State of Vermont

Independent Review
AOT Automated Testing System

Submitted to the
State of Vermont, Office of the CIO
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V2.0

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TABLE OF CONTENTS

Section **Page**

Version History	Explanation of Changes
V1.0	Initial release of draft version.
V2.0	Separated some risks and issues into individual items and recategorized. A second review with the DMV team was also conducted.

1.0 EXECUTIVE SUMMARY

This section provides a summary of the Independent Review.

The State of Vermont's (State) Department of Information and Innovation (DII) and Department of Motor Vehicles (DMV) engaged Berry Dunn McNeil & Parker, LLC (BerryDunn) to conduct an Independent Review of a proposed technology acquisition by the State from Solutions Thru Software International (STS) for the Driver License Automated Testing System. BerryDunn interviewed staff and management from the DII, the Department of Motor Vehicles (DMV), the Agency of Transportation (AOT), and STS. Additionally, DII and DMV staff provided BerryDunn with a number of relevant documents that were used to inform this review.

State of Vermont statute requires the DII to solicit an Independent Review for all information technology projects estimated to exceed $1,000,000, or at the discretion of the State office of the Chief Information Officer (CIO). In this case, the Independent Review examines a proposed contract with STS to provide a replacement system for driver license examinations in the State. The State CIO sought an independent assessment of this project with regards to proposed costs, the architecture of the solution, the vendor's proposed implementation plan, and the readiness of the State and the vendor to manifest and utilize the tools and services involved in this project. The primary objective of the Independent Review is to identify risks and issues that may impact the success of the scope of work added by the amendment.

The primary entities involved in this Independent Review include several stakeholders in the State such as the DMV, AOT, and the Enterprise Project Management Office (EPMO). In general, these stakeholders are referred to in this report collectively as "the State." The non-State entities involved in the interviews and data collection processes for this review are limited solely to STS.

The proposed contract with STS for a replacement driver license examination system is not estimated to result in a positive Return on Investment within the first year after execution, nor within a five-year cost project. This conclusion was reached by analyzing costs associated with the project and the tangible benefits reported to the Independent Review team by the DMV. Tangible benefits are defined as those in which there are quantifiable savings associated with the procurement. Although the cost and benefit analysis included in Appendix A shows no tangible benefits, the nature of this replacement project is such that quantifiable savings or increases in revenue are not considered specific project goals. Significant intangible benefits have also been identified, but inherently lack reasonable estimates of dollar values. It is important to note that the project does show an estimated decrease in net operating costs, as it will require less effort from business and technical staff at the DMV to maintain.

It is BerryDunn's opinion that the risks and issues identified as part of this review (see Section 1.2), if adequately managed and mitigated, do not pose enough concern to the State to warrant foregoing the execution of a contract with STS for the proposed solution, provided that a contract is drafted in accordance with standard protections and assurances for the State. For

many of the concerns identified during this review, the State has demonstrated that effective mitigation strategies have been identified.

1.1 Summary of Key Findings

Through a series of interviews with key State staff and STS, BerryDunn identified 18 key findings. A summary of these findings is listed in Table 1 below. Many of the findings resulted in the documentation of risks or issues. Appendix C and Appendix D list summaries of the risks and issues, respectively. The following definition of a finding is provided below.

Finding: A relevant fact discovered during the execution of this Independent Review that may lead to one or more Risks and/or Issues.

As BerryDunn conducted its on-site activities, we organized our meetings with the State and vendor into the four major areas of the IR process: Acquisition Cost Assessment, Technical Architecture, Implementation Plan, and Organizational Readiness. When we identified a finding that we felt was relevant, we documented it for later consideration in regards to the creation of Risks and Issues. Our raw findings have also been organized into the four major areas of the IR process:

Table 1 – Summary of Key Findings

Area Evaluated	Key Findings
Acquisition Cost	• The DMV has been awarded federal funds to finance a new automated testing system and those funds must be used by January 31, 2014. • The final cost for the Driver License Automated Testing System and STS services has not been resolutely determined or agreed to by STS and the DMV. • There are no quantifiable cost savings for the DMV in this acquisition, although a number of known benefits exist and are listed as intangibles in the cost benefit analysis in Appendix B. • There is no expectation of an increase or decrease in DMV employment needs with the proposed new solution. DMV staff have indicated that staff resource consumption would likely increase considerably due to technical support requirements should the legacy system remain in place. • The difference in anticipated revenues for the DMV that could be attributed to the replacement of the legacy environment with the proposed STS solution was not quantifiable at the time of this review.
Technical Architecture	• The administrative server for the existing Q-Matic driver license exam system no longer reliably exchanges data with the examiner consoles at the DMV branch offices, according to DMV staff. Branch offices deliver statistics on examinations to operations staff in Montpelier via email. • The hardware for the proposed solution with STS is not proprietary, and the State is considering purchasing some of the required hardware through existing contracts with other vendors. According to DMV staff, hardware acquisitions through existing contracts happen relatively quickly. The use of existing contracts also helps to keep hardware consistent across State

Area Evaluated	Key Findings
	systems, which simplifies administration and maintenance. • There are currently 40 to 45 Microsoft Access databases utilized in the administration of the DMV's business functions, according to operations staff. The technical requirements for the proposed STS system do not involve integration with any of these systems. • The State has not made a final determination as to whether the administrative server for the proposed STS system will be hosted by the vendor or by the State. The State has indicated that DII prefers that solutions such as these be hosted by the supplying vendor, provided that the hosting environment meets the specifications of DII. Therefore, interviewees have verbally indicated that it is their preference that the system be hosted by the vendor. This preference, however, has not been formally transmitted to the vendor and thus a final decision has not been made.
Implementation Plan	• A final implementation plan from the vendor does not currently exist, and the contract with STS is still under negotiation. However, in their proposal documents, which are now outdated, STS did provide a Gantt chart showing a possible three-month implementation scenario. During discussions, STS indicated that the scale of the implementation required in Vermont is very manageable for them, and installation and training for the Examiner solution could be conducted across all six DMV branch offices and two mobile units within one week. • A final training plan from the vendor does not currently exist. In their proposal documents, STS indicated that both training and training manuals would be provided after contracting. During conversations with the vendor, they indicated that training on the Examiner software and supporting hardware can typically be accomplished on the same day as installation, based on experiences with previous clients. • A formal data conversion plan is not specified as a deliverable in the proposal from STS. During conversations with the vendor, it was discussed that the conversion of test questions from the Q-Matic system is a fundamental component of the work they expect to do during the project, and that they have conducted similar conversions from Q-Matic with previous clients. • Although the vendor has indicated an ability to conduct a state-wide implementation of the Examiner solution within one week, the State has insisted that an implementation be conducted first in the Montpelier office, to be considered a pilot. Pending any concerns with the pilot, the remaining installations could be completed within the subsequent week according to the vendor. • The State-owned server for the legacy Q-Matic application has an incomplete data history, since it has unreliable contact with many or all of the regional examiner consoles. The conversion of this data into the new solution, while possible, is not considered necessary and not a planned part of the implementation of the replacement solution. The State fully expects to digitally transfer the question pool from the existing Access database on the administrative server.

Area Evaluated	Key Findings
Organizational Readiness	• The State plans to provide the first level of technical support to users with the proposed solution, as they do now with the legacy Q-Matic system. Should problems exceed the DMV staff's ability to resolve, they will plan on using STS as backup technical support. A license and maintenance agreement with STS was under review with the State Attorney General at the time of this review. • The STS project manager is proposed but not certain. Because of the uncertainty around when a contract will be executed with STS, there is no firm commitment to provide the proposed project manager. The proposed project manager has experience with implementations of the size and scope of the type envisioned by the DMV. • The level of effort for DMV staff during the implementation of the project is not provided in the technical response to the RFP. • The selected vendor, STS, is experienced with these solutions and has substantial presence in the motor vehicle testing industry. It appears well suited to provide the solution.

1.2 Summary of Key Risks and Issues

BerryDunn identified both Risks and Issues as a result of this Independent Review. The Project Management Institute (PMI) provides an important distinction between the two, and BerryDunn believes that this section must include a narrative regarding Issues in addition to Risks.

Risk: Uncertain events or conditions which, if they occur, have a negative effect on the project's objectives. Risks are events or conditions that may occur in the future.

Issue: An Issue is a situation which has occurred or will definitely occur, as opposed to a Risk which is a potential event.

1.2.1 Risk Summary

During BerryDunn's review of the proposed acquisition of a driver license automated testing system with STS, seven risks were identified. Recognizing that the State is still in negotiations on scope and cost with the vendor, and that a draft contract with STS was not yet available for review, the risks that were identified focused on areas of concern with the anticipated implementation of the new solution.

The first of these risks describes the possibility that the implementation timeframe for the new driver license automated testing system will extend beyond the January 2014 deadline for utilizing grant money available to the DMV through the Federal Motor Carrier Safety Administration. Although the State originally budgeted approximately $350,000 for this solution, there are adequate funds available to cover the entire product acquisition and implementation. The State has already been given several extensions on the deadline for making use of this grant money, and the consensus during interviews conducted as part of this review was that

another extension was unlikely. If costs related to the project cannot be paid for with federal grant money, this represents a missed opportunity for conservation of State funds.

The second risk describes potential impacts to project scope due to the fact that a statement of work or implementation plan have not been provided by the vendor, and is categorized has having a high probability with a moderate impact. Other risks identified described the possible impacts to the costs and timeline of the project from outstanding decisions on hardware sourcing, solution hosting, and language translation options. These risks were identified as either moderate or low impact, and moderate probability. Another risk was identified relative to the uncertainty around staff assignments at STS due to the fact that a contract has not been executed, which leaves open the possibility that individuals involved on the project from STS may change as the project advances. This risk is categorized as having moderate impact.

The final risk identified for the project describes staff concerns due to the fact that the current anticipated solution implementation will likely take place close to the end of year holiday season. The State has worked to ensure that a staffing plan, particularly for IT staff, has been arranged during this time, which should allow the vendor to be supported adequately.

The State has already begun to implement mitigation strategies for the risks BerryDunn identified during this review, reducing the potential impacts these risks may have. Partly as a result of this, no “high” impact risks were identified.

A summary table of the Risks can be found in Appendix C.

1.2.2 Issue Summary

During BerryDunn’s review of the proposed acquisition of a driver license automated testing system with STS, three issues were identified, two of which are categorized as “high” impact.

The first high impact issue describes the concern that several determinations about the scope and structure of the procurement have not been finalized by the State. These determinations involve the technical architecture of the solution, the scope of language interpretations, and the hardware sourcing plan. During the review, the DMV project team was in the process of finalizing many of these outstanding determinations, which is necessary to allow the State to establish a contract with the vendor.

The second high impact issue describes the fact that the cost of the contract with STS has not been finalized, and is related to a number of risks that describe outstanding decisions. These undetermined components of project scope preclude efforts to determine an accurate and final cost, and subsequently develop budgets and accurate financial expectations. The final risk identified was categorized as having a low impact, and describes the fact that documentation of the requirements for DMV staff time to support the vendor implementation were not part of the State’s original request for proposals.

A summary table of key Issues can be found in Appendix D.

2.0 OVERVIEW OF THIS DOCUMENT AND BACKGROUND

This section provides background information, approach, assumptions, and objectives of the independent review. This section describes the scope of the independent review to give readers appropriate context when reading the analysis and findings found in this report.

2.1 Scope of this Independent Review

In accordance with the Statement of Work (SOW) released on July 3, 2013, BerryDunn conducted an independent review of the proposed procurement of an automated testing system (ATS) for the Vermont Department of Motor Vehicles (DMV). It is the intent of the State that the following items be addressed through the SOW:

- After award, the review vendor (BerryDunn) arranges an introductory teleconference or in-person meeting.
- The State Enterprise Project Management Office (EPMO) assigns Project Manager to work with BerryDunn.
- After award to BerryDunn, the reviewer's staff schedules conference calls spanning approximately three days with the State offices in Vermont to collect information and interview stakeholders.
- BerryDunn also holds a conference call with the selected vendor if needed.
- BerryDunn will catalog risks that are identified and discuss strategies to mitigate risks identified.
- BerryDunn conducts other meetings and collects other information as necessary.
- BerryDunn will incorporate risks and mitigation strategies into a risk management plan.
- BerryDunn writes the Independent Review deliverable according to the Scope of Work, and delivers the draft document to the State EPMO.
- BerryDunn holds an on-site meeting with the State EPMO Director, Project Manager, DII Deputy Commissioner, Project Sponsors, and CIO to "close" the review and answer final questions.
- BerryDunn makes final adjustments to the deliverable, and submits the final Independent Review document(s).
- BerryDunn will work with sponsor on the mitigation of the risks and plan that are defined in the Independent Review.
- Project Manager follows up with the State's risk mitigation plans with the CIO and Sponsor to close process on open tasks and gains CIO approval to move forward on project.

- Contracts & Procurement Specialist will receive final report from Sponsor & Vendor on how they answered and managed the risks.

The scope of this document is fulfilling the requirements of Vermont Statute, Title 3, Chapter 45, §2222(g)(1):

> "The Secretary of Administration shall obtain independent expert review of any recommendation for any information technology activity initiated after July 1, 1996, as information technology activity is defined by subdivision (a)(10) of this section, when its total cost is $1,000,000 or greater. Documentation of such independent review shall be included when plans are submitted for review pursuant to subdivisions (a) (9) and (10) of this section. The independent review shall include:
>
> (1) an acquisition cost assessment;
>
> (2) a technology architecture review;
>
> (3) an implementation plan assessment;
>
> (4) a cost analysis and model for benefit analysis; and
>
> (5) a procurement negotiation advisory services contract."

A recent addition to the State's Independent Review process is the development of a Risk Management Plan. Previous Independent Reviews included the creation of a Risk Matrix, identifying risks and documenting the Independent Review Vendor's recommended approach to risk response. The new process takes this a step further, by requiring the Independent Review Vendor to collaborate with the impacted State agencies to develop a specific plan for addressing each of the identified risks in the Risk Matrix, resulting in a Risk Management Plan.

2.2 Review Approach

In conducting our Independent Review, the following activities were completed:

Table 2 – SOW Requirements and Activities Performed

SOW Requirement	Activity Performed	Date(s) Performed
The State notified BerryDunn of award of the Independent Review Project.	BerryDunn issued formal document request of DII Project Manager, John Quinn, and of DMV and AOT staff.	7/24/2013
After award, the review vendor sets up kick-off teleconference or can be in person within three days of award.	BerryDunn arranged and facilitated an introductory call with John Quinn, And Morse (AOT Contracts) Cherie Yaeger (DMV Support Services and ATS Project Manager),and Ryan McLaren (Principal Assistant to the Commissioner of DMV) to clarify the project timeline and scope of engagement.	7/25/2013

SOW Requirement	Activity Performed	Date(s) Performed
After award to review vendor, the reviewer's staff spends approximately three days on-site at the State offices in Vermont collecting information and interviewing stakeholders.	Interviews were scheduled for July 31 and August 1, 2013 at DMV headquarters in Montpelier: • Acquisition Cost Assessment, including discussion of the Net Operating Cost of the project on the DMV • Technical Architecture Review • Assessment of the Implementation Plan • Assessment of Organizational Readiness • Project Background and Impact • Separate interview with Cherie Yaeger, who was unavailable for on-site interviews, on 8/5/2013.	7/25/2013 and 8/5/2013
The reviewer holds a conference with the selected vendor if needed.	BerryDunn conducted a conference call with staff from Solutions Through Software: Darren Lukasiewich (General Manager), John van der Heiden (Operations Manager), and Kris Vold (Product Development Manager).	8/2/2013
BerryDunn will catalog risks that are identified and discuss strategies to mitigate risks identified.	BerryDunn cataloged risks in a Risk Matrix and issues in an Issues Log throughout the process of reviewing materials and interviewing key State and Solutions Through Software staff.	7/31/2013 – 8/23/3013
BerryDunn will incorporate risks and strategies to mitigate risks identified in a Risk Management Plan.	BerryDunn cataloged risks and issues in the Risks & Issues Management Plan, incorporated our recommendations regarding risk and issue responses, and collaborated with State staff to develop an action plan for each risk and issue in the Plan.	8/12/2013 – 8/23/2013
The review team writes the independent review deliverable according to the Scope of Work, and delivers the draft document to the State Enterprise Project Management Office (EPMO).	BerryDunn submitted a draft Independent Review Report, including the Risks & Issues Management Plan to the EPMO.	8/2/2013 – 8/30/2013
The reviewer holds an on-site meeting with the State EPMO Director, Project Mgr, DII Deputy Commissioner, Sponsors, and CIO to "close" the review and answer final questions.	BerryDunn is prepared to conduct this presentation of the DMV ATS Independent Review findings, including the Risks & Issues Management Plan to the State EPMO Director, DII Deputy Commissioner, and the State CIO.	9/6/2013

SOW Requirement	Activity Performed	Date(s) Performed
The reviewer makes final adjustments to the deliverable, and submits the final independent review document(s).	BerryDunn will incorporate recommended changes resulting in the meeting with the CIO's office into the Independent Review Report.	9/13/2013
Project Manager follows up with the State's risk mitigation plans with CIO and Sponsor to close process on open tasks and gets CIO approval to move forward on project.	The timing of this activity to be determined once the State Project Manager is identified and engaged.	TBD
The reviewer completes any procurement advisory services as requested.	BerryDunn will respond to requests as needed.	TBD

A variety of documents were reviewed during this study including budgets, vendor contracts, interdepartmental agreements, vendor deliverables, and a vendor proposal. Table 3 lists the documents provided to BerryDunn by the State for review during the Independent Review process.

Table 3 – Table of Documents Reviewed

Document Title	Source	Date Received
DMV ATS Business Case, June 2013	John Quinn	7/15/2013
DMV ATS Preliminary Lifecycle Cost Analysis	John Quinn	7/15/2013
DMV ATS RFP Final	John Quinn	7/15/2013
STS Proposal for an ATS – Technical and Cost proposals and including as separate attachments appendices A-H	John Quinn	7/15/2013
ADDENDUM 1 and 2 ATS for AOT Feb 2013	John Quinn	7/15/2013
ADDENDUM 3 DMV ATS Jan 2013	John Quinn	7/15/2013
CSC Minutes	John Quinn	7/15/2013
DMV ATS – Preliminary Lifecycle Cost Analysis	John Quinn	7/15/2013
DMV IT projects as of 7-31-2013	John Quinn	7/15/2013
Draft DMV ATS procurement timeline	John Quinn	7/15/2013
Evaluation scans STS	John Quinn	7/15/2013
Questions and Responses for DMV ATS	John Quinn	7/15/2013

Document Title	Source	Date Received
Sec 4 DMV FY14	John Quinn	7/15/2013
STS staff profiles	John Quinn	7/15/2013
VT DMV office wait times 8-1-2013	John Quinn	7/15/2013
VT DMV strategic plan	John Quinn	7/15/2013
VT Letter July 1 Response (completed)	John Quinn	7/15/2013
Power Point Slide Showing DMV Staff Retirements	Robert Ide	8/1/2013
Additional Information submitted by STS on February 8, 2013	And Morse	8/23/2013
STS HostIT - Services Architecture	John van der Heiden (STS)	8/9/2013

The two major sources of information collected during the Independent Review process are from interviews of project staff and from project documents. A list of interviews conducted by BerryDunn as part of the Independent Review process is included in Appendix A.

BerryDunn would like to acknowledge the significant time afforded to our Independent Review team by a number of individuals including the DMV, AOT, and the EPMO. We recognize that this project is of great importance to the DMV and is a key piece of its customer-centric mission.

2.3 Driver License Automated Testing System Procurement Historical Background

The DMV is the branch of state government that issues driver licenses and permits as well as vehicle registration and titles, and is responsible for enforcement of motor vehicle related laws and collecting fees on behalf of the public. Its mission statement is: “With a commitment to excellence, the dedicated employees of DMV strive to provide the highest level of customer service through the administration of motor vehicle laws and the promotion of highway safety.”

A key DMV responsibility is administering driver license exams. According to the Automated Testing system Business Case date June 13, 2013, the DMV administers about 30,000 exams annually. The DMV’s current driver license automated testing system is called “QTest” and was purchased from a company called Q-Matic. This legacy solution provides the DMV with electronic capabilities for written and skills (road, or behind the wheel) exams for driver permits and licenses. Q-Test was purchased in 2001, and according to State staff, the software has not been maintained by the vendor since 2010. Between 2010 and the present time, DMV IT staff have been able to make minor modifications to the system in order to preserve basic functions, but many functions of the system have deteriorated. As a result, manual processes have been implemented where automated processes in Q-Test used to operate.

The DMV is compelled by federal regulation and state law to have an automatic testing system. Automatic means that the exams must be generated by a computer and not by people or DMV staff. The Federal Motor Carrier Safety Administration (FMCSA) has mandated that all states have an automated testing system for issuance of commercial driver licenses and permits or lose federal funding as a result of non-compliance. This is required, again according to the ATS business case, to deter fraud, promote compliance, standardize tests, and obtain statistics. Vermont state statute has been amended to provide that the DMV must comply with the federal regulation. The DMV is not out of compliance with law or regulation at this time but, because of unsupported software and hardware and current reliance on paper to record behind the wheel exam progress, the DMV is in a position where it must rely on paper and manual processes to an extent that it burdens the department and negatively impacts data reporting and customer service.

Per the Request for Proposals (RFP) issued in December 2012, “The current DMV ATS consists of 32 Test Units, 8 Exam Consoles and 1 Administrator Console spread out among 1 central office, 5 branch offices and 2 mobile units. Each field office Exam Console maintains a software installation containing the test application, questions and answers. With each completed test, a score is displayed, provided to the applicant and written on the license application by the examiner.” The DMV’s mainframe system, which maintains records of all licensed drivers, is not electronically connected to the testing system. Applicants must take their completed paper license application to DMV personnel that work with the license issuing system and the mainframe.

The following reasons for acquiring a new ATS are taken from page 3 of the Driver License Automated Testing System Business Case:

- The current system is prone to software problems, with the potential and unacceptable risk of not being able to restore.
- The current system makes sharing test results cumbersome and unreliable. We are unable to effectively update questions and tests within our current system. The DMV is required by Federal Regulations to update and expand our current tests. Our current system does not allow DMV to fully comply with these regulations, putting DMV at risk of decertification or loss of Federal Highway Administration funding.
- The current system can only be installed on Windows XP machines. This operating system is out of date and will not be supported after April 2014, further creating problems with flexibility of deployments, serviceability, integration and data security.
- As the current system moves further away from latest technology and security updates, the more unsecure the system becomes, putting personally identifiable information at risk.
- Communication between the Central Office server and the branch office servers is malfunctioning and information that should be communicated between the offices is not being communicated correctly.

- The Department must often revert to a paper testing process when the system is inoperable
- The IT Staff has neither the time nor the resources to build a new automated testing system.
- Statistics gathered for other state Agencies, as well as the Legislature would be nearly impossible to obtain; customer wait times would increase to that of 10 years ago; and, the amount of work expected of an employee would increase.

The DMV has applied for and received approval for expenditure of federal funds to pay for acquisition of a new ATS. The funding comes with a deadline and the DMV has received three extensions from the FHA for expenditure of the funds.

2.4 Project Cost Summary

The five-year projected non-staff cost of the system is estimated to be $561,773 as of July 2013. DMV and STS are in contract negotiations and the DMV has stated that a final cost has not been agreed to.

DMV has been awarded a grant in the amount of $651,877 which is expected to cover the entire cost of the testing system acquisition.

More detail on project costs can be found in Section 3.1.

2.5 Limitations of this Review

This independent review does not provide for Procurement Negotiation Advisory Services. The content of this report is limited to the information made available during interviews with DMV, DII, and STS staff, written documentation provided by the State of Vermont, and a brief tour of the Montpelier DMV testing office on August 1, 2013. BerryDunn relies upon the accuracy of the information provided by the DMV, DII, and STS.

This Independent Review of the proposed Driver License Automated Testing System acquisition is limited by:

- Availability and schedules of key State staff members for interviews and follow-up clarifying conversations.
- Documentation provided to BerryDunn by the State (see Table 2).

Throughout this Independent Review, BerryDunn has relied on the accuracy of the documents and interviews provided by the DII, DMV, AOT, and STS.

2.6 Proposal Review

2.6.1 Project Goal

According to the RFP issued December 21, 2012, the goal of the ATS project is the acquisition of an automated testing system to replace the current system. The Background section on page 8 of the RFP offers the following narrative:

"The DMV is seeking an automated driver license testing system to replace the existing one now in use. The new system must operate at each DMV office throughout the State and be flexible, allowing DMV management to author new questions and answers and update visuals as needed. The new system must be able to randomize questions for each test, to record the results, to keep records and allow for standard and ad hoc report generation from a central database. The system must be capable of presenting the questions in several different languages; test results must be made available to the tester immediately. Personally identifiable information must be treated securely. The proposed system must also be able to be interfaced with current or future applications to allow the DMV to integrate this system with others (such as a scheduling system). The selected Contractor will provide hardware specifications for the system. The DMV prefers to purchase the hardware through existing State contracts although proposals will be considered for purchasing hardware from the selected Contractor.

The Automated Testing System (ATS) Replacement Project shall consist of replacing the current ATS in all DMV facilities with new software, hardware and testing station containing the most recent proven and up-to-date technology available."

In an interview with Commissioner Robert Ide on August 1, 2013, it was noted that the project fits into the strategic mission of the DMV because it addresses customer service. Customer service, according to the Commissioner, is the number one goal of the department.

2.6.2 Project Scope

According to the Background section of the RFP, "The Automated Testing System (ATS) Replacement Project shall consist of replacing the current ATS in all DMV facilities with new software, hardware and testing station containing the most recent proven and up-to-date technology available." The DMV plans to replace both its existing written and road tests for commercial and passenger permits and licenses. New software and hardware are envisioned, including testing stations and any DMV-owned servers or portals. Skills test tablets are also planned as part of the hardware acquisition. The scope will also include implementation, testing, a pilot period of operation, and training.

It is noted that as of this writing, the DMV and STS have not come to agreement on the full specifications of what is to be purchased, and thus not the full cost of the procurement.

Major Tasks and Deliverables

A number of deliverables are specified in RFP, including a plan for installation and testing, a training plan, and a payment schedule.

The RFP specifies two major installation phases. Phase 1 of the project consists of a test installation at the DMV office in Montpelier. Phase 2 consists of the installation of the system at the five remaining DMV offices and the two mobile vans.

2.6.3 Payment Terms

As of the time of this Independent Review, a draft contract with STS was not available for review, and accordingly a review of the payment terms was not available. During an interview conducted with representatives from STS, it was discussed that the company could approach payment in several ways, including milestone-based payments or a lump sum payment at the completion of contract activities.

3.0 ACQUISITION COST ASSESSMENT

This section provides information and analysis on the costs of the proposed contract amendment. Specifically, it addresses the proposed costs, payment terms, cost assumptions, anticipated benefits, and a cost benefit summary.

Following is a summary of the costs associated with the proposed acquisition of the Driver License Automated Testing System. This summary was derived through a review of information provided by the State and the costs described within the vendor's cost proposal.

3.1 Project Cost Summary

Cost and payment terms for a draft contract with STS were not available during the data collection phase of this Independent Review. Information on anticipated costs for the Driver License Automated Testing System replacement project were derived from several of the project documents, including a five-year projected costs analysis created by staff at the DMV; the DMV's Business Case for the project dated June 17, 2013; and a cost proposal prepared by STS on July 24, 2013. During discussions with the vendor, STS indicated they would have flexibility with regards to payment terms.

Estimated costs of this acquisition were determined based on these documents and in combination with information from discussions with DMV, AOT, and STS staff. These costs have been separated into non-staff and staff related expenses. Total non-staff project costs are currently estimated at $561,773. Further detail on implementation year and subsequent costs are detailed in the sections below. A detail of the costs are included in the cost/benefit analysis included as Appendix B.

The contract with STS will be a deliverables based, fixed cost contract. There is an understanding that if the State wishes to add languages to the written exams offered to permit seekers, it will need to modify the contract with STS such that a translator is hired and the exam is created in that new language. Requests for new language exams are done at the behest of the legislature and the governor.

Several variables that will have an impact on cost for the system are still undefined as of the time of this Independent Review:

- The State has not decided whether it will purchase hardware from STS or from existing state contracts. The DMV did cite a preference for acquiring test taking hardware, both written test monitors and tablets for road or skills tests that are used by DMV examiners, from STS.
- The State has not decided whether the ATS will be hosted internally or by STS.

There are few tangible cost savings for the DMV in this acquisition, and none for which reasonably accurate or substantive dollar figures could be estimated at the time of this review. Expected costs savings include ordering less paper for exams. DMV staff may currently work

overtime on exam administration but there are no discrete numbers or statistics available to show how much overtime is spent on testing as of today. The DMV does not anticipate the need to reduce staff or hire staff as a result of this acquisition.

Budget

- DMV has been awarded a grant in the amount of $651,877 from the Federal Motor Carrier Safety Administration, which can be accessed until January 2014 to pay for the costs associated with this acquisition. The DMV had initially budgeted an amount of about $350,000 to pay for the costs of the testing software and hardware.

Hardware

- The implementation of the Examiner and RoadsScholar solutions is expected to require the DMV to purchase desktops, tablets, and furniture (kiosks) with a budget of **$123,461**.

Software

- The software license fees, including the licensure of the mapping software needed to complement RoadsScholar, are expected to cost **$91,800** during the implementation year.

Anticipated Overtime Costs

- The State does not anticipate requiring employee overtime for the implementation, although an implementation plan has not been formally agreed to and could result in a limited amount of weekend staff time.

Project Management Costs

- The cost of an EPMO Project Management resource for project oversight has been estimated at 3% of project implementation costs. The anticipated value of this resource is **$57,463**.

Maintenance

- Ongoing hardware maintenance fees for years two through five are estimated at **$103,200** with no anticipated annual percentage increase.
- Ongoing software maintenance and license fees for years two through five are projected at **$94,000**, with no anticipated annual percentage increase.

Table 4 - Project Costs

	Implementation Year	Ongoing / Maintenance Years 2 thru 5	Total
Hardware	$123,461	$103,200	$226,661
Software	$91,800	$94,000	$185,800
Vendor fees (includes training)	$100,600	-	$100,600
Hosting	$6,300	$26,200	$32,750
Translation fees	$15,962	-	$15,962
Total Estimated Non-Staff Costs			**$561,773**

3.2 Independent Review Findings

Five of the 18 findings identified in this Independent Review are associated with Acquisition Costs.

Finding 1: DMV has been awarded $651,877 in federal funds through the Federal Motor Carrier Safety Administration to finance a new automated testing system and those funds must be used by January 31, 2014. There have been three requests from the State to extend the expiration date for these funds, and DMV staff opinion is that a fourth extension would not be entertained by federal partners.

Finding 2: The final cost for the Driver License Automated Testing System and STS services has not been resolutely determined or agreed to by STS and the DMV.

Finding 3: There are no quantifiable cost savings for the DMV in this acquisition, although a number of known benefits exist and are listed as intangibles in the cost benefit analysis in Appendix B.

Finding 4: There is no expectation of an increase or decrease in DMV employment needs with the proposed new solution. DMV staff have indicated that staff resource consumption would likely increase considerably due to technical support requirements should the legacy system remain in place.

Finding 5: The difference in anticipated revenues for the DMV that could be attributed to the replacement of the legacy environment with the proposed STS solution was not quantifiable at the time of this review.

4.0 TECHNICAL ARCHITECTURE REVIEW

This section provides an overview of the technical layout of the proposed solution.

STS proposes a single server environment for its solution, with the option of a second server for load balancing or redundancy (see page 21 of the Technical Response). STS also proposes a virtualized environment, and cites the cost and energy saving benefits thereof.

4.1 Support for the State's Strategic Enterprise Systems Direction

The DII website, as of June 3, 2013, states that its strategic direction is toward private cloud computing. This translates to a vendor-hosted server for applications such as an automated testing system. The reasons to move to a private cloud environment are accessibility of data and resources, which allows the State agencies to focus on providing core mission and less on data access, allowing for departments to pay only for the resources used, and greener computing (meaning using less energy). Furthermore, DII states on its Enterprise Chief Technology Officer web page that it is, "establishing an agile Private Cloud while continuing to position the State to effectively take advantage of Public Cloud infrastructure services."

In December 2012, the State issued a Request for Proposal for a private third-party vendor to provide a driver license automated testing system. Of the proposals received, the DMV has chosen to pursue a contract with Solutions Thru Software (STS). STS provided a proposal that offers a variety of possible solution configurations, including a hosted solution. The software used for driver license testing, called Examiner, could be hosted either on a server owned and maintained by STS or one owned by the State. The testing software is accessed via the internet browser of desktop machines owned and operated by the State at regional testing locations, as well as by the tablet PCs associated with two mobile testing sites. According to State staff, the RFP included an optional component for bidders to provide proposals for a road testing solution. STS proposed their software RoadsScholar to meet the road testing solution, which is to be installed on tablet PCs associated with the State's mobile testing sites. According to the proposal provided by STS, "RoadsScholar integrates directly with the Examiner automated testing system. No additional server hardware is required to be purchased or maintained. No additional backup or management is required as all data is stored in the same database as the knowledge testing system. The user experience is enhanced because [State] staff do not have to access skills test results through a separate program. All results are stored and displayed in the same software as knowledge testing to provide a single point for all driver's testing history. This simplifies the user experience and training requirements."

STS is proposing two software solutions: Examiner and RoadsScholar. Both are COTS solutions. The technical architecture is described in detail on page 21 of the STS RFP as follows: "The operating base for the solution is Microsoft Internet Information Services (IIS) which hosts the web-based application to provide the Presentation and Logic tiers. Additionally,

Microsoft SQL Server is utilized to provide the Data tier. Connected to a standard TCP/IP compatible network, this allows efficient delivery of testing solutions to virtually any desktop. In simplified installations, all tiers may be hosted on the same operating system."

The administration of tests is web-based, and accessed via the internet browsers on State owned testing terminals. This allows for central hosting and administration by STS. They intend to use a single server to host all testing through the entire State, with an option of a second server for redundancy.

Security Analysis

DMV data is subject to the federal Driver's Privacy Protection Act (DPPA). DPPA prohibits a DMV from knowingly disclosing personal information (such as a name, address (except zip code), driver license number or other personally identifying information) without a permissible use as defined by the Act. Information contained within testing databases is subject to the DPPA.

STS has been advised of the State's existing Information Security Best Practice For All Public Agencies, effective May 1, 2009 on pages 22-23 of the RFP.

There were five mandatory security requirements described in the State's RFP. STS's response indicated that the proposed solution meets all of these requirements. The response also indicates that STS utilizes the latest industry standard security.

Disaster Recovery Plan

The RFP does not provide a disaster recovery plan requirement.

State-wide WAN/LAN Impact

There is minimal anticipated impact on the State's wide area network, as data for this solution is passed solely through testing tablets and examiner consoles or from examiner consoles via the internet to a remote hosted administrative server. The impact on local area networks is also anticipated to be minimal, as the Examiner and RoadsScholar applications will be run in essentially a closed circuit at DMV offices. It should be noted that the DMV's preference for a distributed architecture, with examiner consoles controlling the testing units, is targeted at preventing the possible disruptive impacts of internet outages on clients taking exams. Should internet service be interrupted, the examiner console and testing units will continue to function locally, and will upload data to the administrative server when connectivity is restored. This architecture increases costs over the centralized model, but greatly increases stability, particularly at DMV offices in more remote locations.

4.2 System Integration Requirements

Since the driver license automated testing system operates is what is essentially a closed network at each DMV office, there is little to no integration required with other State systems. The application needed to run the testing units will be provided by examiner consoles and/or the

remote hosted administrative server, and the application needed to run the road exams is installed locally on “ruggedized” tablets, which upload data to the remote hosted server once they are connected to the internet. There are no other systems within or outside of the State networks that will be involved in supporting the driver license exam solution.

DMV staff have indicated that the STS solution has the potential to integrate with Horizon, the DMV line queuing system, as well as the license mainframe system. These integrations are not planned at this time, but are considered merits of the solution should such integration be desired in the future.

4.3 Ability of the Technology to Support the Business Needs

The DMV needs to be able to administer driver license written exams and road tests, commercial driver license exams and road tests, and motorcycle license written exams. To support accessibility of the examination system, the DMV needs a solution that is offered in several different languages with interpretations that are both written and auditory. The DMV also seeks a reliable solution that will not be adversely impacted by network outages. Back end reporting capabilities that provide clients with examination results and provide the DMV with relevant statistics are also requirements of the solution. The existing legacy Q-Matic system presently fails to meet all these requirements and, per DMV staff, frequently requires support from IT resources to maintain basic functionality. The administrative server for the Q-Matic system, which is owned and operated by the State, no longer provides reporting functionality to the DMV business staff, and consequently testing statistics and other administration is being conducted manually. The STS Driver License Automated Testing System is a replacement solution for the failing Q-Matic system, and will be able to meet the business needs of the DMV. The solution is expected to enhance client exam experiences through greater ease of use, greater stability, and more integrated reporting to clients. The STS solution utilizes many of the same proven technologies of the Q-Matic system, with touchscreen kiosks, handsets for auditory translations, and locally run examiner consoles that provide application data to the testing units. This means that neither DMV staff nor clients will have to make drastic changes in their approach towards examinations and will still benefit from the increases in business functionality.

4.4 Independent Review Findings Related to Technical Architecture

Four of the 18 findings identified in this Independent Review are associated with Technical Architecture.

Finding 6: According to the DMV staff, the administrative server for the existing Q-Matic driver license exam system no longer reliably exchanges data with the examiner consoles at the DMV branch offices. Branch offices deliver statistics on examinations to operations staff in Montpelier via email.

Finding 7: The hardware for the proposed solution with STS is not proprietary, and the State is considering purchasing some of the required hardware through existing contracts with other

vendors. According to DMV staff, hardware acquisitions through existing contracts happen relatively quickly. The use of existing contracts also helps to keep hardware consistent across State systems, which simplifies administration and maintenance.

Finding 8: There are currently 40 to 45 Microsoft Access databases utilized in the administration of the DMV's business functions, according to operations staff. The technical requirements for the proposed STS system do not involve integration with any of these systems.

Finding 9: The State has not made a final determination as to whether the administrative server for the proposed STS system will be hosted by the vendor or by the State. The State has indicated that DII prefers that solutions such as these be hosted, provided that the hosting environment meets the specifications of DII. Therefore, interviewees have verbally indicated that it is their preference that the system be hosted by the vendor. This preference, however, has not been formally transmitted to the vendor and a final decision has not been made.

5.0 ASSESSMENT OF IMPLEMENTATION PLAN

This section provides information and analysis on the implementation plan for the proposed solution. It addresses the proposed timeline, vendor and DMV staffing, project scope, implementation approach, the training methodology, and other considerations when relevant.

5.1 The Reality of the Timetable

The technical proposal provided by STS provides a 69-day implementation timeline, or slightly over three months' time if days are considered business days. Because of the federal deadline for spending funds prior to January 31, 2014 if funds are to be paid for this project, there is insufficient time to implement the project.

Finding: The time in which the system must be implemented is not realistic given the deadline imposed by federal funding considerations.

5.2 Adequacy of the Vendor's Proposed Risk Management Plan

No risk management plan has been provided at this time. The RFP for the DMV ATS specified delivery of a risk management plan after a contract has been signed and implementation is under way.

5.3 Adequacy of Design, Conversion, and Implementation Plans

The RFP specifies that Phase 1 of the project "will include application customization and data conversion of files from the existing system to the new system." Specifically, the conversion must take into account "to convert/port existing questions, answers, audio, video and history files to the new system." During interviews with State and vendor staff, it was apparent that, while conversion of the test question pool would be a fundamental component of the implementation, conversion of historical testing data from the DMV that resides on the legacy administrative server was not imperative. Furthermore, it is known that the historical testing data is incomplete, as the connectivity between the administrative server and examiner consoles has been inconsistent. No formal data conversion plan is specified as a project deliverable.

The RFP also indicates that the selected vendor must provide services for "Analysis and Design – to fully understand the needs of DMV." No "Design Plan" is called for in the RFP as a deliverable. On page 125 of its Technical Proposal, STS does state that, as part of a submitted sample project plan and schedule, it intends to provide a System Design and Specification period and that the primary output is a Functional Specification. This appears to address the Design portion of the implementation, but no formal plan is required by the RFP.

STS has offered an implementation plan on pages 125-126 of its Technical Response in the form of a sample project plan/Gantt chart. One of the phases in the sample Gantt is an Implementation Plan. The Implementation Plan is not specific to this project.

5.4 Adequacy of Support for Conversion and Implementation Activities

Conversion of the test question pool for the State specific driver license exam is a fundamental component of automated testing system replacement projects, although commercial driver license and motorcycle exams are standardized. The vendor has indicated that they have worked on question pool conversions from Q-Matic systems with previous clients, and indicated general preparedness for this undertaking with the State.

State staff indicated that the current administrative server for the Q-Matic testing solution does not reliably exchange data with the examiner consoles; however, it does contain some historical data on client testing results. The DMV has suggested that no conversion of this data into the environment to be used for the replacement solution would be necessary for implementation, and is not part of planned activities. Should a conversion of data from the legacy administrative server to a replacement administrative server become relevant to the DMV in the future, STS indicated that they are accustomed conducting these conversions during replacement projects, and that they have accomplished conversions from Q-Matic systems before and this work would be feasible.

At the State's request, the RoadsScholar component of the solution, which includes setting up 14 ruggedized tablets and two laptops (one for each of the State's two mobile vans), will take place approximately two weeks to a month after the installation of the Examiner solution to allow employees time to adequately transition.

5.5 Adequacy of the Vendor's Training Plan

The RFP for the automated testing system indicates that in Phase 2 of the system installation, the State will require the vendor to develop a "detailed training plan and strategy for each phase and all identified AOT staff," and also states that vendor is expected to develop a work product referenced as a "training plan." Recognizing that the contract with STS is still under negotiation, it is expected that a formal training plan does not yet exist. STS indicated in their proposal that they would provide all of the requested documentation from the RFP, including the training plan. Based on conversations with the vendor, the training required for the replacement solution will be relatively straightforward, and has generally been accomplished on the same day as installation with their previous clients. Since the distributed architecture of the proposed solution mimics the architecture of the existing solution, DMV staff will likely find many aspects of the replacement system to be familiar in form.

5.6 Adequacy of Planned Testing Procedures

The RFP indicates that the vendor is expected to furnish a work product referenced as "Test Plan / Test Results," and STS indicated in their proposal that they would be able to provide this document. Based on conversations with the vendor, there will be testing conducted throughout

all phases of the implementation, including during the pre-installation period when they will be working to convert the State's current driver license exam from Q-Matic to the Examiner software. The vendor also expects to conduct a pilot in the Montpelier office as the first part of the implementation, and will fully test that system's functionality prior to continuing on with installations in the remaining DMV offices. While STS indicated that few previous clients have elected to do a pilot installation, for the most part the testing procedures they have planned are conventional among their system replacement client base.

5.7 Independent Review Findings

Five of the 18 findings identified in this Independent Review are associated with the Implementation Plan.

Finding 10: A final implementation plan from the vendor does not currently exist, and the contract with STS is still under negotiation. However, in their proposal documents, which are now outdated, STS did provide a Gantt chart showing a possible three-month implementation scenario. During discussions, STS indicated that the scale of the implementation required in the State is manageable for them, and installation and training for the Examiner solution could be conducted across all six DMV branch offices and two mobile units within one week.

Finding 11: A final training plan from the vendor does not currently exist. In their proposal documents, STS indicated that both training and training manuals would be provided after contracting. During conversations with the vendor, they indicated that training on the Examiner software and supporting hardware can typically be accomplished on the same day as installation, based on experiences with previous clients.

Finding 12: A formal data conversion plan is not specified as a deliverable in the proposal from STS. During conversations with the vendor, it was discussed that conversion of test questions from the Q-Matic system is a fundamental component of the work they expect to do during the project, and that they have conducted similar conversions from Q-Matic with previous clients.

Finding 13: Although the vendor has indicated an ability to conduct a state-wide implementation of the Examiner solution within one week, the State has insisted that an implementation be conducted first in the Montpelier office, to be considered a pilot. Pending any concerns with the pilot, the remaining installations could be completed within the subsequent week according to the vendor.

Finding 14: The State-owned server for the legacy Q-Matic application has an incomplete data history, since it has unreliable contact with many or all of the regional examiner consoles. The conversion of this data into the new solution, while possible, is not considered necessary and not a planned part of the implementation of the replacement solution. The State fully expects to digitally transfer the question pool from the existing Access database on the administrative server.

6.0 ASSESSMENT OF ORGANIZATIONAL READINESS

This section provides information and analysis on the readiness of the DMV to implement and use the proposed solution.

6.1 General Project Acceptance / Readiness of Staff

The proposed contract with STS represents the acquisition of a replacement solution for an existing driver license testing system, with very comparable user processes and technical architecture. This section of the review provides a summary of the findings associated with the State's and the vendor's readiness to implement the proposed solution.

6.1.1 State Staffing

There are 23 examiners in the State, most of whom are AAMVA-certified, and all of these examiners are capable of administering both written and road exams for regular driver licenses. Of these examiners, 10 are certified to conduct the Commercial Driver License exams.

A number of DMV employees have been involved to a considerable degree in the activities related to the procurement of a replacement driver license automated testing system. These employees continue to make regular contributions to the project.

Project Manager: Cherie Yaeger is the assigned project manager for the STS project. Ms. Yaeger has been with DMV since 2004 and is currently assigned to the Support Services division. She is assigned to the whole project and not just the RFP stage. Meeting participants stated that Ms. Yaeger has had most of her current time consumed by this project, although she has other duties.

Technical Lead: Robert Bradshaw is the assigned technical lead. Mr. Bradshaw currently supports the existing testing QTest system.

Technical Support: Brain Hebert and Jason Boyd will provide technical support during system implementation and maintenance of it when it is implemented. Both are AOT employees who are assigned to the DMV. Both presently provide support for the existing DMV solution. Mr. Hebert and Mr. Boyd will address tasks such as software update and patches. Another employee, Jim Wood, will oversee servers and network drops.

Additional DMV Staff commitment: Ryan McLaren is currently serving as the principal assistant to the Commissioner of DMV, Robert Ide. Mr. McLaren is expected to become the interim director of Support Services, Ms. Yaeger's current office. Mr. McLaren expects to spend approximately 20% of his time on system implementation.

Dawna Attig, Director of DMV Information Technology, will be involved in the project at approximately 25% of her time when implementation begins.

And Morse, AOT Contracts Administration, is serving as the primary negotiator for the DMV.

6.1.2 STS Staffing

The proposed project manager for STS is Guy Chomistek. Mr. Chomistek has been employed full time with STS since 2011 and, according to STS, has served as project manager on the State of Maine's automated testing system implementation. He also has experience in implementation of this system in Oregon. Mr. Chomistek does not have a project management professional certification. A resume for Mr. Chomistek is not available, but an abstract of his experience relative to automated testing systems and his time with STS was made available.

6.2 Adequacy of Department and Partner Staff to Provide Project Management

6.2.1 State EPMO Project Oversight Manager

John Quinn, EPMO Project oversight Manager, has experience in oversight of a number of State of Vermont projects. Mr. Quinn has a Project Management Professional credential and has the experience and capability to provide project oversight.

6.2.2 State Implementation Project Manager

Ms. Yaeger, the DMV project manager, has been an employee of the department for about 10 years. She does not have a project management professional credential, but she has been intimately involved in the development of the ATS project to date. There are no apparent concerns about her role as project manager.

6.2.3 STS Implementation Project Manager

Guy Chomistek, the proposed STS project manager, has been employed by STS full time since 2011. His prior project management experience for a system of this size and complexity is the State of Maine BMV implementation of Examiner and RoadsScholar.

Key roles for STS, in addition to the role of project manager, includes the following:

Technical Lead

Software Engineering Lead

Infrastructure Engineering Lead

Logistics Lead

Installation/Training

STS offered the following clients as references in response to Section 5.7.2 of the RFP. The clients listed were:

Nevada: 105 testing units in 15 offices

Contract dates of February 2002 to present.

Delaware: 52 test stations in four offices

Contracts dates of September 1997 – present.

North Carolina: 456 testing units in 96 offices

Contract dates of October 1999 – present.

6.3 Ability of the User and Operational Staff to Integrate Solution into their Work

The DMV has indicated a preference for a distributed architecture model for the solution proposed by STS, meaning each branch DMV office will have an examiner console (desktop) that runs the testing application on a closed and hardwired network with the testing units, which are touchscreen tablets mounted in kiosks. At present, the State's Q-Matic solution for testing has an identical architecture in the DMV branch offices. This means that State operational staff is already familiar with the technical configuration involved in the preferred solution, so the resources required of the staff to adjust to this model should be relatively minimal.

The Examiner software will require training of State staff by the vendor, who has indicated during discussions that this typically does not require much time. STS indicated that most installations and trainings of branch office staff happen on the same day, and that the majority of their clients find the product fairly easy to use. Clients of the DMV who are taking their driver exams are expected to benefit from greater ease of use, more up-to-date questioning and exam content, and greater accessibility for Vermont residents whose primary language is not English.

Interviewees stated that DMV staff is anxious to have a new testing system. They also did not express any concern with the technical ability of their staff to support the application.

The DMV anticipates that each driver license examiner will receive about half a day of training on the solution. The training will be administered just prior to the system go-live date.

6.4 Independent Review Findings

Four the 18 findings identified in this Independent Review are associated with Organizational Readiness.

Finding 15: The State plans to provide the first level of technical support to users with the proposed solution, as they do now with the legacy Q-Matic system. Should problems exceed the DMV staff's ability to resolve, they will plan on using STS as backup technical support. A license and maintenance agreement with STS was under review with the State Attorney General at the time of this review.

Finding 16: The STS project manager is proposed but not certain. Because of the uncertainty around when a contract will be executed with STS, there is not a firm commitment to provide the

proposed project manager. The proposed project manager has experience with implementations of the size and scope of the type envisioned by the DMV.

Finding 17: The level of effort for DMV staff during the implementation of the project is not provided in the technical response to the RFP.

Finding 18: The selected vendor, STS, is experienced with these solutions and has substantial presence in the motor vehicle testing industry. It appears well suited to provide the solution.

7.0 COST BENEFIT ANALYSIS

This section provides costs and associated benefits associated with the proposed acquisition of a driver license automated testing system through STS.

7.1 Costs

Please see the Acquisition Cost Assessment in Section 3.0 above.

7.2 Benefits

Benefits associated with the proposed amendment were discussed with State and vendor personnel during interviews and subsequent discussions and, to some extent, were included as part of the documentation provided by the State to BerryDunn. The benefits were categorized as Tangible and Intangible. The Tangible benefits are quantifiable, where a savings dollar value can be associated with each. The Intangible benefits are those that cannot be associated with specific dollar savings, but are important considerations for the amendment. Because there were no reasonably quantifiable tangible benefits associated with this acquisition, the acquisition of this solution with STS does not show a positive Return on Investment (ROI) within one year or five years. The Intangible Benefits, while unquantifiable, are substantial and should be considered when reviewing the cost/benefit analysis.

7.2.1 Tangible (Quantifiable) Benefits

There were no reasonably quantifiable Tangible Benefits for this solution acquisition identified by the State. While it is possible that the solution will result in a long-term increase in revenues to the State due to increases in efficiency and greater testing capacity, there is not currently an accurate means of estimating this additional income.

7.2.2 Intangible (Non-quantifiable) Benefits

Below is a list of Intangible Benefits associated with the proposed acquisitions that have been identified by the State. These benefits have no quantifiable value, but are important considerations when evaluating this acquisition and the replacement of the legacy Q-Matic system.

- DMV staff anticipates being able to provide a higher level of customer service to Vermonters who are taking driver license exams, as the new solution offers technological updates, reliability, and features not found in the legacy system.
- The new solution is expected to provide increased fraud protection for examinations.
- With the expected decrease in technical support and increased automated processes, the DMV anticipates greater employee satisfaction as a result of the proposed acquisition.
- The proposed solution with STS will have sign language features embedded in the

software and will include ADA compliant kiosks, which will result in greater ADA accessibility of examinations.

- The proposed solution with STS will entail using a third-party vendor to retranslate both the written and audio components of the exam into several languages not previously offered in the State, resulting in better foreign language ease of use and functionality.
- By virtue of the GPS-tracking capabilities of the ruggedized tablets and through the mapping software features on the tablets, higher driver standards for road tests are anticipated with the proposed solution.
- The legacy system no longer provides functionality for DMV staff to update questions in the driver license exams and the new solution will, which is expected to increase quality control over exam questions.
- Currently the Q-Matic exam results make incorrect references to knowledge areas in the exam manuals, so clients have a difficult time understanding where to find resources in the manual that could help with areas they may have tested poorly in. The proposed solution is expected to restore the accuracy between the exam results and the exam manual.

7.2.3 Impact Analysis on Net Operating Costs

Current and projected net operating costs were based on estimates of staff hours made by the DMV. There were no quantifiable non-staff operating costs, and none that are believed to be substantive. The existing Q-Matic system requires a high degree of technical support, primarily from the IT support staff at DMV, but also from other staff involved with the utilization of the system. Some of the technical limitations of the system also impose manual processes on operational staff, which were formerly automated but have degraded as the legacy system aged. Consequently, the projected staffing costs for the proposed solution show considerably fewer human resources than the estimates of current staffing costs for the legacy system. As shown in Appendix B, a reduction of $257,367 in staffing costs associated with the driver license automated testing system is estimated over a five-year period. This is not presented as a savings to the State, as these staffing resources would simply be reallocated within the DMV administration. As stated in Finding 4, neither an increase nor decrease in DMV staffing needs is anticipated as a result of this solution acquisition.

Non-staff related operating costs are expected to increase with the proposed acquisition. This is due both to the fact that the legacy system is no longer maintained by the vendor (and thereby no maintenance fees are associated with the system), and to the fact that the new system will have maintenance contracts for both hardware and software, as well as annual hosting and license fees. Post-implementation, the net impact on DMV non-staff expenses is estimated at an increase over the current solution of $55,850 per year.

Although staff expenses are estimated to decrease in fiscal years one through five with the proposed solution, the expenses associated with implementation and non-staff maintenance and license fees result in an overall net increase in operating costs, using a five-year projection, of $361,868. These calculations are summarized in Appendix B.

8.0 RISKS AND ISSUES MANAGEMENT PLAN

This Section describes the risks and issues, along with BerryDunn's recommendations for mitigation and management of them. This Section also includes narratives for each identified risk and issue describing the State's approach to mitigation and management.

The Risk and Issues Management Plan is the primary deliverable of this Independent Review of the DMV ATS system procurement. As a result of the interviews conducted during the week of July 29, 2013, BerryDunn identified key findings in each of the following topic areas:

- Acquisition Costs
- Technical Architecture
- Implementation Plan
- Cost / Benefit Analysis
- Organizational Readiness

The findings were then analyzed to determine if they result in Risks, Issues, or neither. If the findings resulted in Risks or Issues, they were included in the Risk Register or Issue Log respectively. The Risk Register and Issue Log are provided in this section.

8.1 Definitions: Findings, Risks, Issues

BerryDunn identifies both Risks and Issues as a result of this Independent Review. The Project Management Institute (PMI) provides an important distinction between the two, and BerryDunn believes that this section must include a narrative regarding issues in addition to risks.

Finding: A relevant fact discovered during the execution of this Independent Review that may lead to one or more Risks and/or Issues.

Risk: Uncertain events or conditions which, if they occur, have a negative effect on the project's objectives. Risks are events or conditions that may occur in the future.

Issue: An Issue is a situation which has occurred or will definitely occur, as opposed to a Risk which is a potential event.

8.2 Independent Review Risk Register

The following table defines the elements of the Risk Register:

Table 5 – Risk Register Element Definitions

Data Element	Description
Risk #	This is a sequential number assigned to each risk to be used when referring to the risk.
Risk Description	This is a brief narrative description of the identified Risk.
Finding Reference	This is a cross-reference to the Finding from which the Risk was determined.
Risk Impact / Probability	This is a two-value indicator of the potential impact of the Risk if it were to occur, along with an indicator of the probability of the risk occurring. Values: Impact (High, Medium, Low); Probability (High, Medium, Low).
Risk Impact Description	This is a narrative description of the potential impact of the risk.
Risk Response Recommendation	This field includes BerryDunn's recommendation on how the State should address the risk.
Recommended Risk Response Timing	This is value used to indicate whether the Risk is likely to occur prior to contract execution or subsequent to contract execution (e.g. the DDI phase). Values: Prior/Subsequent
Risk Management Plan	This field includes the results of discussions between State staff and BerryDunn regarding how the State plans to address the risk. This includes the State staff person responsible for managing the risk, the action plan to mitigate the risk and the timing of the action plan.

Risk 1	Risk Impact / Probability: Moderate / High
Risk Description:	**There is a risk that the implementation timeframe associated with the ATS acquisition will extend past the deadline for federal funding, jeopardizing federal funds and increasing acquisition cost to the State.** The State has made three requests with the Federal Motor Carriers Safety Administration to extend the deadline by which the available funding can be used, and the consensus among DMV employees is that the current deadline of January 31, 2014 is firm.
Risk Impact Description:	Should the implementation timeframe exceed federal deadlines for funding, the State would not be able to make use of grant money offered through the Federal Motor Carrier Safety Administration, and would instead directly bear costs for the project through previously budgeted State funds.
Risk Response Recommendation:	The DMV project team is aware of the tight funding timeframe and is already pursuing many mitigation strategies around this risk, including attempting to establish a finalized contract with the vendor as early as possible. At the time of this review, it was not known with certainty whether there were options with federal partners for delaying the funding schedule or determining a way to receive funds prior to implementation, and the project team may benefit from seeking clarification on this from federal partners. To contribute to the hastening of the contracting process, the project team should finalize their preferences with respect to hosting (see Issue 1).
Risk Mitigation Plan:	During the draft risk register discussion held with the State, DMV staff indicated that the State had originally planned on paying for the project directly. During project planning in early 2013, it was determined that funds were available through the Federal Motor Carrier Safety Administration, which were residual from a previous grant. The DMV team indicated that if the federal funds fall through, the State does not expect the scope of work to change. At the time of this discussion, the DMV team indicated that approximately $350,000 was available in State budget funds, which would cover the projected implementation costs, and that the estimated budget figure did not represent a hard ceiling for project implementation costs. DMV staff also indicated that they considered the probability of spending none of the federal grant money to be very low, and that at least part of the project work should be paid for using these funds, thereby lowering the overall direct costs to the State.

Risk 2	Risk Impact / Probability: Moderate / High
Risk Description:	**There is a risk to project scope because no preliminary statement of work or implementation plan from the vendor exists that is specific to Vermont's automated testing system replacement project.** A sample implementation plan was submitted as part of STS's proposal, which generally indicated how STS will approach the project, but accurate details of the implementation approach and specific timeframes were not provided.
Risk Impact Description:	The lack of this documentation exposes the State to the possibility that the vendors services will not be provided in accordance with expectations. While the scale of this system replacement may not warrant a broad spectrum of conventional contracting documentation, a basic statement of work and a description of how the vendor will commit to the implementation are pertinent.
Risk Response Recommendation:	DMV should request that STS provide a preliminary statement of work and implementation plan that are specific to Vermont's project. These documents will help to ensure that the work to be conducted by the vendor, as well as their approach to completing the work, align with the State's expectations.
Risk Mitigation Plan:	The State agrees with the recommendation, but indicated difficulty in asking STS to provide these documents ahead of contract execution. The DMV team indicated they would provide a draft implementation plan to STS, including a project schedule, which they would then ask STS to update as appropriate. Additionally, the DMV is contemplating preparing an 'advance notice to pay' document that could provide assurance to STS to more fully develop an implementation plan ahead of contracting.

Risk 3	Risk Impact / Probability: Moderate / Moderate
Risk Description:	**The project costs and timeline are moderately at risk because the State has not finalized the sources from which it will procure the hardware needed for the replacement automated testing system.** The State has indicated it will purchase some hardware, namely examiner consoles which are standard personal computers, from existing state contracts primarily to add consistency to the types of hardware that State IT staff need to support. The STS price quotes for hardware are now incomplete and the state will need to determine the cost for hardware that it will purchase.
Risk Impact Description:	The lack of a hardware plan contributes to preventing the State from finalizing costs and could further delay the establishment of a contract with STS, as well as potentially delay overall project timeframe.
Risk Response Recommendation:	The State should incorporate costs for foreign language translation into the contract and add the tasks required to translate to the scope of work.
Risk Mitigation Plan:	The State generally agrees with the recommendation and has adopted this into the mitigation plan.

Risk 4	**Risk Impact / Probability:** Moderate / Moderate
Risk Description:	**The project scope cannot be fully resolved because the DMV has not finalized decisions related to the technical architecture of the replacement automated testing system, including whether to internally host the system or ask STS to host it.** The State has verbally agreed to ask the vendor to host the solution but has not incorporated this decision into their contract.
Risk Impact Description:	The hosting configuration is a key scope and cost issue for the project. The State cannot finalize its project costs and scope of services (hosting requires different tasks to be completed than does hosting by the state) without a firm decision being made.
Risk Response Recommendation:	The State has made a verbal decision to agree to let STS host the system. That decision should now be incorporated into the contract. If STS plans to use a third party hosting service, the terms of the contract between STS and the vendor should be made available to the State, and it is possible that the State CIO's office will need to approve the choice of hosting vendor.
Risk Mitigation Plan:	The State agrees with the recommendation and has adopted this into the mitigation plan. During the draft risk and issue register discussion held with the State, the DMV team indicated that final resolution on the technical architecture decisions had been reached since the interview phase of this review. The DMV is also planning to reserve IT technical resources from their staff to provide expertise on preparedness for the hosted solution.

Risk 5	Risk Impact / Probability: Moderate / Moderate
Risk Description:	**There is a risk to project staffing during implementation given that key STS staff assignments have not been finalized because a contract has not been executed.**
Risk Impact Description:	The lack of specifications around vendor staffing leaves DMV exposed to the risk that an unseasoned project manager, or otherwise poorly staffed vendor team, could be provided by STS. During interviews, it was identified that STS proposed a project manager to the DMV verbally, and this individual appears to have good qualifications. However, depending on implementation timeframes, STS has stated that this individual may not be available for the project. The RFP issued by the State did not ask for a staff loading chart, and thus the project impact on the time of State project staff from STS's perspective is not known.
Risk Response Recommendation:	While finalizing its contract with the vendor, the DMV may wish to ask for a resume from the planned project manager and other staff that STS would propose as alternates. DMV may also wish to ask STS if they will provide an estimate of hours or days needed for DMV staff for each project phase.
Risk Mitigation Plan:	While the State concurs with the staff loading component of this risk, they indicated that staff resumes were received by the vendor. Staffing determinations will not be fully resolved until contract execution, at which time STS will have finalized a decision on the assigned project manager.

Risk 6	Risk Impact / Probability: Low / Moderate
Risk Description:	**The number of language interpretations needed for the replacement automated testing system has not been finalized, which contributes to ambiguity in total project cost.** Although the expected increase in costs for translation services is relatively small, the State has not assumed costs for language translation other than Spanish. It is known that French, Somalian and Bosnian are current foreign language offerings, and there is a high likelihood that these languages will have to be translated.
Risk Impact Description:	DMV offers exams in four languages other than English: French, Spanish, Bosnian and Somalian. The DMV was advised by STS that English and Spanish translations are part of the expected costs; however French, Bosnian, and Somali translations may represent additional costs which have not been finalized. If costs for translation of exams into these foreign languages is not finalized prior to contract execution, the State could need a cost change order during the project or after implementation which may negatively impact budget.
Risk Response Recommendation:	The State should assume that additional foreign languages must be translated and document that effort and cost in the preliminary project plan and project budget.
Risk Mitigation Plan:	The State generally agrees with the recommendation and has adopted this into the mitigation plan. DMV was advised by the vendor that English and Spanish translations are part of the expected costs; however French, Bosnian, and Somali translations may represent additional costs which have not been finalized.

Risk 7	Risk Impact / Probability: Low / Low
Risk Description:	**The State's ability to utilize federal grant money for the project is at risk because the majority of the solution implementation will take place during November and December, and staff availability during the holiday schedule could put further strain on the project timeline.**
Risk Impact Description:	Staff vacations and holidays during these months, both for the State and the vendor, could slow implementation efforts and jeopardize federal funding timeframes.
Risk Response Recommendation:	The DMV project team may benefit from creating a project coverage plan now while vacations may not have been solidified. This coverage plan will need to ensure that DMV staff are knowledgeable enough to support the vendor's installation and testing activities are available at the branch offices, likely during all available non-holiday days, as it will probably not be possible for the vendor to determine their installation schedule definitively until the contracting process is further along.
Risk Mitigation Plan:	This State generally agrees with the recommendation and indicated that they have already had IT staff make selections regarding when they are going to be out for the holidays, and that management has determined a backup staffing plan.

8.3 Independent Review Issue Log

This section includes a table that documents the identified issues (Issue Log). The following table defines the elements of the Issue Log:

Table 6 – Issue Log Element Definitions

Data Element	Description
Issue #	This is a sequential number assigned to each issue to be used when referring to the issue.
Issue Description	This is a brief narrative description of the identified issue.
Finding Reference	This is a cross-reference to the Finding from which the issue was determined.
Issue Impact	This is an indicator of the impact of the issue. Values: High, Medium, Low.
Potential Impact Description	This is a narrative description of the impact of the issue.
Issue Recommendation	This field includes BerryDunn's recommendation on how the State should address the issue.
Recommended Issue Response Timing	This is value used to indicate whether the Issue should be addressed Prior to contract execution or Subsequent to contract execution (e.g., the DDI phase). Values: Prior / Subsequent
Issue Mitigation Plan	This field includes the results of discussions between State staff and BerryDunn regarding how the State plans to address the issue. This includes the State staff person responsible for managing the issue, the action plan to mitigate the issue and the timing of the action plan.

Issue 1	Issue Impact: High
Issue Description:	**A draft contract with STS for the replacement automated testing system has not been started.** At the time of this review, a number of important decisions related to the procurement had not been made, and the DMV had elected to refrain from drafting a contract.
Issue Impact Description:	The lack of a preliminary contract with the vendor poses a significant delay to the procurement process. Delays in the procurement could adversely impact the ability of the State to make use of available federal funds, and delays finalization of the scope of the project. Because there is no project management plan due until after the contract is executed, the contract itself is the primary vehicle by which a scope of work will be defined for this procurement.
Issue Response Recommendation:	The DMV project team is aware of the impacts of the delay in contract development. The team should continue to make determinations on the unresolved project options as soon as possible to expedite the creation of a draft contract. Ultimately, the State should enter a contractual agreement with STS that reflects a fixed fee for the replacement solution and ensure that vendor payments are made subsequent to the validated delivery of products and services.
Issue Resolution Plan:	The State generally agrees with the recommendation and has adopted this into the mitigation plan.

Issue 2	Issue Impact: High
Issue Description:	**The final cost of the contract has not been finalized.** The project cost is not finalized because the State has not finalized determinations, including hardware, language translation, or hosting decisions. Cost has also yet to be finalized because some of the hardware the State plans to buy from existing contracts has not yet been purchased.
Issue Impact Description:	The State cannot finalize its project costs and budget if the total cost of the system is not yet known. Project cost is a key project measure along with scope and schedule.
Issue Response Recommendation:	The State should finalize language translation costs, finalize and determine the cost of an STS hosted solution, and work with the state contracting office to determine the cost of the hardware to be purchased from state contracts. Subsequent to these determinations, a final project cost and budget should be developed.
Issue Resolution Plan:	The State generally agrees with the recommendation and has adopted this into the mitigation plan.

Issue 3	Issue Impact: Low
Issue Description:	**The State's RFP for the automated testing system replacement project did not request a staff loading chart that would indicate the number of hours required of DMV staff during the course of the project.**
Issue Impact Description:	The RFP issued by the State did not ask for a staff loading chart, and thus the project impact on the time of State project staff from STS's perspective is not known.
Issue Response Recommendation:	DMV may also wish to ask STS if they will provide an estimate of hours or days needed for DMV staff for each project phase.
Issue Mitigation Plan:	The State has opted to create a preliminary project schedule that can be used to allocate projected hours to State staff. The State has indicated they will ask STS to comment or contribute to this plan.

APPENDIX A – SCHEDULE OF INTERVIEWS

Date / Time	Topic Area(s)	Participants (tentative)
Wednesday, July 24, 2013 11:00 a.m. – 11:45 a.m.	Project Coordination and Document Request	John Quinn, EPMO Brad Hanscom, BerryDunn David Regan, BerryDunn
Thursday, July 25, 2013 2:00 p.m. – 3:00 p.m.	Project Overview, including review of Project Goals, Scope, and Major Tasks/ Deliverables	And Morse, AOT Cherie Yeager, DMV Ryan McLaren, DMV Nancy Prescott, DMV Dawna Attig, DMV Brad Hanscom, BerryDunn David Regan, BerryDunn Charlie Leadbetter, BerryDunn
Monday, July 29, 2013 10:30 a.m. – 11:00 1.m.	Review of Changes in Net Operating Costs	Richard Boes, DII John Quinn, EPMO Brad Hanscom, BerryDunn David Regan, BerryDunn
Wednesday, July 31, 2013 9:00 a.m. – 11:00 a.m.	Review of Technology Architecture	Nancy Prescott, DMV Ryan McLaren, DMV Jason Boyd, AOT IT Brian Hebert, DMV IT John Quinn, EPMO Dawna Attig, DMV Brad Hanscom, BerryDunn David Regan, BerryDunn
Wednesday, July 31, 2013 3:00 p.m. – 5:00 p.m.	Review of Implementation Plan	Nancy Prescott, DMV Jason Boyd, AOT IT Bob Bradshaw, DMV IT Ryan McLaren, DMV Brian Hebert, AOT IT John Quinn, EPMO Dawna Attig, DMV Brad Hanscom, BerryDunn David Regan, BerryDunn

Date / Time	Topic Area(s)	Participants (tentative)
Thursday, August 1, 2013 8:00 a.m. – 10:00 a.m.	Organizational Readiness	Nancy Prescott, DMV Ryan McLaren, DMV John Quinn, EPMO Dawna Attig, DMV And Morse, AOT Brad Hanscom, BerryDunn David Regan, BerryDunn
Thursday, August 1, 2013 10:00 a.m. – 10:30 a.m.	Project Background and Impact	Michael Smith, DMV Robert Ide, DMV Nancy Prescott, DMV Ryan McLaren, DMV Brad Hanscom, BerryDunn David Regan, BerryDunn
Thursday, August 1, 2013 1:30 p.m. – 3:30 p.m.	Acquisition Cost Assessment Cost Benefit Analysis	Nancy Prescott, DMV Ryan McLaren, DMV And Morse, DMV Dawna Attig, DMV Brian Hebert, DMV IT Brad Hanscom, BerryDunn David Regan, BerryDunn
Friday, August 2, 2013 11:00 p.m. – 12:30 p.m.	Vendor Interview	Daren Lukasiewich, STS John van der Heiden, STS Kris Vold, STS Brad Hanscom, BerryDunn David Regan, BerryDunn
Monday, August 5, 2013 2:00 p.m. – 3:00 p.m.	Project Review	Cherie Yeager, DMV David Regan, BerryDunn
Friday, August 23, 2013 9:00 a.m. – 11:00 a.m.	Risk Register Review	Dawna Attig, DMV John Quinn, EPMO Cherie Yaeger, DMV Ryan McLaren, DMV And Morse, AOT Brad Hanscom, BerryDunn David Regan, BerryDunn

Date / Time	Topic Area(s)	Participants (tentative)
Friday, September 6, 2013 10:30 a.m. – 12:00 p.m.	Formal Review and Presentation of the OMS Independent Review Findings	Richard Boes, CIO John Quinn, EPMO Other Attendees TBD Brad Hanscom, BerryDunn David Regan, BerryDunn

APPENDIX B – COST / BENEFIT ANALYSIS

[See Next Page]

Estimated 5 Year Project Costs and Benefits

Estimated Project Costs	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Totals
Non-recurring costs						
Software licensing	$85,500					**$85,500**
Estimated kiosks & test units	$62,596					**$62,596**
Estimated examiner consoles[1]	$9,000					**$9,000**
STS project implementation fee	$33,600					**$33,600**
STS installation and training fees	$38,600					**$38,600**
Ruggedized tablets[2]	$51,865					**$51,865**
RoadsScholar implementation fee[3]	$28,400					**$28,400**
Translation fees[4]	$15,962					**$15,962**
Recurring Fees						
Software maintenance[5]		$17,200	$17,200	$17,200	$17,200	**$68,800**
Test unit hardware maintenance[6]		$15,300	$15,300	$15,300	$15,300	**$61,200**
Ruggedized tablet hardware maintenance fee[7]		$10,500	$10,500	$10,500	$10,500	**$42,000**
Remote hosting fee	$6,550	$6,550	$6,550	$6,550	$6,550	**$32,750**
Mapping license fee	$6,300	$6,300	$6,300	$6,300	$6,300	**$31,500**
Total Non-Staff Project Costs:	**$338,373**	**$55,850**	**$55,850**	**$55,850**	**$55,850**	**$561,773**
Cumulative Non-Staff Project Costs:	**$338,373**	**$394,223**	**$450,073**	**$505,923**	**$561,773**	

Impact on Operating Costs	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Totals
Staffing						
Current Estimated Staffing Costs[8]						
Technical Staff (enter total hrs in FY)	$36,400	$36,400	$36,400	$36,400	$36,400	**$182,000**
Operational Staff (enter total hrs in FY)	$32,240	$32,240	$32,240	$32,240	$32,240	**$161,200**
Projected Staffing Costs[9]						
Technical Staff (enter total hrs in FY)	$31,616	$6,323	$6,323	$6,323	$6,323	**$56,908**
Business Staff (enter total hrs in FY)	$12,546	$2,505	$2,505	$2,505	$2,505	**$22,566**
Operational Staff	$3,535	$706	$706	$706	$706	**$6,359**
3% Fee for EPMO & EA Services[10]	$57,463					**$57,463**
Net Impact on DMV Staffing	($20,943)	($59,106)	($59,106)	($59,106)	($59,106)	**($257,367)**
Net Impact on DMV Expenses	$395,835	$55,850	$55,850	$55,850	$55,850	**$619,235**
Net Impact on Operating Costs:[11]	**$374,892**	**($3,256)**	**($3,256)**	**($3,256)**	**($3,256)**	**$361,868**

Estimated Project Benefits		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	5 Year Projection
Higher level of customer service	Intangible	-	-	-	-	-	**n/a**
Increased fraud protection for examinations	Intangible	-	-	-	-	-	**n/a**
DMV employee satisfaction	Intangible	-	-	-	-	-	**n/a**
Greater ADA accessibility of examinations	Intangible	-	-	-	-	-	**n/a**
Better foreign languange interpretation and functionality	Intangible	-	-	-	-	-	**n/a**
High driver standards for road tests	Intangible	-	-	-	-	-	**n/a**
Increased quality control over exam questions	Intangible	-	-	-	-	-	**n/a**
Restored accuracy between exam results and exam manual	Intangible	-	-	-	-	-	**n/a**
Total Savings:		**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Assumptions:

1 - Estimated costs for six desktops and two laptops to function as examiner consoles, acquired through existing State contracts with hardware vendors.

2 - Per STS cost proposal, the ruggedized tablets are $3704.66 each, and the State plans to acquire 14 tablets.

3 - Per DMV staff this implementation is planned separately from the Examiner implementation, which raises the expected cost per STS proposal from $12,000 to $28,400.

4 - Translation services conducted through an STS subcontract, estimated based on DMV exam word count. Assumes four languages will be requested, at $0.86 per word, with 4,640 words in total for the driver and motorcycle exams combined.

5 - Per STS cost proposal, includes 34 test unit licenses.

6 - Per STS cost proposal, based 34 test units at $450 annual maintenance fee.

7 - Per STS costs proposal, based on 14 tablets at $750 per tablet.

8 - Derived from DMV projected resource estimates. Five year technical staff commitment estimated at 3,500 hours, operational staff commitment estimated at 5,200 hours.

9 - Derived from DMV projected resource estimates. Five year technical staff commitment estimated at 1,094 hours, operational staff commitment estimated at 114 hours, business staff commitment estimated at 348 hours. Fiscal year 2014 costs reflect front end loading of resources during implementation.

10 - Estimated fees based on 3% of project implementation costs, including implementation costs associated with DMV staffing, per DII guidance

11 - For FY 2014, estimated DII fees are included as part of DMV expenses. There are no estimated changes associated with revenues. There are no non-staff costs projected with the current Q-Matic solution.

APPENDIX C – RISKS SUMMARY

Risk #	Risk Summary	Risk Impact / Probability
R1	There is a risk that the implementation timeframe associated with the ATS acquisition will extend past the deadline for federal funding, jeopardizing federal funds and increasing acquisition cost to the State.	Moderate / High
R2	There is a risk to project scope because no preliminary statement of work or implementation plan from the vendor exists that is specific to Vermont's automated testing system replacement project.	Moderate / High
R3	The project costs and timeline are moderately at risk because the State has not finalized the sources from which it will procure the hardware needed for the replacement automated testing system.	Moderate / Moderate
R4	The project scope cannot be fully resolved because the DMV has not finalized decisions related to the technical architecture of the replacement automated testing system, including whether to internally host the system or ask STS to host it.	Moderate / Moderate
R5	There is a risk to project staffing during implementation given that key STS staff assignments have not been finalized because a contract has not been executed.	Moderate / Moderate
R6	The number of language interpretations needed for the replacement automated testing system has not been finalized, which contributes to ambiguity in total project cost.	Low / Moderate
R7	The State's ability to utilize federal grant money for the project is at risk because the majority of the solution implementation will take place during November and December, and staff availability during the holiday schedule could put further strain on the project timeline.	Low / Low

APPENDIX D – ISSUES SUMMARY

Issue #	Issue Description	Issue Impact
I1	No contract between the DMV and STS has been drafted. A number of factors related to the procurement have not been determined by the State, including the technical architecture, the number of language interpretations, and the hardware sourcing plan.	High
I2	The final cost of the contract has not been finalized.	High
I3	The State's RFP for the automated testing system replacement project did not request a staff loading chart that would indicate the number of hours required of DMV staff during the course of the project.	Low