



**Vermont Department of Environmental Conservation  
Administration and Innovation Division  
Business Transformation Initiative**

**September 2016**

# **3 Year Lean Implementation Plan**

**FY17 - FY19**

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## I. EXECUTIVE SUMMARY

This Business Transformation Initiative (BTI) Lean Implementation Plan (Plan) outlines the essential elements for a successful process improvement initiative within the Vermont Department of Environmental Conservation (DEC). Key elements include organizational structure, deployment methodology, communications plan, education/training, reporting metrics, and oversight requirements.

The Plan builds on existing efforts and represents a major step forward in moving the entire Department towards securing a culture of continuous process improvement using a standardized, disciplined approach that will achieve effective and efficient results.

The Plan is a living document that will be reviewed at least annually, and modified over time based on frequent assessments of organizational structure, deployment methodology, education/training needs, metrics, and program maturity. Ongoing conversations with sister agencies such as the Vermont Agency of Transportation, the Vermont Agency of Human Services, and the Vermont Agency of Administration may also have some bearing on the Plan and its implementation.

## II. INTRODUCTION

The focus of this Plan is on utilizing Lean principles and practices to engage and empower employees, improve organizational efficiency and effectiveness, and promote innovation to better achieve our public purpose.

### Function of Lean

Lean is a term that describes a management philosophy and set of practices used to develop the highest quality products or services, at the lowest cost, with the shortest lead time. The concept was refined and popularized by Toyota in the post-World War II era and has since been used successfully by hospitals, service providers, and federal, state and local governments.

Organizations practice Lean for three main reasons:

- To ensure that all business processes meet existing and emerging needs.
- To maximize the use of resources in the delivery of services or the production of goods.
- To create a drive and appetite for improved performance within their employees.

At its core, Lean is about two things: continuous improvement and respect for people. Continuous improvement refers to the ongoing improvement of processes through the identification and elimination of waste. Respect for people refers to the belief that staff are an organization's greatest resource when it comes to identifying potential improvements. In a Lean organization, these two principles are a strong component of the culture. At all levels, staff are encouraged, empowered, and given the tools and knowledge necessary to identify and solve problems.

Lean can play out many ways within an organization depending on its size, structure, and purpose. It can include:

- Structured, in-depth looks at workplace processes with large teams ("kaizen" events).
- Focused problem solving time with small teams ("mini-kaizen" events).
- Incremental improvements to individual tasks.
- Goal setting with associated performance targets.
- Scheduled workplace cleanup and organization days.

## III. BACKGROUND

The Vermont Department of Environmental Conservation (DEC) began its Lean journey in earnest in 2013 with support from the Vermont legislature. Since that time, DEC has applied Lean to over 33 distinct processes including grant and contract processing, petroleum cleanup fund reimbursements, public noticing, groundwater reclassification, source water permitting, and state revolving loan fund audits.

Utilizing the services of a consultant as well as dedicated staff, DEC built a Lean program that was initially focused on facilitator training and regularly scheduled, intensive process improvement events. Now in its third year, DEC's Lean Program is putting its



efforts towards a wider diversity of process improvement activities ranging from short 30-minute problem solving sessions initiated by staff to the more intensive 3-5 day events identified through strategic planning efforts. In addition to this “right sizing” of Lean activities, DEC will be expanding its training program to provide more opportunities for staff at all levels to get involved. Such opportunities include regularly scheduled introductory sessions, a variety of skill building trainings, and trainings specifically targeted at supervisors and managers. Furthermore, DEC aims to increase the general awareness level of Lean, and the myriad of associated activities, across the Department by improving communications.

By all accounts, we expect to see a significant amount of growth in the Lean Program over the course of the next three years as our DEC workforce continues to change.

#### **IV. ORGANIZATIONAL STRUCTURE**

The Lean Program is located within the Business Transformation Initiative in the DEC Administration and Innovation Division. Summarized below are the key areas for implementing Lean and the individuals responsible for fulfilling them within DEC:

Core Management Team (CMT) – Commissioner, Deputy Commissioner, General Counsel, Senior Counsel for Government Affairs and AID Director:

Sets general vision and direction for BTI and the Lean Program; acts as decision-maker for major program activities; holds appropriate individuals accountable for implementation of this plan and associated projects.

Department Management Team (DMT) – Division Directors:

Serves as the BTI Committee which meets monthly and supports Lean Department-wide implementation, awareness, and communication; reviews prospective Lean projects and assists with project selection; provides pre and post project support.

Administration and Innovation Division (AID) – Division Director:

Responsible and accountable for administering the BTI and related Lean Program implementation.

Business Transformation Initiative (BTI) – BTI Section Chief:

Provides agency-wide connection, awareness, coordination, communication, and collaboration for Lean Program.

Lean Program – Lean Project Manager:

Runs day-to-day operations of the BTI’s Lean Program including but not limited to: documenting and chartering proposed Lean projects, facilitating Lean events, providing training and related tools, providing agency-wide Lean awareness, providing post-Lean event guidance and tracking progress.

Lean Operations Team (LOT) – Team Members

Provides guidance on and support for program operations including training and education, project tracking, logistics, and planning.

#### **V. TRAINING**

The primary goal of training will be to build within DEC a network of skilled staff, practitioners, and leaders, and to contribute to establishing a long standing continuous improvement culture within the Department. Lean training will be conducted in accordance with the Lean Training Program as designed and detailed below:

| Training Description  | Frequency  | 3 Year Training Goal  |
|---|--|---|
| <p><b>LEAN WHITE BELT: Lean Principles</b><br/>           An overview of Lean continuous process improvement principals with an emphasis on the common tools used to apply Lean. Designed for all staff interested in understanding the basic techniques and concepts including 5S, Visual Cues, Value Stream Mapping, A3 Problem Solving, Mini-Learn events, and Kaizen Events.</p>  | <p>Once a month in collaboration with VTrans</p> | <p>225 staff (approx. 75% of DEC)<br/><br/>           Note: Additional goal is that this includes all DEC managers &amp; supervisors.</p> |
| <p><b>LEAN YELLOW BELT: Lean Process Improvement Techniques</b><br/>           A hands-on introduction to the philosophy and methodology of Lean process improvement. Participants apply the techniques to an actual work process and construct an implementation plan to enact the improvements. Participants should consult with Lean Program Manager or staff in advance about the process selected and with the manager who will sponsor the project.</p> <p><i>Pre-requisite: Lean White Belt.</i></p>   | <p>Twice a year in collaboration with VTrans</p> | <p>60 staff (approx. 20% of DEC)</p>  |
| <p><b>LEAN GREEN BELT: Facilitator Skills, Change Management, and Practicum</b><br/>           Learn how to lead and guide a group through the Lean process, use techniques to deal with a range of challenges when initiating organizational change, and manage implementation plans. Graduates of this level will have the ability to easily use Lean tools with minimal assistance, facilitate Lean events, and train and educate others about Lean concepts.</p> <p><i>Pre-requisite: Lean Yellow Belt and approval of BTI Section Chief or Lean Program Manager.</i></p> <p><i>Post-requisite: On an annual basis, EITHER complete two or more SPARK's (detailed below in section VI), assist with Yellow Belt Training, or facilitate a tool deployment/mini-lean/kaizen event.</i></p> | <p>Once a year in collaboration with VTrans</p>  | <p>30 staff (approx. 10% of DEC) to be distributed equitably throughout the Department.</p>   |
| <p><b>LEAN BLACK BELT: Master Level Lean Implementation</b><br/>           Staff interested in this level of training will represent DEC as an allocated resource, when needed, that reserves a portion of the staff member's job duties and time is dedicated to Lean process improvement. Training for this level may be provided outside of DEC (TBD).</p> <p><i>Pre-requisite: Lean Green Belt, multiple Lean event facilitation experiences, additional training.</i></p> <p><i>Post-requisite: To be determined.</i></p>  | <p>As needed</p>                                 | <p>~</p>  |
| <p><b>LEAN MANAGER: Leader Standard Work</b><br/>           Learn how to review your existing management systems, supplant them with more effective Lean methods and practices, and become more effective at creating a sustainable and high performing team.</p> <p><i>Pre-requisite: Lean White Belt.</i></p>   | <p>Once a year</p>                               | <p>50 (approx. 80% of all managers/supervisors)</p>   |
| <p><b>LEAN SKILL BUILDER: Tool Specific Trainings</b><br/>           A variety of specific trainings focused on the tools of Lean including A3 problem solving, skills matrix, SIPOC and others.</p> <p>No pre-requisite but preference given to active Green Belts.</p>  | <p>Twice a year</p>                              | <p>~</p>  |

## VI. PROJECT IDENTIFICATION, INITIATION AND IMPLEMENTATION

A major component of the Lean program is the identification, initiation and implementation of process improvements throughout the Department.

The identification of Lean projects occurs in a variety of ways. For small or general process improvements projects, it is preferable to submit an idea through the DEC Lean SharePoint site or talk with the Lean Program Manager directly. For medium size projects, staff should use either the bottom’s up budget process or talk with their Supervisor or Program Manager who will then follow-up directly with BTI staff. Large projects almost always go through the DMT as part of our monthly BTI Committee meeting, as well as through CMT for formal vetting and approval.

If a project is determined viable, it will fall into one of the following categories below based on scope, impact, and available resources. The Lean Program Manager is available to assist staff in selecting the right activity or tool.

| Lean Activity Type   | Frequency | 3 Year Goal   |
|--|-----------|---|
| <b>KAIZEN EVENT</b><br>Generally, a three to five-day event focused on a large or complicated process, often Department-wide or intra/inter Agency. The event follows the standard Lean problem-solving approach and includes between eight and 12 participants with one or two facilitators. The major deliverable from such an event is an implementation plan that spans anywhere from six months to two years. | Quarterly | 10-12 events  |
| <b>MINI-LEAN EVENT</b><br>A shorter duration event spanning anywhere from a half-day to three days involving four to six participants with one facilitator. This type of event is used to identify improvements for less complex processes or more narrowly scoped projects. Implementation resulting from a mini-Lean should take no longer than six to nine months.  | Monthly   | 20-25 events  |
| <b>SPARK (SIMPLE PROBLEM ACTION REQUIRED KAIZEN) EVENT</b><br>A SPARK is a very short duration activity led by an individual or a small team that results in a quick improvement or fix.   | Weekly    | 50-60 events<br>(to be spread equitably across Divisions) |
| <b>TOOL DEPLOYMENT</b><br>The use of specific tools such as a skills matrix, SIPOC, yamazumi or A3.  | Varies    | ~   |

It is expected that all Lean events will result in implementation of some form or other, whether action is taken directly in the event itself (typically in the case of a SPARK) or planned out over the course of two years (typically the case with Kaizen events). Follow-up action items are most commonly identified in an implementation plan that details task descriptions, timeframes for completion, statuses, task owners, and milestones. As necessary, tasks are denoted as “good” state (reasonable to accomplish without a significant investment of resources) or “great” state (harder to accomplish without a significant investment). IT specific needs are reviewed and ranked quarterly for prioritization by the DEC Commissioner’s Office. For Kaizen events, BTI coordinates a 30, 60 and 90-day check-in meeting to gauge progress. After the first three months, check-in meetings occur quarterly in preparation for the Lean quarterly report. All check-in meetings include the relevant division director, project sponsor (if different), champion, and BTI staff.

## VII. COMMUNICATIONS

In order to achieve the best value for the organization from the Lean continuous improvement effort, it is critically important that communications at all levels of the organization remain open and honest so that workforce and management are fully aware of the status of Lean activities.

There are numerous opportunities and means for communicating information related to Lean activities. It is the goal of the Lean program to take advantage of every opportunity and utilize whatever means are available to “get the word out” regarding its Lean efforts. The following summarizes the communications strategy and the target audiences for each element:

### Core Management Team (CMT) Meetings

The BTI Section Chief and Lean Program Manager shall include, as requested, routine reports and/or information at Core Management Team Meetings. The BTI Section Chief and the Lean Program Manager shall attend CMT at least once a year to provide a general status update on the Lean program and any needed/expected changes.

### Department Management Team (DMT) Meetings

Lean shall be a formal agenda item the third Monday of every month for DMT as this Team serves as the DEC’s BTI Committee. As part of this agenda, the BTI Section Chief or Lean Program Manager shall discuss the BTI efforts (past, present and future) including current status of existing projects, possible future projects, actions needing to be taken, and potential issues.

### Division Staff Meetings

Division directors and section managers will include information on the progress of Lean activities as a regular part of their division meeting agendas to ensure staff is up-to-date on current Lean activities.

### New Employee Orientation

Information on the BTI Lean Program and related activities should be included as part of the orientation for all new employees. Employees will be offered an opportunity to attend a Lean White Belt Training after successfully completing their 6-month probationary period.

### Quarterly and Annual Reports

Quarterly and annual reports detailing the status of projects will be disseminated to staff and outside stakeholders as necessary. Quarterly reports shall be due in July, October, January, and April. Annual reports shall be due in August after the close of the state fiscal year (June 30<sup>th</sup>).

### Bi-monthly Newsletter

The Lean Program Manager shall provide useful information related to Lean principles, practices, and activities to staff through a newsletter sent bi-monthly to all DEC staff.

### Internet Pages

An internet site accessible by the public will host background information, current and past Lean project information, Lean resources, and all pertinent documents such as quarterly and annual reports.

### SharePoint Site

A BTI Section SharePoint site will be a direct source of information for DEC internal staff to track Lean project statuses as well as share documents for events. SharePoint sites shall be developed for all major projects.

## VIII. METRICS

Each major event or project will be required to capture and report Lean metrics. These metrics, often referred to as Key Performance Indicators (KPIs), will then be reported upon the completion of each event or project through a formal presentation hosted by the team members or as requested by the Program Manager.

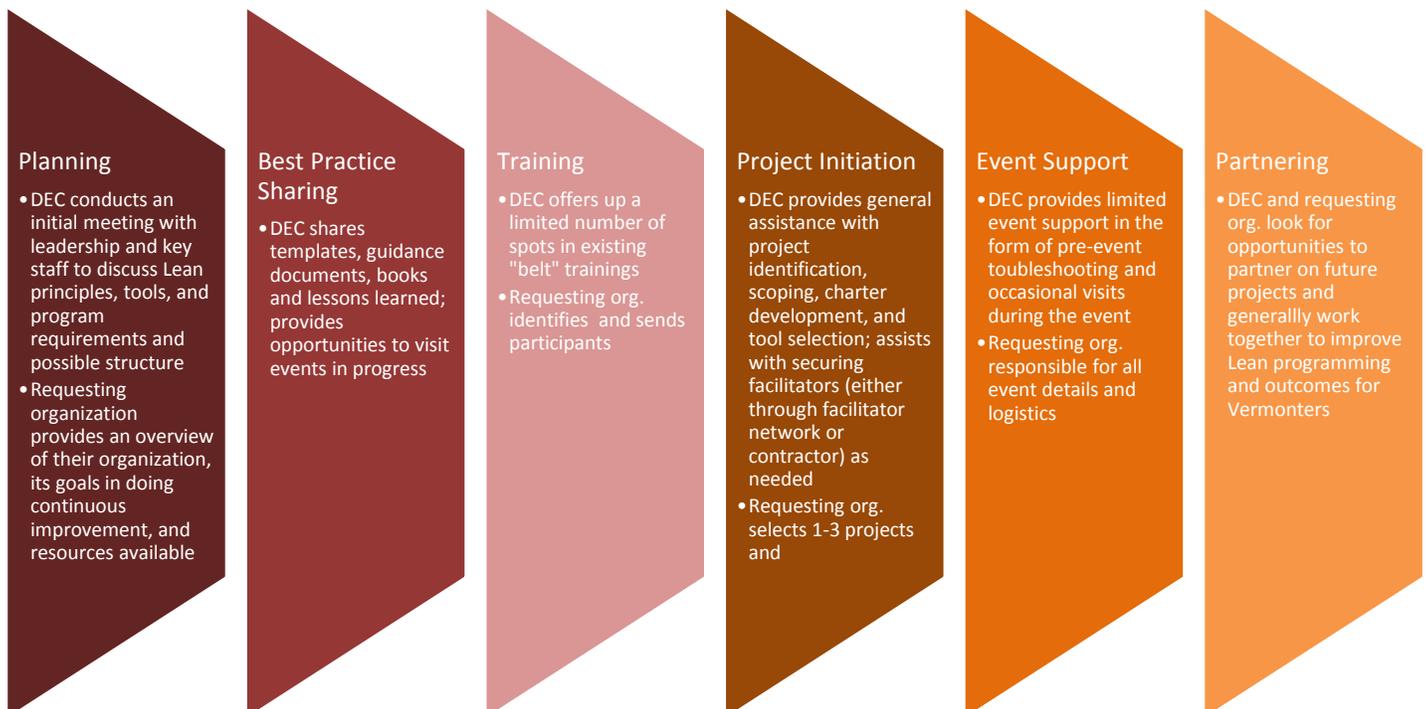
In addition, a quarterly status report will be presented to Executive Staff to convey updates, goals, and outcomes. Deployment metrics are described below and shall be summarized annually.

| Metric                            | Description  |
|-----------------------------------|--|
| Status of Projects                | The status of all past and current Lean events.  |
| Number of Projects                | The number of Lean projects initiated, in active implementation, and completed.                                  |
| Participation in "Belt" Trainings | Total number and percentage of employees that have been trained as dictated by the implemented training program. |
| Communications                    | A measure of the degree to which the communications strategy has been implemented throughout DEC.                |
| Strategic Plan Goals              | Report on the objectives and performance measures for the Lean program related to the DEC Strategic Plan.        |

## IX. RESOURCE SHARING

Since the initiation of DEC's BTI Lean Program, various other Agencies and Departments have reached out asking for guidance and assistance, either to start their own Lean program or simply undertake a project. Ideally, such requests would go to a statewide coordinating body. In the absence of such an entity, DEC has developed some general guidance on how we will assist sister Agencies and Departments. Based on the types of requests received so far, we see two potential pathways, one focused on developing a Lean Program, and the other focused on undertaking a standalone project.

### Requests for Assistance with Lean Program Development



## Requests for Assistance with a Stand Alone Project



In some rare cases, requests may not fit either pathway. In such cases DEC will do its best to accommodate the need.

DEC will re-evaluate this model if, and/or when, a statewide coordinating entity is created.

### X. SUMMARY

Ultimately, the key objective of a Lean thinking organization is to empower staff to think about new ways to run the “business” which drives innovative thinking and better ways to serve customers. Lean is a growth strategy; **it is not about reducing headcount, but about refocusing effort and resources to gain capacity.**

While the Lean journey takes hard work and perseverance, the results can be transformative. Freeing employees to focus more time on value-added mission-critical work dramatically improves performance outcomes, customer and stakeholder satisfaction, and employee morale. The Lean journey can lead to satisfied constituents, empowered and engaged employees, passionate leaders, improved overall Department services, and an engrained culture of continuous improvement at DEC.

**XI. SIGNATORIES**

Commissioner of Environmental Conservation:

  
Alyssa Schuren

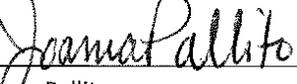
9/26/16  
Date

Deputy Commissioner of Environmental Conservation:

  
George Desch

9/27/2016  
Date

Director of Administration and Innovation:

  
Joana Pallito

9/26/16  
Date