Contractor’s written Certification; provided that if the State determines that the State needs more than seven (7) days, then the State shall be entitled to an extension of up to an additional ten (10) business days. If the State rejects the Deliverable or any portion of the Deliverable, or if any Acceptance by the State is conditioned upon completion of any related matter, then the State shall notify the Contractor of the nature and class of the Deficiency, or the terms of the conditional Acceptance, and the Contractor shall correct the Deficiency or resolve the condition to Acceptance within the period identified in the Work Plan. If no period for the Contractor’s correction of the Deliverable or resolution of condition is identified, the Contractor shall correct the Deficiency in the Deliverable or resolve the condition within five (5) business days or such longer period as the State (in its sole discretion) may agree. Upon receipt of the corrected Deliverable, the State shall have five (5) business days to review the Deliverable and notify the Contractor of its Acceptance, Acceptance in part, conditional Acceptance, or rejection thereof, with the option to extend the Review Period up to five (5) additional business days, or mutually agreed upon timeframe. If the Contractor fails to correct



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the Deficiency within the allotted period, the State may, at its option, continue reviewing the Deliverable and require the Contractor to continue until the Deficiency is corrected, or immediately terminate the Contract, declare the Contractor in default, and or pursue its remedies at law and in equity.

4.2 Software Deliverables Review and Acceptance

- i. System/Software Testing and Acceptance shall be performed as set forth in the Test Plan and more particularly described in Acceptance and Testing Services described herein.

4.3 Number of Deliverables

- i. Unless the State otherwise specifically agrees in writing, in no event shall the Contractor certify for testing and deliver to the State more than five (5) Deliverables for review or testing at one time. As the State accepts a Deliverable, an additional Deliverable may be presented for review but at no time can the Deliverables exceed five (5) at a time without the authorization of the State. Deliverables will be tracked in a shared system such as Confluence and reviewed weekly with the Project Managers.

4.4 Conditional and Unconditional Acceptance

- ii. By accepting a Deliverable, the State reserves the right to reject any and all Deliverables in the event the State detects any Deficiency in the System, in whole or in part, through completion of all Acceptance Testing, including but not limited to, Software/System Acceptance Testing, and any extensions thereof.

5 CHANGE ORDER

The State may make changes, revisions or request enhancements to the Scope of Work at any time by written Change Order. The State originated changes, revisions or enhancements shall be approved by the Transportation Systems Management and Operations (TSMO) Bureau. Within five (5) business days of Contractor's receipt of a Change Order, Contractor shall advise the State, in detail, of any impact on cost (e.g., increase or decrease), the Schedule, and the Work Plan. The Contractor shall take note that the State will not issue Change Orders for standard maintenance, and bug and failure activities.

Contractor may propose a change within the scope of the Contract by written Change Order, identifying any impact on cost, the Schedule, and the Work Plan. The State shall acknowledge receipt of Contractor's requested Change Order within five (5) business days. The State Agency, as well as the TSMO Bureau, must review and approve all Change Orders in writing. The State shall be deemed to have rejected the Change Order if the Parties are unable to reach an agreement in writing within 30 days of receipt of the Change Order.

Change orders resulting in an increase of Price Limitation greater than as outlined in 1.8 Price Limitation , an extension of time for Contract completion or a significant change to the scope of the Contract may require approval by the Governor and Council.



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A Change Order which is accepted and executed by both Parties, and if applicable approved by Governor and Council, shall amend the terms of this Agreement.

6 IMPLEMENTATION SERVICES

The Contractor shall employ an industry-standard Implementation strategy with a timeline set forth in accordance with the Work Plan.

The Contractor shall manage Project execution and provide the tools needed to create and manage the Project's Work Plan and tasks, manage and schedule Project staff, track and manage issues, manage changing requirements, maintain communication within the Project Team, and Report status.

The Contractor and the State shall adopt a Change Management approach to identify and plan key strategies, communication initiatives, and training plans.

7 PROJECT MANAGEMENT

The Contractor shall provide project tracking tools and templates to record and manage Issues, Risks, Change Requests, Requirements, and other documents used in the management and tracking of the project. The State believes that effective communication and Reporting are essential to Project success. The Contractor shall employ effective communication and Reporting strategies to ensure Project success. The Contractor Key Project Staff shall participate in meetings as requested by the State, in accordance with the requirements and terms of this Contract.

The Project requires the coordinated efforts of a Project Team consisting of both Contractor and State personnel. Contractor shall provide all necessary resources to perform its obligations under the Contract. Contractor is responsible for providing all appropriate resources and personnel to manage this Project to a successful completion.

7.1 The Contractor Key Project Staff

7.1.1. The Contractor's Contract Manager

Contractor shall assign a Contract Manager who must be responsible for all Contract authorization and administration, including but not limited to processing Contract documentation, obtaining executive approvals, tracking costs and payments, and representing the parties in all Contract administrative activities. Contractor's Contract Manager is:

Sandy De Los Santos
(210) 522-5652
Sandy.delossantos@swri.org

7.1.2. The Contractor's Project Manager

Contractor shall assign a Project Manager who is qualified to perform or supervise the Contractor's obligations under this Agreement. Contractor's Project Manager is:



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Capri Schafner
(210) 522-6060
capri.schafner@swri.org

Key responsibilities of the Project Manager include:

- Manages assigned projects to ensure adherence to budget, schedule, and scope of project.
- Sets and tracks project milestones; manages and accounts for unforeseen delays, then realigns schedules and expectations as needed.
- Establishes and implements project communication plans, providing status updates to affected staff and stakeholders.
- Collects, analyzes, and summarizes information and trends as needed to prepare project status reports.
- Serving as a liaison to communicate information regarding changes, milestones reached, and other pertinent information.

7.1.3. The Contractor's Software Project Manager

Contractor shall assign a Software Project Manager who is qualified to perform or supervise the Contractor's Software obligations under this Agreement. Contractor's Software Project Manager is:

David Garcia
(210) 522-6027
david.t.garcia@swri.org

Key responsibilities of the Software Project Manager include:

- Discussing projects and their technical parameters with clients and software developers.
- Planning out the design for software projects, including defining the scope and indicating tests and maintenance.
- Assembling and leading the project team (in conjunction with Project Manager).
- Participating in and supervising software development of the project.
- Ensuring project stays on schedule and adheres to the deadlines.
- Determining and overseeing consistent testing, evaluation, and troubleshooting of all products in all stages of completion.
- Delivering completed software products to clients and performing regular checks on the products' performance.

Contractor's selection of the Project Managers shall be subject to the prior written approval of the State. The State's approval process may include, without limitation, at the State's discretion, review of the proposed Project Managers' resume, qualifications, references, and background checks, and an interview. The State may require removal or reassignment of Project Manager who, in the sole judgment of the State, is found unacceptable or is not performing to the State's satisfaction.

Project Manager must be qualified to perform the obligations required of the position under the Contract, shall have full authority to make binding decisions under the Contract, and shall function as Contractor's representative for all administrative and management matters. Project Manager must be available to promptly respond during normal Business Hours within Three (3) hours of inquiries from the State and be at the



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site as needed. Project Manager must work diligently and use his/ her best efforts on the Project. If Project Manager is not available for more than one business day, the State shall be provided an alternate contact.

7.1.4. Change of Project Manager

Contractor may not replace the Project Manager or change its assignment of Project Manager without providing the State written notice and obtaining the prior approval of the State of the replacement Project Manager. State approvals for replacement of Project Manager shall not be unreasonably withheld. The replacement Project Manager is subject to the same requirements and Review as set forth above. Contractor shall assign a replacement Project Manager within ten (10) business days of the departure of the prior Project Manager, and Contractor shall continue during the ten (10) business day period to provide competent project management Services through a qualified interim Project Manager. The State shall not endure additional costs for this change.

7.1.5. The Contractors Additional Key Project Staff

The State considers the following individuals to be Key Project Staff for this Project:
None identified at the time of signing this Agreement.

The State reserves the right to require removal or reassignment of Key Project Staff who are found unacceptable to the State. Contractor shall not change Key Project Staff commitments without providing the State written notice and obtaining the prior written approval of the State. State approvals for replacement of Key Project Staff must not be unreasonably withheld. The replacement Key Project Staff shall have comparable or greater skills than Key Project Staff being replaced.

7.1.6. Background Checks

The State may require, and, at its sole expense, conduct reference and background screening of the Contractor's staff assigned to this Contract.

7.1.7. Termination for Lack of Project Management and Key Project Staff

Notwithstanding any other provision of the Contract to the contrary, the State shall have the option to terminate the Contract, declare Contractor in default and to pursue its remedies at law and in equity, if Contractor fails to assign a Project Manager and/or Key Project Staff meeting the requirements and terms of the Contract or if the State is dissatisfied with Contractor's replacement of the Project Manager and/or Key Project Staff.

7.2 The State Key Project Staff

7.2.1. The State Contract Manager

The State shall assign a Contract Manager who shall function as the State's representative with regard to Contract administration. This includes, but not limited to, processing Contract documentation, obtaining executive approvals, tracking costs and payments, and representing the parties in all Contract administrative activities. The State Contract Manager is:

Susan M. Klasen, PE
603-271-6862
Susan.M.Klasen@dot.nh.gov



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7.2.2. The State Project Manager

The State shall assign a Project Manager.

- Manage project to ensure adherence to budget, schedule, and scope of project.
- Tracks project milestones; manages and accounts for unforeseen delays, then realigns schedules and expectations as needed.
- Establishes and implements project communication plans, providing status updates to affected staff and stakeholders.
- Serving as a liaison to communicate information regarding changes, milestones reached, and other pertinent information. Review Contract Deliverables; Review Invoices; Review Change Orders; Manage stakeholders' concerns.
- The Project Manager is:
Susan M. Klasen, PE
603-271-6862
Susan.M.Klasen@dot.nh.gov

7.2.3 The State's Software Project Manager

The State shall assign a Software Project Manager who is qualified to perform or supervise the Contractor's Software obligations under this Agreement. The State Software Project Manager is:

Kody McCarthy
603-271-6862
Kody.E.Mccarthy@dot.nh.gov

Key responsibilities of the State's Software Project Manager include:

- Discussing projects and their technical parameters with stakeholders and software developers.
- Reviewing the design, including defining the scope and indicating tests and maintenance.
- Assembling and leading the State's project team (in conjunction with Project Manager).
- Participating in and supervising software development of the project.
- Ensuring project stays on schedule and adheres to the deadlines.
- Determining and overseeing consistent testing, evaluation, and troubleshooting of all products in all stages of completion.
- Reviewing the completed software products submitted by the Contractor and performing regular checks on the products' performance.
- Manage significant issues and risks.
- Review Contract Deliverables.
- Review Invoices.
- Review Change Orders.
- Managing stakeholders' concerns relative to software development and operation.

8 PRELIMINARY WORK PLAN

The Contractor's Project Manager and the State Project Managers shall finalize the Work Plan within Thirty (30) days of the Effective Date and further refine the tasks required to implement the Project. Continued development and management of the Work Plan is a joint effort on the



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part of the Contractor and State Project Managers. In conjunction with SwRI's Project Management methodology, which shall be used to manage the Project's life cycle, the SwRI team and the State shall finalize the Work Plan at the onset of the Project.

The following Preliminary Work Plan is written in conjunction with Southwest Research Institute's (SwRI) project management and software engineering processes that are in accordance with the Project Management Institute (PMI), International Organization for Standardization (ISO), and Capability Maturity Model Integration Institute (CMMI) standards. Software projects within the Critical Systems Department at SwRI are assessed at CMMI Level 3.0 and follow ISO 9001.

8.1 Assumptions

General

- As part of the Project Plan, the Tristate must provide clarity on staffing, roles, and lines of authority for approvals found in the Work Plan.
- Tristate processes pertaining to this Work Plan must be performed as specified in this Work Plan.
- Any activities, decisions or issues taken on by the Tristate that affect the mutually agreed upon Work Plan timeline, scope, resources, and costs shall be subject to the identified Change Control process.
- SwRI shall maintain an accounting system in accordance with Generally Accepted Accounting Principles (GAAP). The SwRI accounting system provides invoicing on a 4-week basis.
- The Tristate shall provide Virtual Private Network (VPN) access and access to any necessary internal State networks and/or software (within State standards).

Project Management

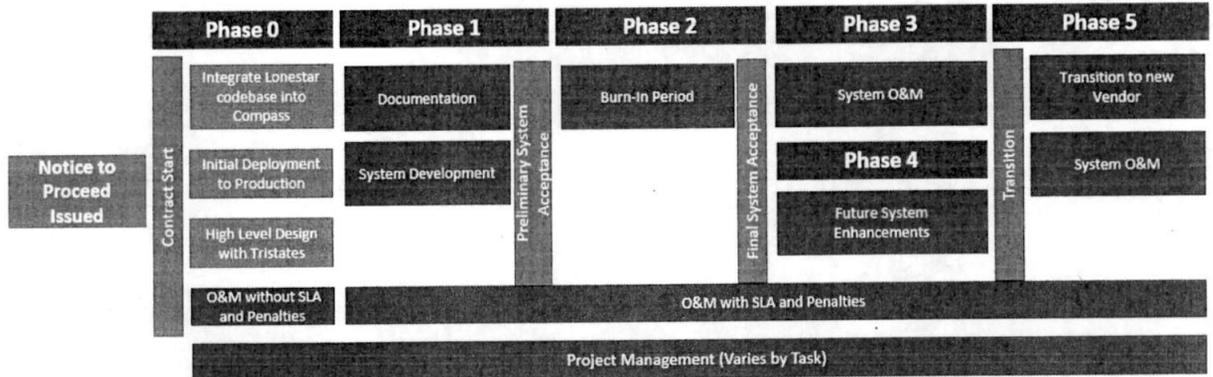
- The State shall provide the SwRI Team with reasonable access to the State personnel as needed to complete Project tasks.
- A document repository shall be supplied by SwRI for centralized storage and retrieval of Project documents, work products, and other material and information relevant to the success of the Project and required by Project Team members. This central repository is secured by determining which team members have access to the repository and granting either view or read/write privileges. SwRI's Project Manager must establish and maintain this repository. The Tristate Project Manager shall approve access for the Tristate team. Final versions of all Documentation shall be available for download from the document repository.

8.2 Overall Project Approach

SwRI has partnered with IBI and ESRI to provide an enhanced complete ATMS/ATIS solution. The current New England Compass system will remain operational and maintained by SwRI throughout this project. Attachment 7 Compass Existing Baseline Requirements identifies the agreed to baseline functionality at the start of this Contract. The project must progress through the five phases below according to the project schedule and Firm Fixed Price. The following sections provide an overview of the project approach.



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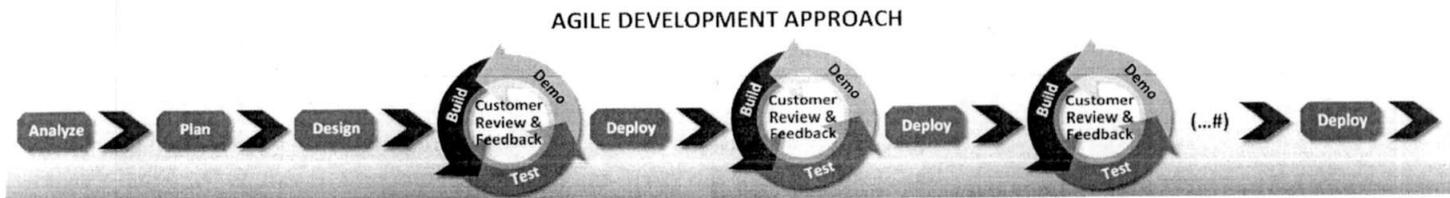
4 Figure 1 Project Overview

8.2.1 Agile Software Development

8.2.1.1 Agile Process Overview

The SwRI Team has experience providing agile software development service to clients and must work with the Tristate to define specific agile procedures to best meet the Tristate’s needs. The SwRI Team proposes 2-week development sprints for this effort. When a sprint is accepted for deployment, the development effort must be deployed to production allowing for incremental releases. The Tristates are encouraged to approve incremental deployments to realize the value delivered on a regular basis.

The SwRI Team must work with the Tristate to select features to be included in each sprint based on agreed to project schedule as specified in the contract. For each release, the SwRI Team must develop required deliverables documenting the tasks performed, the testing procedures used to verify functionality, and documentation listed in the Non-Software Deliverables List table.



5 Figure 2 Agile Development Approach

An Agile approach provides a customer-focused approach that requires steady and consistent feedback with a high-degree of customer involvement. At the start of each sprint, the goal of the sprint is set according to the project schedule. At the end of the sprint, the developers and the customer review and evaluate the completed work with notes for improving future sprints.

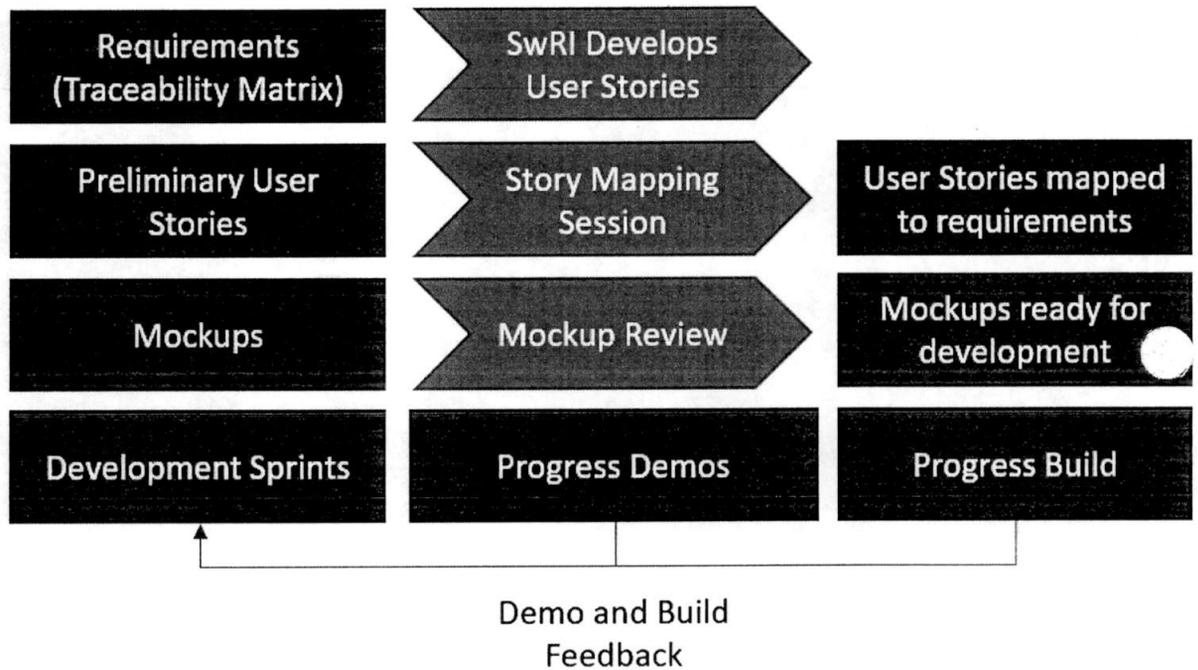
SwRI must work with the Tristate to review and approve proposed software changes within the bounds of schedule, budget, and requirements. SwRI must utilize an agile

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development process for each release cycle which will provide demonstrations of new system functionality as they are developed to provide a feedback loop between SwRI and the Tristate.

8.2.1.2 System Development

The New England Compass project will follow an agile software approach that keeps clients engaged by utilizing story-mapping sessions, mockups, sprints, demos, and incremental progress builds throughout the software lifecycle. As the review and build cycles progress, discussions regarding priorities and any deferred elements are documented in the high-level design and system requirements matrix documents.



6 Figure 3 System Development Process

8.2.1.2.1 Story Mapping Sessions

Story mapping sessions discuss user stories that describe how individuals using the System realize the value and how those interactions satisfy the Final System Requirements. The sessions are important for facilitating a collaborative discussion prior to mockups and development sprints.

A story mapping session will be scheduled prior to the development sprints involving new feature development. An individual story mapping session is meant to be time-boxed with any user stories that are not yet addressed and approved to be discussed during a future story mapping session. Design documents and an agenda must be provided before story mapping sessions. Comments and action items must be captured in meeting minutes after the story mapping session. After feedback is addressed, the Tristates can approve the user stories in writing as

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addressing Final System Requirements and approve the user stories for further development.

Depending on the schedule, the nature of the development, and developer availability, the software development of a feature may begin before acceptance of user stories. The delivered feature, however, occurs after the user stories are accepted and the functionality should match the accepted user stories.

Feedback during story mapping sessions can generate ideas, including changes to scope and requirements, which can facilitate the need for additional cost and schedule.

As part of the review processes, the Vendor must inform the Tristate when requests are out of scope. This notification applies to the entire System Development process.

As user stories describe interactions that satisfy the Final System Requirements, the user stories will be used as the basis for developing internal and client verification steps, and eventually portions of the ATP.

8.2.1.2.2 Mockups

Mockups consist of paper prototypes, wireframes, or process diagrams that allow for quick review and design decisions. Following story mapping sessions, mockups are produced and presented to the client for feedback. The overall structure of a feature may be mocked up and provided to the client first, according to a sufficiently complex feature, in order to collaborate on the intended direction of the feature.

After a presentation of the mockups to client, the Tristates must provide comments on the mockups. A mockup review session can be scheduled if needed to discuss the interactions demonstrated by the mockups. Once comments are addressed, the Tristates can approve the mockups in writing for further development.

Feedback during mockup reviews can generate ideas including changes to scope which can facilitate the need for additional cost and schedule.

8.2.1.2.3 Sprints

The New England Compass project will follow an agile software approach utilizing time-boxed development sprints. A typical development sprint lasts 2-weeks and may change as needed by the project. Organizing software development into incremental segments allows for rapid feedback and the opportunity to benefit from improvements in the software on a continual basis. Each sprint consists of several events known as scrum ceremonies: sprint planning, daily scrum, sprint review, and sprint retrospective.

Sprint planning is a SwRI internal event occurring at the beginning of a sprint where developers discuss the tasks for development based on the client's priorities for the current and future sprints. The sprint planning session is used to identify issues and opportunities in the tasks to determine the complexity of work related to tasks to get a measure of the work related to the sprint.

Daily scrum occurs within SwRI every day during the sprint and allows the team to check on the progress of tasks related to the current sprint.



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- Work that is blocked is identified so that the blocks can be addressed early.
- Work that is at risk of being blocked is discussed to try to mitigate the risks.
- Any unplanned work is identified so that the work can be scheduled or otherwise accounted for in the current or future sprints.
- In-progress work that can be presented is shown to the development team for early feedback.

Sprint review is a client-facing event that occurs at the end of the sprint where the developed software is demonstrated to prompt discussion and collaboration. The priorities for the next sprint are agreed upon and any changes or improvements to the sprint process are discussed.

The **sprint retrospective** is a SwRI internal event occurring at the end of a sprint where the development team reflects on what went well during the sprint, what can be done better, and discusses the goals of the next sprint based on the client priorities.

8.2.1.2.4 Progress Builds

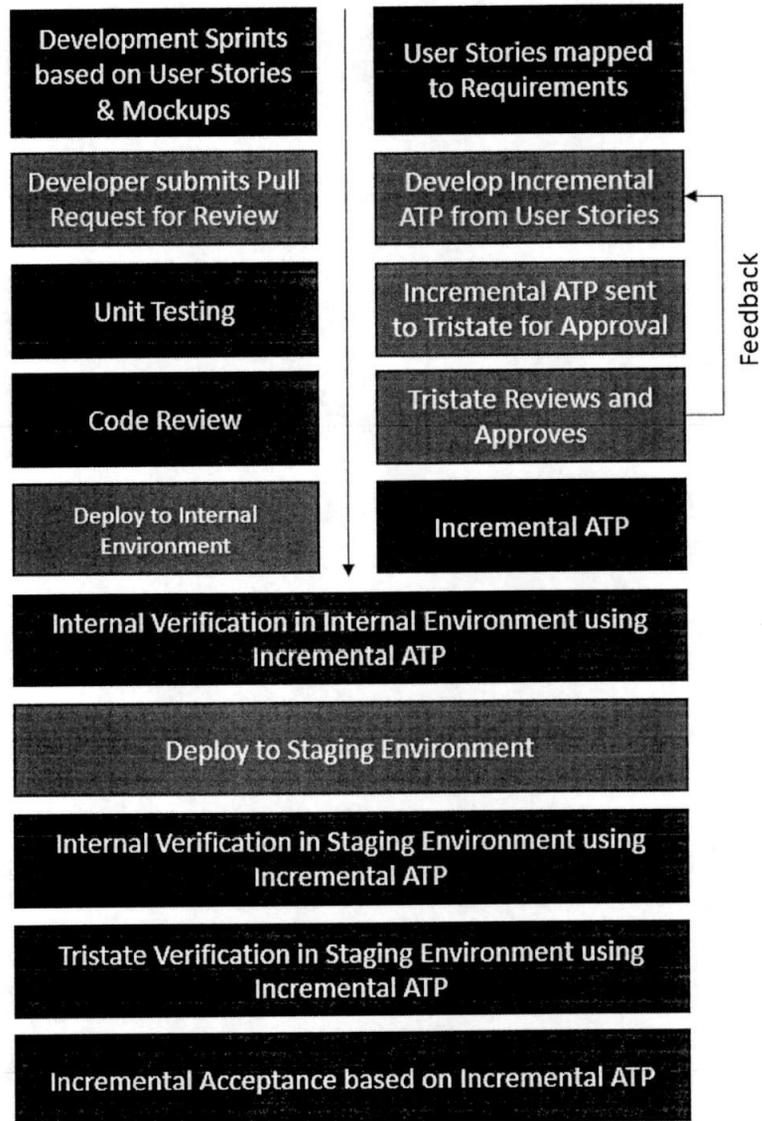
When a sprint has finished, and it is determined that the development has sufficient functionality for the client to test, a progress build will be produced and published to a shared testing environment. Release notes detailing new functionality and known issues must be provided to guide the evaluation of the progress build. Comments and feedback must be provided by a single point of contact at the Tristates. This feedback is used to assign tasks to future sprints. Feedback during progress build evaluation can generate ideas, including changes to scope, which can facilitate the need for additional cost and schedule.

8.2.1.3 Testing

Software testing is an integral part of a successful agile software development lifecycle, critical to ensuring that the fast-paced development cycle does not result in regression. Experience has demonstrated that the most cost-effective location to discover bugs is during development. Therefore, multiple test environments and a variety of testing at every level is performed.



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7 Figure 4 Testing Process

8.2.1.3.1 Test Environment

Testing during software development is supported by multiple test environments, each playing a distinct role in ensuring the quality of the development. Table 1 below outlines these test environments.

All software tests must be performed on the staging environment prior to deployment to the production environment unless explicitly approved by the Tristates in writing.

No testing is performed on live production equipment without first requesting permission from the Tristates in writing. If SwRI needs access to live production

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equipment to investigate issues in production, the Tristates will coordinate with SwRI to provide access to avoid disruptions to ongoing activity. If any new device types are integrated during the duration of this contract, the devices must first be tested on the staging environment prior to being implemented in the field.

8 Table 1. Testing Environments

Testing Environments	Used By	Purpose
Local Developer Environment	Individual Developers	Testing and development on the local system allows for simplified debugging and faster feedback when coding.
Build Server Internal Environment	Continuous Integration Server	Every code review must include a successful build prior to integrating the code into the broader codebase.
Internal SwRI Server	Development Team	Used for testing deployments and testing of the progress build.
Staging (DMZ)	Tristate	A testing environment meant to mimic the production environment for testing deployments and testing of the progress build. Deviations from the production environment must be agreed upon by the Tristates and SwRI.
Production/Application/Live	Tristate and Development Team	The production environment is not to be used for testing except when granted permission by the Tristate. On rare occasions, testing in production is necessary, for example when an issue cannot be reproduced in the other testing environments.

8.2.1.3.2 Testing Approach

SwRI employs a rigorous test methodology in which unit, integration, verification, and acceptance testing occurs within the development process. In accordance with the SwRI quality process, modules are subject to unit testing. Unit testing validates the unit (e.g., module) meets the software specification created during design and development. Methods for unit testing are outlined below. To ensure any bugs created during the development process are identified and resolved quickly and cost-effectively, unit tests are verified as passing before any new code is incorporated into the broader codebase. The team must use four levels of testing to verify the requirements and design of the system being developed. Vendor may request approval from Tristate to alter the testing approach. The test levels, who conducts the testing, and the purpose of the test are documented in Table 2 on the next page.

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9 Table 2. Levels of Testing

Level/Type of Testing	Conducted By	Purpose
Unit	Individual Developers and Continuous Integration Server	Remove initial bugs in modules before integration into the developed system. Focuses on the smallest unit of software possible. Specific control paths in a unit's control structure are exercised to maximize error detection.
Integration	Development Team	Individual modules integrated into the system one-by-one to observe unintended consequences upon the whole system or other parts of the system.
Internal Verification	Development Team	Performed on the progress build, ensuring the incremental development of the software meets the requirements covered by the user stories. Internal Verification is performed on both Development Servers and on the DMZ using a Partial ATP prior to Incremental Acceptance.
Incremental Acceptance	Tristate	Performed on the progress build to verify to the Tristate that the requirements as outlined in the Partial ATP have been met prior to deployment.

During the testing process, the developers must baseline the software at the different testing phases. This process allows strict configuration management control of the system under development so that system releases can be carefully controlled and released components are thoroughly tested.

Part of SwRI's standard project development process is the development of an Acceptance Test Plan (ATP). The purpose of the ATP is to verify the requirements identified during requirements analysis are met by the implemented system. The ATP, at a minimum, will contain the following:

- Hardware Preparation (i.e., identify computers, field devices, and other systems needed for testing)
- Software Preparation (i.e., identify test software, test tools, test files, and methods to evaluate the results as needed)
- Pre-Test Preparation (i.e., identify who will perform the test and where the test will take place)
- Requirements Addressed (i.e., provides requirements traceability by identifying the requirements addressed by the test)
- Prerequisite Conditions (i.e., identifies set-up procedures or activities that must be completed before the test can be executed)
- Test Inputs (i.e., list of inputs needed for each test)



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- Test Results Evaluation (i.e., describes the expected test results and the action to take when a test fails or does not proceed as planned)
- Assumptions and Constraints (i.e., identifies assumptions made and constraints or limitations imposed in the description of the test case due to system or test conditions)
- Test Procedures (i.e., describes the test to be performed)
- Test Results (i.e., describes the pass/fail criteria for the test)

As part of incremental releases, SwRI must develop test cases for the new functionality and add it to the existing incremental ATP. The Tristate will be given the opportunity to review, submit feedback, and approve the incremental ATP. SwRI then performs a dry-run of the incremental ATP in the development environment and the staging environment. When the incremental release is ready for testing in the staging environment, SwRI will submit the incremental ATP to the Tristate to use for executing the testing. At the conclusion of testing, issues within scope and affecting requirements can be scheduled for future sprints, and the Tristate, with SwRI's consultation, will determine if the incremental release is ready for deployment or would require further changes prior to deployment to production.

As part of the completion of Phase 1, a Final Acceptance Test must be conducted by SwRI and the Tristate. The purpose of Final Acceptance Testing is to verify the full functionality of all software components that have been installed in the production environment and fully integrated with all devices and data feeds, to include the successful operation of the data exchange interface between the ATMS. The ATP is tracked to the traceability matrix during story mapping sessions, as described previously.

Prior to running the final acceptance test with the Tristate, SwRI will internally perform a dry-run of the developed ATP on the Tristate staging environment. Dry-running the ATP will allow fine-tuning of the ATP and make sure each test case is clear and the intent of the test case is met. After dry-running the preliminary ATP, if steps were unclear or if the intent of the test case was not met, SwRI will make the necessary modifications to the ATP. Changes must be submitted to the Tristate for review and approval.

The Tristate has an important role in the completion and success of the ATP. The Tristate should have staff available to perform the ATP. Also, the Tristate should provide feedback on the results of the ATP to the Vendor in a timely fashion.

In addition to performing the ATP, SwRI must also complete an ATMS performance test to determine that the software meets the project requirements. SwRI will develop test scripts and simulations to conduct this testing.

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Once the ATMS is deemed ready by both the Tristate and the SwRI Team, and the Acceptance Test Plan has been successfully completed, the forty-five (45) calendar day test period (burn-in) must begin on the production environment. During this 45-day period, the TMC operators and remote users will have full access and use of the new ATMS. All failures and bugs will be reported by the operators immediately to the SwRI Team. The SwRI Team will work with the Tristate to determine if a workaround or process can be implemented to allow the operator to continue operations while the issue is investigated and fixed.

Through discussions between the Tristates and SwRI the bugs or failures must be resolved, if needed, and will be verified by the Tristates using a partial ATP. Although it is not anticipated, SwRI is aware that, due to the severity of an error, the Tristate may suspend or stop the test period until the issue is resolved and then resume or restart the test period. The need for restarting the test period will be discussed between the Tristate and SwRI. A good faith final decision to restart or extend resides with the Tristates.

Deployment of additional system enhancements must be postponed until after the Burn-in phase ends.

8.2.1.4 Submittal Management

The following specifies the approach for preparing and transmitting submittals and technical data to the Tristate. SwRI will use the file management system chosen by the Tristate.

This task does not include an inclusive list of all Contract deliverables. For deliverables, the Vendor shall submit an outline for Tristate review prior to producing the draft deliverable. Submittals will be reviewed and returned as Approved, Approved as Noted, Revise and Resubmit, or Rejected. Each submittal, at minimum, shall include the following information for tracking purposes:

- | | |
|--------------------------------|---|
| • Contract Item | • Date Submitted to Tristate |
| • Submittal Description | • Date to be Returned |
| • Submittal Number | • Review Comments, including logic for unaddressed or pending comments |

SwRI will include the following statement along with the required signature:
“Having checked this submission, we certify that it conforms to the requirements of the Contract in all respects, except as otherwise noted.”

8.2.1.4.1 Software Deliverable Review and Acceptance

Software review and acceptance during an agile software development lifecycle is performed incrementally. This allows the Tristates to realize the value of ongoing development prior to the completion of the entire project.

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For the purposes of software deliverables, there are two types of reviews and acceptance, as mentioned in the previous section on testing: incremental acceptance and final acceptance.

Incremental acceptance is performed on a progress build and returned as Approved, Approved as Noted, Revise and Resubmit, or Rejected by the Tristate. Approved would allow the progress build to be deployed to production for the TMC and stakeholders to use in the live environment. If the review result is Approved as Noted then issues identified with consultation of SwRI that do not meet the requirements can be addressed in a future sprint and proceed to production. A review result of Revise and Resubmit or Rejected would add issues identified with consultation of SwRI that do not meet the requirements into a future sprint, and that progress build will not be submitted to production.

The typical turnaround time between publishing an incremental build for review to the Staging Environment and receiving feedback is one week.

Final acceptance is performed at the end of the system development and returned as Approved, Approved as Noted, or Revise and Resubmit, or Rejected. A result of Approved or Approved as Noted moves the development into Phase 2, starting the burn-in process. Any issues are tracked to closure with the Tristate’s approval. With Revise and Resubmit or Rejected, issues will be tracked to closure with the Tristate’s approval, and a partial ATP will be performed to demonstrate the requirements are met before proceeding into Phase 2.

8.2.1.4.2 Non-Software Deliverable and Acceptance

8.2.1.4.2.1 Non-Software Deliverables

The following non-software deliverables will be updated as specified below and in accordance with the Scope of Services.

10 Table 3. Non-Software Deliverables List

Deliverable	Frequency	Notes
4-week Performance Measure Report with Progress Report	4-week reports aligned with the SwRI invoicing period	Status of tasks, progress, risks, and pending items, etc.
Schedule of Submittals	One time	Submitted during project start-up, assigns due dates to deliverables
Project Schedule	Updated continuously throughout the project	The project schedule is discussed during sprint review
Conformed Scope Definition Document	Updated continuously throughout the project	Summary of conformed project scope of work, compliance, and deviation justification
System Requirements	Updated continuously throughout the project	Tracks original requirements, adjusted requirements, deferred elements, requirement status. Two sets of requirements must be maintained:

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Matrix (and Updates)		<p>1. A set of current requirements that applies to the production system at all times, including partial deployments. This will be needed for evaluating the SLA.</p> <p>2. A set of final requirements that includes any potential changes identified through the design process and approved by the Change Control Board.</p>
Software Deficiency List	Updated continuously throughout the project	List of open deficiencies kept in the software issue tracker with details regarding impact, priority, system location, and resolution.
Subcontractor Management Plan	One time	Documents the management relationship between SwRI and Subcontractors in terms of oversight and support procedures.
High-Level System Design	Updated continuously throughout the project	Description of primary components of the system, architecture diagrams, COTS software used in the project, database structure, and data warehouse structure.
Issue Management Procedure	One time, provided during development of High-Level System Design, updated with agreement between the Tristate and SwRI.	Details the identification, definition, documentation, and processes related to issues in the issue management software. Also outlines the procedure for regular status meetings with the Tristates to discuss new issues, issues in process, and the closure of issues.
Change Management Procedure	One time, provided during development of High-Level System Design, updated with agreement between the Tristate and SwRI.	Documents the procedure to follow when there are changes requested to the scope of work, schedule, budget, project objectives, or resources.
After Action Report Format	One time, provided during development of High-Level System Design	Describes the contents and procedure for the production of the After Action Reports
After Action Reports	Occurs after critical failure investigations	Email sent after software and/or network issue and includes the problem statement, expectation vs reality, and steps taken for future prevention.
Disaster Recovery Plan	One time	Describes the necessary step-by-step procedures for bringing the ATMS back online in the event of an unplanned outage. Includes system architecture, risk reduction, solution, redundant data storage, lines of authority, procedure, and response time.
Security Plan	One time	Describes the controls used to increase system security, reduce vulnerabilities, and detect issues.



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Detailed Design Document	Ongoing throughout the development process	The detailed design document builds upon the high-level design document by providing additional depth to the software and system design and architecture.
Story Mapping Design Mockups	After a story mapping session After a story mapping session	Contains a list of user stories and the requirements they are meant to fulfill. Visualization of process diagrams demonstrating how the user stories will be implemented in the user interface
Recorded Training Videos	At least quarterly, assuming there are UI changes	Demonstration of new functionality and common use cases
Cutover Plan	One time, delivered prior to final ATP for Tristate approval	Details the process used to perform any final migration between the existing system and the proposed system. Also includes a rollback plan should the migration need to be reversed.
Acceptance Test Plans	Partial ATPs are produced for progress builds, a final ATP is produced at the end of the of the system development.	Contains tests that relate produced functionality back to the requirements matrix.

8.2.2 Issue Management

Issues reported by the Tristates will be tracked to resolution in an issue repository. The responsibility for tracking issues to resolution falls upon SwRI. The Issue Management Procedure Document must contain the details of the issues and the procedure to reach resolution.

8.2.3 Change Management

The agile process used in the production of the New England Compass system lends itself to frequent opportunities for feedback. At times, this feedback can result in changes to the scope of work, schedule, budget, project objectives, or resources. The Change Management Procedure document will detail the process of requesting a change, creating a proposal to accommodate the change, then the Tristate's approving, deferring, or rejecting the proposal. The Change Management Procedure document will also describe the mechanism for funding the request, if applicable. Change Control Board is expected to meet on a quarterly basis.

8.3 Project Management

The project will adhere to CMMI Level 3 and ISO 9001 assessed best practices and to the Tristate IT standards required for project planning, management, reporting, issues, risks, documentation, and other related disciplines.



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8.3.1 Roles and Responsibilities

8.3.1.1 Required SwRI Team Staff

During the design, development, testing, deployment, and maintenance of a Statewide ATMS, the following SwRI team roles are required for the successful completion of the project. The number of developers for the project was determined during creation of the schedule included in this proposal. Developers will be required during design, development, and testing. Prior to the maintenance period, all vendor staff should be available, as needed via WebEx or Teleconference. During the support periods, support staff is used for primary support with developers available on an as-needed basis. The Tristate approval is required for SwRI key staff changes (Project Manager and Software Project Manager).

- *Project Manager (PM)* — The PM is responsible for coordination with the NHDOT PM. Coordination will include ensuring appropriate staff from SwRI and the SwRI team are available for project reviews, testing, training, and deployment. The PM should attend meetings and reviews. The Project Manager will plan, organize, and direct project resources accordingly to provide an ATMS on time and on budget, while demonstrating a focus on communication, reporting, and responsiveness.
- *Software Project Manager (SPM)* — The SPM is responsible for ensuring the software meets the expectations of NH/VT/ME. The SPM should attend meetings and reviews. The SPM is responsible for coordination with the Tristate designated technical point-of-contact for issues related to all three states.
- *TIS Lead* — A lead person from the IBI TIS Team should be available to participate in relevant meetings and reviews.
- *Developers* — Developers from SwRI Team are responsible for the implementation and testing of modifications to the Statewide ATMS, Data Fusion Hub and TIS.
- *SwRI Team Support Staff* — Support staff and technicians are responsible for monitoring and supporting the Statewide ATMS and TIS systems. Support staff will be available for training and deployment.
- *SwRI Network Engineers (as needed)* — SwRI network engineers will be available on an as needed basis to provide support to the project.
- *SwRI Administrative Staff (as needed)* — SwRI administrative staff will be available on an as needed basis to provide support to the project documentation and invoicing.

8.3.1.2 Required DOT Staff

During the design, development, testing, deployment, and maintenance of a Statewide ATMS, involvement of the DOT stakeholders is crucial. The following roles are recommended for successful completion of the project.

- *NHDOT Contract Manager* - The State shall assign a Contract Manager who shall function as the State's representative with regard to Contract administration. This includes, but not limited to, processing Contract documentation, obtaining executive approvals, tracking costs and payments, and representing the parties in all Contract administrative activities.



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- *NHDOT Project Manager* — The NHDOT PM is responsible for coordination with the SwRI PM. Coordination will include ensuring appropriate DOT staff are available for project reviews, testing, training, and deployment.
- *NHDOT Software Project Manager* - The State shall assign a Software Project Manager who is qualified to perform or supervise the Contractor’s Software obligations under this Agreement.
- *VTrans Lead* — A lead from VTrans should be available to participate in meetings and reviews.
- *MaineDOT Lead* — A lead from MaineDOT should be available to participate in meetings and reviews.
- *NH/VT/ME IT/ITS Support* — IT/ITS support personnel should be available to participate in at least some meetings and reviews. Participation during testing and deployment is required to ensure firewall rules and network connectivity are appropriately addressed.
- *Operators/Maintenance* — Operators and maintenance staff should be available to participate in, at a minimum, testing, training, and deployment.

8.3.2 Meetings and Communication

During system development, SwRI must meet with the Tristates on a regular basis to discuss the project status, go over the project schedule, and plan upcoming work. Table 4 below lists the meetings and frequencies expected.

11 Table 4. Meetings List

Meeting	Frequency	Notes
PM Meeting	Weekly	Gathering of PMs from SwRI and Tristates.
Weekly Status	Weekly	Status of current tasks, updates to project schedule, risks, and pending items.
Story Mapping Session	As-needed, prior to development of UI	Meeting to discuss user stories
Sprint Review	Occurs at the end of a sprint	Provide feedback on finished sprint, plan next sprint, demo new functionality
On-site Meeting	Two annually	
Issue Review	Weekly	Discuss issues that need feedback from SwRI or the Tristates to move toward resolution. Move issues awaiting approval to approved, deferred, or closed.

For meetings involving SwRI and the Tristates, SwRI will provide meeting notes within seven (7) calendar days of the meeting.



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In case the system security is compromised, SwRI will contact a list of individuals designated by the Tristates. The communication will occur, at a minimum, when the issue is opened and when the issue is closed.
SwRI must provide a 24/7/365 answering service for the Tristates to call in case there are technical or support issues.

8.3.3 4-Week Reports

4-week performance measures report and progress report are to be provided by the vendor as part of their invoice. Report details are outlined in the SLA.

8.4 Project Schedule

SwRI will provide a project schedule highlighting milestones during the project start-up. Sprint reviews should include a schedule review to ensure the project remains on schedule and to check for schedule slippage. If slippage should occur, SwRI will provide a recovery approach to allow the project to get back on schedule.

In accordance with our CMMI Quality process, the SwRI PM will serve as the subcontract manager. Upon contract award, SwRI PM will develop a subcontractor management plan which will contain the following sections:

- Statement of Work (SOW)
- Staffing Plan
- Applicable Service Level Agreements
- Applicable training plan
- Requirements for monitoring the performance of the subcontractor
- Quality assurance, including formal reviews of documentation and deliverables
- Dependencies on subcontract deliveries
- Risk Matrix

SwRI PM and subcontractor will conduct and document periodic status meetings in addition to attending Tristate status meetings.

The subcontract manager will use the SOW and its associated cost and schedule to track subcontractor's performance. The subcontract manager will conduct frequent teleconferences with the subcontractor project management to monitor the progress of this firm in accomplishing the tasks outlined in the SOW. Should schedule issues arise, they will be addressed between the SwRI project manager and subcontractor management, and an action plan will be developed to address the issues. These corrective action plans will be reviewed by SwRI management. If any new personnel are added by the subcontractor, they shall also be trained, and this training shall be documented. Subcontractor personnel shall follow the project plan including development procedures, meeting participation, and interacting with SwRI QA.

8.4.1 Subcontractor Management Plan

The Vendor will provide description of the subcontractor management plan including a scope of work to the Vendor from each subcontract.

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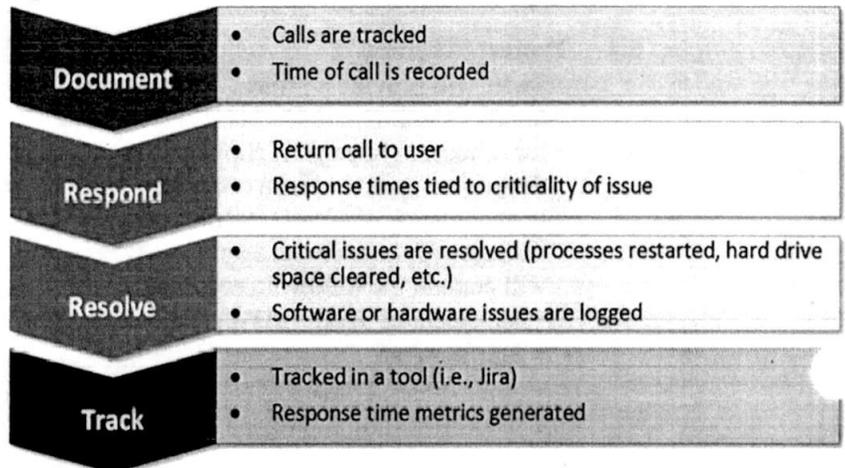
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8.5 Training

SwRI will provide training to Tristate for specific user needs including general operations and system administration. The following training and tools will be provided at least quarterly, assuming UI changes need to be communicated.
Recorded Training Videos —Video recordings providing ongoing training for general operations and system administration.

8.6 System Maintenance and Operations

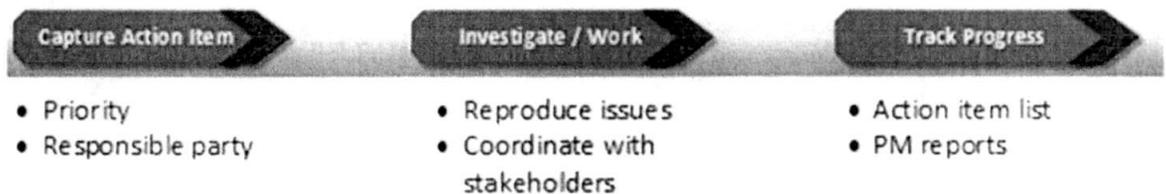
SwRI will continue to support the existing system and the new system as it is deployed for use by the Tristate. SwRI’s support focuses on quality coordination, tracking, investigation, and planning. SwRI will provide the required services necessary for 24/7/365 support of the Tristate’s TMC operations.



SwRI must maintain a 24-hour telephone line for reporting issues related to software and network support, Help Desk, and other 24/7 operations. The phone call will be answered by a 24-hour answering service that will log the call and contact the appropriate on-call SwRI Team member. If the issue pertains to the ATIS, the SwRI Team member will contact IBI to assist in bringing the issue to resolution.

4 Figure 5 SwRI provides 24/7 Support through our Document, Respond, Resolve, and Track process.

SwRI will collect information in the issue tracker about the initial time of the call, the callback time, and specifics about reported issues. Support line call reports are put into Jira for issue tracking purposes and tracked to closure. SwRI will discuss open issues at the PM meetings and determine what is needed to find a resolution. This will result in better prioritization of issues and shorten the time an issue stays open in the issue tracking system.



12 Figure 6 Process for reporting and addressing issues to resolution.

SwRI captures the work performed during support activities through action items and an issue tracking system. The action items are used to track the progress of activities and ensure that items

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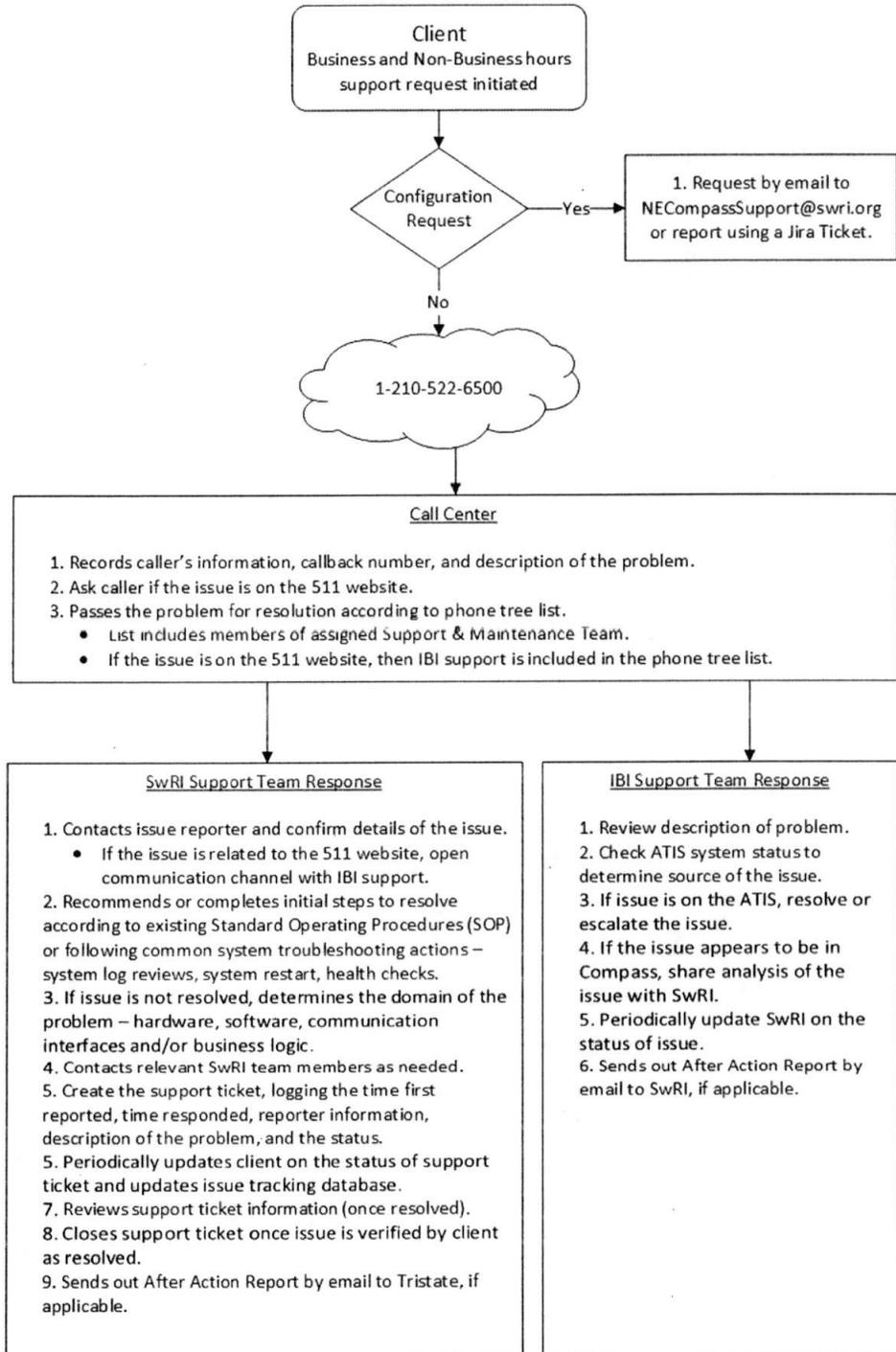
do not slip through the cracks. Action items are investigated, the work performed, and the activity tracked to closure with the Tristate approval. The current status of action items is reported and provided to the Tristate to ensure all stakeholders are kept aware of the progress of work and the responsible party.

8.6.1 Support Call Flow Chart

The following diagram describes the project approach for support calls.



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13 Figure 7 Flowchart for a support request.

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8.6.2 Services Level Agreements

The Service Level Agreement (SLA) lists the types of failures, their categories, and penalties related to contract performance. The SLA also contains definitions for resolution. SwRI's success in handling failures includes responding within the required timeframe, documenting the problem, resolving the issue, and tracking both the resolution and metrics for response times.

The 4-week reports must contain reports on metrics involving failures and response times.

8.6.3 System and Software Maintenance

The SwRI team will monitor and maintain the system to ensure stable operations and quickly address issues.

8.6.4 System Maintenance

The SwRI team will provide the required and necessary services to maintain successful system operations and to support the reliable functioning of software modules and components, interfaces, and related software services.

14 Table 5 Recommended Maintenance Schedule

Type	Activity	Frequency
Database	Full database backups	Daily/Before system modifications
	Database log backups	Configurable
Server and Software	Software monitoring of the performance of physical and virtual systems	Continuous
	Windows Server Maintenance	Monthly, or as recommended by Microsoft
	Other recommended preventive maintenance activities from software and hardware vendors	As recommended

8.6.4.1 Server Maintenance

As the software runs on computers running Windows Server, SwRI recommends performing monthly OS Upgrades. As a precaution, these updates should be installed on the test system before being applied to the production system.

8.6.4.2 Software Upgrades

System migration, upgrade, and integration plans following Tristate standards will be prepared, reviewed internally, and sent to the Tristate for approval prior to further plan coordination. In preparation for New England Compass and ATIS software upgrades for major and minor releases, SwRI will maintain coordination of conducting pre-and-post device status testing with the Tristate to verify no changes occur in device status after an upgrade. Phase 1: Current System O&M and System Development

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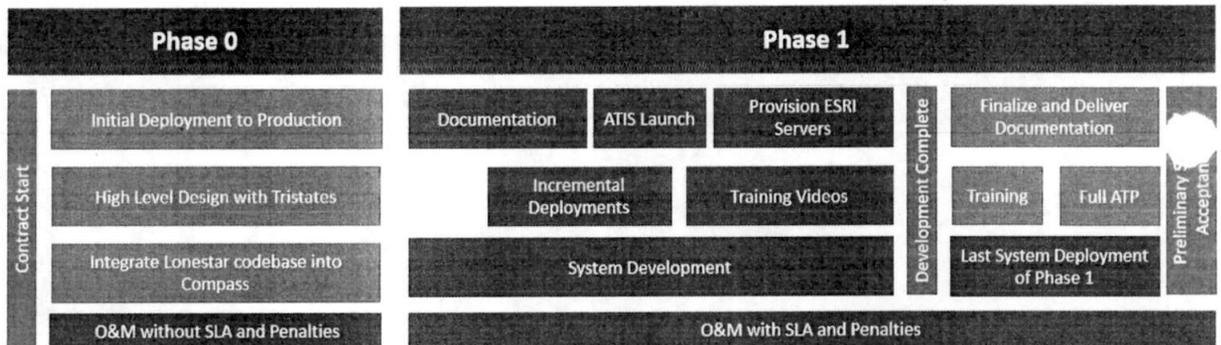
8.6.5 System Monitoring

To ensure that the ATMS does not have any unplanned outages, the Vendor shall monitor the system health and perform follow-up testing as required to ensure that all the equipment and software elements are performing correctly.

8.6.6 Operation and Maintenance Data

The Vendor is required to provide any data resulting from the operation and maintenance of the ATMS to the Tristate at any time upon request. The Vendor shall provide the data back to the Tristate in an easily understood, editable and usable format (i.e., PDF or CSV). In the case of travel time data, the Vendor will not be required to perform any additional data analytics prior to supplying the requested data back to the Tristate. In the case of performance data, the Vendor may be required to perform data analysis to show the status/results of certain performance metrics.

8.7 Phase 0 and Phase 1: System Development Period



15 Figure 8 Phase 0 and Phase 1 Overview

Prior to the system development, Phase 0 will include several key tasks:

- Phase 0 O&M support maintains the thick client system as operational and supports thin client system elements as they are pushed to production under the monthly O&M system structure; no SLA requirements apply.
- Initial deployment to production of the Thin Client software developed for the Tristate thus far
- High-Level Design collaboration between SwRI and the Tristate
- Integrate Lonestar codebase into Compass, bringing features from the other ActiveITS installations into Compass where applicable to support software requirements
- Phase 0 concludes and Phase 1 begins once the milestones in the Table 6 Stage Gate Phase 1 section have been met.

Phase 1 consists primarily of software system development, using an agile methodology, as outlined earlier in this Work Plan.

As part of System Development, SwRI will routinely produce:

- Documentation such as updates to test plans, the system requirements matrix, and release notes

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- Training videos of functionality added to the system
- Incremental deployments, providing the Tristates access to features as they are approved

Some features do not have a 50% Progress Demo milestone listed in the Development Milestones and Dependencies table. Even so, the Vendor will be presenting progress demos for feedback throughout the development process. These features have excluded a progress demo milestone due to the feature's short duration.

8.7.1 ATIS Subcontracting

The development of an ATIS to replace www.newengland511.org is being subcontracted to IBI. SwRI will serve as the subcontract manager during the development, deployment, and ongoing maintenance and support of the new site as outlined in the section on Project Schedule. The software developed by IBI will adhere to the ATIS requirements found in the traceability matrix. The SLA terms apply to the ATIS developed by IBI. If issues occur with the ATIS, the section on support outlines the steps to report and bring the issue to resolution.

16 Table 6. Development Involvement and Dependences

TIS Tasks	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Iteration 1	4/29/2022	Tristate to review TIS demo site and provide feedback.	Notice to Proceed (NTP)
Iteration 2	5/13/2022	Tristate to review TIS demo site and provide feedback.	
Iteration 3 (Optional if needed)	5/27/2022	Tristate to review TIS demo site and provide feedback.	
Acceptance Testing and Parallel Operations	6/17/2022	Tristate to test and review staging site during this task.	
Go Live	6/20/2022	Tristate to test and review live site.	

Lonestar Integration	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Progress report showing 25%	5/2/2022	Tristate to review and approve report showing progress.	Notice to Proceed (NTP)
Progress report showing 50%	5/30/2022	Tristate to review and approve report showing progress.	
Progress report showing 75%	6/27/2022	Tristate to review and approve report showing progress.	

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Progress report showing 100%	8/8/2022	Tristate to review and approve report showing progress.	
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Initial Documentation	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Deliver Task Documents: High-Level System Design Detailed Design Document Cutover Plan Disaster Recovery Plan	7/11/2022	Tristate to review and approve documentation.	NTP

Admin Tasks	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Public HTTPS and replicated database access	5/30/2022	Tristate operators can access Compass via Public HTTPS.	NTP
Load Testing Performance Report	6/27/2022	Tristate to review and approve report format. This initial report is a sample using staging servers. Final performance test report delivered with final ATP.	
Report showing system monitor results, security evaluation, server hardening	7/25/2022	Tristate to review and approve report.	

Initial Deployment	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Partial ATP for initial deployment delivered	9/5/2022	Tristate to review and approve Partial ATP.	Lonestar Integration
Complete partial ATP on initial deployment	10/3/2022	Tristate to run partial ATP to approve initial deployment.	

Stage Gate: Phase 1	Estimated Date
Approve Initial Documentation	7/11/2022
Completion of Lonestar Integration	8/8/2022
Completion of Initial Deployment	10/3/2022

EM Configuration	Estimated Milestone Date	Tristate Involvement	Development Dependencies

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EM Configuration Story Mapping delivered and approved	11/14/2022	Tristate to complete story mapping session with Vendor.	Phase 1
EM Configuration Progress Demo approved	12/26/2022	Tristate to provide feedback after 50% progress demo session.	
EM Configuration Complete and approved	2/6/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

EM Development	Estimated Milestone Date	Tristate Involvement	Development Dependencies
EM Event Form Story Mapping delivered and approved	3/6/2023	Tristate to complete story mapping session with Vendor.	EM Configuration
EM Event Form Progress Demo approved	4/17/2023	Tristate to provide feedback after 50% progress demo session.	
EM Event Form Complete and approved	5/29/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	
EM Response Plan Story Mapping delivered and approved	6/26/2023	Tristate to complete story mapping session with Vendor.	
EM Response Plan Progress Demo approved	8/7/2023	Tristate to provide feedback after 50% progress demo session.	
EM Response Plan Complete approved	9/18/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

DSS Development	Estimated Milestone Date	Tristate Involvement	Development Dependencies
DSS Configuration Story Mapping delivered and approved	3/6/2023	Tristate to complete story mapping session with Vendor.	Initial Deployment
DSS Configuration Progress Demo approved	4/3/2023	Tristate to provide feedback after 50% progress demo session.	

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DSS Configuration Complete and approved	5/1/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	
DSS Interface Story Mapping Acceptance	5/29/2023	Tristate to complete story mapping session with Vendor.	
DSS Interface Progress Demo	6/26/2023	Tristate to provide feedback after 50% progress demo session.	
DSS Interface Complete and approved	8/7/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

SAS Development	Estimated Milestone Date	Tristate Involvement	Development Dependencies
SAS Story Mapping delivered and approved	9/18/2023	Tristate to complete story mapping session with Vendor.	Initial Deployment
SAS Progress Demo	10/30/2023	Tristate to provide feedback after 50% progress demo session.	
SAS Complete and approved	12/11/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

Stage Gate: Thin Client Transition	Estimated Date
Completion and approval of EM	9/18/2023
Completion and approval of DSS	8/7/2023
Completion and approval of SAS	8/7/2023

ESRI Setup	Estimated Milestone Date	Tristate Involvement	Development Dependencies
ESRI Servers Provisioned	11/14/2022	No involvement, this task is backend only.	Initial Deployment

ESRI Customization	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Device Feature Layer Story Mapping delivered and approved	11/28/2022	Tristate to complete story mapping session with Vendor.	ESRI Setup
Device Feature Layer Complete and approved	1/23/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

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ESRI URL Configuration Story Mapping delivered and approved	2/6/2023	Tristate to complete story mapping session with Vendor.	
ESRI URL Configuration Complete and approved	4/3/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	
ESRI Measure and Zoom Story Mapping delivered and approved	4/17/2023	Tristate to complete story mapping session with Vendor.	
ESRI Measure and Zoom Complete and approved	5/15/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	
ESRI Bookmarks and Sessions Story Mapping delivered and approved	5/29/2023	Tristate to complete story mapping session with Vendor.	
ESRI Bookmarks and Sessions Complete and approved	6/26/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

ESRI LRS Implementation	Estimated Milestone Date	Tristate Involvement	Development Dependencies
ESRI LRS Story Mapping delivered and approved	7/24/2023	Tristate to complete story mapping session with Vendor.	ESRI Customization
ESRI LRS Progress Demo	9/4/2023	Tristate to provide feedback after 50% progress demo session.	
ESRI LRS ICD delivered and approved	10/16/2023	Tristate runs partial ATP to approve feature. Feature deployed to production.	

ESRI EM Implementation	Estimated Milestone Date	Tristate Involvement	Development Dependencies
ESRI EM Story Mapping delivered and approved	11/13/2023	Tristate to complete story mapping session with Vendor.	ESRI LRS Implementation and EM Development
ESRI EM Progress Demo	1/8/2024	Tristate to provide feedback after 50% progress demo session.	

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ESRI EM Complete and approved	3/4/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
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Minor Enhancements	Estimated Milestone Date	Tristate Involvement	Development Dependencies
DMS Enhancements Story Mapping delivered and approved	1/8/2024	Tristate to complete story mapping session with Vendor.	Thin Client Transition
DMS Enhancements Progress Demo	2/5/2024	Tristate to provide feedback after 50% progress demo session.	
DMS Enhancements Complete and approved	3/4/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
EDS CAD Driver Story Mapping delivered and approved	4/1/2024	Tristate to complete story mapping session with Vendor.	
EDS CAD Progress Demo	4/29/2024	Tristate to provide feedback after 50% progress demo session.	
EDS CAD Driver Complete and approved	5/27/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
CNA/SAA Enhancements Story Mapping delivered and approved	6/24/2024	Tristate to complete story mapping session with Vendor.	
CNA/SAA Enhancements Complete and approved	7/22/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
TSS/TTA Enhancements Story Mapping delivered and approved	8/19/2024	Tristate to complete story mapping session with Vendor.	
TSS/TTA Enhancements Complete and approved	9/16/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	

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ITS Device Enhancements Story Mapping delivered and approved	10/14/2024	Tristate to complete story mapping session with Vendor.	
ITS Device Enhancements Complete and approved	11/11/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
CCTV Enhancements Story Mapping delivered and approved	12/9/2024	Tristate to complete story mapping session with Vendor.	
CCTV Enhancements Complete and approved	1/6/2025	Tristate runs partial ATP to approve feature. Feature deployed to production.	

Reporting Software	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Setup cloud-based reporting software solution	2/5/2024	Tristate given access to reporting software.	Thin Client Transition
Reporting software integration into Compass and approved	4/1/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	

Data Hub/Data Warehouse	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Data Hub/Data Warehouse Story Mapping delivered and approved	4/29/2024	Tristate to complete story mapping session with Vendor.	Reporting Software
Setup cloud-based Data Warehouse using ActiveDX	6/10/2024	No involvement, this task is backend only.	
Datafeed integration for CAD and WAZE into ActiveDX	7/8/2024	Tristate verifies that ActiveDX includes external feeds (CAD, WAZE, etc.)	
Data Warehouse translation service completed and approved	8/5/2024	Tristate verifies that Data Warehouse API supports data translation.	

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Data Warehouse secure access feature completed and approved	9/2/2024	Tristate verifies that Data Warehouse API supports authenticated requests.	
Publish 3rd party external API to Data Warehouse	9/30/2024	Tristate verifies that Data Mart/Data Warehouse API goes live.	
Setup online analysis service using Data Warehouse	10/28/2024	Tristate given access to online analysis functionality for Data Warehouse.	
Data Hub functionality complete and approved	11/25/2024	Tristate runs partial ATP to approve feature. Any features not already live are deployed to production.	
Data Warehouse functionality complete and approved	12/23/2024	Tristate runs partial ATP to approve feature. Any features not already live are deployed to production.	

Reports Creation	Estimated Milestone Date	Tristate Involvement	Development Dependencies
Reporting Story Mapping delivered and approved	5/13/2024	Tristate to complete story mapping session with Vendor.	Reporting Software
C2C reporting enhancements complete and approved	6/24/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
DMS reporting enhancements complete and approved	8/5/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
EDS reporting enhancements complete and approved	9/16/2024	Tristate runs partial ATP to approve feature. Feature deployed to	



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		production. Tristate runs partial ATP to approve feature. Feature deployed to production.	
Smart Workzone reporting complete and approved	10/28/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
Snow accumulation report complete and approved	12/9/2024	Tristate runs partial ATP to approve feature. Feature deployed to production.	
TSS reporting enhancements complete and approved	1/20/2025	Tristate runs partial ATP to approve feature. Feature deployed to production.	
Reporting functionality complete and approved	3/3/2025	Tristate runs partial ATP to approve remainder of reporting feature. Feature deployed to production.	

Stage Gate: Complete Development	Estimated Date
Completion of Minor Enhancements	1/6/2025
Completion of Reporting Software	4/1/2024
Completion of Data Hub/Data Warehouse	12/23/2024
Completion of Reports Creation	3/3/2025

ATP (Final Deployment)	Estimated Milestone Date	Tristate Involvement	Development Dependencies
ATP Dry Runs complete and approved	3/31/2025	Tristate to review and approve ATP.	Complete Development
ATP with Tristates complete and approved	4/14/2025	Tristate runs ATP to approve Phase 1 development.	

Finalize Documentation	Estimated Milestone Date	Tristate Involvement	Development Dependencies
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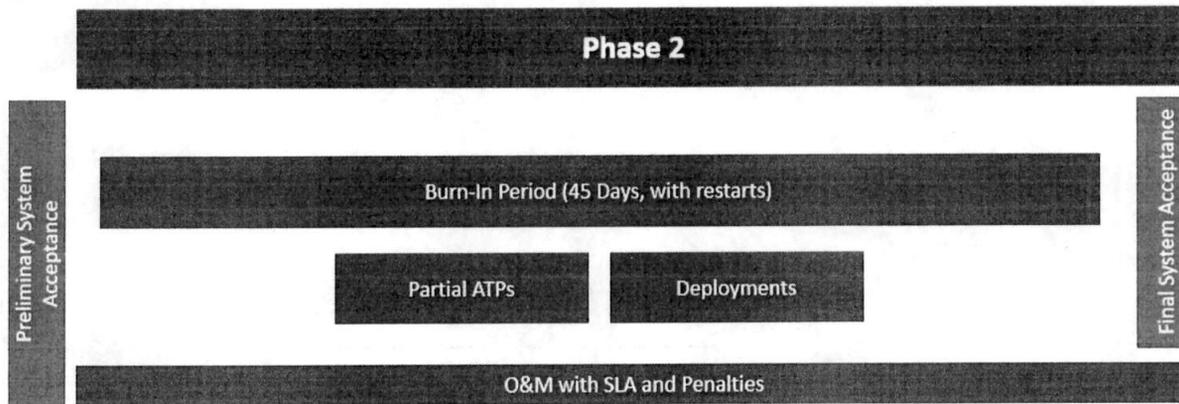
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Deliver and approve Requirements Documents: Software specifications, modules included, versioning information Baseline configuration and database schemas Baseline device configurations Baseline C2C configurations ICD for Incoming/Outgoing communication	3/31/2025	Tristate to review and approve documentation.	Complete Development
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Stage Gate: Phase 2 Burn-In Period	Estimated Date
Successful completion of Full ATP	4/25/2025
Finalized Documentation	3/13/2025

Phase 1 must conclude with a Full ATP and the last deployment meeting with the documented requirements. This will begin the Phase 2 Burn-in Period.

8.8 Phase 2: Burn-In Period



17 Figure 9 Phase 2 Overview

The Burn-in Period will last 45 days, with restarts as described within the section on Testing. SwRI will work to fix issues found by the Tristate with concurrence from SwRI that the issues are within scope and affect requirements, documenting and tracking the issues to resolution.

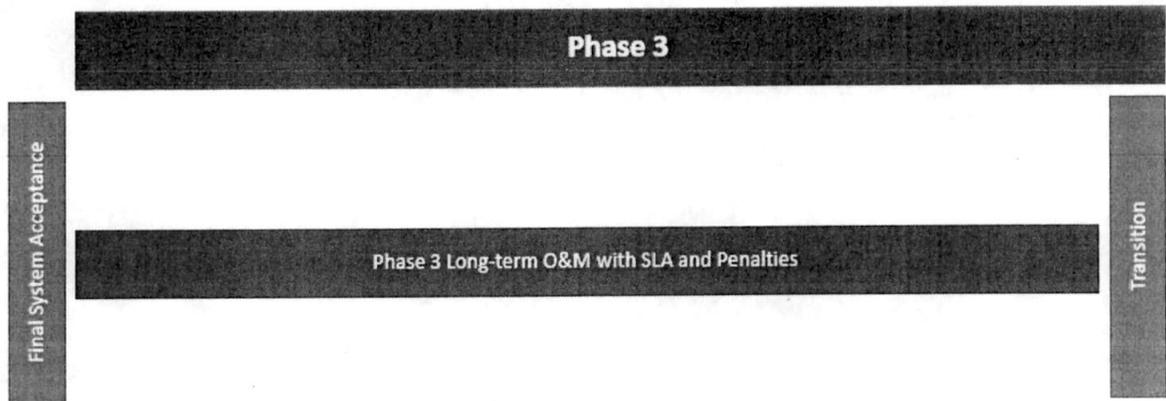
8.8.1 Final Acceptance and Sign-off Process

SwRI will request approval for Final Acceptance, and the Tristates will provide approval based on the passing status of acceptance tests and the passing status of partial acceptance tests conducted prior to and during Burn-in. SwRI will work together with the Tristate to

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identify and to fix issues that are within scope and affect requirements, documenting and tracking the issues to resolution.
Once acceptance tests have passed then the Tristate will accept the software and issue the Final Acceptance. The project would then proceed to Phase 3 Operations and Maintenance.

8.9 Phase 3: NE Compass Thin Client Operations and Maintenance



18 Figure 10 Phase 3 Overview

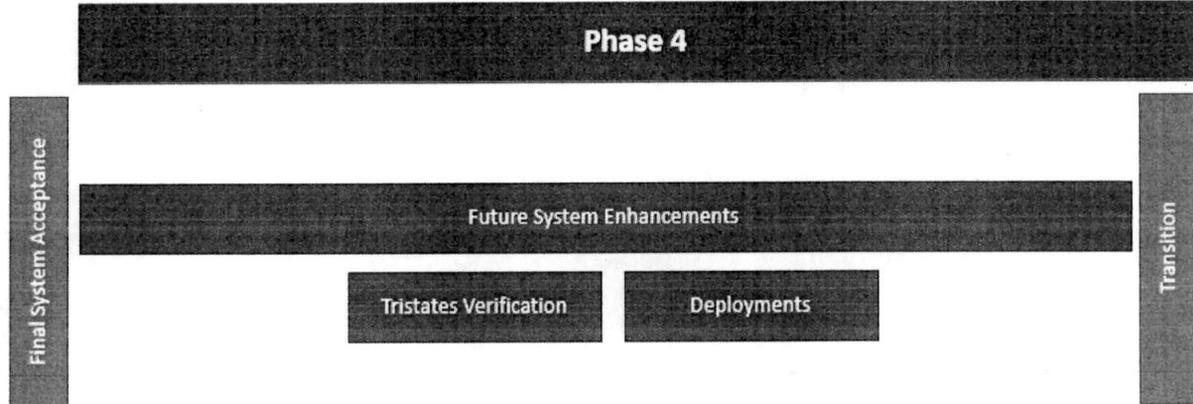
After system acceptance, the software will enter Phase 3 Operations and Maintenance. SwRI will continue to offer 24/7/365 support of the Tristate's TMC operations as outlined previously in the section on System Maintenance. During this period the ATMS shall be operational with minimal changes. The Vendor shall operate and maintain the ATMS and provide technical support to efficiently handle software troubleshooting.

The Vendor will maintain server and database operations, ensuring the systems continue functioning optimally and in a safe environment, per contract documents.

The Vendor shall be responsible for software repairs that include all components needed for a complete working system. The Vendor shall be responsible for accurately and clearly tracking all maintenance activities.

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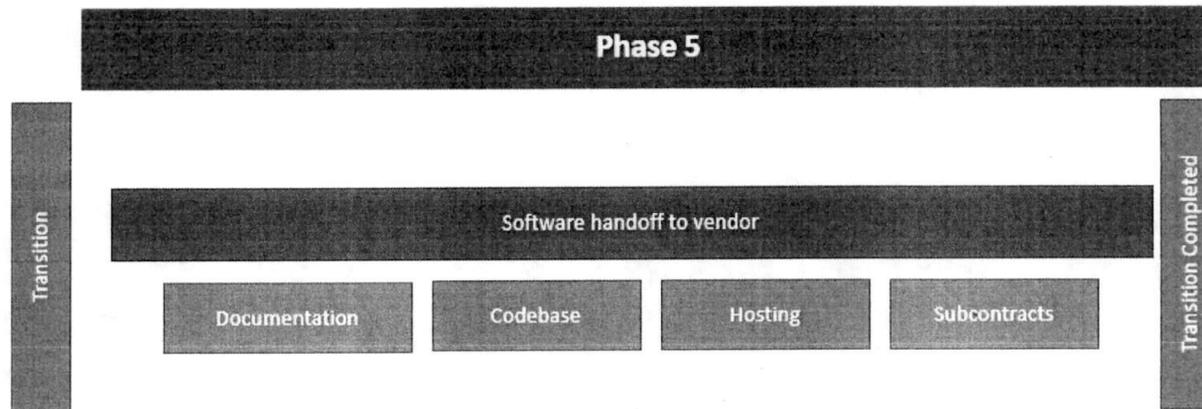
8.10 Phase 4: Future System Enhancements



19 Figure 11 Phase 4 Overview

SwRI will offer continued system enhancements after the full system acceptance. These enhancements will be performed on an as-needed basis. Enhancements will be priced using Contractor Rates (shown in Section 29.1.5) and will have a not to exceed amount. Given the scope of the enhancements, the ongoing O&M costs for Phase 3 may be adjusted with the prior approval of the Tristate.

8.11 Phase 5: Transition



20 Figure 12 Phase 5 Overview

SwRI will draft a Transition Plan as part of the Transition phase scope. This includes source code with releases, Microsoft Word, Excel, and other source documents, database models, installer source code, and completed test results. The time needed to exit work would be determined by the amount of training and technical knowledge transfer desired by Tristate. SwRI acknowledges that if the Transition is activated the phase will have a Time & Materials cost structure. The items listed below may be included as part of a transition period:

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21 Table 7. Transition Elements

Transition Element	Description
Transition Schedule	Captures steps needed to transition and terminate services before PO termination.
Service Termination Checklist	Transfers services from the SwRI Team to Tristate or its assignee.
Subcontracts, POs, and Manufacturer Warranties Assignment Steps	Steps detail reassignment of these to Tristate or its assignee.
Assets, Property, Hardware, Permits, Licenses, IP Rights Transfer Steps	Transfers these to Tristate or its assignee.
Program Documentation Details	Instructs how copies of all plans, manuals, SOPs, training plans, and documents in electronic and hard copies are provided to Tristate.
Knowledge and Technical Training Plan	Details knowledge and technical training for software, hardware, data, and processes.
Information Access Agreement	Outlines details for providing reasonable access to Tristate or its assignees for information to services and the team's personnel following expiration or termination of the PO.

9 ASSUMPTIONS

General

- The State shall provide team members with decision-making authority to support the Implementation efforts, as necessary.
- All State tasks must be performed in accordance with the revised Work Plan.
- Any activities, decisions or issues taken on by the State that affect the mutually agreed upon Work Plan timeline, scope, resources, and costs shall be subject to the identified Change Control process.
- SWRI shall maintain an accounting system in accordance with Generally Accepted Accounting Principles (GAAP).
- The State shall provide Virtual Private Network (VPN) access and access to any necessary internal State networks and/or software (within State standards).

10 ACCEPTANCE & TESTING SERVICES

The Contractor shall provide the following Products and Services described in this Section, including but not limited to:

10.1 Testing and Acceptance

The Contractor shall bear all responsibilities for the full suite of Test Planning and preparation throughout the Project. The Contractor must also provide training as necessary to the State staff responsible for test activities. The Contractor shall be responsible for all aspects of testing contained in the Acceptance Test Plan including support, at no additional cost, during User Acceptance Test conducted by the States and the testing of the training materials.



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The Test Plan methodology shall reflect the needs of the Project and be included in the finalized Work Plan. A separate Test Plan and set of test materials will be prepared for each Software function or module.

All Testing and Acceptance (both business and technically oriented testing) shall apply to the system and all changes made to it as a whole, including but not limited to enhancements, fixes, and patches. This shall include planning, test scenario and script development, Data and System preparation for testing, and execution of Unit Tests, System Integration Tests, Installation tests, Regression tests, Performance Tuning and Stress tests, Security Review and tests, and support of the States during User Acceptance Test and Implementation.

In addition, the Contractor shall provide a mechanism for reporting actual test results vs. expected results and for the resolution and tracking of all errors and problems identified during test execution. The Contractor shall also correct Deficiencies, and support required re-testing.

10.1.1 Software Environments

The Contractor shall maintain, at a minimum, three separate software environments, as defined below.

- 1) Development Environment: a separate workspace used by developers to make changes to the system. Development environment includes local development, build server and internal testing environments.
- 2) Staging (DMZ) Environment: a space whereby system changes can be trialed in order to ensure compatibility with the system. The test environment shall be an exact copy of the production environment, apart from the changes being tested.
- 3) Production Environment: the live version of the system.

The Contractor shall ensure each test is performed in the appropriate environment, as defined in the sections below.

10.1.2 Test Planning and Preparation

The Contractor shall provide the States with an overall System Acceptance Test Plan that will guide all testing. The Contractor provided, State approved, Test Plan will include, at a minimum, identification, preparation, and Documentation of planned testing, a requirements traceability matrix, test variants, test scenarios, test cases, test scripts, test Data, test phases, unit tests, expected results, and a tracking method for reporting actual versus expected results as well as all errors and problems identified during test execution.

As identified in the System Acceptance Test Plan and documented in accordance with the Work Plan and the Contract, State testing will commence upon the Contractor's Project Manager's Certification, in writing, that the Contractor's own staff has successfully executed all prerequisite Contractor testing, along with reporting the actual testing results, prior to the start of any testing executed by State staff. The



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States will be presented with a State approved System Acceptance Test Plan, test scenarios, test cases, test scripts, test data, and expected results.

The States will commence their testing after receiving Certification from the Contractor that the States' personnel have been trained and the System is installed, configured, completely tested, and ready for State testing. The Contractor's Project Manager must certify in writing that the Contractor's own staff has successfully executed all prerequisite Contractor testing, along with reporting the actual testing results prior to the start of any testing executed by State staff. The testing will be conducted by the State staff in an environment independent from the Contractor's development environment. The Contractor must assist the States with testing in accordance with the Test Plan and the Work Plan, utilizing test and live Data to validate reports, and conduct stress and performance testing, at no additional cost.

Testing shall begin upon completion of the Software configuration as required and user training according to the Work Plan. Testing ends upon issuance of a letter of ATP Acceptance by the States.

The Contractor must demonstrate that their testing methodology can be integrated with the State standard methodology.

10.1.3 Unit Testing

This test shall be performed in the development or build environment. Application components are to be tested on an individual basis to verify that the inputs, outputs, and processing logic of each application component functions without errors.

The goal is to find errors in the smallest unit of Software. If successful, subsequent integration testing should only reveal errors related to the integration between application components.

10.1.4 System Integration Testing

This test shall be performed in the test environment. System integration testing shall ensure that all parts of the application that relate to each other work properly together. This test validates the integration between the individual unit application components and verifies that the new System meets defined requirements and supports execution of interfaces and business processes. This test also emphasizes end-to-end business processes and the flow of information across applications. It includes all key business processes and interfaces being implemented, confirms data transfers with external parties, and includes the transmission or printing of electronic and paper documents.

The States will conduct System Integration Testing, utilizing scripts developed, as identified in the Test Plan to validate the functionality of the System and its interfaces. The States will also use System Integration Testing to validate modifications, fixes, and



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other System interactions with the Contractor supplied Software Solution.

The Conversion/Migration Testing should replicate the entire flow of the converted data throughout the ATMS software. As the Software Solution is interfaced to legacy or third-party applications, the testing verifies that the resulting converted legacy data performs correctly.

10.1.5 Installation Testing

All application components shall be able to be installed in the System's hosted test environment by Contractor staff to test the installation routines and shall be refined for installation into the production environment. This activity serves as a dry run of the installation steps in preparation for configuring the production System.

The Contractor shall create a test environment based on the Production system prior to installing any new releases into Production to ensure that if a new build released to production fails to meet expectations the original build can be restored.

10.1.6 Acceptance Testing Plan (ATP)

The Acceptance Testing Plan (ATP) is a verification process performed in the test environment. The Acceptance Test verifies System functionality against predefined Acceptance criteria that support the successful execution of approved business processes. This process shall be for incremental ATPs, partial ATP and full ATP.

- a) The Contractor's Project Manager must certify in writing, that the Contractor's own staff has successfully executed all prerequisite Contractor testing, along with reporting the actual testing results prior to the start of any testing executed by State staff.
- b) The States will be presented with a State approved Test Plan, test scenarios, test cases, test scripts, test data, and expected results, as well as written Certification of the Contractor having completed the prerequisite tests, prior to State staff involvement in any testing activities.
- c) Full ATP will also serve as a performance and stress test of the System. It may cover any new aspect of the System, including administrative procedures such as backup and recovery. The results of the full ATP provide evidence that the System meets the Acceptance criteria as defined in the Work Plan.

The Contractor shall:

- Create test cases to cover appropriate scenarios of system use.
- Confirm that the system is developed according to the specified user requirements. Test cases and scripts / scenarios shall be traced to the Requirements Matrix for



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requirement verification.

- Document “bugs” that are found
- Retest after bugs have been fixed
- Regression test the system
- Confirm that the system is ready for operational use.

Upon successful conclusion of ATP and successful System deployment, NHDOT will issue a letter of ATP Acceptance and the respective Burn In Period shall commence.

10.1.7 Performance Testing

The Contractor shall develop and document hardware and software configuration and tuning of System infrastructure as well as assist and direct State System Administrators and Database Administrators in configuring and tuning the infrastructure to support the software throughout the project.

The Contractor shall perform performance tests to ensure that:

- The data entry process can be completed in a timely manner for each step. The response time required shall be determined by the user community.
- File transfers are occurring at the right times and are completing with no interruption for the user community.
- Any / all batch jobs are completing in a reasonable amount of time and fit in appropriately with all other batch schedules occurring for this system.
- Testing shall be conducted on a server with multiple databases to see how performance will be in a production environment where several databases are on the same server.
- Testing shall be performed with a large enough volume to simulate higher data volumes to see how the database response time will be.

10.1.8 Implementing Performance and Stress Test

The vendor is required to perform a performance/stress test on the hosting system during full ATP, the results to be evaluated and approved by the State(s).

10.1.9 Performance Tuning and Stress Testing

Performance testing and tuning shall occur in the production environment and shall use a copy of the production database to provide the best results. Stress tests shall occur in the test environment and shall include:

- Simulating the stress on the application and server(s) that is expected during peak active times such as during the commuting hours during the busiest workday, workweek, and month.
- Simulating the highest volume of data that is expected in the production



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environment.

- Creating test scenarios for the highest numbers of users expected.
- Including test cases that cover special situations like holidays, major events that could affect the timing and/or volume of event entries.

10.1.10 Scope

The scope of performance testing shall measure the system level metrics critical for the development of the applications infrastructure and operation of the applications in the production environment. It will include the measurement of response rates of the application for end-user transactions and resource utilization (of various servers and network) under various load conditions. These response rates shall become the basis for changes and retesting until optimum system performance is achieved.

The application transactions shall be identified with specific roles and selected transactions shall be recorded for the performance measurements. These will be compared to baselines to determine if object and/or system performance increases as changes are made.

The Contractor must lead this effort. Responsibilities include identifying appropriate tunable parameters and their default and recommended settings, developing scripts, which accurately reflect business load and coordinating reporting of results.

10.1.11 Test Types

Performance testing shall use two different types of tests to determine the stability of the application: baseline tests and load tests.

10.1.11.1 Baseline Tests

Baseline tests shall collect performance data and load analysis by running scripts where the output is broken down into business transactions or functions. The test is like a single user executing a defined business transaction. During baseline testing, each individual script is run to establish a baseline for transaction response time, throughput and other user-based metrics. Usually each business transaction is executed multiple times during a single test run to obtain an average for the user-based metrics required for the performance testing evaluations. It must be noted that changes made to the code after baseline testing is completed will skew the results collected to date. All efforts will be made to provide an error free code base to be used for testing in the production environment before the establishment of the baseline, which shall be used in future testing and tuning efforts. Any changes introduced into the environment after performance testing has started can compromise the accuracy of the results and will force a decision



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by the NHDOT Project Managers to be made whether baseline results need to be recreated.

10.1.11.2 Load Tests

Load testing will determine if the behavior of a system can be sustained over a long period of time while running under expected conditions. Load testing helps to verify the ability of the application environment to continuously operate correctly under different load conditions based on workload distribution. System response times and utilization shall be measured and recorded.

10.1.12 Tuning

Tuning shall occur during the development of the application and load testing. Tuning is the process whereby the application performance is maximized. This can be the result of making code more efficient during development as well as making tuning parameter changes to the environment.

For infrastructure tuning, parameters will be identified for all components before undertaking the load testing effort. This should include a list of the variables, their definitions, the default settings, range of acceptable settings and the settings as testing begins. This will permit the team to identify the areas of most potential gain and a starting point. Tuning is a process, which is repeated until the team feels that the systems are running at or near optimum performance.

10.1.13 Scheduling Performance and Stress Testing

The Contractor shall perform test planning. The steps for planning include identification of application functionality as well as what percentage of normal daily use is represented by each function. This information will become the foundation for scripting so that tests closely represent what loads in production will look like.

The Contractor shall provide definition and expectations from testing. This definition should include who is in charge of testing and coordinating results, anticipated run times, logs required for tracking, their locations and which technician is responsible to track and provide them following each test to the team. Performance testing shall consider the full scope of the application infrastructure with emphasis on the most heavily used or shared transactions. Performance testing of the application will profile the identified user transactions and assist in identifying performance gaps to improve the most critical parts of the applications.

Initial test runs shall be completed to establish that the tests and data sets can be run to completion without errors. The ratio of types of transactions which makeup the test shall



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be reviewed prior to the beginning of testing and then again once testing has begun to make sure that testing accurately reflects the system performing in production.

Initial tests shall be used to establish a baseline from which all subsequent tests will be compared. Tests will be considered for baseline status once two of them have been run within 2% of each other in key and overall performance areas. No changes to the test scripts or data sets (with the exception of restores after each test) can be done to the test environment once tuning has begun so as not to damage the comparison to baseline results. The systems must be restarted before each test run to assure all cache is cleaned out. All effort will be made to run these tests at a time when system and network infrastructure utilization does not impact the results. Tests will be run in close proximity to State or hosting infrastructure to eliminate the public network from the surrounding environment.

Post-test reporting and result assessment will be scheduled following each test. The team will compare these results to the baseline and a determination must be made to make additional changes to the parameter being tuned or return to the prior configuration and select another parameter to tune while keeping in mind that significant changes to any one parameter may require the retesting of some others. Careful work on identifying dependencies up front should minimize this impact.

If defects are identified in the application during testing, they will be recorded; however, changes to the application code should be avoided if possible, so as not to affect baseline comparisons. If a change to the application is required, new baselines will be established (and possibly the execution of prior tests to validate changes with the new application) before testing can continue.

When performing capacity testing against a GUI the focus will be on the ability of the interface to respond to user input.

During stress/load testing the tester will attempt to stress or load an aspect of the system to the point of failure, with the goal being to determine weak points in the system architecture. The tester will identify peak load conditions at which the program will fail to handle required processing loads within required time spans.

10.1.14 Regression Testing

Regression testing is done in order to ascertain whether fixes to defects have caused errors elsewhere in the application/process.

Because of the testing activities, problems will be identified that require correction. The States will notify the Contractor of the nature of the testing failure in writing. The Contractor will be required to perform additional testing activities in response to State and/or user problems identified from the testing results. The Contractor will be responsible for any costs associated with new errors arising from changes made during

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the process of regression testing.

Regression testing means selective re-testing to detect faults introduced during the modification effort, both to verify that the modifications have not caused unintended adverse effects, and to verify that the modified and related (possibly affected) System components still meet their specified requirements.

- a) For each minor failure of an Acceptance Test, the Acceptance Period shall be extended by corresponding time as defined in the Vendor Test Plan.
- b) The Contractor shall notify the States no later than three (3) business days from the Contractor's receipt of written notice of the test failure all shall state when corrections are expected to be completed and ready for retesting by the States. The Contractor will have up to five (5) business days to make corrections to the problem unless specifically extended in writing by the States.
- c) When a programming change is made in response to a problem identified during user testing, a regression Test Plan shall be developed by the Contractor based on the understanding of the program and the change being made to the program. The Test Plan has two objectives:
 1. validate that the change/update has been properly incorporated into the program; and
 2. validate that there has been no unintended change to the other portions of the program.
- d) The Contractor will be expected to:
 1. Create a set of test conditions, test cases, and test data that will validate that the change has been incorporated correctly;
 2. Create a set of test conditions, test cases, and test data that will validate that the unchanged portions of the program still operate correctly; and
 3. Manage the entire cyclic process.
- e) The Contractor will be expected to execute the regression test, provide actual testing results, and certify its completion in writing to the States prior to passing the modified Software application to the users for retesting.

In designing and conducting such regression testing, the Contractor will be required to assess the risks inherent to the modification being implemented and weigh those risks against the time and effort required for conducting the regression tests. In other words, the Contractor will be expected to design and conduct regression tests that will identify any unintended consequences of the modification while taking into account Schedule and economic considerations.

The Contractor must acknowledge their responsibilities for regression testing as described in this section.



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10.1.15 Security Review and Testing

All security tests shall be performed in the test environment. IT Security involves all functions pertaining to the securing of State Data and Systems through the creation and definition of security policies, procedures and controls covering such areas as identification, authentication and non-repudiation.

All components of the Software shall be reviewed and tested to ensure they protect State hardware, software and related Data assets.

Service Component	Defines the set of capabilities that:
Identification and Authentication	Demonstrate that users and any interfacing applications are identified and that their identities are properly verified.
Authorization	Demonstrate that users and client applications can only access Data and services for which they have been properly authorized. Contractor test plan shall illustrate that the system allows for management of permissions and conforms to all State Security Standards.
Immunity Methods	Provide verification of the immunity methods used to ensure that unauthorized malicious programs (e.g., viruses, worms and Trojan horses) do not infect the application.
Encryption	Demonstrate that the system utilizes 256 Bit Encryption of data and the privacy methods used to ensure that confidential Data and sensitive communications are kept private.
Intrusion Detection	Demonstrate intrusion detection methods used to ensure the detection, recording and review of attempted access or modification by unauthorized individuals.
Verification	Demonstrate the confirmation of authority to enter a computer system, application or network.
Digital Signature	Guarantees the unaltered state of a file.
User Management	Supports the administration of computer, application and network accounts within an organization.
Role/Privilege Management	Supports the granting of abilities to users or groups of users of a computer, application or network.
Audit Trail Capture and Analysis	Demonstrate how the system supports the identification and monitoring of activities within an application or system.
Input Validation	Demonstrate the application is protected from buffer overflow, cross-site scripting, SQL injection, and unauthorized access of files and/or directories on the server.
Systems installed in a Locked-Down State	Demonstrate the ability of the Software to be installed in a “locked-down” fashion so as to turn off unnecessary features (user accounts, operating System services, etc.) thereby reducing the software’s security vulnerabilities and attack surfaces available to System hackers and attackers.

The Contractor must acknowledge their responsibilities for security testing. Tests shall focus on the technical, administrative and physical security controls that have been



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designed into the System architecture in order to provide the necessary confidentiality, integrity and availability. Tests shall, at a minimum, cover each of the service components. Test procedures may include Penetration Tests (pen test) or code analysis and review.

Prior to being moved into the production environment, the Vendor shall provide results of all security testing to the States for review and acceptance. All Software and hardware shall be free of malicious code (malware). The Contractor shall provide a security plan and written test results from execution of the security test as outlined in the Contract documents.

10.2 Final Acceptance Sign-off

Final acceptance and sign-off shall occur upon successful completion of all required tests.

10.2.1 Tests Required by Level of Deployment

10.2.1.1 System Rollback

Problems may be encountered that require data restoration within the test and production environments. The Contractor shall be responsible for performing regular system backups and maintaining a system recovery process to ensure data restoration is possible to previous specified points in time. The Contractor shall ensure all data is recovered in this process and that no corruption of system data occurred.

10.2.1.2 Successful ATP Completion

Upon successful completion of Final ATP, each State will issue a Letter of Final ATP Acceptance. The three individual State ATP's must be completed before NHDOT will issue the Letter of Final ATP Acceptance. The Burn In period will then start.

Upon completion of the Burn In Period, NHDOT shall issue a Letter of Final System Acceptance.

11 MAINTENANCE, OPERATIONS AND SUPPORT

This section details Contractor obligations in maintaining and supporting the States in maintaining the system.

Below details the overall Service Level Agreement (SLA) for the Operations & Maintenance Phase of the ATMS. For purposes of this SLA, the term ATMS is used to cover all software and hardware components including the Data Hub, the ATMS software, all software device interfaces and



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Application Programming Interfaces (API), all third-party connections, and any hardware components furnished and installed by the Vendor. The Vendor is the organization responsible for monitoring and maintaining the ATMS. The Tristate, owners of the ATMS, are the collective of the States of New Hampshire, Maine, and Vermont. The Service Level Agreement shall commence upon completion of the previous ATMS contract and all measures related to it and shall continue for the entirety of the contract.

11.1 Key Terms and Definitions

Term	Definition
Bug	A bug is identified when the system is operational but there is an issue where functionality is limited or functions in an inconsistent manner however all contract requirements are still met.
Configuration Request	Refers to ITS device configuration requests or hosting/network configuration requests.
Enhancement	A change to the system that is reflected by an addition or change to the requirements. New functionality not covered by the initial requirements and paid for with a new task order.
External	Infrastructure, interfaces, devices, or dependencies that the Compass system relies upon for functionality.
Failure	One or more existing requirements are no longer satisfied. A failure could be caused by a software bug, network issue, communication issue, etc. The period applicable to the SLA when the requirement is not met is a failure.
Grace Period	Time between initial notification and resolution prior to the application of SLA penalties.
Initial Notification	The first time a State notifies SWRI of a failure (by phone, by email or Jira ticket) or the time a failure is detected by SWRI or automatic notification.
Initial Response	First acknowledgement of a failure completed by speaking with the reporter, emailing the reporter, or commenting on a Jira ticket.
Resolution	The definition of resolution depends on the severity of the failure.

11.2 Availability

The ATMS must provide full functionality available twenty-four (24) hours per day, seven (7) days per week, and fifty-two (52) weeks per year and be available at least 99.99% of the time, excluding downtime due to scheduled maintenance that has been approved by the Tristate. Availability is defined as permitted users being able to fully access and use the ATMS and the



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functionality and content therein, with the ATMS functioning correctly, accurately, and without material degradation of performance.

11.3 Support and Maintenance Detail

1. SwRI will provide on-call support to the Tristate to assist users with the Compass software maintenance, operations, and configuration that includes 24/7 support for software issues. SwRI will have the option to defer configuration requests to normal SwRI business hours.
 - 1.1. The on-call support during development will include:
 - 1.1.1. Providing a 24/7 answering service phone number which can be called to process the support request and receive a callback from a SwRI support staff member.
 - 1.1.2. Providing 24/7 support.
 - 1.1.3. Investigating and resolving issues identified by the Tristate. The Tristate may need to determine which issues are a priority to resolve and communicate the priority in a timely manner.
 - 1.2. The ongoing maintenance will include:
 - 1.2.1. Maintaining virtual machines hosted at AWS and on-premises at SwRI, on a monthly basis. Provide maintenance due to infrastructure changes at AWS and SwRI.
 - 1.2.2. ESRI LRS and spatial updates, performed quarterly
 - 1.2.3. Ongoing developer assistance and oversight of IBI for the ATIS
2. SwRI staff can address failures identified by the Tristate and also identified proactively by SwRI.
3. Scheduled Maintenance
 - 3.1. All scheduled maintenance shall be requested by the Vendor at least five (5) business days in advance and shall require the approval of the Tristate.
 - 3.2. The Tristate will allow system downtime without prior approval exclusively for security-related emergency maintenance to implement any software patches or upgrades to resolve a known vulnerability.
 - 3.3. However, the Vendor shall provide a detailed after-action report within five (5) workdays providing sufficient justification for the emergency downtime. If no after-action report is submitted, then the emergency downtime will be considered as system unavailable while measuring monthly compliance with the SLAs.

11.4 SLA Framework

- 11.4.1** The Service Level Agreement (SLA) with penalties will be implemented at the start of Phase 1, upon the successful completion of the Initial Deployment (estimated date 10/3/2022). The SLA applies to all system elements in the production environment at any given time, including partial deployments. The

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penalties are to be calculated from 29.1.3 Software Operations, Maintenance and Support Pricing.

11.4.2 Items covered under the SLA

11.4.2.1 Scheduled Maintenance

The procedure for how maintenance is scheduled by the Vendor as well as allowable times and durations.

11.4.2.2 4-Week Performance Measures Report

To be provided by the Vendor as part of their invoice; outlines all support items for a given month including any equipment or software failures of the ATMS and provides a basis for measuring monthly compliance with the SLAs.

11.4.2.3 Progress Reports

As part of their 4-week invoice, the Vendor will provide a summary of software issues including a set of statistics that will be used to measure Compass's stability and the Vendor's support workload and performance. The statistics to be gathered are listed below:

- Number of issues reported to date by web and by phone;
- Number of issues reported this month by web and by phone;
- Number of issues open and in progress by issue type;
- Number of issues not responded to in the required time;
- Number of issues closed during the reporting period by issue severity;
- Average Vendor response time by issue severity for initial response and follow-up responses;
- Number of issues being worked on by on-site and home office staff this month;
- Number of software problem issues remaining open longer than 7 calendar days; 14 calendar days, and a month.

11.4.2.4 Vendor Accessibility

How and when the Vendor can be reached for troubleshooting.

11.4.2.5 Failure Classifications and Penalties

- Uptime: All uptime specified in the requirements shall be met.
- Unmet requirements: Any initial requirements after acceptance not met by the Vendor is considered a system failure and will be categorized by level of



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severity. Once initial requirements are accepted, modifications to the requirements are considered change in scope and not a system failure.

- Time to resolution: The Vendor will be designated a certain grace period to resolve system failures before a penalty is implemented.
- Penalties: Financial implications if the failure is not brought to resolution within the grace period.

11.4.2.6 After Action Reports

The Vendor will provide a report within 5 business days after any failure, including description of the failure, the time when the failure was either reported by the Tristate to the Vendor or detected by the ATMS, root cause of the failure, time when the cause of failure was determined, corrective action taken, time when the corrective action was completed, and a test report demonstrating the working system/device. However, continuous updates to an online system keeping track of all maintenance activities completed by the Vendor are required within one business day of repair.

11.4.2.7 Scenarios

Potential examples describing SLA failures and payment implications.

11.4.3 Failure Categories

11.4.3.1 Critical Failure

A failure of multiple Compass software subsystems or a single critical Compass subsystem that prevents full operation of the Compass Software or inhibits the Department's ability to manage the roadways.

- Users unable to login
- Module(s) inaccessible
- Essential map data not displayed or functional (e.g., basemap, road layer, any ITS device layer, events layer)
- Developer feed is down
- Any limitations to event or incident functionality
- Any limitations to equipment operation
- Six or more devices rendered inaccessible
- Etc.

11.4.3.2 Moderate Failure

A single Compass application, subsystem or driver failure that prevents operation of a part of the Compass Software and does not prevent the Department's ability to



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manage the roadways nor a failure preventing information being sent to or appearing on the TIS.

- Any limitations to reporting functionality
- Delays in data transfer
- Two to five devices rendered inaccessible
- ATMS unable to reference non-essential map data
- Limitations to traveler information
- Loss of non-essential map data (e.g., traffic signals layer, police stations layer)
- Etc.

11.4.3.3 External Failure

Compass interfaces with external systems are failing.

- TomTom Feed Unavailable
- DOT, AWS, or SwRI Network Failure
- ESRI Services Unavailable
- Etc.

11.4.3.4 Minor Failure

A software issue that can be compensated for through manual operation or that does not impact operation of the management center.

- Single device rendered inaccessible
- ATMS not properly referencing its own map data to others
- Archived data retrieval not functional
- Loss of reporting capability
- Slow computer screen refresh rates
- Etc.

Reported failures will be initially categorized according to the categories defined above by the Vendor. The States reserve the right to disagree or confirm the categorization of each issue failure category.

11.4.4 Grace period for resolution per failure type

- Critical Failure: 4 hours
- Moderate Failure: 12 hours
- External Failure: Not Applicable
- Minor Failure: 24 hours

Grace periods may be extendable on a case-by-case basis if agreed upon by the Vendor and the States.



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11.4.5 Penalties

Deductions are per hour as a percent of average 4-week software operations, maintenance and support fee as shown in section 29.1.3.

- Critical Failure: 2%
- Moderate Failure: 0.5%
- External Failure: 0.0%
- Minor Failure: 0.5%

11.4.6 Maximum Penalty Deduction

Maximum deduction calculations and penalty amounts may be renegotiated at the end of the four-year contract. The maximum 4-week penalty shall not exceed the average 4-week Software operations, maintenance and support cost as outlined in section 29.1.3

11.4.7 Service Level Agreements (SLAs)

SLAs*				
Activities	Measure	Performance	SLA Response Time and Penalty (Per Hour)	
<p><u>Resolve service request:</u></p> <ul style="list-style-type: none"> - Restore application service in the event of a service failure. - Resolve service requests with high business impact (such as urgent data fixes, special reports, etc.) - Resolve service requests with minimal business impact (such as non-urgent data fixes, non-urgent special reports and data extracts, user and technical documentation updates, etc.) 	Time to Resolution	<p>Critical Failure = within and up to 4 consecutive hours from initial notification</p>	Within 4 hours of notification	0%
			Past 4 hours	2%
		<p>Moderate Failure = within and up to 12 consecutive hours* from initial notification</p>	Within 12 hours of notification	0%
			Past 12 hours	.5%
		<p>External Failure = within and up to 24 consecutive hours from initial notification</p>	No Penalties	0%
		<p>Minor Failure = within and up to 24 consecutive hours from initial notification</p>	Within 24 hours of notification	0%
			Past 24 hours	.5%

*Notes:

1. Resolution is defined as follows:

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- Critical Failure: Compass is operational; all requirements are satisfied.
- Moderate Failure: Affected subsystem or driver is operational; all requirements are satisfied.
- External Failure: External system point of contact (POC) has acknowledged receipt of the issue.
- Minor Failure: Vendor has resolved the failure; all requirements are satisfied.

11.4.8 Failure Resolution Status

All failures in the system shall be considered as being “**active**” until the issue has been resolved by the Vendor to the satisfaction of the Tristate and the failure status changed to resolved by the Tristate. The duration of a failure shall be defined as the time from which a failure is logged by the Tristate or proactively identified by the vendor until the time the failure status changed to “**resolved**.” It is understood that some failures may originate from devices and systems outside of ATMS as defined in this SLA. If the Vendor identifies the origin of the failure to be outside of the ATMS, the Vendor shall request a Tristate investigation of the failure origin along with sufficient documentation and justification as necessary. If the Tristate agrees with the Vendor’s justification and undertakes the investigation, the Tristate will change the failure status to “**pending**.” The time when any failure is in the “**pending**” status will not be included in the SLA calculations. After the Tristate completes the investigation, the failure status will be changed back to “**active**” so that the Vendor may continue the investigation and resolve the failure as needed. Any time the failure is in the “**active**” status it will be considered towards the SLA compliance calculations.

11.4.9 Escalation Process for Operational Failures

The Vendor shall provide an escalation process for resolving issues. The proposed escalation process is required to be submitted to the Tristate for approval. In the event of a failure, based on the escalation process, the Vendor may be required to make up to four (4) distinct manual contacts to the Tristate. The Tristate will provide the Vendor with the phone call contact list for this purpose and may update the contact list at any time.

11.4.10 Outstanding Documentation

Outstanding documentation (deliverables) for services covered during the invoice period shall be provided in advance of the invoice. If any documentation (After Action Reports, Performance Measure Reports, Preventative Maintenance Status Reports, etc.) remain outstanding, the invoice will be held until they are provided.

11.4.11 Failures Beyond Vendor Control

Should the Vendor identify damage or failures they believe are beyond their control (e.g., network issues, intentional vandalism, unanticipated events, etc.), it is the Vendor’s responsibility to provide ample evidence (photos, site reports, logs, etc.) which clearly demonstrates that the cause of the failure was beyond their control. Any such evidence shall



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be submitted to the Tristate when the Vendor determined the source of the failure. Once an issue has been identified as beyond their control, the Vendor must continue to work diligently with any third parties to resolve any ongoing issues efficiently. The final determination of responsibility shall be at the sole discretion of the Tristate. If the Tristate accepts the justification provided of failure beyond Vendor control, the duration of that failure shall not be counted in the SLA calculations. If the Tristate do not accept the justification provided, all costs incurred by the Vendor shall be considered incidental and assumed to be included in the contract bid price for Operations and Maintenance bid item.

11.4.12 Ongoing Maintenance

The Vendor shall provide error correction services, security server and application code release patches of third-party software and Vendor software, maintenance of the IT infrastructure, server and database to keep the ATMS running in accordance with system requirements, and service patches for third party software as needed to maintain current configurations.

Preventative maintenance is key to keeping the ATMS full operation.

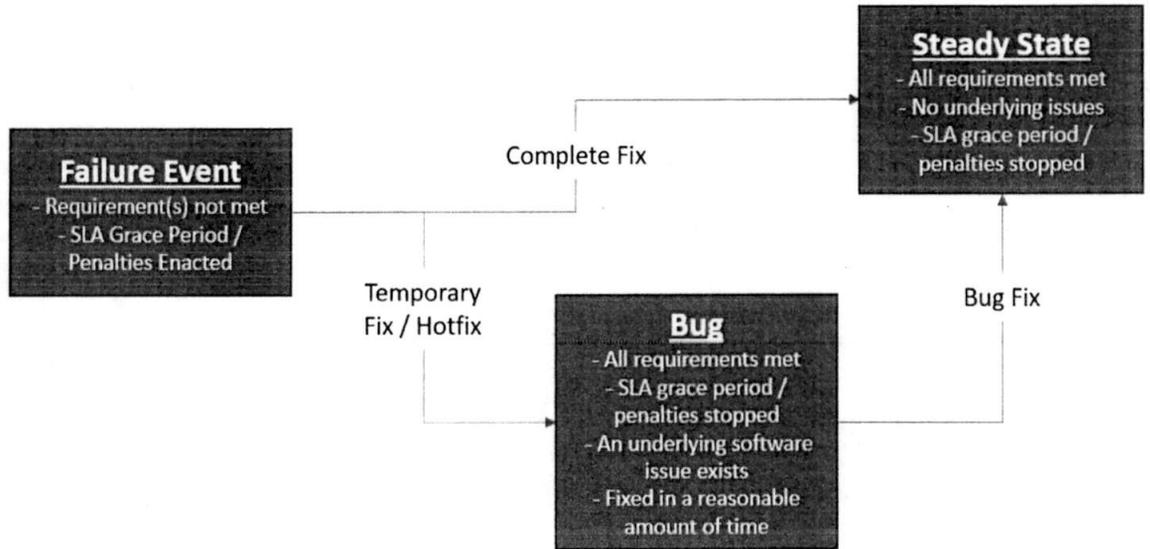
Bugs shall not be classified as failures by the SLA, but the expectation shall be that they are fixed in a reasonable amount of time.

Some failures of the system might recur due to an underlying software bug. The vendor will resolve the failure to restore system operation as described earlier while the software change for the bug may come later once the software change has been developed and properly tested. If the Vendor identifies a failure that has been resolved but may recur due to such an underlying software bug, the Vendor will communicate this to the Tristate along with an estimate of how frequently the failure can be expected to recur as well as when the Tristate should expect a software fix to deploy based on current priorities. As development of the bug proceeds, the Vendor will update the Tristate with any changes in these timeframes. If the bug is not fixed within the scheduled period of time, this issue may be escalated through the Contract escalation process. Bug correction shall be covered by the 4-week O&M fee. The below diagram depicts a failure which may need a software change to prevent future recurrences.



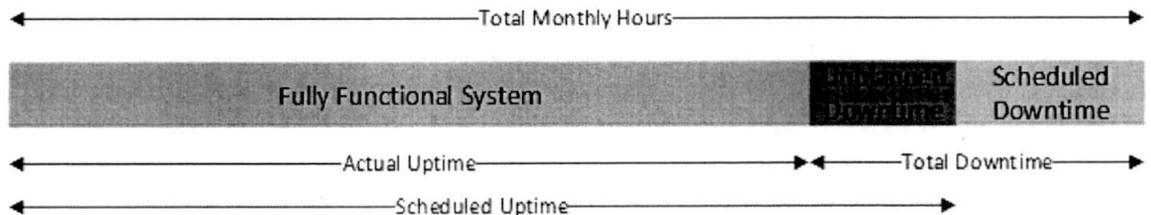
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Failure / Bug Resolution Process



11.4.13 System Uptime Calculation

For the purposes for SLA reporting, system availability metrics are measured on a monthly basis in which total hours in the month equals 24 hours times the number of calendar days in a one-month time frame (between 28 and 31 days, inclusive). The system uptime metric must reset at the beginning of every month and may be used by the Tristate to aid in determining system performance. This calculation is for informational purposes and does not directly affect SLA invoice penalties. Uptime and downtime metrics and are illustrated in the diagram below.



Total Downtime is the cumulative amount of Scheduled Downtime and Unplanned Downtime in a month, without double counting any overlapping periods of time. Actual Uptime is the number of hours in a month when all aspects of the ATMS are functioning properly and are available. This is equal to the total hours in a month minus the Total Downtime.

Scheduled Uptime is the total hours in a month minus the Scheduled Downtime.

System Availability is the percentage of the Actual Uptime compared to the Scheduled Uptime calculated as:

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System Availability = Actual Uptime / Scheduled Uptime.

Scheduled Downtime is a mutually agreed upon time, in hours, when the system is scheduled for maintenance, upgrades, migrations, etc. The Vendor will request any scheduled downtime in advance, subject to the approval of the Tristate. Scheduled Downtime also includes outages defined as “Failures Beyond System Operator Control” (i.e., force majeure, outages out of the Vendor’s sphere of control) and will not be charged as unplanned downtime for this performance metric. Every downtime event is to be recorded in the problem tracking system, however, outages identified as “Failures Beyond System Operator Control” must be used to reduce the total available hours for the month (Actual Uptime).

Unplanned Downtime, for purposes of this SLA, shall be considered as each instance of unplanned periods of time when the ATMS (software, any device, or other related component) is unavailable, due to errors under the Vendor’s control and supervision. The failure of any device or software which degrades any portion of the ATMS shall constitute Unplanned Downtime. Examples of system degradation include failure to ingest live traffic data, failure to relay information of the public, failure to provide data to third party sources, etc.

11.4.14 SLA Examples

The following examples are provided to illustrate how SLA will be implemented during the contract.

11.4.14.1 Scenario 1 – Dynamic Message Sign Driver Stop Responding

The Vendor receives an automated alert at 8:00 PM indicating that the dynamic message sign driver has encountered an error causing the loss of ability to control three dynamic message signs systemwide. The Vendor determines it to be a “**moderate**” failure and communicates with the Tristate. The Vendor commences work on restoring functionality to the driver at 7:00 AM the next day and returns the module to operation by 10:00 AM. The total time out of service was 8:00 PM – 10:00 AM for a total of fourteen hours. This exceeds the 12-hour grace period, so as a result, this month the Vendor will reduce their invoice by 1%, comprised of two hours beyond the grace period multiplied by the 0.5% per hour late penalty for “**moderate**” failures.

11.4.14.2 Scenario 2 – Loss of Reporting Functionality

The Vendor is notified by the Tristate at 11:00 AM that historical volume data reporting functionality is currently disabled. The Vendor determines it to be a “**minor**” failure and communicates with the Tristate. The Vendor restores proper functionality at 9:00 AM the next day. The total time out of service was 11:00 AM – 9:00 AM for a total of twenty-two (22) hours. This is less than the 24-hour grace period for minor failures, so there is no deduction for this event.



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11.4.14.3 Scenario 3 – TomTom Data Link Problems

The Vendor is notified by the Tristate at 7:00 AM that the TomTom data link to the ATMS is malfunctioning. The Vendor determines it to be an “external” failure related to TomTom and not the ATMS connection. The Vendor communicates with the Tristate. The Tristate informs TomTom, who restores the connection to full capacity the following day at 3:00 PM. The Tristate requests documentation of the failure and it is submitted by the vendor in the after action report.

11.4.14.4 Scenario 4 – Developer Feed is Down

The Vendor receives an automated alert at 5:00 PM indicating that the Developer Feed is down. As this failure effects the entire system, the Vendor determines it to be a “critical” failure. The Vendor begins working on the issue immediately. Three hours later, the ATMS is restarted and it returns to normal operation. The total time out of service was 5:00 PM – 8:00 PM (3 hours), which is less than the 4-hour grace period. There will be no deduction for this failure. The Vendor and the Tristate communicate and decide that an ATMS software update is necessary due to a bug in the software to prevent the failure from reoccurring and is scheduled to be fixed and deployed in the next release. The Vendor continues to monitor and resolve the issue as it occurs until the update is deployed. The next day, the Vendor receives an automated alert at 1:00 PM indicating that the Developer Feed is down again. As this failure effects the entire system, the Vendor determines it to be a “critical” failure. The Vendor begins working on the issue immediately to resolve the issue. Two hours later, the ATMS is restarted and returns to normal operation. The total time out of service was 1:00 PM – 3:00 PM (2 hours), which is less than the 4-hour grace period. There will be no deduction for this failure.

11.4.14.5 Scenario 5 – Vendor Failure to Provide After Action Reports

For one month, the Vendor maintained a 100% uptime for the month, completing all repairs within the grace periods. However, they failed to provide the after-action reports documenting the repairs within the designated window. The Tristate will hold this invoice and not process it until all outstanding reports have been provided.

12 CONTRACT WARRANTIES AND REPRESENTATIONS

12.1 System

The Contractor warrants that any Systems provided under this Agreement will operate and conform to the Specifications, terms, and requirements of this Agreement.

12.2 Software

The Contractor warrants that any Software provided as part of this Agreement, including but not limited to the individual modules or functions furnished under the Contract, is



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properly functioning within the System, compliant with the requirements of the Contract, and will operate in accordance with the Specifications and terms of the Contract.

The Contractor warrants that they have the rights to use any third party software they use and shall provide proof upon request to the State that all such software can be used without encumbrance. If the Contractor is missing such rights for any of their third party software, the Contractor shall provide the State with indefinite licensing agreements to use, modify, or otherwise enhance such software.

For any breach of the above Software warranty, in addition to all its other remedies at law and in equity, at the State's option the Contractor shall: (a) provide the correction of program errors that cause breach of the warranty, or if Contractor cannot substantially correct such breach in a commercially reasonable manner, the State may end its program license if any and recover the fees paid to Contractor for the program license and any unused, prepaid technical support fees the State has paid for the program license; or (b) the re-performance of the deficient Services, or (c) if Contractor cannot substantially correct a breach in a commercially reasonable manner, the State may end the relevant Services and recover the fees paid to Contractor for the deficient Services.

12.3 Compatibility

Contractor warrants that all System components, including but not limited to the components provided, any replacement or upgraded System Software components provided by Contractor to correct Deficiencies or as an Enhancement, shall operate with the rest of the System without loss of any functionality.

12.4 Services

Contractor warrants that all Services to be provided under this Agreement will be provided expediently, in a professional manner, in accordance with industry standards and that Services will comply with performance standards, Specifications, and terms of the Contract.

13 DATA PROTECTION

Protection of personal privacy and data shall be an integral part of the business activities of the Contractor to ensure there is no inappropriate or unauthorized use of State information at any time. To this end, the Contractor shall safeguard the confidentiality, integrity and availability of State information and comply with the following conditions:

- The Contractor shall implement and maintain appropriate administrative, technical and organizational security measures to safeguard against unauthorized access, disclosure or theft of Personal Data and non-public information. Such security measures shall be in accordance with recognized industry practice and not less stringent than the measures the Contractor applies to its own Personal Data and non-public data of similar kind.
- All data obtained by the Contractor in the performance of this contract and all Personal Data shall be encrypted at rest and in transit with controlled access. Unless otherwise stipulated, the Contractor is responsible for encryption of the Personal Data.



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- Unless otherwise stipulated, the Contractor shall encrypt all non-public data at rest and in transit. The State shall identify data it deems as non-public data to the Contractor. The level of protection and encryption for all non-public data shall be identified and made a part of this contract.
- At no time shall any data or processes – that either belong to or are intended for the use of the State or its officers, agents or employees – be copied, disclosed or retained by the Contractor or any party related to the Contractor for subsequent use in any transaction that does not include the State.
- The Contractor shall not use any information collected in connection with the service issued from this Contract for any purpose other than fulfilling the service.

13.1 Data Location

The Contractor shall provide its Services to the State and its end users solely from data centers within the Continental United States. All storage, processing and transmission of State data shall be restricted to information technology systems within the Continental United States. The Contractor shall not allow its personnel or sub-contractors to store State data on portable devices, including personal computers, except as specified and allowed by the contract, and then only on devices that are used and kept at its data centers within the Continental United States. The Contractor shall permit its personnel and Contractors to access State data remotely only to provide technical support and as specified or required by the contract.

13.2 Security Incident or Data Breach

The Contractor shall inform the State of any security incident or Data Breach in accordance with NH RSA Chapter 359-C:20: Notice of Security Breach.

- Incident Response: the Contractor may need to communicate with outside parties regarding a security incident, which may include contacting law enforcement, fielding media inquiries and seeking external expertise as mutually agreed upon, defined by law or contained in the Contract. Discussing security incidents with the State should be handled on an urgent as-needed basis, as part of the Contractor communication and mitigation processes as mutually agreed upon, defined by law or contained in the contract.
- Security Incident Reporting Requirements: the Contractor shall report a security incident to the State identified contact immediately if it reasonably believes there has been a security incident.
- Breach Reporting Requirements: If the Contractor has actual knowledge of a confirmed data breach that affects the security of any State content that is subject to applicable data breach notification law, the Contractor shall (1) promptly notify the appropriate State identified contact within 24 hours or sooner, unless shorter time is required by applicable law, and (2) take commercially reasonable measures to address the data breach in a timely manner.



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13.3 Breach Responsibilities

13.3.1 This section only applies when a Data Breach occurs with respect to State data within the possession or control of the Contractor and/or the third party designee hosting the data as agreed upon by the Contractor and the State.

13.3.2 The Contractor, unless stipulated otherwise, shall immediately notify the appropriate State identified contact by telephone in accordance with the agreed upon security plan or security procedures if it reasonably believes there has been a security incident.

13.3.3 The Contractor, unless stipulated otherwise, shall promptly notify the appropriate State identified contact within 24 hours or sooner by telephone, unless shorter time is required by applicable law, if it confirms that there is, or reasonably believes that there has been a Data Breach the Contractor shall:

- cooperate with the State as reasonably requested by the State to investigate and resolve the Data Breach;
- promptly implement necessary remedial measures, if necessary; and
- document responsive actions taken related to the Data Breach, including any post-incident review of events and actions taken to make changes in business practices in providing the services, if necessary.

13.3.4 Unless otherwise stipulated, if a Data Breach is a direct result of the Contractor's breach of its contract obligation or the third party hosting company to encrypt Personal Data or otherwise prevent its release, the Contractor and/or the third party hosting company shall bear the costs associated with:

- the investigation and resolution of the Data Breach;
- notifications to individuals, regulators or others required by State law;
- a credit monitoring service required by State (or federal) law;
- a website or a toll-free number and call center for affected individuals required by State law — all not to exceed the average per record per person cost calculated for Data Breaches in the United States (currently \$201 per record/person) in the most recent Cost of Data Breach Study: Global Analysis published by the Ponemon Institute at the time of the Data Breach; and
- complete all corrective actions as reasonably determined by the Contractor based on root cause; all [(a) through (e)] subject to this Contract's limitation of liability.

14 SOFTWARE AGREEMENT

The Contractor shall provide the State with access to the Software Licenses and Documentation set forth in the Contract, and particularly described Exhibit D: Software Agreement.



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15 ADMINISTRATIVE SERVICES

The Contract shall provide the State with the Administrative Services set forth in the Contract, and particularly described in Exhibit E: Administrative Services

16 TRAINING

The Contractor shall provide the following Training Services:
SwRI will provide training to Tristate for specific user needs including general operations, system administration, and project management.

The following training and tools will be provided on an as-needed basis:

Recorded Training Videos —Video recordings providing ongoing training for general operations and system administration.

17 MERCHANT CARD SERVICES

Not Required

18 TERMS AND DEFINITIONS

Terms and Definitions applicable to this Contract are identified in Exhibit F: Terms and Definitions.

19 CONTRACTOR'S CERTIFICATES

Required Contractor Certificates are attached in Exhibit G.

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EXHIBIT C – PRICE AND PAYMENT SCHEDULE

EXHIBIT C – PRICE AND PAYMENT SCHEDULE

The terms outlined in the Payment Schedule is set forth below:

20 CONTRACT PRICE

Notwithstanding any provision in the Contract to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments made by the State exceed the amount indicated in P-37 General Provisions - Block 1.8: Price Limitation. The payment by the State of the total Contract price shall be the only, and the complete reimbursement to the Contractor for all fees and expenses, of whatever nature, incurred by the Contractor in the performance hereof.

The contract limit for payment (Price Limitation 1.8) for the performance of this Contract that is to be paid to the Contractor is \$10,129,071.94. The Price Limitation reflects the contract price of \$9,629,071.94 for the performance of this Contract and includes \$500,000.00 contingency for unforeseen system modifications. Said contingency will only be used at the State's discretion. The Contractor is not entitled to contingency amounts and understands and agrees that the release of contingency amounts is subject to the discretion of NHDOT and will be completed through a Change Order.

21 TRAVEL EXPENSES

The State will not be responsible for any travel or out of pocket expenses incurred in the performance of the Services performed under this Contract. The Contractor must assume all travel and related expenses incurred by Contractor in performance of its obligations. All labor rates in this Agreement will be considered "Fully Loaded", including, but not limited to: meals, hotel/housing, airfare, car rentals, car mileage, and any additional out of pocket expenses.

22 SHIPPING FEES

The State will not pay for any shipping or delivery fees unless specifically itemized in this Agreement.

23 INVOICING

The Contractor shall submit correct invoices to the State for all amounts to be paid by the State. All invoices submitted shall be subject to the State's prior written approval, which shall not be unreasonably withheld. The Contractor shall only submit invoices for Services or Deliverables as permitted by the Contract. Invoices must be in a format as determined by the State and contain detailed information, including without limitation: itemization of each Deliverable and identification of the Deliverable for which payment is sought, and the Acceptance date triggering such payment; date of delivery and/or installation; monthly maintenance charges; any other Project costs or retention amounts if applicable.

Upon Acceptance of a Deliverable, and a properly documented and undisputed invoice, the State will pay the correct and undisputed invoice within thirty (30) days of invoice receipt. Invoices will not be backdated and shall be promptly dispatched.

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EXHIBIT C – PRICE AND PAYMENT SCHEDULE

24 INVOICE ADDRESS

Invoices may be sent to:

New Hampshire Department of Transportation
Susan M. Klasen, PE
PO Box 483
Concord, NH 03301-0483

25 PAYMENT ADDRESS

Payments shall be made via ACH. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury/state-vendors/index.htm>

26 OVERPAYMENTS TO THE CONTRACTOR

The Contractor shall promptly, but no later than thirty (30) business days, return to the State the full amount of any overpayment or erroneous payment upon discovery or notice from the State.

27 CREDITS

The State may apply credits due to the State arising out of this Contract, against the Contractor's invoices with appropriate information attached.

28 PROJECT HOLDBACK

Not applicable for this contract.

29 PAYMENT SCHEDULE

29.1 Contract Type

This is a Fixed Firm Price Contract. The total Contract value is indicated in P-37 General Provisions - Block 1.8: Price Limitation for the period between the Effective Date through date indicated in P-37 General Provisions - Block 1.7: Completion Date. The Contractor shall be responsible for performing its obligations in accordance with the Contract. This Contract will allow the Contractor to invoice the State for the activities outlined in Exhibit B Section 3.

29.1.1 Activities / Deliverables / Milestones Pricing

Development payment will be paid as outlined in Section 3 Activity, Deliverable and Milestone section.

29.1.2 Hardware Pricing

Not Applicable



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29.1.3 Software Operations, Maintenance and Support Pricing

Below are the yearly values for software operations, maintenance, and support. These are to be paid as invoiced by SWRI in 4-week intervals. The yearly totals shall not exceed as outlined below. This takes effect at NTP (Phase 0).

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Total	\$657,448.93	\$757,290.87	\$787,290.87	\$787,290.87
Average 4-week	\$50,572.99	\$58,253.14	\$60,560.84	\$60,560.84
Includes: TIS subcontractor, hosting, 24x7x365 support, server maintenance				

29.1.4 Other Cost Pricing

Below are the yearly values for other costs relative to this Contract. These are to be paid as invoiced by SWRI in 4-week intervals. The yearly totals shall not exceed as outlined below.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
Other	\$181,513.35	\$63,266.82	\$70,466.82	\$70,466.82
TomTom (NH Only)	\$115,000.00	\$115,000.00	\$115,000.00	\$115,000.00
BlueToad (Vtrans only using T&M with cap table 29.1.5)	\$250,000.00	\$0.00	\$0.00	\$0.00
Total	\$546,513.35	\$178,266.82	\$185,466.82	\$185,466.82
Average 4-week	\$42,039.49	\$13,712.83	\$14,266.68	\$14,266.68

29.1.5 Contractor Staff, Resource Hours and Rates Worksheet

These tables represent rates to be used during the Contract Initial term.

Enhancement Rates (T and M with cap)				
	Year 1 Rate	Year 2 Rate	Year 3 Rate	Year 4 Rate
Professional Level 4	\$451.55	\$470.55	\$481.58	\$493.88
Professional Level 3	\$324.08	\$337.70	\$345.64	\$354.49
Professional Level 2	\$220.07	\$229.32	\$234.69	\$240.70
Professional Level 1	\$166.98	\$174.01	\$178.11	\$182.64
Senior Technician	\$117.01	\$121.93	\$124.79	\$127.99
Clerical	\$95.69	\$100.09	\$102.44	\$104.77

Phase V Transition (T and M with cap)	
	Rate
Professional Level 4	\$493.88

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EXHIBIT C – PRICE AND PAYMENT SCHEDULE

Professional Level 3	\$354.49
Professional Level 2	\$240.70
Professional Level 1	\$182.64
Senior Technician	\$127.99
Clerical	\$104.77

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EXHIBIT D – SOFTWARE AGREEMENT

EXHIBIT D – SOFTWARE AGREEMENT

The terms outlined in the Software Agreement are set forth for each state independently. They are attached to this Contract as Attachments 2, 3, and 4.

The Contract and Technical contacts for each party is as stated below and supersedes the contact in the software agreement. This is to remove specific persons name and include title only.

ME DOT: Assistant Traffic Engineer

VTRANS: TMC Manager

NHDOT: TSMO Administrator

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EXHIBIT E – ADMINSTRATIVE SERVICES

EXHIBIT E – ADMINISTRATIVE SERVICES

E.1 DISPUTE RESOLUTION

Prior to the filing of any formal proceedings with respect to a dispute (other than an action seeking injunctive relief with respect to intellectual property rights or Confidential Information), the Party believing itself aggrieved (the “Invoking Party”) shall call for progressive management involvement in the dispute negotiation by written notice to the other Party. Such notice shall be without prejudice to the Invoking Party’s right to any other remedy permitted under the Contract.

The Parties shall use reasonable efforts to arrange personal meetings and/or telephone conferences as needed, at mutually convenient times and places, between negotiators for the Parties at the following successive management levels, each of which shall have a period of allotted time as specified below in which to attempt to resolve the dispute:

Table E-1.			
DISPUTE RESOLUTION RESPONSIBILITY AND SCHEDULE TABLE			
LEVEL	CONTRACTOR POINT OF CONTACT	STATE POINT OF CONTACT	CUMULATIVE ALLOTTED TIME
Primary	Project Manager	Contract Manager	Ten (10) Business Days
First	Assistant Director CSD	Director of Operations	Ten (10) Business Days
Second	Director CSD	Assistant Commissioner	Ten (10) Business Days
Third	Division Vice President	Commissioner	Ten (10) Business Days

The allotted time for the first level negotiations shall begin on the date the Invoking Party’s notice is received by the other Party. Subsequent allotted time is days from the date that the original Invoking Party’s notice is received by the other Party.

E.2 ACCESS AND COOPERATION

Subject to the terms of this Agreement and applicable laws, regulations, and policies, the State will provide the Contractor with access to all program files, libraries, personal computer-based Systems, Software packages, Network Systems, security Systems, and hardware as required to complete the contracted Services.

E.3 RECORD RETENTION

Contractor and its Subcontractors shall maintain all Project records including but not limited to books, records, documents, and other evidence of accounting procedures and practices, which properly and sufficiently reflect all direct and indirect costs invoiced in the performance of their respective obligations under the Contract. Contractor and its Subcontractors shall retain all such



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records for three (3) years following termination of the Contract, including any extensions. Records relating to any litigation matters regarding the Contract shall be kept for one (1) year following the termination of all litigation, including the termination of all appeals or the expiration of the appeal period.

Upon prior notice and subject to reasonable time frames, all such records shall be subject to inspection, examination, audit and copying by personnel so authorized by the State and federal officials so authorized by law, rule, regulation or Contract, as applicable. Access to these items shall be provided within Merrimack County of the State of New Hampshire, unless otherwise agreed by the State. Delivery of and access to such records shall be at no cost to the State during the three (3) year period following termination of the Contract and one (1) year Term following litigation relating to the Contract, including all appeals or the expiration of the appeal period. Contractor shall include the record retention and Review requirements of this section in any of its subcontracts.

E.4 ACCOUNTING

Contractor shall maintain an accounting System in accordance with Generally Accepted Accounting Principles (GAAP). The costs applicable to the Contract shall be ascertainable from the accounting System.

E.5 AUDIT

The Contractor shall allow the State to audit conformance to the contract terms. The State may perform this audit or contract with a third party at its discretion and at the State's expense.

E.6 MISCELLANEOUS WORK REQUIREMENTS

E.6.1 Access to State Systems

In consideration for receiving access to and use of the computer facilities, network, licensed or developed software, software maintained or operated by any of the State entities, systems, equipment, Documentation, information, reports, or data of any kind (hereinafter "Information"), Contractor understands and agrees to the following rules:

E.6.1.1 Computer Use

- a. Every Authorized User has the responsibility to assure the protection of information from unauthorized access, misuse, theft, damage, destruction, modification, or disclosure.
- b. That information shall be used solely for conducting official State business, and all other use or access is strictly forbidden including, but not limited to, personal, or other private and non-State use and that at no time shall Contractor access or attempt to access any information without having the express authority to do so.
- c. That at no time shall Contractor access or attempt to access any information in a manner inconsistent with the approved policies, procedures, and /or agreements relating to system entry/access.

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- d. That all software licensed, developed, or being evaluated by the State cannot be copied, shared, distributed, sub-licensed, modified, reverse engineered, rented, or sold, and that at all times Contractor must use utmost care to protect and keep such software strictly confidential in accordance with the license or any other agreement executed by the State. Only equipment or software owned, licensed, or being evaluated by the State, can be used by Contractor Personal software (including but not limited to palmtop sync software) shall not be installed on any equipment.
- e. That if Contractor is found to be in violation of any of the above-stated rules, the Contractor may face default and termination under the Agreement and the individual may face removal from the State Contract, and/or criminal or civil prosecution, if the act constitutes a violation of law.
- f. That computer use shall follow the State standard policy (Statewide Computer Use Policy is available upon request)

E.6.1.2 Email Use

Email and other electronic communication messaging systems are State of New Hampshire property and are to be used for business purposes only. Email is defined as “internal email systems” or “State-funded email systems.” Contractor understands and agrees that use of email shall follow State standard policy (Statewide Computer Use Policy is available upon request).

E.6.1.3 Internet/Intranet Use

The Internet/Intranet is to be used for access to and distribution of information in direct support of the business of the State of New Hampshire according to State standard policy (Statewide Computer Use Policy is available upon request).

E.6.2 State Website Copyright

All right, title and interest in the State WWW site, including copyright to all Data and information, shall remain with the State. The State shall also retain all right, title and interest in any user interfaces and computer instructions embedded within the WWW pages. All WWW pages and any other Data or information shall, where applicable, display the State's copyright.

E.6.3 Workspace Requirement

Not Applicable

E.6.4 Workplace Hours

Not Applicable

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EXHIBIT F – TERMS AND DEFINITIONS

EXHIBIT F – TERMS AND DEFINITIONS

The following general contracting terms and definitions apply except as specifically noted elsewhere in this Contract.

TERM	DEFINITION
Acceptance	Notice from the State that a Deliverable has satisfied Acceptance Test or Review.
Agreement	A Contract duly executed and legally binding.
Burn In	The conditions under, and period during, which the Contractor will repair, replace, or other compensate for, the defective system without cost to the buyer or user. It also delineates the rights and obligations of both parties in case of a claim or dispute.
Burn In Period	A period of coverage during which the Contractor is responsible for providing a guarantee for products and Services delivered as defined in the Contract.
Confidential Information	<p>Information required to be kept Confidential and restricted from unauthorized disclosure under the Contract. "Confidential Information" or "Confidential Data" means all private/restricted confidential information disclosed by one party to the other such as all medical, health, financial, public assistance benefits and personal information including without limitation, Protected Health Information and Personally Identifiable Information.</p> <p>Confidential Information also includes any and all information owned or managed by the State of NH - created, received from or on behalf of any state agency or accessed in the course of performing contracted services - of which collection, disclosure, protection, and disposition is governed by state or federal law or regulation. This information includes, but is not limited to Personal Health Information (PHI), Personally Identifiable Information (PII), Federal Tax Information (FTI), Social Security Numbers (SSN), Payment Card Industry (PCI), and or other sensitive and confidential information.</p>
Contract	An Agreement between the State of New Hampshire and a Vendor, which creates binding obligations for each party to perform as specified in the Contract Documents.



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Data Breach	Data Breach means the loss of control, compromise, unauthorized disclosure, unauthorized acquisition, unauthorized access, or any similar term referring to situations where persons other than authorized users and for an other than authorized purpose have access or potential access to personally identifiable information, whether physical or electronic. With regard to Protected Health Information, “Data Breach” shall have the same meaning as the term “Breach” in section 164.402 of Title 45, Code of Federal Regulations.
Deficiency (-ies)/Defects	A failure, shortcoming or error in a Deliverable resulting in a Deliverable, the Software, or the System, not conforming to its Specifications.
Deliverable	A Deliverable is any Written, Software, or Non-Software Deliverable (letter, report, manual, book, code, or other), provided by the Contractor to the State or under the terms of a Contract requirement.
Documentation	All information that describes the installation, operation, and use of the Software, either in printed or electronic format.
Enhancements	Updates, additions, modifications to, and new releases for the Software or System, and all changes to the Documentation as a result of improvement in quality, value, or extent.
Hosted Services	Applications, IT infrastructure components or functions that organizations access from external service providers, typically through an internet connection.
Hosting System	The combination of hardware, software and networking components used by the Application Service Provider to deliver the Hosted Services.
Identification and Authentication	Supports obtaining information about those parties attempting to log on to a system or application for security purposes and the validation of those users.
Implementation	The process for making the System fully Operational for processing the Data.
Non-Public Information	Information, other than Personal Information, that is not subject to distribution to the public as public information. It is deemed to be sensitive and confidential by the State because it contains information that is exempt by statute, ordinance or administrative rule from access by the general public as public information.

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EXHIBIT F – TERMS AND DEFINITIONS

Operational	Operational means that the System is ready for use and fully functional, all Data has been loaded; the System is available for use by the State in its daily operations, and the State has issued Acceptance.
Personal Information	“Personally Information” (or “PI”) means information which can be used to distinguish or trace an individual’s identity, such as their name, social security number, personal information as defined in New Hampshire RSA 359-C:19, biometric records, etc., alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, mother’s maiden name, etc.
Proposal	The submission from a Vendor in response to the Request for a Proposal.
Security Incident	“Security Incident” shall have the same meaning “Computer Security Incident” in section two (2) of NIST Publication 800-61, Computer Security Incident Handling Guide, National Institute of Standards and Technology, U.S. Department of Commerce.
Software	All Custom, SAAS and COTS computer programs and applications provided by the Contractor under the Contract.
Software Deliverables	All Custom, SAAS and COTS Software and Enhancements.
Software License	Licenses provided to the State under this Contract.
Software-as-a-Service (SaaS)	The capability provided to the State to use the Contractor’s applications running on a cloud infrastructure. The applications are accessible from various client devices through a thin-client interface such as a Web browser (e.g., Web-based email) or a program interface. The State does not manage or control the underlying cloud infrastructure including network, servers, Operating Systems, storage or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.



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Specifications	Written details that set forth the requirements which include, without limitation, the RFP, the Proposal, the Contract, any performance standards, Documentation, applicable State and federal policies, laws and regulations, State technical standards, subsequent State-approved Deliverables, and other specifications and requirements described in the Contract Documents. The Specifications are, by this reference, made a part of the Contract as though completely set forth herein.
State Data	All Data created or in any way originating with the State, and all Data that is the output of computer processing of or other electronic manipulation of any Data that was created by or in any way originated with the State, whether such Data or output is stored on the State's hardware, the Contractor's hardware or exists in any system owned, maintained or otherwise controlled by the State or by the Contractor.
State Fiscal Year (SFY)	The New Hampshire State Fiscal Year (SFY) runs from July 1 of the preceding calendar year through June 30 of the applicable calendar year.
Subcontractor	A person, partnership, or company not in the employment of, or owned by, the Contractor which is performing Services under this Contract under a separate Contract with or on behalf of the Contractor.
System	All Software, specified hardware, interfaces and extensions, integrated and functioning together in accordance with the Specifications.
Term	Period of the Contract from the Effective Date through the Completion Date identified in the P-37 General Provisions or termination.
Verification	Supports the confirmation of authority to enter a computer system application or network.

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EXHIBIT G – AGENCY ATTACHMENTS AND CONTRACTOR CERTIFICATES

EXHIBIT G – AGENCY ATTACHMENTS AND CONTRACTOR CERTIFICATES

1. AGENCY ATTACHMENTS

- a. Exhibit G Business and Technical Requirements Spreadsheet – Attachment 1
- b. Software Sublicense Agreement- Vermont- Attachment 2
- c. Software Sublicense Agreement- Maine- Attachment 3
- d. Software Sublicense Agreement – New Hampshire – Attachment 4
- e. Agency Compliance Documents – Attachment 5 and Attachment 6
- f. Compass Existing Baseline Requirements -Attachment 7

2. CONTRACTOR CERTIFICATES

- a. Contractor's Certificate of Good Standing
- b. Contractor's Certificate of Vote/Authority
- c. Contractor's Certificate of Insurance

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State of New Hampshire

Department of State

CERTIFICATE

I, William M. Gardner, Secretary of State of the State of New Hampshire, do hereby certify that SOUTHWEST RESEARCH INSTITUTE is a Texas Nonprofit Corporation registered to transact business in New Hampshire on January 31, 2013. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: **686610**

Certificate Number: **0005744744**



IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 1st day of April A.D. 2022.

A handwritten signature in black ink, appearing to read "William M. Gardner".

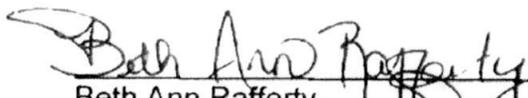
William M. Gardner
Secretary of State

CERTIFICATE OF AUTHORITY/VOTE

I, Beth Ann Rafferty, CFO, Vice President - Finance and Secretary of Southwest Research Institute®, do hereby represent and certify as follows:

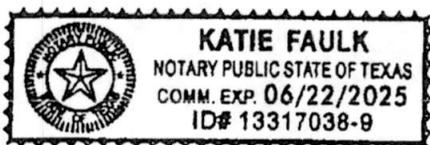
- 1) I am the qualified CFO, Vice President- Finance and Secretary of Southwest Research Institute, a duly organized and existing Texas nonprofit corporation (the "Corporation");
- 2) As Secretary of the Corporation, I maintain and am familiar with the Board of Directors meeting minutes and related Board of Directors resolutions of the Corporation;
- 3) In accordance with Resolution No. 2021-10, unanimously approved by the Board of Directors on September 27, 2021, W. Troy Nagy in his capacity as Director of Contracts and Heather M. Bates in her capacity as Assistant Director of Contracts are duly authorized to represent the Corporation in executing contracts, agreements and any amendment thereto on behalf of the Corporation; and
- 4) Such authorization remains in full force and effect and has not been repealed.

IN WITNESS WHEREOF, I have hereunto set my hand as the CFO, Vice President - Finance and Secretary of the Corporation and have affixed its corporate seal this 25th day of February 2022.


Beth Ann Rafferty
CFO, Vice President- Finance & Secretary

STATE OF TEXAS §
 §
COUNTY OF BEXAR §

The foregoing Certificate of Authority/Vote was acknowledged before me this 25th day of February 2022, by Beth Ann Rafferty, CFO, Vice President - Finance and Secretary of the Corporation known to me to be the person and officer whose name is subscribed to this instrument.



[NOTARY SEAL]


Katie E. Faulk, Notary Public
My Commission Expires: 06/22/2025

