



State of New Hampshire

Lean Continuous Process Improvement Annual Report



<http://lean.nh.gov>

Prepared by Heather Barto, MS, LSSGB, Lean Black Belt
Contributions from the NH Lean Executive Committee
March 4, 2019

LEAN EXECUTIVE COMMITTEE MEMBERSHIP AS OF 2019

AGENCY NAME	LEAN EXECUTIVE COMMITTEE MEMBER	CONTACT INFORMATION
Banking Department	Michelle Kelleher, Paralegal	Michele.Kelleher@banking.nh.gov
Department of Administrative Services	Bill Armstrong, Financial Data Manager II Chuck Bagley, Professor	William.Armstrong@nh.gov Charles.Bagley@nh.gov
Department of Environmental Services	Dan Hrobak, Quality Assurance / Process Improvement Engineer	Daniel.Hrobak@des.nh.gov
Department of Health and Human Services	John MacPhee, Lean Director Heather Barto, Sr. Process Improvement Specialist	John.MacPhee@dhhs.nh.gov Heather.Barto@dhhs.nh.gov
Department of Information Technology	Candice Weingartner, Supervisor, Regional Support Services	Candice.Weingartner@doit.nh.gov
Department of Revenue Administration	Diane Dawson, Assistant Project Manager	Diane.Dawson@dra.nh.gov
Department of Safety	Roberta Witham, Business Systems Analyst Tom Lencki, Sergeant Jeannie Cadarette, Field Representative I, Division of Emergency Services and Communication	Roberta.Witham@dos.nh.gov Thomas.Lencki@dos.nh.gov Jeannie.Cadarette@e911.com
Department of Transportation	Angela Linke, Employee Medical Risk Specialist	Angela.Linke@dot.nh.gov
Judicial Branch	Joanna Bailey, Courts Service Representative	JBailey@courts.state.nh.us
Lottery Commission	Edie Chiasson, Audit Team Supervisor	Edith.Chiasson@lottery.nh.gov
Office of Professional Licensure and Certification	Hallie Pentheny, Director of Finance	Hallie.Pentheny@oplc.nh.gov
Public Utilities Commission	Jan Gugliotti, Business Systems Analyst	Janet.Gugliotti@puc.nh.gov
Treasury Department	Richard Bowen, Assistant State Treasurer	Rbowen@treasury.state.nh.us
University of New Hampshire	Dagmar Vlahos, Senior Process Engineer	Dagmar.Vlahos@unh.edu

EXECUTIVE SUMMARY

The State of New Hampshire has been using Lean methodology to analyze and efficiently manage business process improvements since 2009. Lean is a process improvement method used to establish standard work, streamline inefficient processes, and analyze workflows. Critical components in process improvement includes cultural engagement, establishing baseline data, and over time measuring results. Together, these areas can provide a solution to create and support a more efficient state government. Lean has proven sustainability and effectiveness in both private industry practices (i.e. automotive, manufacturing, and etc.) and not for profit (i.e. healthcare, higher education, and community services), as well as in state government. Many state governments, including Washington, Pennsylvania, New York, Ohio, Colorado, Vermont, Rhode Island, and, Connecticut have successfully used Lean to simplify their workflows.

Organizationally, the State of New Hampshire houses a consortium of volunteer state agencies to serve as Lean Coordinators. These Lean Coordinators meet once a month and form the NH Lean Executive Committee. The New Hampshire Lean Executive Committee is comprised of 15 State agencies and has received charter and mission support from current and previous governors. However, there is no official capacity for a statewide Office of Process Improvement in NH state government with allocated resources.

The number of agencies involved in and supporting Lean efforts statewide continues to grow. As of 2018, a total of 1,649 state employees, non-profits, and local municipalities have been trained in Lean through the NH Bureau of Education and Training. The training department is continuously evolving programming to meet the unique needs of state employees, community non-profits, and municipality staff. The first iteration of Lean training included trained staff under the title of Continuous Improvement Practitioner. The current structure of training includes use of a “belt” system; Lean White Belt, Lean Yellow Belt, Lean Green Belt, and Lean Black Belt. Training participants are invited to complete additional Lean training after the Yellow Belt, which allows for program advancement at the agency level. State employees work with the agency human resources coordinator to request training funding.

Major highlights for advancing Lean communication and culture across state agencies include; development of the State’s Lean Network which has partnered with both State’s Lean website, organization and execution of New Hampshire Lean Summits, continued running of the Quarterly Lean Network Meetings, the mentoring program, and peer facilitator support and assistance. The Quarterly Lean Network meetings are organized and facilitated by members of the NH Lean Executive Committee where a variety of topics are presented. The network meetings serve as resource for ongoing support and collaboration for all levels of Lean practitioners statewide. The updated website is compiled with committee member input and support from the Department of Administrative Services. The 2018 NH Lean Summit was held in October 2018 by the University of New Hampshire in collaboration with the State of New Hampshire. The forum had over 250 attendees and all professionals involved in Lean look forward to each year.

The work of a Lean facilitator is multi-faceted. While, the primary role is to manage and facilitate process improvement projects, very often there are also roles indirectly involved. This may include roles or tasks with communication, marketing, training, leadership, project management, role modeling, change management modeling, technical advisory skills, as well as integration of programs to exchange information and ideas.

The projects included in this report were initiated and/or completed during calendar years 2009-2017. While there are a total of 249 projects reported, the true value of Lean work is realized through the culture advancements that continue to grow. With the uptake of the Balanced Scorecard methodology, the Lean Executive Committee has developed and summarized a list of statewide projects conducted using the process improvement methods.

LEAN PROGRAM DEVELOPMENT BACKGROUND

ROLES AND RESPONSIBILITIES OF THE AGENCY LEAN COORDINATOR

A Lean Coordinator role is either a volunteer role or full time position that an agency elects to support the Lean efforts organizationally as well as statewide. Each agency participating in Lean process improvement attends the monthly NH Lean Executive Committee meeting to contribute to statewide efficiency efforts. Additionally, the Lean Coordinators share updates and connect project resources.

At this time, there is no statewide standard of the agency Lean Coordinator role. For this reason, an agency may elect to spend a varying amount of time on project solicitation, organization of resources and materials, as well as general program development. A sample agency Lean Coordinator job description is available as Appendix A.

METHODS FOR PROCESS IMPROVEMENT

State agencies deploy various types of process improvement tools, depending on the type of project. The primary methods and approaches include, Kaizen (or Rapid Improvement Cycle), Value Stream Mapping, and Lean Six Sigma, among other tools.

TRAINING

Training services for State agencies is conducted at the NH Bureau of Education and Training through a belt system. The belt system includes; Lean White Belt, a self-guided online module system, Lean Yellow Belt, which is conducted over 3 days in the training classroom or customized for onsite modules at an agency, Lean Green Belt, for facilitation and more advanced training that performs a deep dive into tools and approaches. Finally, Lean Black Belt concludes the state program which contains methods, theories, and a culminating capstone project. Lean belt instructional designs are continuously evaluated and modified for maximum transfer of learning and effective lean skill application in the workplace. This includes greater emphasis on informal practice and use of the Learning Transfer Evaluation Model (LTEM) to assess and improve learning effectiveness. Additional training is available both in the classroom and online for Lean Six Sigma certifications.

CUSTOMER SERVICE

Customer service should be at the forefront of what each process improvement project addresses. Much of the process improvement projects completed and reported involve a critical piece of information; the customer. How a customer is impacted by process challenges is vital to any process improvement project. Information collected to represent the customer impact of process work may be in various forms. These forums may include focus groups, general listening sessions, interviews, use of a structured tool such as Voice of the Customer, swim lane process work, etc.

MENTORING

Mentoring and peer support services were initiated in 2017. This model was created for new and seasoned professionals as a mechanism to retain and grow skills with facilitation and project work. Primarily Lean Green Belts and Lean Black Belts access mentoring services. The value for mentors and mentees is a bidirectional relationship where often times, strategies and approaches are exchanged to support efficiency and innovative new process methods. Additional time was invested into developing the Lean Agency Profiles to collect programmatic highlights from various state agencies. The Lean Mentor Profile and Lean Agency Profile can be found at <http://lean.nh.gov>.

COMMUNICATION METHODS

The Lean Executive Committee created a blog in November 2017. This platform is used to share updates, learning opportunities, quarterly meetings, and project successes. In 2018, a total of 6,493 views of the blog posts were recorded as well as 3,415 visitors. Four Lean Executive Members support the blog. Support activities include coordination and development of publications, editing, and posting materials.

Social media accounts are created at each individual agency. While, this is only a snap shot of the total work compiled for the state, it is an inexpensive and professional method to share highlights for Lean work. The NH State Police has just under 34,769 Likes on Facebook and nearly 7,860 followers on Instagram, and 6,869 on Twitter.

The primary method to share information about events, trainings, and project outcomes is through email. In 2018, the Lean Executive Committee created a group mailbox to use for large scale communications. The Lean Executive Committee continues to explore communication options.

COMMUNICATION EXAMPLES

Information is shared on various platforms regarding progression toward continuous process improvement work.

Examples

NH State Police Facebook post sample:

Post Details

New Hampshire State Police
Published by Amber Latuch (7) · October 25 · 🌐

#NHSP will be participating in the "Times are Changing" Lean Summit hosted by University of New Hampshire in partnership with the State of New Hampshire tomorrow! 🎉 📊

For more information, please click the link below:
<https://www.unh.edu/lean/lean-summit>

Get More Likes, Comments and Shares
Boost this post for \$20 to reach up to 8,500 people.

3,245 People Reached
106 Engagements [Boost Post](#)

👍❤️ Robert Winslow, Krissa Johnson and 14 others 1 Comment 4 Shares

👍 Like 💬 Comment ➦ Share 🛡️

Performance for Your Post

3,245 People Reached

21 Reactions, Comments & Shares 📊

15 Like	15 On Post	0 On Shares
1 Love	1 On Post	0 On Shares
1 Comments	1 On Post	0 On Shares
4 Shares	4 On Post	0 On Shares

85 Post Clicks

27 Photo Views	12 Link Clicks 📊	46 Other Clicks 📊
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NEGATIVE FEEDBACK

17 Hide Post	0 Hide All Posts
0 Report as Spam	0 Unlike Page

Reported stats may be delayed from what appears on posts

COMMUNICATION SAMPLES CONTINUED


NH Lean blog sample

Source: <https://prd.blogs.nh.gov/das/NHLEAN/>

Local Lean Publication with Kate McGovern, MPA, Ph.D.

Posted by Heather Barto on March 4th, 2019

The [Public-Sector Journey to Lean](#) written by former New Hampshire Bureau of Education and Trainings (BET) professor, [Kate McGovern](#) offers a walk through the many contributions made to process improvement efforts. The book details vignettes and in-depth perspectives on the unique work of government.



Kate McGovern, MPA, Ph.D., Trainer, Professor

The book celebrates the accomplishments and challenges of New Hampshire's Lean work. Kate's book walks readers through the tough fight of muda (waste) in times of muri (overburden). The story affirms the creativity and diligence of our Lean practitioners, documenting multiple countermeasures to muri, and the innovations on the New Hampshire approach.

Heather Barto's innovative Lean Wrap-Around Services Model for the Department of Health and Human Services is discussed, as well as the leadership provided in Department of Safety by Commissioner John Barthelmes, Colonel Chris Wagner, Roberta Witham and Sgt. Tom Lencki, and the camaraderie and commitment of those serving in the Lean Executive Committee (LEC).

While crediting remarkable accomplishments of Lean practitioners, the book urges action by elected and administrative officials. A public policy parable is used to illustrate the challenges in New Hampshire, while Vermont's program is described as an exemplar.

The story closes with a series of recommendations designed to bring the initiative to the strategic level. The book is dedicated to Sam McKeeman who provided the hands-on Lean training model for the New Hampshire BET. Graduates of Sam's training formed the core of New Hampshire's movement for continuous improvement in public service, whereby there today much growth still happening.

Kate will be providing a presentation and signing copies of "Public-Sector Journey to Lean" at [BET's Coffee & Conversation on Wednesday March 20, 2019](#). A [20% discount code](#) is offered towards the purchase [Public-Sector Journey to Lean](#).

Welcome to the NH Lean Blog

The purpose of this blog is to inform our readers about upcoming events, training opportunities, success stories and information relative to lean culture in the State of New Hampshire

Categories

- Capstone
- Case Studies
- Events
- Program Development
- Resources
- Training
- Uncategorized

Recent Posts

- Local Lean Publication with Kate McGovern, MPA, Ph.D.
- Dartmouth-Hitchcock Value Institute Offers Conference
- Process Improvement Work with Case Management
- Building the Lean Bench at NH Lottery Commission
- Elliot Health System's Lean Journey Shared with State of NH Lean Network

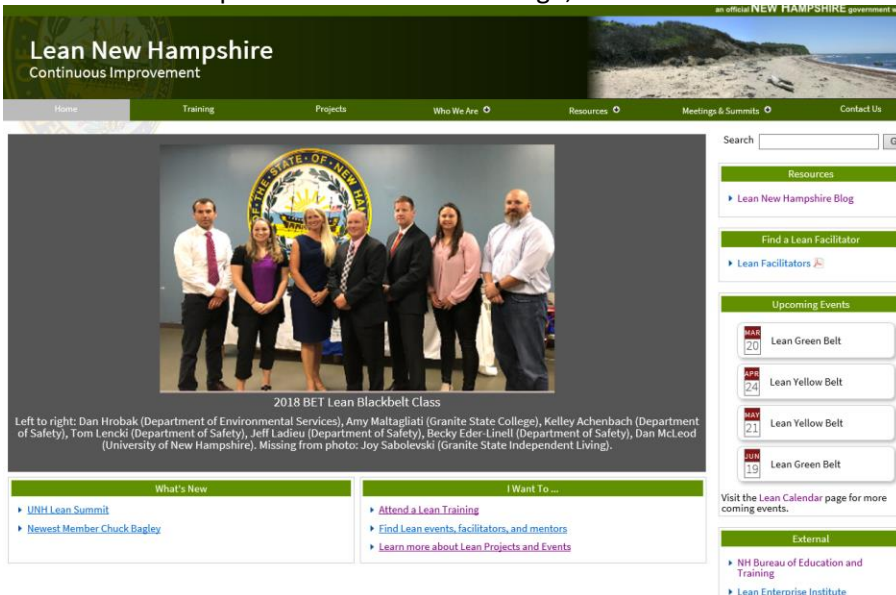
Recent Comments

- Angela Linke on [Introduction to Lean the Judicial Branch way](#)

Archives

- March 2019
- February 2019
- January 2019
- December 2018
- November 2018
- September 2018
- August 2018
- July 2018
- June 2018
- May 2018
- March 2018

State of New Hampshire Lean website redesign, 2019



an official NEW HAMPSHIRE government website

Lean New Hampshire

Continuous Improvement

Home Training Projects Who We Are Resources Meetings & Summits Contact Us

2018 BET Lean Blackbelt Class

Left to right: Dan Hrobak (Department of Environmental Services), Amy Maltagliati (Granite State College), Kelley Achenbach (Department of Safety), Tom Lencki (Department of Safety), Jeff Ladieu (Department of Safety), Becky Eder-Linell (Department of Safety), Dan McLeod (University of New Hampshire). Missing from photo: Joy Sabolevski (Granite State Independent Living).

What's New

- UNH Lean Summit
- Newest Member Chuck Bagley

I Want To ...

- Attend a Lean Training
- Find Lean events, facilitators, and mentors
- Learn more about Lean Projects and Events

Search [] Go

Resources

- Lean New Hampshire Blog

Find a Lean Facilitator

- Lean Facilitators

Upcoming Events

- Mar 20 Lean Green Belt
- Apr 24 Lean Yellow Belt
- May 21 Lean Yellow Belt
- Jun 19 Lean Green Belt

Visit the Lean Calendar page for more coming events.

External

- NH Bureau of Education and Training
- Lean Enterprise Institute

Source: <http://lean.nh.gov>

COMMUNICATION SAMPLES CONTINUED

A Lean infographic was created in 2017 to efficiently and effectively communicate the valuable work of the NH Lean Executive Committee. Statewide; organizations, agencies, state employees, local municipalities, and citizens have benefited from process improvement efforts.



STATE OF NEW HAMPSHIRE LEAN EXECUTIVE COMMITTEE



21 LEC Members
Representing
16 State Agencies
And 1 University



8 Years
148 Lean Projects
Completed by 15 Agencies

Lean Executive Committee (LEC) Mission Statement:

To promote a stronger more efficient New Hampshire the Lean Executive Committee provides education, innovation, advocacy and facilitation of Lean process improvement.

Balanced Scorecard Alignment

 <p>Employee Training and Growth</p>	 <p>Finance Fiscal Responsibility</p>	 <p>External Customer Service</p>	 <p>Internal Process Control / Lean</p>
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"Since Lean's inception at the Department of Safety we have appreciated 3 very marked benefits, increased employee morale, customer time and financial savings. To quantify, we have saved 3.8 years of customer wait time and 4.6 million dollars in savings. Each has been an investment to public safety for all New Hampshire citizens and those visiting our state."

"The Lean project enabled New Hampshire Hospital to get a clear understanding of our workflow. Reimbursements have increased and the process is more efficient because of the teams' efforts" - Jamie Dall CFO New Hampshire Hospital

2017 / 2018 Goals

- Expand the Lean network membership & participation to more state agencies & community partners
- Standardize balanced scorecard for enterprise-wide use
- Outreach to Governor, executive leadership and directors
- Adopt set of core standardized tools and methods
- Serve as guest facilitators and speakers
- Expand mentoring services
- Offer White Belt through online training system
- Facilitate high-impact multi-agency projects
- Improve capabilities for collecting and reporting projects
- Continue working with UNH to strengthen our partnership and communicate a consistent message

MORE INFORMATION <http://lean.nh.gov/>

PROCESS IMPROVEMENT PROJECT TRACKING AND REPORTING*

Historically, the collection and dissemination of projects has been a challenge for the Lean Executive Committee. In absence of a state budget for the Lean efforts or support for a software collection tool, the committee has relied on Microsoft Excel to analyze data and information. In 2014, a project listing was uploaded to the State's Lean website. The simple file was the first roll out effort to place projects in a centralized location. The second iteration is this report, whereby projects are reported as well as additional quality material. The limitations continue to be present with the lack of a project report standards and a data collection software system.

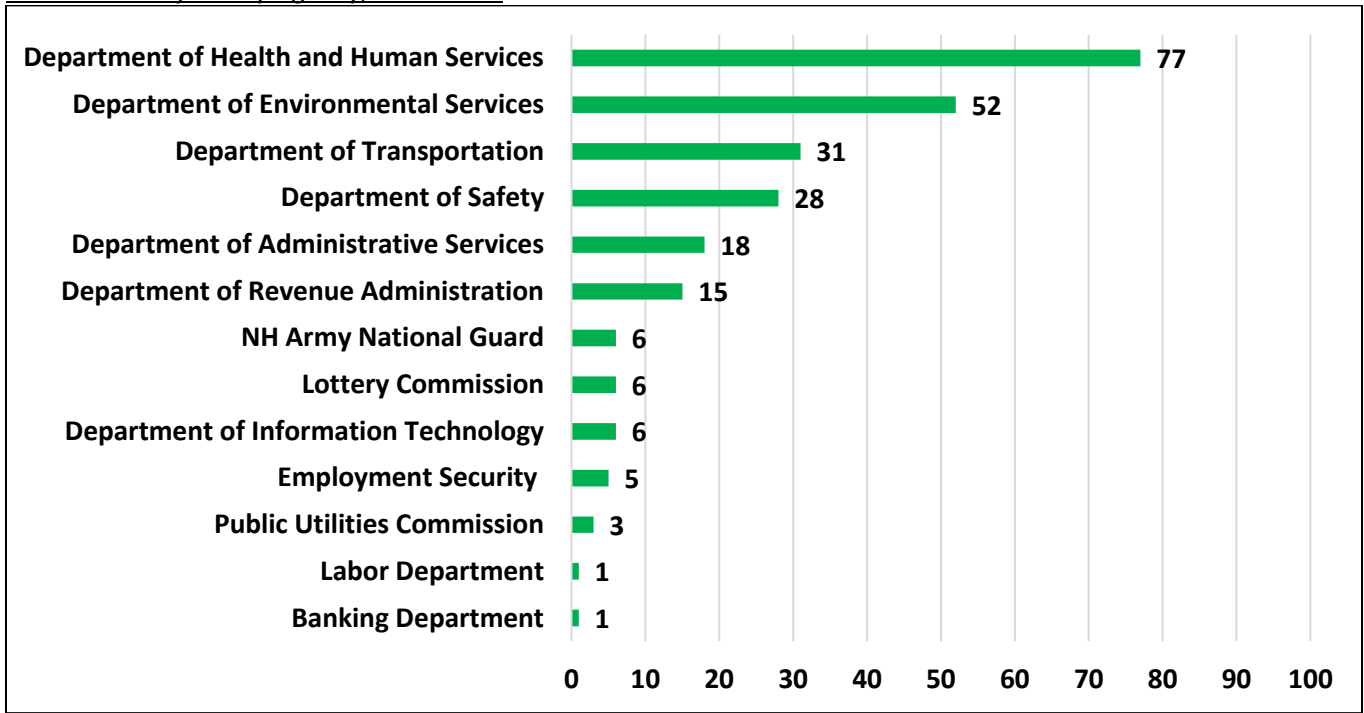
*Represents only the projects reported. Data is supplied on a volunteer basis. This report is among the first iteration to display the State of New Hampshire's Lean efforts. Reporting is a 100% manual process and is supplied on self-reporting basis. Data is managed through Microsoft Excel in absence of a reporting software solution.

Total Lean Projects By Agency, 2009-2017

AGENCY NAME	
Banking Department	1
Department of Administrative Services	18
Department of Environmental Services	52
Department of Health and Human Services	77
Department of Information Technology	6
Department of Revenue Administration	15
Department of Safety	28
Department of Transportation	31
Employment Security	5
Labor Department	1
Lottery Commission	6
NH Army National Guard	6
Public Utilities Commission	3
TOTAL	249

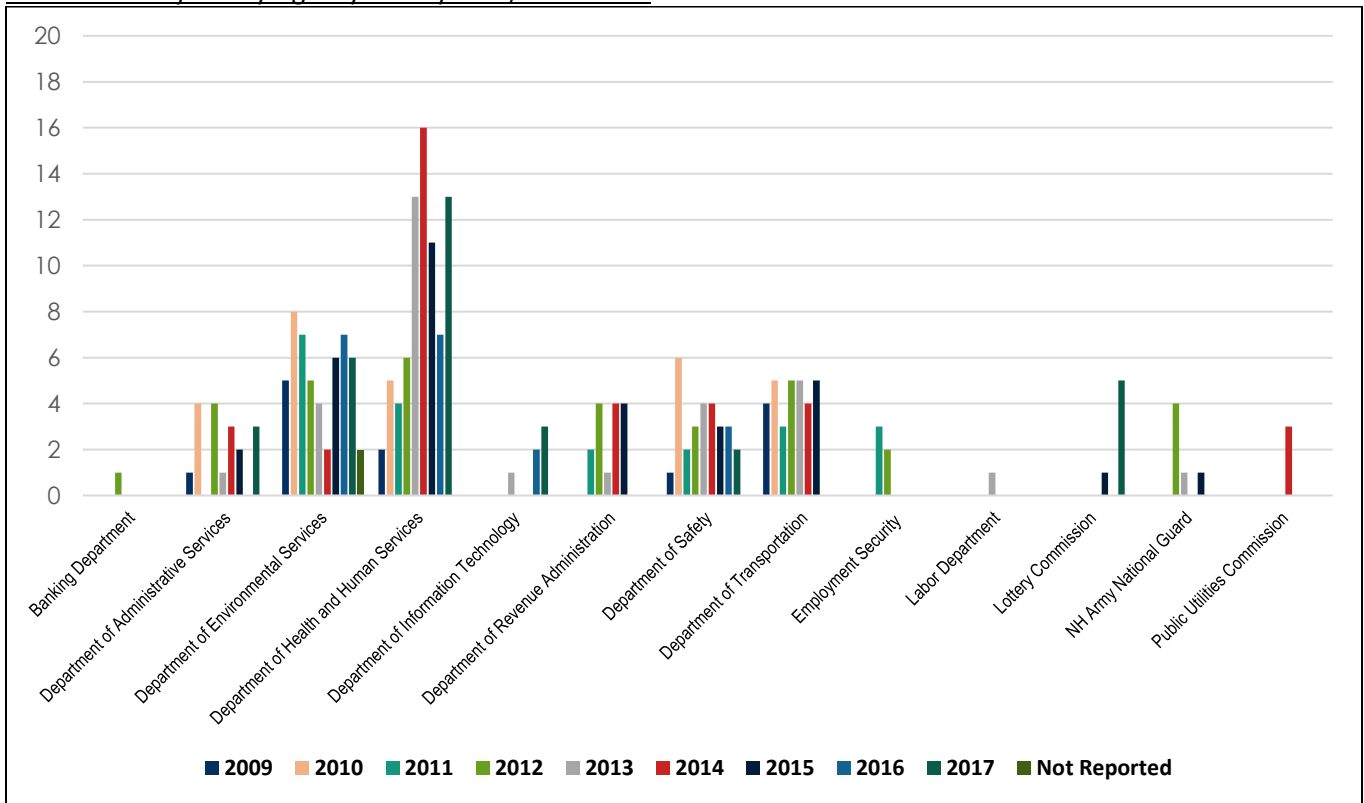
PROCESS IMPROVEMENT PROJECT TRACKING AND REPORTING* CONTINUED

Total Lean Projects by Agency, 2009-2017



n=249

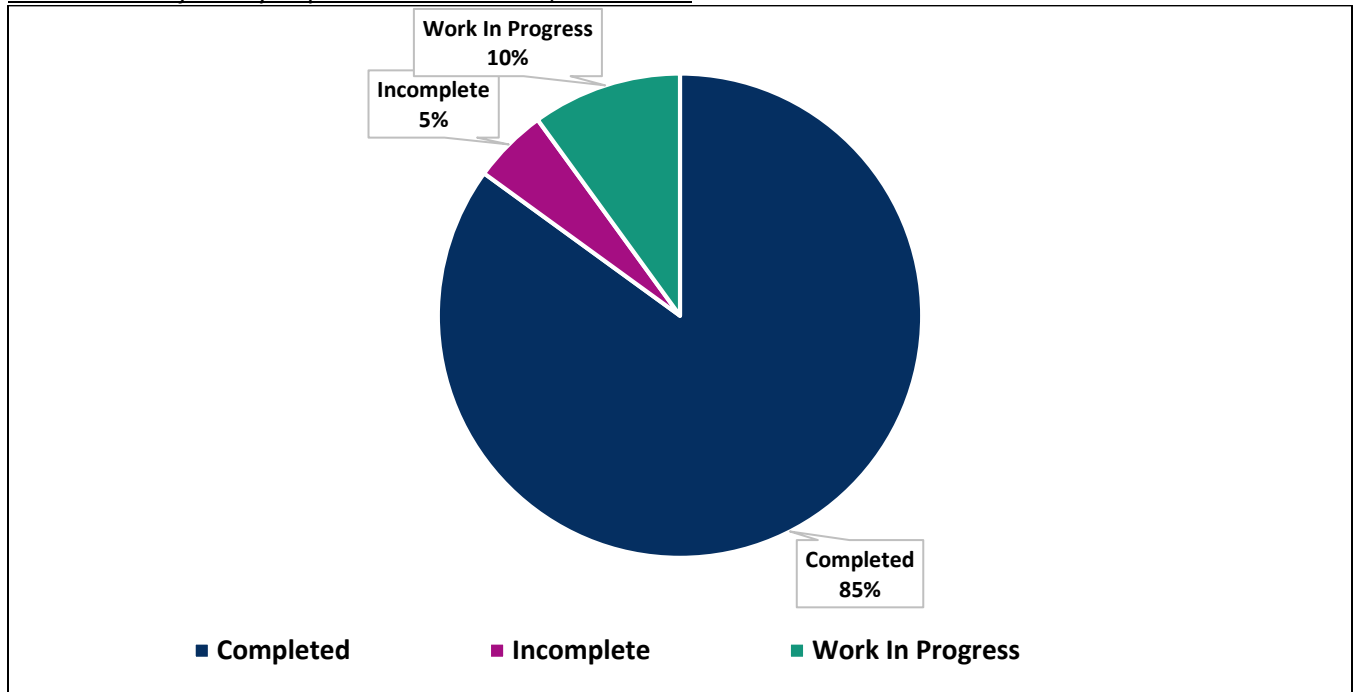
Total Lean Projects By Agency and By Year, 2009-2017



n=249

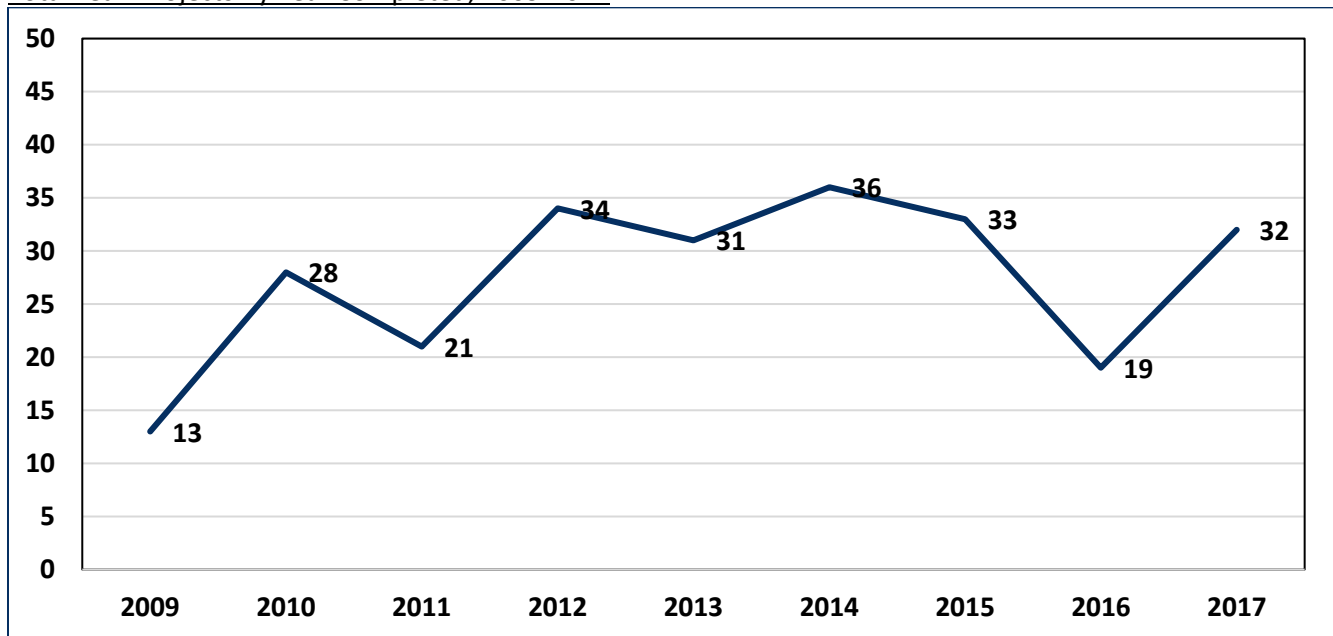
PROCESS IMPROVEMENT PROJECT TRACKING AND REPORTING* CONTINUED

Total Lean Projects by Implementation Status, 2009-2017



n=249

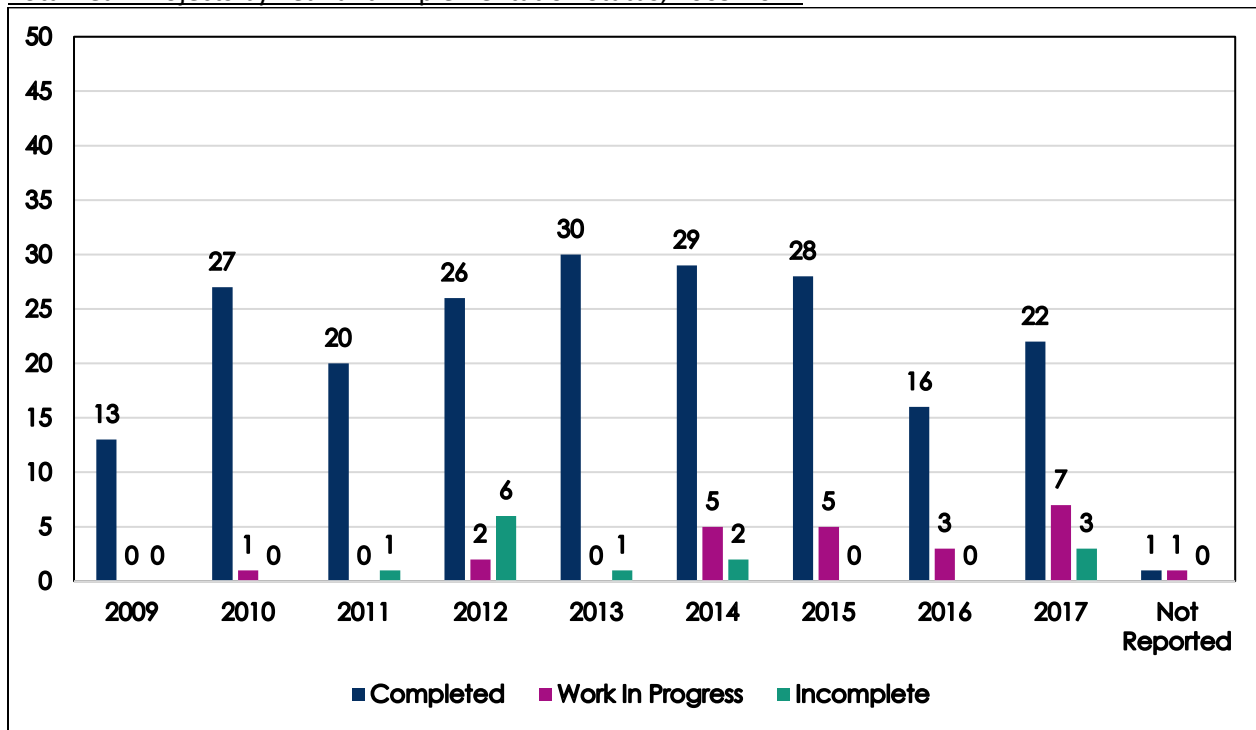
Total Lean Projects By Year Completed, 2009-2017



n=249

PROCESS IMPROVEMENT PROJECT TRACKING AND REPORTING* CONTINUED

Total Lean Projects by Year and Implementation Status, 2009-2017



n=249

BRIEF DATA SUMMARY

Over an eight-year period there were a total of 249 projects reported with an average of 19 per an agency. The largest number of projects reported was in 2014 with a total of 36, followed by 2011 with 33 projects. Of the total reported, a large proportion (95%) have been Completed (85%) or are a Work in Progress (10%).

While there is a presence of Lean work from the 13 agencies who reported projects, there are many more state agencies to invest in both training and resources for continuous process improvement.

BALANCED SCORECARD

The Balanced Scorecard is a performance management model used to display an organization's progress toward strategic goals. In lieu of a strategic plan, the Lean Executive Committee has adopted a four quadrant Balanced Scorecard in the program's charter. This visual display links Lean strategy goals at a statewide level. Lean projects support the model's goals within finance, internal employee training and development, external customer services, and process improvement.

Definitions are used to deploy the Balance Scorecard concept to Lean projects in an effort to display the current structure with Lean outcomes. The idea behind the Balanced Scorecard is to have a balance of investments in an organization.

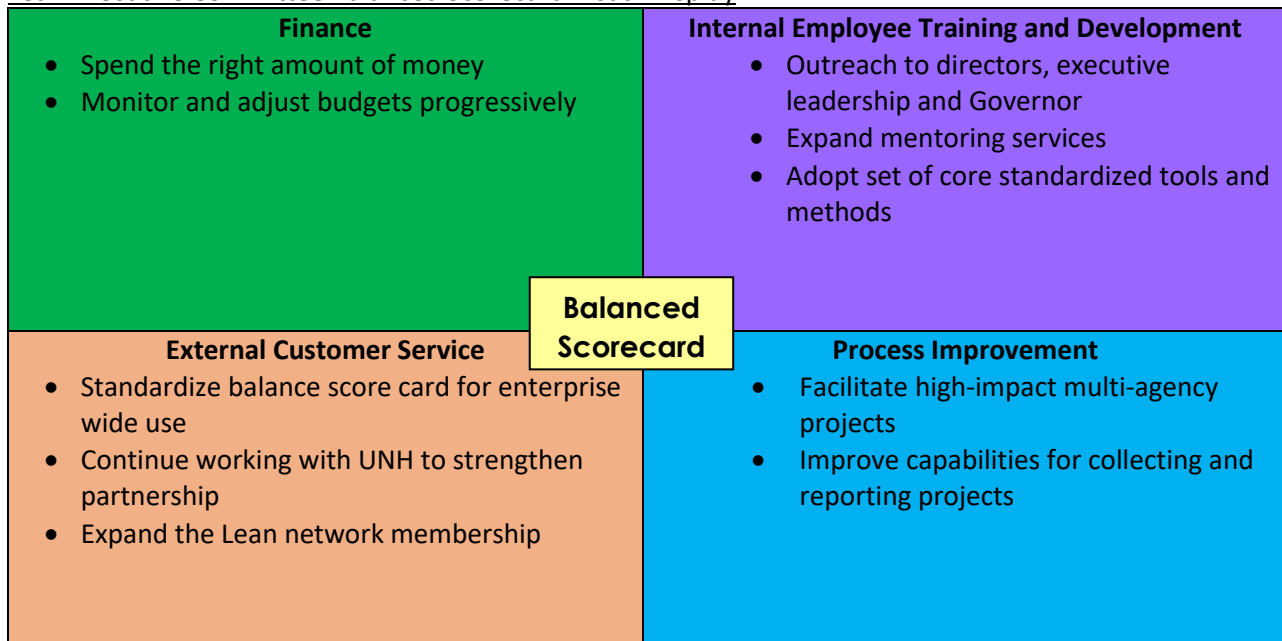
Finance is defined as a monetary savings, cost avoidance, or reallocation of funding in a program area.

Internal Employee Training and Development is the investment and/or development for employees. This is intended to increase employee morale and to offer the employee a personal trajectory goal.

External Customer Service refers to improving or establishing a type of return to the customer. By way of other matrixes, the customers can clearly understand that state agencies are conducting mission critical work efficiently and appropriately.

Process Improvement is the method of streamlining a business process that may add clarity, transparency, increase communication and/or standardize operations, etc.

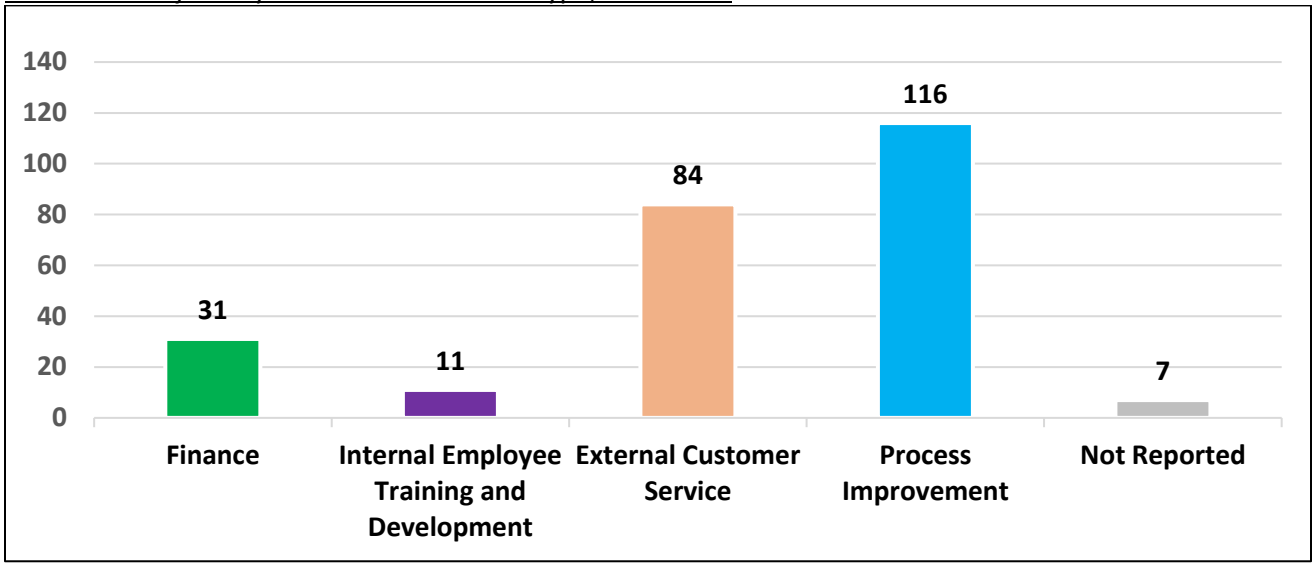
Lean Executive Committee Balanced Scorecard Visual Display



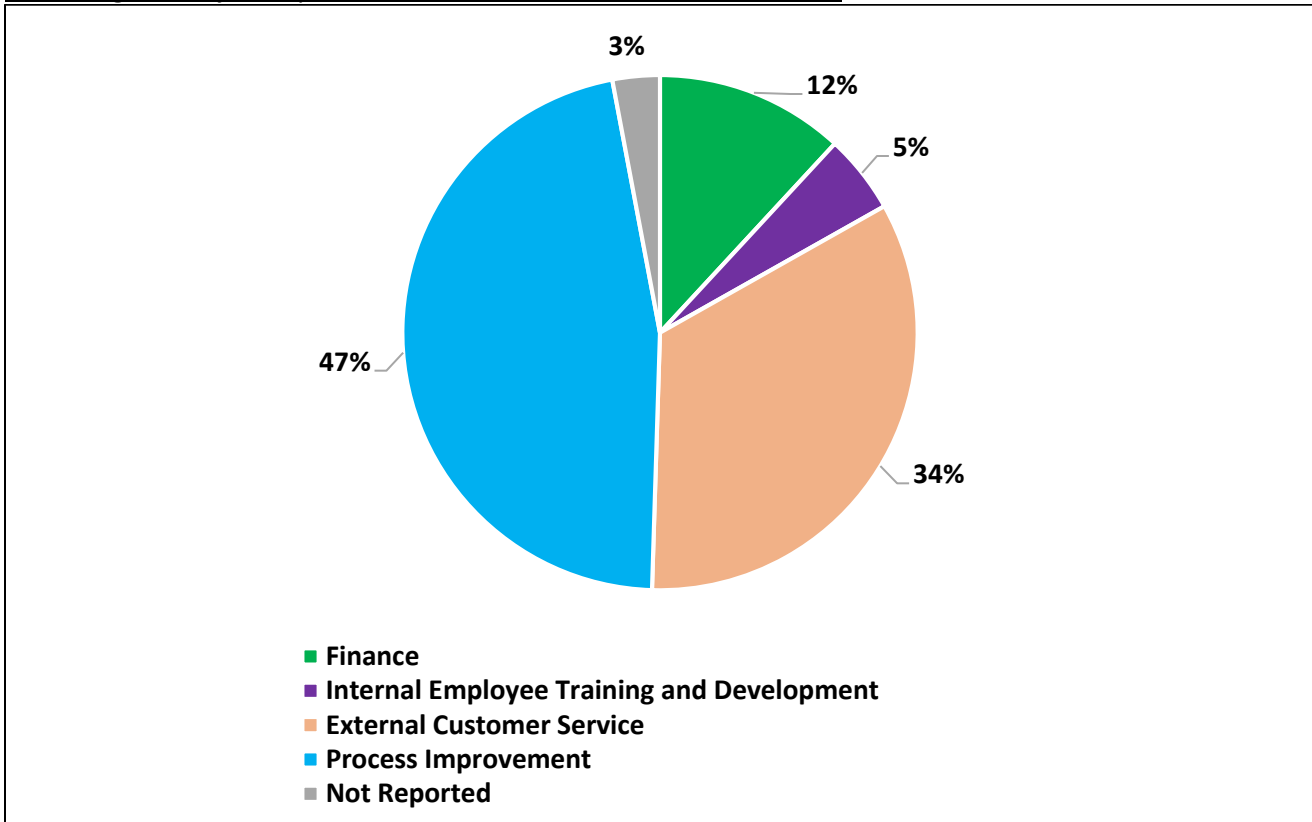
**Data is broken down by a ranking system using the Balanced Scorecard quadrants. Many projects were ranked in two or more categories. Data represented is displayed using the definitions of the Balanced Scorecard quadrants and the type of project.

BALANCED SCORECARD CONTINUED

Total Lean Projects by Balanced Scorecard** Type, 2009-2017



Percentage of Projects by Balanced Scorecard** Quadrants, 2009-2017



(Rounded up for percentage)

n=249

SUMMARY OF RECOMMENDATIONS

- Create, fund, and develop a NH statewide Office of Continuous Process Improvement with full time staff. This will aid in the development of a statewide Lean transformation plan, and adoption of process improvement tools and measure results.
- Adopt an Executive Order to detail specifics to create a whole state government culture approach with process improvement integrated into each service of state government to support a customer and operational excellence model.
- Fund training for each state employee to attend the Lean Program. Employee training is a lifelong investment in foundational skills for customer and operational excellence.
- Invest in a reporting software solution for statewide collection of Lean projects, begin to form a performance management plan, and develop strategic alignment goals for coming years.
- Develop a concise strategic plan to align and weave process improvement in each aspect of New Hampshire State government.
- Allocate an annual budget to support the New Hampshire Lean Summit in partnership and collaboration with the University of New Hampshire.

Appendix A: Sample Lean Coordinator Role and Responsibility Summary

OVERVIEW:

The Lean Coordinator is an essential role within all state agencies to support and lead efforts towards operational excellence. The Lean Coordinator responsibilities are an integral part of the process improvement delivery system in New Hampshire. The Lean Coordinator leads planning, facilitation, and management of Lean process improvement projects to meet the agency's strategic and key performance management goals. The Lean Coordinator serves as the organization's primary point of contact and coordination for all Lean activities. The position participates in the NH Lean statewide network for the advancement of Lean standards, training and to promote a Lean culture within state government and private sector organizations. The Lean Coordinator directs project teams and resources within the agency. The Lean Coordinator actively fosters mentoring and training opportunities for Lean facilitators and Lean champions. The position supports and serves as a change agent for the deployment of process improvement initiatives. The position presents regular updates including recommendations for strategic alignment and improvement models to senior management. The position directs and tracks the work of the Lean facilitators at the agency.

KEY RESPONSIBILITIES:

- Manages small and large scale, agency-wide simultaneous process improvement projects to meet business objectives, while delivering the highest levels of quality solutions, innovation, operational performance and customer satisfaction.
- Maintains and manages the central list of all process improvement initiatives within the agency.
- Evaluates, prioritizes and resources Lean projects to meet operational goals of the department.
- Responsible for implementing an effective method for continually communicating the status and results of improvement efforts throughout the organization.
- Formulates improvement opportunities/proposals into project charters and work plans.
- With senior management support, is responsible for leading and creating a Lean culture within the agency.
- Works with the State Lean Network to develop standards, provide enrichment, leverage solutions and promote a Lean culture within state government and member organizations.
- Provides comprehensive Lean expertise, consultation, modeling, support, and professional presentations.
- Stays current with industry-wide advances in Lean standards and trends to continually leverage the best Lean practices and tools within the agency.
- Continuously works to recruit and mentor individuals with demonstrated exemplary interpersonal, listening and problem solving skills to build Lean capacity within the agency.

The Lean Coordinator supports the community of practice through attending, contributing, and participating in;

- Monthly State of NH Lean Executive Committee meetings.
- Quarterly State of NH Lean Network meetings.
- Mentors and coaches Lean Green Belt and Lean Black Belt students for projects and general support.
- Engages in or aids in planning with other training or invited opportunities for professional growth and development.
- Participation and contributions with strategic planning and training program development.
- Contributes to tasks and duties needed for network and communication planning.