Oregon
Kate Brown, Governor

Liquor Control Commission
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9/14/2016

Dear Co-Chairs Senator Riley and Representative Nathanson:

Please accept the Oregon Liquor Control Commission's Recreational Marijuana Program Cannabis Tracking System Project "Project Evaluation and Closeout Report" and Marijuana Online Licensing System Project Status Report. If you have questions, please contact Ranee Niedermeyer, Government Relations and Communication Director at 503-872-5044 or by e-mail: Ranee.Niedermeyer@oregon.gov.

Thank you for the opportunity to share these documents with the Joint Interim Committee on Information Management and Technology.

Sincerely,

Will Higlin, Senior Director of Licensing and Compliance, Oregon Liquor Control Commission

Nathan Rix, Project Portfolio Director, Recreational Marijuana Program, Oregon Liquor Control Commission

Oregon Liquor Control Commission **9/14/2016**
Marijuana Online Licensing System Project—EXPANDED SCOPE

Report Period Ending	August 2016	**Project Sponsor**	Will Higlin, OLCC
Project Director	Nathan Rix, OLCC	**Project Manager**	TJ Sheehy, OLCC

Previous Reported Milestones:

- Phase 1 (Original Scope): January 4, 2016—Online application and licensing system for recreational marijuana. Delivered on-time and on-budget, and in accordance with statutory deadline.
- Phase 2: (Expanded Scope): March 31, 2016—Cash payments for license fees and Cannabis Tracking System web service. Delivered on-time and on-budget.
- Phase 3: (Expanded Scope): July 19, 2016—Worker permit application system and new requirements under OAR Chapter 845, Division 25. Delivered on-time and on-budget.

Current Reporting Milestone:

- Phase 4: (Expanded Scope): August 16, 2016—Packaging & labeling application system for both OLCC licensees and Oregon Health Authority medical marijuana registrants. Delivered on-time and on-budget.

Future Reporting Milestones:

- Phase 5: (Original Scope): December 15, 2016—License renewals and improved administrative interface. On-track to be delivered on-time and on-budget. NIC USA PM and OLCC business analysts are finalizing requirements and moving into development in early October, 2016.
- Further phases can be developed to respond to new legislation and agency rule making.

Project Health (Overall)	**Project Health (Schedule)**	**Project Health (Budget)**
Green	Green	Green
Project Milestones	**Progress Summary**	**Final Date**
User acceptance testing ("UAT")	Completed by RDI Contractors and OLCC technical/business users	7/29- 8/1/2016
Packaging and labeling administrative interface deployment	Complete; actively used by OLCC admin staff and OLCC/OHA applicants	8/16/2016 – reviewed and completed by OLCC team
Phase 4 close out	Complete (on-budget: $32,370 annual subscription fee with a one-time fee of $117,00)	8/18/2016
Phase 5 requirements gathering	Initiated by NIC USA project manager	8/18/2017, 8/25/2016

Recreational Marijuana Program

Cannabis Tracking System Project

Project Evaluation and Closeout Report

Document Control History

Version	Date	Author	Changes
1.0	05/16/2016	Pam Manion, Galaxux	Initial Version
2.0	05/17/2016	Pam Manion, Galaxux	Revised version, based on feedback from State Chief Information Office Oversight Analyst
3.0	05/19/2016	Wasi Khan, Galaxux	Revised version, based on feedback from IT Infrastructure Portfolio Director
3.1	05/20/2016	Nathan Rix, OLCC	Minor revisions
3.2	06/14/2016	Nathan Rix, OLCC	Additional Revisions and Formatting Adjustments
4.0	07/01/2016	Nathan Rix, OLCC	Information and Data Insertions from selected Project Documents
4.1	09/01/2016	Nathan Rix, OLCC	Information Updates

CONTENTS

1. Overview

The purpose of this report is to document the Oregon Liquor Control Commission's ("OLCC") evaluation and close out of the Cannabis Tracking Project ("CTS Project" or "Project") as successfully completed. The Project went live as scheduled on March 31, 2016, with full scope as defined by the initial gap analysis[1]. All Project requirements identified in the foundational project management documentation and applicable Project contracts as "in scope" are fulfilled.

The OLCC has transitioned the completed System into ongoing operation and maintenance ("O&M"). As part of the System O&M, OLCC is planning for correction of a short list of five (5) low priority System defects (bug fixes) and developing and implementing a list of System enhancements. The identified System defects are low priority and the System vendor will correct them at no additional cost to OLCC. The defects do not adversely impacts the current CTS operations.

The OLCC IT Infrastructure Portfolio

The Project was part of an OLCC Recreational Marijuana Program ("Program") Information Technology ("IT") Infrastructure Portfolio of Projects ("IT Portfolio") that included the CTS, and a planned online licensing system ("Licensing System")[2] for the Program. Due to extreme time constraints imposed by Measure 91[3], the way that system functionality is required to be implemented, and with Licensing System functionality needing to precede recreational marijuana seed-to-sale traceability; OLCC had to make a critical, time-based decision to procure a Licensing System solution separate from the planned CTS[4].

[1] The initial gap analysis showed the need for a less than 10% customization of the base Franwell *Metrc* system.

[2] In December 2014, the Legislature provided the OLCC with resources to establish the Recreational Marijuana Program. Based upon this legislative action the OLCC initiated an upfront planning and assessment effort to:

1. Detail the business requirements for a Licensing System;
2. Detail the business requirements for the STS System;
3. Identify and assess technologies and development approaches for implementing the system(s); and
4. Recommend the best solution for meeting the business requirements by the Legislature's imposed deadline.

[3] In 2014 the State of Oregon's electorate passed Measure 91 (The **Oregon Recreational Marijuana Initiative**). The measure legalized recreational marijuana for people ages 21 and older, allowing adults over this age to possess limited amounts of marijuana and limited numbers of marijuana plants. The measure tasked the OLCC with administering a recreational marijuana program and issuing business licenses.

[4] OLCC balanced multiple factors in determining whether to pursue a single solution that would meet licensing and cannabis tracking requirements, at the risk of not meeting Measure 91 timelines; or procure a Licensing System separate from the CTS. OLCC considered alternatives for two (2) sets of high-level functionality: Licensing and cannabis tracking traceability. The very nature of recreational marijuana, with the need for rigorous controls and risk management while providing an online forum for system users, made the procurement of a single solution challenging; it must provide licensing and payment functionality as well as plant traceability, inventory management, and chain of custody functions. The Licensing System Project was a separate project within the agency's Program IT Infrastructure Portfolio, and is referenced in this report for context only.

The Licensing System

The OLCC determined the least risky approach to develop and implement the Licensing System would be to contract with NICUSA through the State of Oregon's E-Government Program statewide master agreement. NICUSA is a proven vendor under contract with the State of Oregon to operate the State's E-Government Portal[5]. This contractual engagement permits NICUSA to establish contracts with State Agencies for the development of new online solutions. OLCC's contract with NICUSA to develop the Licensing System saved the agency several months of time and positioned the Program to be in full compliance with the legislative mandate to accept license applications by January 4, 2016.

The CTS

The OLCC determined to pursue proven Software as a Service ("*SaaS*") solutions for the required CTS functionality[6]. An initial market review identified commercially available software that offered base functionality for marijuana traceability, which could be configured to support the specific, detailed requirements of the Recreational Marijuana Program. In March 2015, the Department of Administrative Services ("DAS") on behalf of OLCC released an open and competitive solicitation to procure a *SaaS* solution. This competitive procurement resulted in OLCC's selection of Franwell and its proprietary Marijuana Enforcement Tracking Reporting Compliance ("*Metrc*") *SaaS* solution.[7]

It was clear from the analysis completed and the constraints around OLCC technical resources that purchasing a *SaaS* solution offered more potential for the Program's success. Franwell's track record of successful implementation within tight timelines and its clear understanding of Oregon's need as demonstrated by its proposal submissions and product demonstrations, made the company a good fit for Oregon.

The OLCC managed the CTS Project as one of the State of Oregon's major IT projects, with participation by the Legislative Fiscal Office, the State Chief Information Office, a project management contractor and an independent quality management consultant[8]. These State stakeholders, project management and quality management professionals, and Franwell facilitated OLCC's compliance with the State's *Stage Gate*

[5] NICUSA, Inc. acts as a provider of official government web sites, online services, and secure payment processing solutions in several states across the United States. The State of Oregon has engaged NICUSA in this capacity since 2011.

[6] OLCC did not have sufficient internal capacity or expertise to build from scratch and then support an internal, fully functional cannabis tracking system. Pursuit of a *SaaS* solution was the obvious, reasonable alternative. One prime benefit of purchasing existing software is in core infrastructure. The core technology has already been developed and functions already integrated, based on the standards and best practices developed in previous implementation.

[7] *Metrc* is a proven system having already facilitated the State of Colorado's success in establishing its medical and recreational marijuana program, which also has a cannabis tracking system.

[8] The independent quality management consultant conducted an initial risk assessment for the STS Project, and performed quality control reviews of the Project's business case and integrated project plan. The results of such reviews were favorable to the Project. By the time the consultant was prepared to conduct periodic reviews of product and process performance, the Project was complete.

Review process for Oregon's major IT projects.[9] The Project did not begin execution in earnest until September 2015, and the CTS was complete and in *go live* operation by March 31, 2016.

2. Project Evaluation

2.1. Customer Acceptance of Contractor Deliverables

Multiple independent contractors, including the following, developed and completed Project-related Deliverables for OLCC: *Galaxux Inc*. (project management), *Research Data Inc.* (RDI) (business analysis and user-acceptance testing consulting), *Franwell* (the *SaaS* solution provider), and *SLI Global Solutions* (the independent quality management consultant). OLCC has accepted all required Deliverables without condition.

2.2. Attainment of Business Objectives

The IT Infrastructure Portfolio of Projects had three (3) business objectives:

1. Create an IT infrastructure for the Program;
2. Ensure that the established IT infrastructure supports Federal and State guidance for recreational marijuana; and
3. Provide the State of Oregon and the marijuana Industry with a useable and useful marijuana tracking tool.

The OLCC completely satisfied all three.

Objective One: Create IT Infrastructure for New Recreational Marijuana Program

100% Satisfaction: The infrastructure necessary to support the Recreational Marijuana Program is complete.[10] While late breaking requirements surfaced within 90 days of CTS *go live*, they were for additional capability that could be met within the existing infrastructure, and did not change the infrastructure itself. The infrastructure consists of technology to carry out two primary functions -- the licensing of marijuana related businesses and the tracking of marijuana from seed to sale.

1. **Success Factors**

   There were two success factors for this objective. OLCC met both.

   a. The ability to issue licenses and manage licensees. Success of the online Licensing System to accomplish this task was a dependency for the CTS Project; and

   b. The ability to trace marijuana from plant to end product, i.e., the CTS.

[9] The fast pace to success for the Project is a testament to the Program's planning and preparedness, and the value add from the State's *Stage Gate Review* process and welcome participation by the Legislative Fiscal Office and the State Chief Information Office.

[10] This Section 2.2 discussion includes reference to the success of the Licensing System Project, as well as the STS Project (with the latter project serving as the focus of the full report).

2. **Nature and causes of variances**

   There were no variances.

Objective Two: Ensure IT Infrastructure Supports Federal and State Guidance for Recreational Marijuana

100% Satisfaction:

1. **Success Factors**

   There were multiple success factors for this objective, all relating to the current guidance from the Federal government found in **DAG 08-29-2013**, Memorandum from Deputy Attorney General James M. Cole, dated August 29, 2013, *Guidance Regarding Marijuana Enforcement* (the "Cole Memo").

SUCCESS FACTOR	HOW IT INFRASTRUCTURE PORTFOLIO FUNCTIONS SUPPORT
Prevent the distribution of marijuana to minors	The licensure process for marijuana licensees will include education and premises postings similar to the alcohol program. Holders of marijuana licensees will be traced and managed similarly to how holders of alcohol licenses and permits are managed today.
Preventing revenue from the sale of marijuana from going to criminal enterprises, gangs and cartels	Interaction with the Department of Revenue, and reconciliation with OLCC financial services. Traceability of marijuana from viable plant to end product helps to ensure marijuana products, and related revenue, show a secure chain of custody.
Preventing the diversion of marijuana from where it is legal under state law to other states	Inventory management functionality ensures all products are tagged and traced using the same identification number that traces the marijuana from seedling to the creation of a final product. Any transport of marijuana will have a transport manifest that indicates what is being shipped and where is it being shipped to, as well as indication of the shortest route to get to the final destination. The manifest is both electronic and paper. The electronic manifest will be available for viewing by law enforcement.

SUCCESS FACTOR	HOW IT INFRASTRUCTURE PORTFOLIO FUNCTIONS SUPPORT
Preventing state-authorized activity from being used as a cover for illegal activity	This principle is addressed by several Portfolio components, including licensing, and inventory management which imposes a high degree of transparency into all aspects of product inventory, from growing to transporting. Product management supports identification of dollars made through sales, and data sent to DOR and reconciled by OLCC ensures appropriate taxes are invoiced and traced.
Preventing violence and the use of firearms in the cultivation and distribution of marijuana	Tracking of licensees, and case management activities that include inspection of the premises to which a license is attached will help support this goal.
Preventing drugged driving and other adverse public health consequences associated with marijuana use	Product management functions support the recording of lab results for potency, foreign elements, pesticides, etc. If a product fails any safety tests, it will be flagged and prevented from going to market. Contaminated or defective products already in the market can be identified quickly and recalled because of the chain of custody assurance that the Cannabis Tracking System provides.
Preventing the growing of marijuana on public lands	Tracking of licensees, and case management activities that include inspection of the premises to which a license is attached will help support this goal.

2. **Nature and causes of variances**

Late breaking requirements due to changes during the 2015 and spring 2016 legislative sessions resulted in the need for additional functionality that was not originally in CTS Project scope. As a result of legislative changes, rules were adjusted and new functionality has been planned to address these changes. All changes are being tracked using the Program's enhancement service order process. *For example, the Laboratory license was created in statute. In defining the reporting responsibilities of the new license, testing, retesting and remediation processes were added to the CTS.*

Objective Three: Provide the State of Oregon and the Marijuana Industry with Useable and Useful Marijuana Tracking Tool

100% Satisfaction: There are three ways for an Oregon marijuana business to get data into the CTS. These include manual entry, upload by *.CSV* file, or use of the Oregon Application Programming Interface (API).

In addition to these CTS data input avenues; the industry is supplied with reports, ability to track the movement of plants through growth phases and growing spaces, as well as the ability to track sales and transfers of marijuana products.

1. **Success Factors**

Quality Data

a. **High rate of data submission compliance** – A standardized process for data submission ensures licensees that they are sending data necessary to be compliant with state data capture laws and regulations in a form that facilitates the Program's systems' receiving and storing that data appropriately.

b. **Verifiable data integrity** – standardization in data transfer, along with appropriate and timely rules, edits, and error handling ensures that data in the Program's systems is complete, accurate, consistent, free from corruption, and unable to be exposed to unauthorized disclosure.

c. **Consistency –** A standardized, consistent method of submission is always preferable to having to use multiple modalities to provide required data. Requiring the use of multiple methods for submitting data (e.g. some data sets are sent electronically while other data sets require manual entry) results in undesirable consequences in compliance and data integrity as users develop work-arounds in order to manage unwieldy data submission processes.

Usability

a. **Ease of Use** – Providing data to the Program's systems should not be unduly burdensome to the end user.

Usability is defined by **five quality components**:

(1) **Learnability:** How easy is it for users to accomplish basic tasks the first time they encounter the design?
(2) **Efficiency**: Once users have learned the design, how quickly can they perform tasks?
(3) **Memorability**: When users return to the design after a period of not using it, how easily can they reestablish proficiency?
(4) **Errors**: How many errors do users make, how severe are these errors, **and how easily can they recover from the errors?**
(5) **Satisfaction:** How pleasant is it to use the design?

Electronic Data Transfer High Level Specification

a. The API must support data transfer FROM vendor applications to *Metrc* for:

(1) Inventory management;
(2) Transport management (chain of custody);
(3) Room management;

(4) Plant management;
(5) Employee management;
(6) Vehicle management;
(7) Sales management;
(8) User management and authentication; and
(9) Data synchronization.

b. **The API must support data transfer TO vendor applications from *Metrc* for**:

(1) Tax obligation;
(2) Error messages;
(3) Success/failure messages;
(4) Standardized look-up values (data to be standardized may include plant categories, product categories, room categories, etc.);
(5) Data synchronization;
(6) Advanced transport notification (notification that shipment is in progress); and
(7) Licensees.

c. The API must support data transfer FROM agency applications to *Metrc* for:

(1) License and licensee synchronization;
(2) License and licensee verification; and
(3) Success/failure messages.

d. The API must support data transfer TO agency applications from *Metrc* for:

(1) Tax obligation reporting and reconciliation;
(2) Compliance and case management purposes;
(3) Error messages; and
(4) Success/failure messages.

2. **Nature and causes of variances**

None

2.3. Attainment of Budget Objectives

Fiscal Year	Marijuana Legislatively Approved Budget for OLCC	Projected IT Infrastructure Portfolio Costs	IT Costs as Percent of Budget
2016	$4,083,137	$1,637,101	37%
2017	$4,249,796	$570,110	13%
2018	$3,530, 66	$315,350	9%
2019	$3,674,983	$203,675	5%
2020	$3,824,983 (projected)	$147,838	3%

* This table depicts the combined cost for the Licensing System and the CTS.

All approved changes to the Project's cost baseline have been identified and there is **no impact on the Project's budget**.[11] Concerning the required CTS bug fixes and enhancements, Franwell is completing the work related to these items at no additional cost, to date.

1. Planned budget;
2. Actual budget; and
3. Variance between planned and actual: **None**.

2.4. Adherence to Schedule

The planned milestone dates have been compared to actual milestone dates. For some project tasks, planned milestone completion dates were not met. **None of these delays adversely affected the Project's critical path, and the CTS went live as expected**. Final Deliverables have been provided and milestones completed.[12] The noted task delays had three primary causes:

1. **The delayed engagement of the independent quality management consultant for the Project**. There were two (2) false starts before engaging *SLI Global Solutions*. The original proposed cost from *SLI Global Solutions* for all possible quality management Deliverables for the Project exceeded the Project's budget for independent quality management services by about 7%. Additional time taken for cost negotiations did result in clarifying Project needs, which led to a mutually agreeable right-sizing of the contractor's approach and proposed cost related to its delivery of independent quality management services on the Project.

2. **Over-allocation of Franwell resources**. OLCC assigned duties to the Franwell project manager that were outside of the previously approved Project Schedule. Nonetheless, these additional duties involved the Franwell project manager in critical statewide "roadshows", and important training activity for the marijuana industry. As a result, the delivery of some of the Franwell Deliverables missed scheduled deadlines.

3. **Changing legislation impacted some milestone dates**. Dates had been set with one understanding of tasks leading up to the respective milestones. However, subsequent legislation and OLCC administrative rule changes sometimes caused a task to assume less importance, resulting in its delay due to other emergent priorities.

2.5. Satisfaction of User requirements

OLCC classified Project requirements into the following categories:

1. **System Requirements** – standards for Franwell to meet, based on Business Processes and functional and non-functional requirements.

    a. Architecture;

[11] For more information please see the Project Budget in the Business Case (Item #1 in the Project Deliverables Table in Section 2.8 of the report).

[12] For more detail, please see the Project Schedule (Item #7 in the Project Deliverables Table in Section 2.8 of the report).

b. Data rules;
c. Interfaces – (User interface *(UI)*);
d. Interfaces – API;
e. Events, alerts;
f. Notifications, messages; and
g. Data upload / download.

2. **Business Processes** – standards for Franwell to meet, based on requirements gathering, Marijuana Program business process mapping and internal and external research (e.g. examination of cannabis traceability systems in Colorado and Washington).

    a. Inventory management;
    b. Transfer (within the CTS);
    c. Transfer out of CTS inventory;
    d. Tax related tracking & reporting;
    e. Product testing;
    f. Search and reports;
    g. Audit trail support; and
    h. Records retention.

3. **Administrative User Functions** – standards for Franwell to meet, based on industry standards and best practices for security management with *SaaS* technology systems.

    a. Security, access management

4. **Functional Requirements** – standards for Franwell to meet, based on OLCC's agency policy, Marijuana Program technical specifications and contract negotiation.

    a. Standards, legal;
    b. Service level, availability; and
    c. Documentation, processes.

The OLCC and Franwell completed all mandatory Project requirements needed for CTS *go live* by March 31, 2016.[13]

[13] In the next release of CTS, OLCC plans to release a few additional System requirements not identified in the original Project scope.

2.6. Business Case realization

OLCC has completely satisfied the declared CTS Project goals and objectives in the context of scope, time, budget and quality as set out in the Project Business Case, Project Charter, Integrated Project Plan, and Project Schedule.[14]

Section 2.2 explores the Project's three business objectives:

1. Create an IT infrastructure for the Program;
2. Ensure that the established IT infrastructure supports Federal and State guidance for recreational marijuana; and
3. Provide the State of Oregon and the marijuana Industry with a useable and useful marijuana tracking tool.

All have been attained at 100%.

1. Create an IT infrastructure for the Program. See Section 2.7 for the productivity experienced in the CTS to date.
2. Ensure that the established IT infrastructure supports Federal and State guidance for recreational marijuana.
3. Provide the State of Oregon and the marijuana Industry with a useable and useful marijuana tracking tool. The CTS has a *.cvs* upload functionality and an API certification process for third-party vendors, which gives licenses more options to comply with inventory tracking rules.

2.7. Productivity Experienced

The Program is beginning to harness the regulatory power of the CTS in the early stage of its operations. Over 500 industry users have registered over 120,000 seedlings, immature, vegetative, and flowering plants, using the RFID tagging technology inherent in the CTS.

The Program will fully realize productivity after all five license types for recreational marijuana have been issued. This will take approximately six months from the date of this report. Plants must complete their growth life cycle and then flow through the supply chain. Once tagged products reach the retail point of sale, the Program will have data for full analysis. (Please refer to table below for an illustration of the kind of reportable information and data the System can generate).

[14] For more details concerning Project goals and objectives, please refer to the *Overview* section in this report, the Project Business Case, Project Charter, Integrated Project Plan, and Project Schedule (Item #1, Item #2, Item #4, and Item #7, respectively, in the Project Deliverables Table in Section 2.8 of the report).

2.8. Project Deliverables

All Project Deliverables are stored on *Alfresco*. This is OLCC's repository for internal and Project-related documentation. This repository is backed up on a regular basis to the local OLCC backup servers. OLCC accepted all listed Deliverables with no conditions or contingencies.

#	DELIVERABLE	COMPANY	LOCATION
1	Business Case	Galaxux	Documents>Project Management Documents>Business Case
2	Charter	Galaxux	Documents>Project Management Documents>Charter
3	Risk Assessment Report/Risk Management Plan	Galaxux	Documents>Project Management Documents>Risks and Issues
4	Project Management Plan (Integrated Project Plan)	Galaxux	Documents>Project Management Documents>Integrated Project Plan
5	Scope Document	Galaxux	Documents>Project Management Documents>Scope Management
6	Tasks, Critical Tasks, and Resources	Galaxux	Documents>Project Management Documents>Tasks and Resources
7	Project Schedule	Galaxux	Documents>Project Management Documents>Schedule
8	Change Management Plan, Change Request Forms and log (Completed ESO's and ESO log are in same location).	Galaxux	Documents>Project Management Documents>Change Management
9	Communication Plan	Galaxux	Documents>Project Management Documents>Communication
10	Issue Management Plan	Galaxux	Documents>Project Management Documents>Risks and Issues
11	Status Reports	Galaxux	Documents>Project Management Documents>Weekly Status Reports
12	Commission Reports	Galaxux	Documents>Project Management Documents>Commission Reports
13	Traceability and Requirements Model	RDI	Documents>Requirements and Rules
14	Business Rule Format Template	RDI	Documents>Requirements and Rules
15	Risk Analysis Template	RDI	Documents>Project Developed Templates
16	QA Plan Format	RDI	Documents>Project Developed Templates
17	System Test Plan Format	RDI	Documents>Project Developed Templates

#	DELIVERABLE	COMPANY	LOCATION
18	Test Script Format	RDI	Documents>Project Developed Templates
19	Test Results Format	RDI	Documents>Project Developed Templates
20	Requirements Analysis Assessment	RDI	Documents>Project Developed Templates
21	Business Process Model Format	RDI	Documents>Project Developed Templates
22	Requirements Analysis Report	RDI	Documents>Project Developed Templates
23	UAT scripts	RDI	Documents>Testing>Test Scripts
24	UAT Training Report	RDI	Documents>Testing>UAT Planning
25	UAT Facilitation Report	RDI	Documents>Testing>Test Results
26	Existing Technical Documentation	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
27	Project Implementation Plan	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
28	Project Schedule	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
29	Disaster Recovery and Business Continuity Plan	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
30	Fit Gap Analysis and System Design Document	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
31	Requirements Validation Report	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
32	Iteration Plan and Design Document	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
33	Updated Fit Gap and System Design Document	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
34	Configuration and Customization Document	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
35	Updated Configuration Document	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
36	Integration and Production Readiness Report	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
37	System Testing Report	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell

#	DELIVERABLE	COMPANY	LOCATION
38	UAT Plan	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
39	UAT Test Environment	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
40	UAT Defect Tracking Reports	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
41	UAT Test Results Report	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
42	Training Plan	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
43	Training Materials	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
44	API Certification Reports	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
45	Implementation Plan	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
46	Go-Live Checklist	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
47	Final Implementation Documents	Franwell	Documents>Project Management Document>Contract Mgmt>Franwell
48	Metrc Marijuana Tracking System	Franwell	https://or.metrc.com
49	IPP QA Assessment	SLI Global	Documents>Project Management Document>SLI Global
50	Business Case QA Assessment	SLI Global	Documents>Project Management Document>SLI Global
51	Initial Risk Assessment Report	SLI Global	Document>SLI Global

3. Transition to Operations and Maintenance

Transition to operations and maintenance processes, procedures, and artifacts can vary depending on the technology associated with a project. Because the CTS is a *SaaS* solution its transition to O&M includes items commonly associated with project close-out of a SaaS project, in addition to those items associated with an IT project regardless of technology, e.g., help desk support and change control.

Section 3.1 of this report sets out the exhaustive checklist items related to the CTS transition to O&M. The report elaborates on each checklist item following the statement of the full checklist.

3.1. Project Closeout Transition checklist

NUMBER	ITEM	STATUS
1	Have all the product or service deliverables been accepted by the customer?	Yes
1.1	Are there contingencies or conditions related to the acceptance? If so, describe in the Comments.	No
2	Has the project (or project phase) been evaluated against each objective established in the product description and Integrated Project Plan?	Yes
3	Has the actual cost of the project (or project phase) been tallied and compared to the approved budget?	Yes
3.1	Have all approved changes to the cost baseline been identified and their impact on the project documented?	Yes
4	Have the actual milestone completion dates been compared to the approved schedule?	Yes
4.1	Have all approved changes to the schedule baseline been identified and their impact on the project documented?	Yes
5	Have all approved changes to the project requirement been identified and their impact on the performance, cost, and schedule baselines documented?	Yes
6	Has operations management formally accepted responsibility for operating and maintaining the product(s) or service(s) delivered by the project?	Yes
6.1	Has the documentation relating to operation and maintenance of the product(s) or service(s) been delivered to, and accepted by, operations management?	Yes
6.2	Have training and knowledge transfer of the operations organization been completed?	Yes
6.3	Has the projected annual cost to operate and maintain the product(s) or service(s) been approved and funded? If not, note and explain who is responsible to resolve.	Yes
7	Have the resources used by the project been reassigned to other units or projects?	Yes

8	Has the project documentation been archived or otherwise disposed as described in the project communication plan?	Yes
9	Have the lessons learned been completed and appropriately filed?	Yes
10	Have business continuity and disaster recovery plans been developed?	Yes
11.	Has a help desk support plan been developed?	Yes
11.1	Have help desk staff resources been assigned, trained and ready to support the system?	Yes
12.	Have accepted levels of performance been defined?	Yes
12.1	Have methods for monitoring performance been developed?	Yes
13	Have processes been developed for defect management?	Yes
14	Have release management procedures been documented?	Yes

3.2. Operations and Maintenance Plan

Franwell provides the CTS as a service to OLCC using the *SaaS* model. Franwell will provide all maintenance and operations for the System in compliance with its contractual obligations to OLCC. OLCC staff will not have to assume direct responsibility for the maintenance and operations of the System. OLCC will manage the Recreational Marijuana Program, which may identify changes needed to the CTS. As changes are identified they will be documented and prioritized, then shared with Franwell to determine timing and delivery of the functionality.

Training and Knowledge Transfer

Franwell continues to provide customized training classes for users of the CTS. OLCC's Marijuana Program provides direction and scheduling for each training session. Training classes are performed in-person by Franwell and also online in real-time by Franwell staff.

Regulatory training classes for OLCC staff explore functionality available to State users and functional requirements used by Licensees. Franwell provides monthly follow up trainings to OLCC staff. After initial start-up training, any further training needs (e.g, for new hires or refresher courses) will be handled in-person or via webinar, dependent on OLCC's preference. The OLCC Marijuana Program and Franwell meet weekly to discuss the progress of OLCC staff in mastering the new technology.

OLCC training classes are roughly four hours each. Three hours are devoted to Licensee functionality and 1 hours to State functionality. Prior to training, OLCC trainees will have access to manuals and reference materials.

For OLCC investigators using mobile devices for audit functions, unlimited additional one hour training programs will be provided with additional field training and "hands-on" demonstrations. Training support for OLCC enforcement is handled by dedicated Franwell staff. This includes, but not limited to: account

analysis, industry documentation retrieval, transaction research and any specific software-related questions.

Franwell will provide OLCC with "Train the Trainer" education program and utilize Franwell's ongoing support. Franwell will deliver at least one train the trainer program in person at an OLCC-designated location using "sandbox" sites. Franwell will provide trainees with additional guidance and first training class support with Franwell on site for Q&A. The "Train the trainer" education program can be offered for Licensees, but has not been needed to date due to the continuous webinar trainings offered.

3.3. Operations and Maintenance Cost

OLCC calculated System costs for a five-year period as part of Project planning. The Program borrowed Project costs from the OLCC liquor program, and will pay that program back with funds from taxes on recreational marijuana products. The ongoing funding for CTS operations has been projected as part of the legislatively approved Program budget for the OLCC.

For a high-level summary of project budget costs, please see the table in Section 2.3.

3.4. Release of Project Resources

Personnel resources assigned to the Project were internal OLCC staff and contractors, only. OLCC had no matrixed staff on the Project. OLCC staff will return to their primary business units, as identified in the table below.

Personnel/Facility/Equipment Resource	Person or Organization Who Received Resource	Turnover Date
Personnel		
Nathan Rix	OLCC Recreational Marijuana Program	5/20/16
TJ Sheehy	OLCC Recreational Marijuana Program	5/20/16
Alisa Larsen	OLCC Licensing Services	5/20/16
Debbie Amsberry	OLCC Financial Services	5/20/16
Amanda Borup	OLCC Recreational Marijuana Program	5/20/16
Patrick Owen	OLCC Recreational Marijuana Program	5/20/16
Sarah Morgan	OLCC Recreational Marijuana Program	5/20/16

Lindsey Linney	OLCC Recreational Marijuana Program	5/20/16
Ali Brophy	OLCC Financial Services	5/20/16
Geoff Green	OLCC Financial Services	5/20/16
Facilities		
Room 117	OLCC Recreational Marijuana Program	5/20/16
Equipment	N/A	
Software Tools		
Alfresco	TJ Sheehy is a manager in *Alfresco* in order to manage access and permissions.	5/20/16
Other	N/A	

3.5. Project Documentation Transitioned

OLCC has updated Project documentation as necessary and appropriate, and it now resides in *Alfresco*, the agency's system of record. For example, the Project risk log has been closed, Project issues have been closed, and Project requirements and gap documents have been appropriately updated.

OLCC now maintains *Alfresco* as an internal agency resource. The site is backed-up regularly by OLCC's IT team. OLCC has updated the *Alfresco* site to ensure that Project documents are easily identifiable and accessible.[15]

[15] Please refer to Section 2.8 of the report for a list of primary Project artifacts and their location in *Alfresco*.

4. Disaster Recovery and Business Continuity

Franwell provides for a Secure Hosted Environment ("SHE") for the CTS. The SHE footprint consists of a Production ("PR") site and a Disaster Recovery ("DR") site. These sites are linked via a Virtual Private Network ("VPN") connection. The VPN supports site-to-site, Log Shipping ("LS") and Domain Controller ("DC") communications. The PR site has a public connection to the internet, whereas the DR site does not. All communication occurs over the secure VPN. The PR site is located in Chicago, Illinois and the DR site is in Dallas, Texas. These sites are located approximately 900 miles apart.

1. The PR site is engineered as a managed site. Engineers configure and maintain the SHE. Franwell's vendor provides the physical facility and a general infrastructure based on a tier 1 communications backbone. It also provides the hardware, storage, images, operating systems, and databases.

   An Intrusion Detection System ("IDS") sits behind the firewall at the PR, and monitors all public communication to and from the site.[16] The primary functions of the IDS are:

   a. Constant intrusion detection;
   b. Vulnerability scanning on-demand and automated for all servers;
   c. Web server traffic monitoring for proactive intrusion and SQL injection prevention;
   d. Meets compliance for PCI, HIPAA, GLBA, and Sarbanes-Oxley;
   e. Continuous updates for profiling threats; and
   f. Learns traffic & use patterns to proactive detect abnormal use.

   The PR site also has a Load Balancer ("LB"), which monitors incoming traffic and routes it to the most appropriate Web Virtual Machine ("VM"). The Log Manager ("LM") logs all traffic and server request. The heart of the PR site consists of the Hypervisors and the VMs. There are three types of VMs: DCs, Web servers, and Database servers. Each organization served has at least two Web servers and two Database servers as part of an active/passive cluster. All organizations served share at least two DCs, and the DCs are shared across the PR and DR sites. The number of Hypervisors and VMs can be scaled based on performance needs.

2. The DR is a scaled down version of the PR. The DR site has a VPN connection and no "Public" access. Since there is no public access there is no need for the IDS. Each organization served has one Web server and one Database server; and load balancing is not needed. The primary use of this site during daily operations is LS, i.e., the process of automating the backup of a database and transaction log files on a primary (production) database server, and then restoring them onto a standby server. This process occurs every 15 minutes.

3. Franwell categorizes disasters in the following levels:
   a. Level 1: PR data compromise and/or corruption;
   b. Level 2: PR hardware interruption and/or failure; and
   c. Level 3: Total compromise of the PR site (Catastrophic).

[16] The IDS does its work on an observation basis causing no performance hit or service interruption.

A Level 1 disaster recovery requires a restore of the data from the DR site. This results in interruption of service for 2 hours and a maximum of 15 minutes of data loss.

A Level 2 disaster recovery requires an assessment by Franwell and its vendor as to the extent of the hardware failure. If the failure results in the PR being potentially non-operational for over 24 hours, then the PR-DNS (Public connection) will be re-routed from the PR to the DR until the PR is again operational. If the situation at the PR site continues beyond 24 hours, then Franwell will begin engineering the DR to become the PR.

A Level 3 disaster requires that Franwell immediately re-route the PR-DNS to the DR and begin engineering the DR to become the PR.

4. Disaster Recovery Team. Franwell has in place a support staff that is well trained to handle disaster and recovery events.

   a. Incident Notification – Jesse Naranjo (Franwell);
   b. System Owners – Jesse Naranjo and John Stephens (Franwell);
   c. Database Owner – John Stephens (Franwell);
   d. Application Owner – Jesse Naranjo and John Stephens;
   e. Off-site Storage – Jesse Naranjo (Franwell);
   f. Datacenter Contacts – RS Team;
   g. *Metrc* Support Team Lead – Cherie Denholm (Franwell); and
   h. State of Oregon Contact – Nathan Rix (OLCC).

5. The following is a sample *Metrc* disaster recovery procedure that would be followed in reaction to a disaster causing partial loss of use of the production datacenter (resulting in less than six (6) hours of estimated downtime).

STEP	ACTION
1	Incident Notification Person will contact all key contacts.
2	Database owner will apply any non-processed transactional backups to the recovery database to bring it as up-to-date as possible.
3	Datacenter contacts will be contacted to get a recovery timeframe assessment.
4	Key system stakeholders will be notified of the expected hardware recovery timeframe.
5	During hardware recovery, DRT will continue to monitor progress of datacenter team's efforts and provide system stakeholders with updated progress.
6	Once hardware use is restored, normal operation of system will commence.

6. Franwell' s Service Level Agreement with Rackspace contains the following:

    a. A test environment, configured identically to the production environment, that will remain operational throughout the term of the Contract and any extensions, and which will be used by the State for testing and training. All servers, virtual machines, firewall, and load balancer are HIPAA compliant;
    b. 99.99% guaranteed network uptime;
    c. Notifying the State of any required hardware replacement;
    d. Database failover;
    e. Site failover and replication;
    f. Server failover;
    g. One-day recovery time objective (Max downtime 24 hours);
    h. Database and application availability monitoring 24/7;
    i. In the event of an alert, notification of the issue and response shall be immediately provided to the State;
    j. Recovery point objective is 15 minutes;
    k. For non-database data, full backups on Fridays and incremental backups on all the other days of the week;
    l. Database nightly full backups;
    m. Database differential backups every 2 hours;
    n. Database transaction logs every 15 minutes;
    o. Use of SQL Server LS to send the data to the remote site. Data will be automatically loaded into the DR database. Two running copies of the database shall be running full time at both sites. The DR site will be at most 15 minutes behind. The backups will be stored on RAID 5 in Texas and Illinois;
    p. Identifying all server and application service dependencies, including ports and protocols (in a format approved by the State);
    q. Identifying underlying storage configuration (RAID group design for servers);
    r. Listing all software versions and updates at the time of transition;
    s. Use of a Hypervisor tool for migrating VMs from the hosting environment to the State Infrastructure that should be VMware compatible; and
    t. Hosting Services that support secure socket layer (SSL) communication over the internet.

7. The Back-Up Strategy involves:

    a. **Database** – Full database backups are completed once a day. Differential database backups are completed every 3 hours. Transaction backups are completed every 15 minutes.

    b. **Virtual Machines** – Fully automated backups of virtual machines (VM) are completed once a week. Differential VM backups are completed nightly.

    c. **Alternative Datacenter** – Web servers at the alternative site are updated at the same time as production web servers for any application updates. Alternative datacenter databases are updated every 15 minutes using SQL Log Shipping.

5. Change / Scope Control

In O&M the Program uses formal change control processes and tools to ensure that scope is managed after CTS *go live*. There are currently 13 change requests in the queue for the CTS. OLCC has documented these change requests in individual enhancement service orders ("ESO"). These planned ESOs are at no or nominal additional cost to the Program. ESO numbers 007, 017, 032, and 034 are complete as of July 1, 2016 and were delivered at no cost.

An inter-agency team made up of Franwell developers, OLCC policy and business analysts, and representatives from the Oregon Health Authority, Oregon Department of Revenue and Oregon Department of Agriculture may meet to review and to consider additions to the list of ESOs. They may engage in assigning priorities to ESOs and may also recommend the creation of ESOs in response to emerging policy issues brought forth by the Legislature.

ESOs for Year 2 will cost the Program no more than $385,700, per the contract's NTE.

ESOs for Year 3 will cost the Program no more than $199,350, per the contract's NTE.

ESOs for Year 4 will cost the Program no more than $54,000, per the contract's NTE.

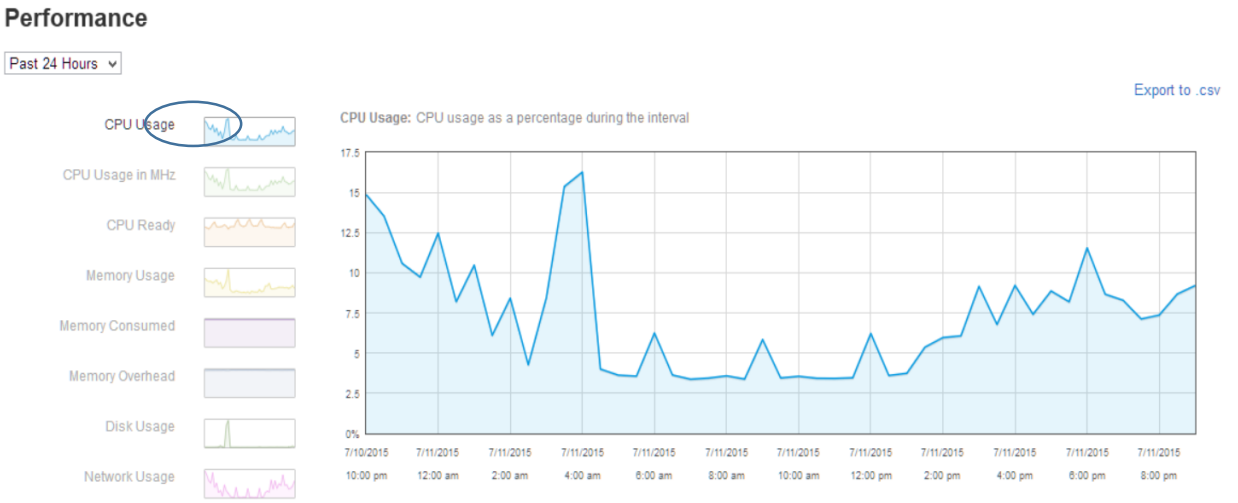
There have been no impacts to System performance noted by Franwell for any of the existing change requests.

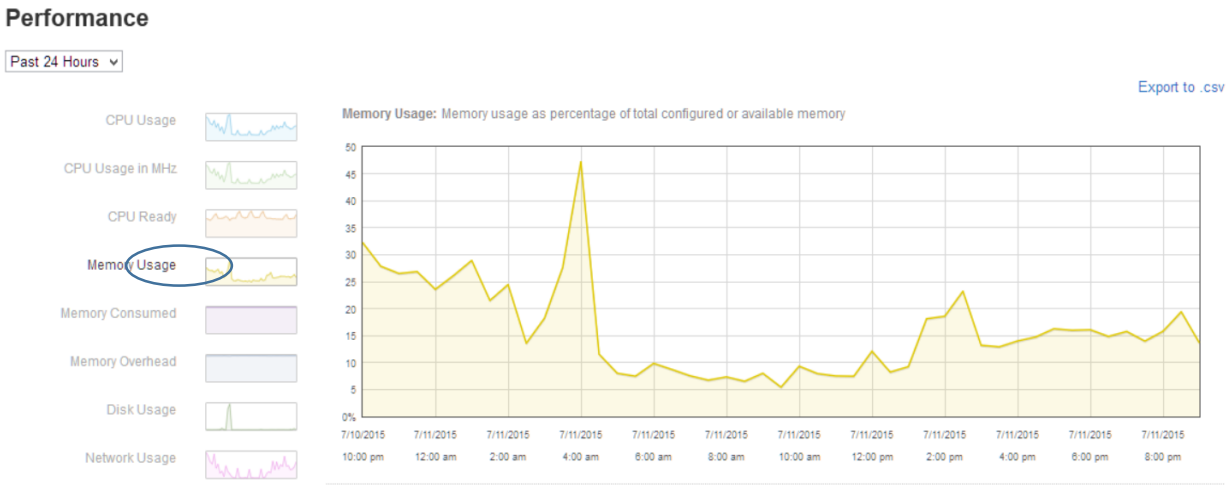
A detailed schedule and cost impact for existing change requests is set out on the next page of the report.[17]

[17] For additional details, please refer to the Change Control Plan, the ESO Log, and the individual ESOs (all identified at Item #8 in the Project Deliverables Table in Section 2.8 of the report).

6. Performance Monitoring and Help Desk Support

1. Franwell provides continual performance monitoring for the CTS. Additionally, Franwell engineered the solution to scale as needed based on the contractual performance levels and the user experience. Examples of the System's performance monitoring capability are provided below. The depicted information and data are drawn from the Colorado system to illustrate the monitoring capability inherent in the CTS.





The current activity metrics are as follows (data as of November 2015 from the Colorado system):

Metric (2015)	Value
Users	16,000+
Average Concurrent – Users	300+
Average Page Views – per month	569,972
Events (recorded as transactions)	36 M
Active Plants	669,598

Active Packages	474,564

2. **Help Desk Support**

Franwell will provide the following help desk support in alignment with the current SLA between Franwell and the State of Oregon.

Support involves application management, Help Desk support, System enhancements, System maintenance, including:

a. Adaptive and preventive maintenance, performance maintenance, and documentation updates;

b. Customer service contact information for technical problems. Technical problems include outages, production support, and connectivity issues for Agency and Licensees;

c. Direct communication for State information technology personnel and Agency operations personnel with a Contractor liaison for technical and engineering staff from 7:00AM Pacific Time to 6:00PM Pacific Time;

d. Emergency support for the System, available 24 X 7, 365 days per year with dedicated redundant contact information. The point of contact will ensure that a point of contact is responsible for the communication effort, and in turn, that that person will relay the communication to the appropriate team member. The liaison will provide an acknowledgement response within 24 hours of receipt of communication. The communication will then be relayed to the appropriate team member for follow up;

e. Assistance to OLCC and Licensees in resolving connectivity and download/upload issues;

f. For Licensees, Franwell provides a full staffed and dedicated Help Desk with a toll-free number and email. The Help Desk will operate from 7:00AM Pacific Time to 6:00PM Pacific Time Monday through Friday, and 7:00AM to 4:00PM Pacific Time on Saturdays, with voicemails checked throughout the day on Sundays for emergent issues. Emergent issues will be managed in accordance with the relevant Service Level Agreement;

g. For OLCC, Franwell will provide the Help Desk Services, and access to support team management with direct dial cell phone numbers for immediate support needs 24 hours a day, 7 days a week. At any given time, Franwell will provide access to at least three (3) people for emergency contact;

h. All calls or e-mails to the Help Desk are logged and recorded for future reference. Contractor's support ticketing will provide metrics about calls and support to identify issues and trends;

i. Referral to OLCC for inquiries regarding Oregon statutes, administrative rules, and policies. Franwell will not provide any legal advice to Licensees relevant to statutes, administrative rules, and policies; and

j. Customized support needs based on Oregon's Requirements.

7. Defect Management (Bug Fixes)

Defect management will be the responsibility of OLCC. The identified defects are documented, shared with Franwell, and tracked to resolution in the spreadsheet. This report documents five low priority CTS defects. These defects are not currently scheduled for correction, because the previously identified ESOs take development priority. OLCC has accepted these defects for Franwell's corrective action, at no additional cost to OLCC, as the ESO management schedule allows.

Current Low Priority Defects

Row #	Date	Status	Severity	Priority	Description of Defect	Expected Result	NOTES
3	1/20/2016	New	3 - Marginal	2 - Low	Closing package trace modal and opening another quickly after produces a blank package trace modal.	Empty package trace modal does not appear	
17	2/16/2016	New	3 - Marginal	2 - Low	"Date" column has ambiguous naming – not immediately clear what the date represents, because it's neither when the package was received nor when the package was tested, nor when the package changed status		Enhancement / Change
4	1/20/2016	New	3 - Marginal	3 - Low	Quick details (hovering on magnifying glass) pop-up does not stay open	Hovering on magnifying glass shows details consistently	
13	2/9/2016	New	4 - Trivial	3 - Low	Clicking into planting date brings up		

					calendar, but tabbing out of field keeps it up – should disappear on click out OR tab out		
47	3/21/2016	New	3 - Marginal	2 - Low	Facility reports accepts 3-digit years which causes server errors. Use '03/21/431' as an example	Server error should be handled.	

8. Release Management

There is no set release schedule for *Metrc*, and there are no planned releases scheduled outside of OLCC needs at this time. Release management is covered in the Franwell-OLCC Contract. OLCC anticipates making future release notes available in advance of releases; and that OLCC and Franwell will complete appropriate testing before any such release.

9. Lessons Learned

The Project provided a running list on *Alfresco* for documenting lessons learned. In addition, the Project conducted a lessons learned session in April 2016, two weeks after CTS *go live*. OLCC compiled the following lessons learned from these two sources.

Statement of Lesson		References	Actions
1.	Team collaboration good	Lessons Learned meeting 4/15/16	Replicate
2.	Asking hard questions at the right time	Lessons Learned meeting 4/15/16	Replicate
3.	Hiring quailed contractors to perform specific tasks	Lessons Learned meeting 4/15/16	Replicate
4.	Creating detailed requirements, test plans and scripts early	Lessons Learned meeting 4/15/16	Replicate

Statement of Lesson		References	Actions
5.	Using and sharing project templates helpful	Lessons Learned meeting 4/15/16	Replicate
6	Sponsor able to guide without micromanaging	Lessons Learned meeting 4/15/16	Replicate
7	Commission decisions good. Able to minimize scope creep when it came to lobbying	Lessons Learned meeting 4/15/16	Replicate
8	Having RACs was good. Outreach and visibility was done really well.	Lessons Learned meeting 4/15/16	Replicate
9	Impressed with the amount of messaging the commission did around this project. Constant messaging and keeping people in the loop was done well.	Lessons Learned meeting 4/15/16	Replicate
10	Building in a capacity to get data out of the system is important.	Lessons Learned meeting 4/15/16	Replicate
11	Coordination on training could have been better	Lessons Learned meeting 4/15/16	Ensure better planning for training, and keep all impacted parties in the information loop
12	Work completed in the Recreational Marijuana Program can be leveraged in the agency's Liquor Program	Lessons Learned meeting 4/15/16	Replicate
13	Early planning did not get detailed requirements	Lessons Learned meeting 4/15/16	Do not hire solution vendor until more detailed requirements are in place
14	Starting UAT before product ready	Lessons Learned meeting 4/15/16	Have clear and agreed upon guidelines for the amount of defects a product may have when it is released to UAT with all solution vendors.
15	Not all conversations were documented	Lessons Learned meeting 4/15/16	Document conversations and circulate for confirmation by all affected parties to

Statement of Lesson		References	Actions
			ensure more effective communication and governance
16	Lack of ability to interface with the vendor due to lawsuit related to solution procurement	Lessons Learned meeting 4/15/16	Plan for defense of procurement process; but litigation avoidance over the process is not controllable
17	*Covendis* contracts take a long time and are cumbersome	Lessons Learned meeting 4/15/16	Look for other alternatives
18	Engagement for some activities, like analysis started after execution of contract with solution vendor	Lessons Learned meeting 4/15/16	Engage analyst earlier before solution vendor is engaged. (See item 13 above.)
19	Deadlines based on business needs and political motivations that conflicted with realistic expectations for delivery of high quality product.	Lessons Learned meeting 4/15/16	Set realistic expectations. Do not react to every nuanced change too quickly.
20	Non-dedicated project manager on solution vendor's personnel team caused deliverable delays	Lessons Learned meeting 4/15/16	Insist on a dedicated project manager from the solution vendor
21	Onboarding new resources could have been better. Took some time to catch up	Lessons Learned meeting 4/15/16	Develop onboarding process with identified critical documents to review
22	Some lessons learned from Liquor Program could have been shared early on – and it would have helped the STS Project	Lessons Learned meeting 4/15/16	Be sure to always check for existing organizational assets in planning phase of project and leverage when you can
23	Too much time spent on the risk register	Letty Nutt	Be clear about how risk review helps project. Focus more on higher likelihood risks.

Statement of Lesson		References	Actions
24	Some of the organization of documentation in *Alfresco* confusing, but preferred *Alfresco* to *Share Point*.	Lessons Learned meeting 4/14/16	Keep *Alfresco* folders cleaned up and relevant.
25	Truncated timeline led to over commitment on the part of the solution vendor. Franwell tried to deliver on the timeline but was not always successful.	Scott Denholm	Work closely with the Legislature to explain operational impacts of mandated dates set in statute for projects
26	While nothing is ever perfect this was a professional and pleasant experience.	Jeff Wells	Replicate

10. Conclusion

The OLCC has transitioned the completed CTS into ongoing operation and maintenance. The OLCC is planning for correction of a short list of five low priority System defects (bug fixes) and developing and implementing a list of System enhancements at no additional cost. These activities do not adversely impact the current CTS operations.

The OLCC managed the CTS Project as one of the State of Oregon's major IT projects, with participation by the Legislative Fiscal Office, the State Chief Information Office, a project management contractor and an independent quality management consultant. These State stakeholders, project management and quality management professionals, and Franwell facilitated OLCC's compliance with the State's *Stage Gate Review* process. The CTS Project was complete and in *go live* operation by March 31, 2016.