

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

3-Year DEC Lean Operating Plan

State Fiscal Year 2020-2022

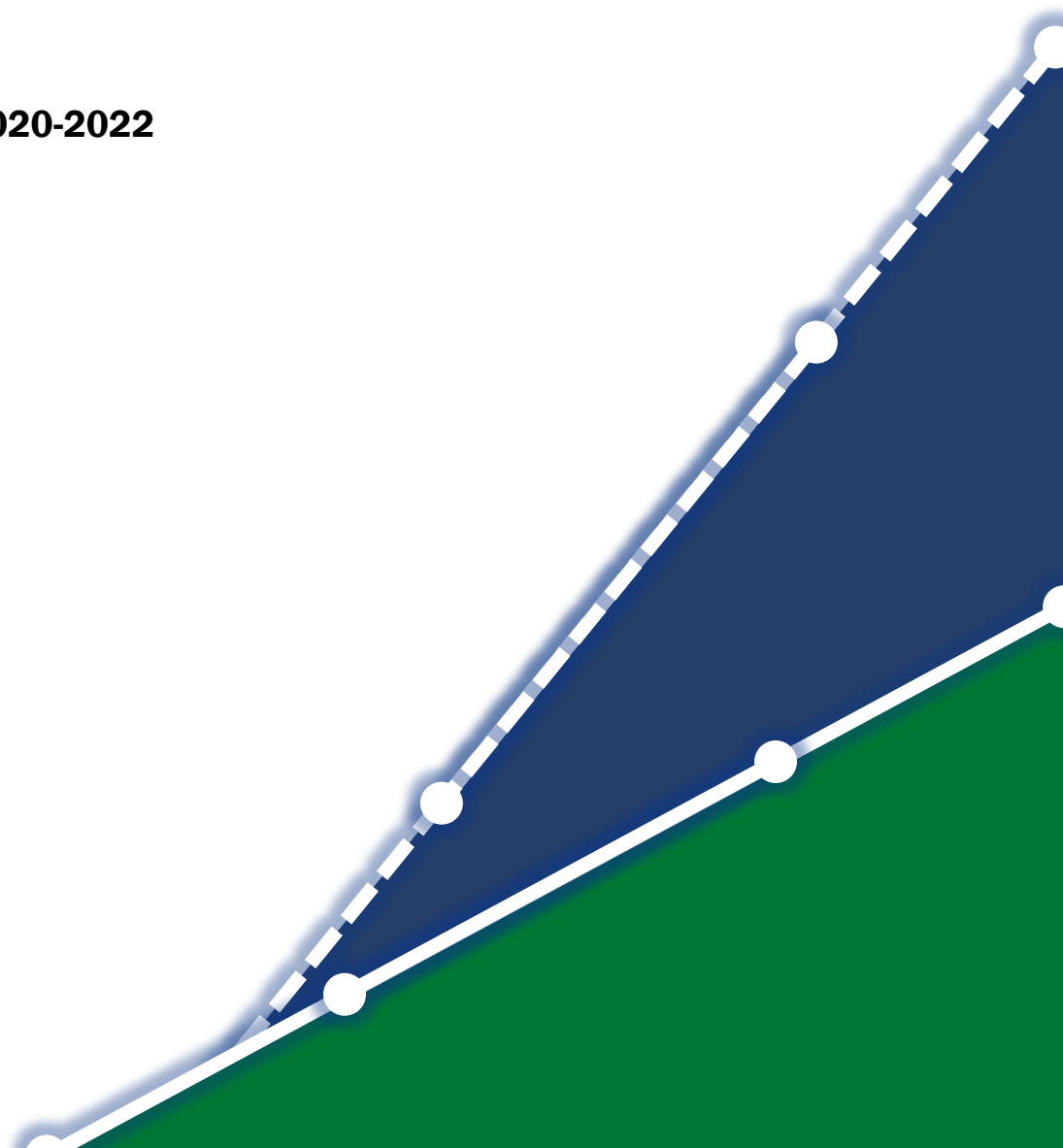


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EXECUTIVE SUMMARY

This Business Transformation Initiative (BTI) Lean Implementation Plan (Plan) outlines the essential elements for a successful process improvement initiative (Lean Program) 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.

Additionally, the DEC Lean program serves as the executive arm of the governor's PIVOT initiative for the DEC. As of July 1, 2017, the Program to Improve Vermont Outcomes Together (PIVOT) outlined through executive order guidance to provide more efficient, effective services driven by strategic goals and is now recognized as Continuous Improvement. This aligns well with the existing mission of the DEC initiative for improved process efficiency.

I. 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 vision to preserve, enhance, restore, and conserve Vermont's natural resources, and protect human health for the benefit of this and future generations.

Function of Lean

Lean is a term that describes a growth strategy, 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 four 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 continuous improvement among employees.
- To free up staff time that can be directed to higher value and more satisfying work.

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.

II. 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 71 distinct processes including state revolving loan fund audits, grant and contract processing, petroleum cleanup fund reimbursements, public noticing, identifying, developing and prioritizing Clean Water projects, financial monitoring and compliance, and drinking water construction permitting.

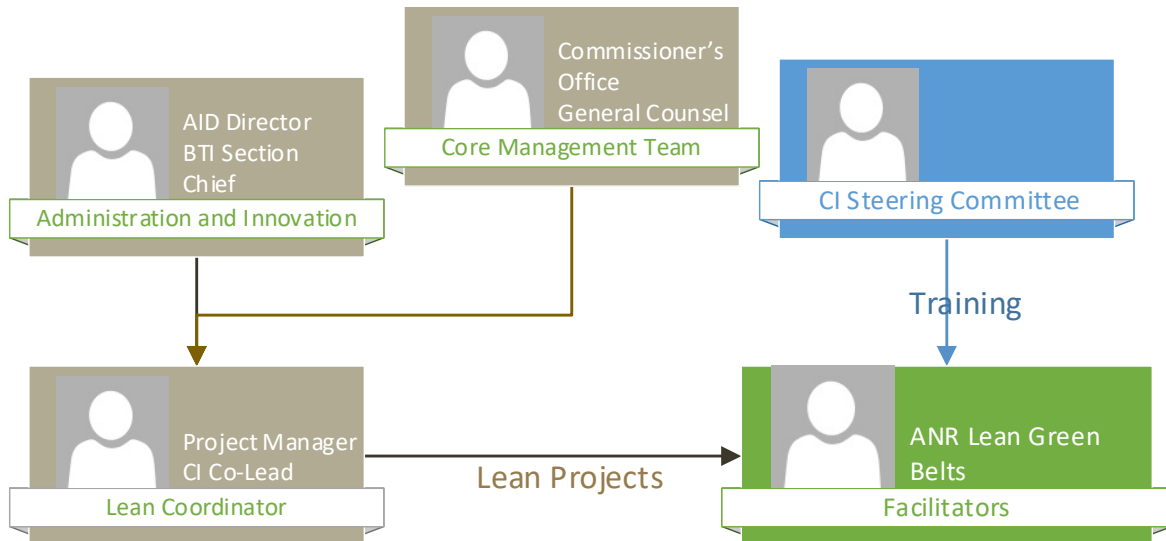
Utilizing the services of a consultant as well as dedicated staff, DEC built a Lean program that was initially focused on facilitator training and regularly scheduled, intensive process improvement events. Now in its sixth year, DEC's Lean Program is putting its efforts towards a wider diversity of process improvement activities ranging from short 30-minute problem solving sessions initiated by staff to the more intensive 2-5-day events identified through strategic planning efforts.

In addition to this "right sizing" of Lean activities, the program continues to explore new avenues for continuous improvement and develop Green Belts. Furthermore, DEC has worked to increase the general awareness level of Lean, reaching out with Quarterly updates, an active Sharepoint site and projects focused on creating the most benefit.

Since its inception, the DEC Lean program has also served other statewide agencies. Providing support in the areas of coordination, planning, training, and data analysis, the DEC program offered guidance across the state. As of March 2018, the creation of a dedicated position for statewide Continuous Improvement efforts has eliminated the need for DEC to provide those services to other agencies. Formal belt training has been moved to the statewide organization although the DEC Lean coordinator serves on the AOA CI steering committee.

III. 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’s office, AID Director, BTI Section Chief:

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.

Administration and Innovation Division (AID) – Division Director:

Provides resources for the DEC Lean program.

Business Transformation Initiative (BTI) – BTI Section Chief:

Project Management and coordination for DEC Efforts

Lean Program – Lean Coordinator:

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.

Continuous Improvement Steering Committee – Team Members

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

IV. TRAINING

The primary goal of training will be to impact a culture of process improvement within DEC, by building 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 executed by the Continuous Improvement Central Office within the Agency of Administration.

Trainees can ascend to one of four levels:

- White Belt – A basic Lean training in Continuous Improvement problem solving and data analysis
- Orange Belt – Continuous Improvement for Supervisors
- Yellow Belt – A deeper dive into Lean tools and methodology
- Green Belt – Training which prepares trainees for facilitation and planning for Lean events
 - Data Skill ladder- Gain specialty in data analysis
 - Tools Skill ladder- Gain specialty in Lean tools
 - Facilitation Skill ladder- Gain specialty in facilitating meetings

Additional DEC activities are ongoing to promote growth of DEC Green Belts including, but not limited to the following items:

- Lean Book Club – Provoking discussions about change management and methodology
- Collaboration Meetings – A gathering of ANR Green Belts to share experiences and distribute information
- Additional Training – A chance to continuous improvement tools and facilitation skills
- Web resources available on the DEC Lean [SharePoint Site](#)

V. 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.

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	3 Year Goal
KAIZEN EVENT (2+ Days) Generally, a three to five-day event focused on a large or complicated process, often Department-wide or intra/inter Agency. The event	4– 6 events

<p>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 often an implementation plan that spans anywhere from six months to two years.</p>	
<p>SPARK (SIMPLE PROBLEM ACTION REQUIRED KAIZEN) EVENT A SPARK is a very short duration activity led by an individual or a small team that results in a quick improvement or fix, The use of specific tools such as a skills matrix, SIPOC, Yamazumi or A3.</p>	<p>30-40 events</p>

It is expected that all Lean events will result in an action plan of some form or other, whether action is taken directly in the event itself 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 actions or projects that result from Lean events are reviewed and ranked quarterly for prioritization by the DEC Commissioner’s Office. For Kaizen events with Implementation Plans, 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.

Project Teams

A Lean project consists of the following roles:

- Champion – Problem owner and project manager for implementation
- Sponsor – Leadership support and providing resources vital to success of project
- Facilitator – Guides event teams through meetings to achieve project objectives
- Stakeholders – Part-time participants affected by potential changes
- Team – Any-level staff identified as integral to project, responsible for changing processes

Effective management of all five aspects are vital for a successful project.

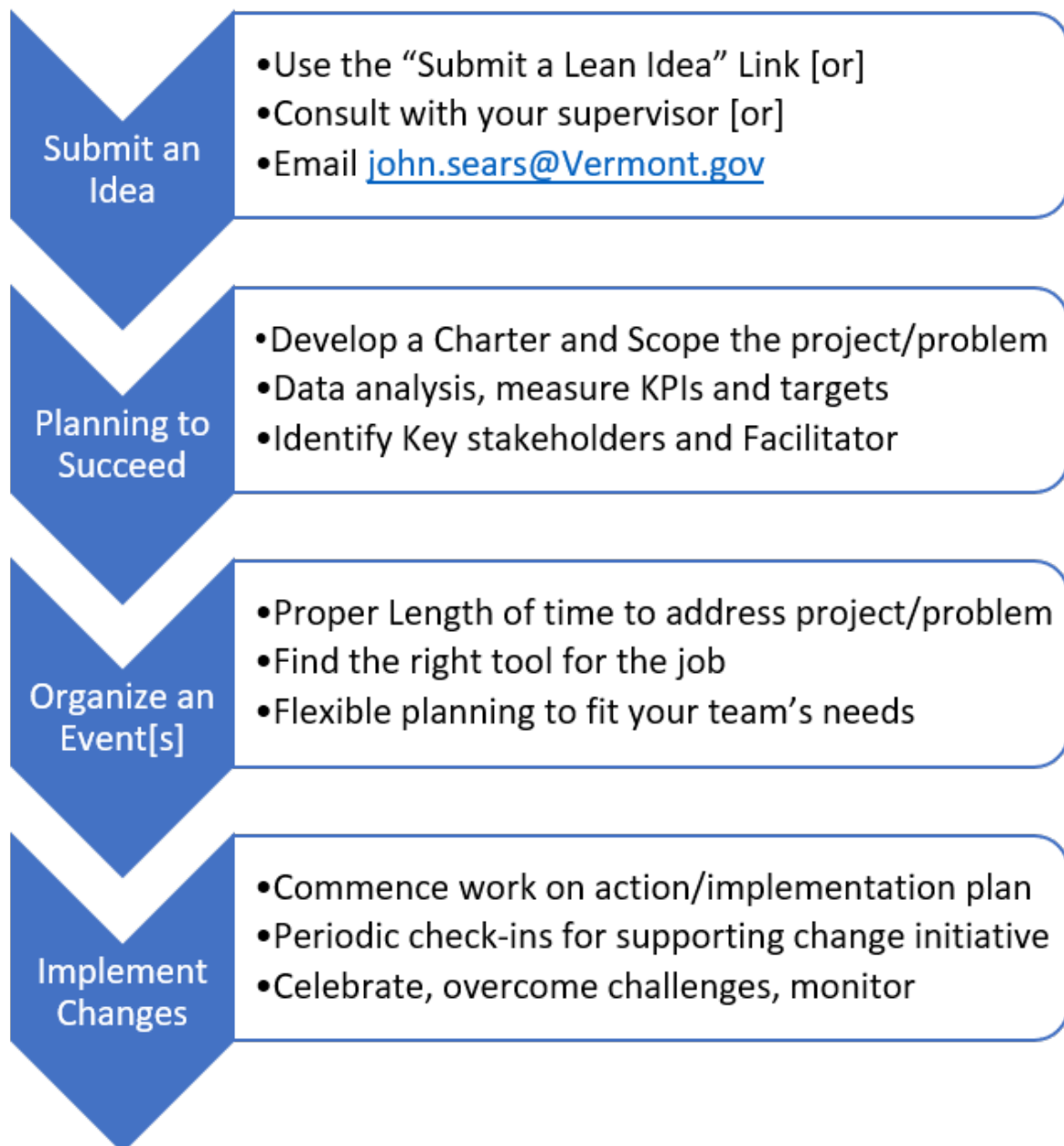
VI. PROJECT WORKFLOW

The protocol to engage BTI on a Lean project is intentionally broad in scope. Interested parties can use the [SharePoint site](#), word of mouth, or reach out to the Lean Coordinator directly. Next, through a meeting or series of meetings with the project Champion, a charter is established which scopes the project, establishes baseline data and recruits team members/key stakeholders to ensure a successful project.

Next, with the support of the Coordinator, Champion and Sponsor, a project kick-off event is planned. Ideally, the Coordinator will find one or more interested facilitators to assist the Lean event meeting. Once the event is concluded, the Coordinator provides ongoing support for project implementation through check-ins and planning support. Through quarterly reporting and closeout reports, BTI Team will track progress of these projects.

A flowchart of the relevant steps is presented below:

Requests for Assistance with a Standalone Project



VII. COMMUNICATIONS

To achieve the best value for the organization from Lean continuous improvement efforts, 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:

Department Management Team (DMT) Meetings

As the Lean program works across the entire department, updates are provided to DMT. As part of this agenda, the BTI Section Chief or Lean Program Manager shall discuss the BTI efforts (past, present and future) including status of existing projects, possible future projects, actions needing to be taken, and potential issues when requested.

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.

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 30th). These are distributed regularly via email contact to 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.

Office-Visible Communications

Publicly deployed and high-visibility posters or other resources displaying positive Lean results serve as a continuing reminder to staff as to the availability of BTI as a resource, and value of a Lean culture.

VIII. PERFORMANCE METRICS

7 out of the 8 Lean “Wastes” from the table below can be converted to metrics (KPIs) for the purposes of tracking Lean projects. Individual projects may have one or more relevant KPIs but should ideally have at least one “Waste” KPI allowing projects to be tracked consistently.

Waste	Description	KPI
Overproduction	Manufacture of products in advance (or in excess of) demand wastes money, time and space.	Staff Hours/Yr Changed [For higher value]
Waiting	Processes are ineffective, and time is wasted when one process waits to begin while another finishes. Instead, the flow of operations should be smooth and continuous.	Process Hours/Yr Changed [For higher value]
Transportation	Moving a product between manufacturing processes adds no value, is expensive and can cause damage or product deterioration.	Loopbacks Eliminated
Inappropriate Processing	Overly elaborate and expensive equipment is wasteful if simpler machinery would work as well.	Standardized Work, Process Made Electronic
Excessive Inventory	Wastes resources through costs of storage and maintenance.	Unnecessary Forms/Documents
Unnecessary Motion	Resources are wasted when workers have to bend, reach or walk distances to do their jobs. Workplace ergonomics assessment should be conducted to design a more efficient environment.	# of Steps Eliminated
Defects	Inspecting and quarantining inventory takes time and costs money.	# Errors Sources Corrected

Measuring the success of the DEC Lean program as a whole is facilitated through a Results Based Accountability Model. Through tracking Effort and Effect, Quantity and Quality, we seek to answer the following questions:

Question	Metrics
How much service did we deliver? ¹	# of Projects

	# of Staff Involved
How well did we do it? ²	% Project KPI's met
What quantity of change for the better did we produce? ³	Staff Hours/Yr Changed [For higher value] Process Hours/Yr Changed [For higher value] Loopbacks Eliminated Standardized/Electronic Work Unnecessary Forms/Documents # of Steps Eliminated Error Types Corrected
What quality of change for the better did we produce? ⁴	Annual Survey Results %

¹To measure effort using quantity, we evaluate the number of projects to gauge the relative volume of continuous improvement initiatives. Tracking the number of staff engaged is useful for tracking the cultural reach of continuous improvement within DEC.

²Every project has its own metrics, known as Key Performance Indicators (KPI's) which are used to measure the success of the changes that have been implemented. This metric tracks the percent of projects which have met the criteria they have established to indicate a successful effort.

³Measuring the success of the projects themselves, we have created metrics tied to seven of the eight Lean wastes transposed into State-relevant indicators. All Lean projects should tie into one or more of these metrics, allowing us to measure across numerous disparate project types.

⁴Annual Employee Engagement Survey results contain a number of questions related to the growth of Lean culture. This program uses "Q9. I am encouraged to share ideas on improving either service delivery or business process efficiency." to track year-over-year change in DEC culture. **GOAL: 80%**

IX. NEW IMPLEMENTATION EFFORTS

Closing the Budget Gap - "DEC Futures" [Support]

In DEC as in other areas of State Government, growth in operational costs are outpacing organic growth in revenues, creating a systemic budget gap that is projected to grow for at least five years. To address this, the Department has instituted a DEC Futures Initiative. This initiative will examine DEC operations and areas of work with respect to statutory requirement, historic and current funding, and opportunities for efficiency. Complemented by an examination of prospective revenue growth opportunities in select areas, DEC will identify where to pivot resources to capitalize on the work our customers value most.

In the second half of SFY2019, the BTI coordinated a substantial body of work, eliciting over 400 ideas for efficiency or operational restructuring, and analyzing these using a business process analysis lens. In the

coming year, continued facilitated lean events around the highest priority outcomes of these initial DEC Futures efforts will be a substantial body of work within BTI.

Goal: Conduct ongoing support of this effort. Facilitate quarterly DEC Futures evaluations in SFY 2020, and stage future such work based on the outcomes of these first events.

Addressing Pockets of Unengaged Staff [Projects]

Identifying areas of weak Lean Culture through surveys and specifically target projects for those areas. Starting with SPARK style efforts, the goal is to build a reputation for success and show the value of Lean methodology to unexposed sections of the department.

Goal: Begin one project every 3-6 months in an area of need. Set a mission of engaging new employees in the process. Make things as easy as possible to begin change with ample preparation.

Focus on Areas of Need [Projects]

Rather than focusing on projects in a first-come, first-serve manor, projects may be prioritized by potential benefit. Targeting low-hanging fruit to empower change and show the potential for the Lean to make a big difference with a relatively minor effort. These events would focus on high-functioning groups amenable to continuous improvement methodologies.

Goal: Prioritize potential projects. Bring one highly prioritized project every 3-6 months to the relevant leadership to advance.

Engage Staff Green Belts [Support]

Keeping ANR Green belts engaged is vital to continue the learning and growth process of the department's facilitators. Sharing experiences and exploring new ways of thinking about change management is beneficial to the overall level of success of Lean events.

Goal: Hold at least one group experience a quarter. Events such as: a regular Lean book club, meetings and workshops.

Focus on Office-Visible Communications [Communication]

Maintaining the visibility to ongoing successes will result in greater engagement of staff and programs. Over the coming months, BTI will develop a rotating set of large-format communications posters featuring lean outcomes for display in prominent locations of ANR offices.

Goal: Quarterly, create one poster for the entrance area of each ANR office space at National Life, and for each ANR Regional Office.

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 about focusing effort and resources to gain capacity while improving outcomes for our customers.**

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:



7/29/2019

Emily Boedecker

Date

Director of Administration and Innovation:



7/29/2019

Joanna Pallito

Date