

Synthesis of Lean Information and Practice in Government

Requested by
Katy Taylor, Assistant Secretary
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Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WSDOT staff. Online and print sources may include newspaper and periodical articles, NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs and related academic and industry research. Internet hyperlinks in the TSRs are active at the time of publication, but host server changes can make them obsolete.

Request for Synthesis

This synthesis and literature review, requested by Katy Taylor, Assistant Secretary Strategic, Enterprise, and Employee Services, WSDOT. It includes state, local, and federal government lean programs and practice and sources related to lean practice in the public sector and other service organizations.

Databases Searched

- TRID - A Transportation Research Database at the Transportation Research Board (TRB)
- Research in Progress (RiP) – A Database of Current Transportation Research at TRB
- Previous Synthesis Reports on WSDOT Research Website
- Google
- Wisconsin DOT Transportation Synthesis Reports
- Federal Transit Administration (FTA) website
- Federal Highway Administration (FHWA) website
- International Transportation and other Research Websites

Lean in State Government

Colorado

[Colorado DOT Process Improvement](#)

Connecticut

[Connecticut Governors Redouble Commitment to Lean Government](#)

Iowa

[Office of Lean Enterprise](#)

[Lean is a collection of principles, methods and tools that improve the speed and efficiency of any process by eliminating waste](#)

[Lean Business Process Improvement in the Executive Branch](#)

[Results of Lean Business Process Improvement in the Executive Branch of Iowa State Government](#)

Maryland

[The Maryland World Class Consortia and Lean Government](#)

Maine

[Bend the Curve Lean Initiative - making good headway with Lean in Maine on multiple fronts](#)

Minnesota

[Lean is a coordinated state government initiative for improving the organizational performance and results.](#)

[Lean Online 2010/2013 Results](#)

[Minnesota Commission Calls for Expanding Lean Deployment](#)

[Minnesota State Services for the Blind Radically Improves Service](#)

Michigan

[Michigan Lean Consortia](#)

[Michigan DOT 2013 System Performance Measures Report](#)

New Hampshire

[Lean New Hampshire](#)

Ohio

[Lean Ohio is all about creating simpler, faster, and more cost-effective services through the use of Lean, Kaizen, and Six Sigma](#)

Oregon

[Going Lean in state government](#)

Washington

[Results Washington: About Lean](#)

[Lean Resources: Books, Websites and Blogs from Results Washington](#)

[State of Washington: Review of Lean in Government](#)

Lean in the Federal Government

US Army

[Lean Six Sigma Read More](#)

EPA

[The Lean in Government Starter Kit: How to Implement Successful Lean Initiatives at Environment Agencies](#)

Lean in City Government

Cape Coral, FL.

[The City has initiated a “Lean Government” program for simplifying and streamlining various business processes.](#)

Grand Rapids, MI.

[Using Lean Thinking to Reinvent Government](#)

Jacksonville, FL.

[Jacksonville Lean Consortium](#)

[Jacksonville's Top Cop Wins a Third Term with Lean](#)

County of Ventura, CA.

[Applying Lean and Six Sigma since 2008 to improving Government processes and service](#)

Brown County, WI

[Brown County's Lean Management](#)

Lean in Government Sources

The Guide to Lean Enablers for Managing Engineering Programs

Oilmen, Josef, (Ed.); the Guide to Lean Enablers for Managing Engineering Programs, Version 1.0.; Cambridge, MA: Joint MIT-PMI-INCOSE Community of Practice on Lean in Program Management; 2012.

Summary: This guide provides findings of the joint MIT PMI INCOSE Lean in Program Management Community of Practice that are based on a one year project during 2011-2012. Selected subject matter experts from industry, government, and academia participated. The findings are based on known

best practices from the literature, program experience of the subject matter experts, and input from an extensive community of professionals. The findings were extensively validated through community and practitioner feedback, multiple workshops at INCOSE and PMI conferences, LAI hosted web based meetings, and surveys of the extended professional community. The survey results clearly show that programs using the Lean Enablers show a significantly stronger performance in all dimensions—from cost, to schedule and quality as a well as stakeholders’ satisfaction.

The core of this document contains 1) the themes for major engineering program management challenges, and 2) the Lean Enablers along with 286 sub-enablers to overcome challenges, and better integrate program management, systems engineering and lead engineering programs to excellence. The main engineering program management challenges identified and addressed by Lean Enablers in this guide are reported in detail in Section 4 and summarized as follows:

Major Challenge Themes in Engineering Programs that Lean Enablers Help to Address:

1. Firefighting.—Reactive program execution
2. Unstable, unclear, and incomplete requirements
3. Insufficient alignment and coordination of the extended enterprise
4. Processes are locally optimized and not integrated for the entire enterprise
5. Unclear roles, responsibilities, and accountability
6. Mismanagement of program culture, team competency, and knowledge
7. Insufficient program planning
8. Improper metrics, metric systems, and KPIs
9. Lack of proactive program risk management
10. Poor program acquisition and contracting practices

[Extreme Government Makeover](#)

By Ken Miller; Governing.com; 2011

The house of government is broken, and it needs a serious makeover from top to bottom. In his latest book, management expert Ken Miller discusses how the processes of state and local government became so complicated and inefficient – and how to start cleaning up the mess. This book reveals the tips, strategies, and hiding-in-plain-sight secrets for making government work better.

[Lean Government](#)

QPIC, LLC Lean Government Center; leangovcenter.com; 2011

Summary: Lean focuses on what are the key processes in all agencies, what services are they delivering, and how much of what is being done is value-added (what the taxpayer truly needs and is willing to pay for) vs. non-value added. It’s not unusual to find improvement opportunities on the order of magnitude of 50%+ where Lean is applied. Lean takes continuous improvement to the next step focusing on meeting customer needs and performance metrics, along with organizational change.

Lean is based on:

The Goal

To deliver continuously improving value-added services (quality and speed of service) to customers (taxpayers) at lower costs.

Process Improvement

To be able to identify key processes, how they are performing, and apply Lean tools to make improvements in reducing costs/wastes and enhancing revenues.

People are the Business

There needs to be a high respect for people. A constant search for how to improve things and reduce errors looking at the process and the non-valued added steps vs. who's responsible for the error—and finding the lessons in every “failure.” Blame does not foster improvement or innovation.

Some Lean Government Metrics:

Time Based:

- Lead Time - To Accomplish the Job
- % On Time Delivery
- Total Processing Time
- Value Added Time
- Non-Value Added Time

Cost Based:

- Total Process Cost
- Labor Savings

Quality Based:

- Customer Satisfaction
- Rework Steps/Time
- First Pass Yield - Done Right the First Time
- % Complete, Accurate, Zero Defects

Process Based:

- # of Decisions Required
- # of Signatures Required
- # of Delays
- # of Handoffs

Organization Based:

- Employee Satisfaction
- Turnover
- Lean Events Conducted
- Lean Event Participation
- Lean Training Conducted

[Lean and Fit: Improving Frontline Service in an Age of Austerity](#)

By Geoff Gibbons, Andrew O'Brien, Alastair James, & Keith Leslie; Deloitte Co. UK; 2010

Summary: This paper is aimed at Chief Executives to help in understanding the opportunity in using Lean principles to radically reshape public service delivery.

[Lean Six Sigma: Fad or Miracle Drug?](#)

By Jonathan D. Breul & John M. Kamensky; Governing.com; Sept. 15, 2010

The process-improvement program has had success in Indiana and Louisiana.

[Lean Government Methods Guide EPA](#)

EPA; www.epa.gov/lean/government ; 2009

Document Includes:

[Lean in Government Starter Kit](#)

[Working Smart for Environmental Protection: Improving State Agency Processes with Lean and Six Sigma](#)

(Lean Government Primer)

[Lean in Air Permitting Guide: A Supplement to the Lean Government Starter Kit](#)

[Resource Guide to Effective Utility Management and Lean](#)

[Lean Leadership Guide: Leading Process Excellence](#)

[Lean Government Event Scoping Guide](#)

[Lean Government Metrics Guide](#)

[Lean: Excellence in Government \(Fact Sheet\)](#)

Case Studies and other information about EPA and State Lean activities can be found at [the EPA Lean Government Initiative website](#)

[Lean Legacy](#)

By Jonathan Walters; Governing.com; August 31, 2009

Iowa's experiment with charter agencies ended when Governor Tom Vilsack left office. But efficiency efforts live on.

[Lean Government's Promise of Going 'Lean'](#)

By Ken Miller; Governing.com; May 21, 2009

It's the latest, busiest trend in government management. Just don't call it a fad.

Applying Lean in Government

Transforming Government Performance through Lean Management

By Biniam Gebre, Petter Hallman, Mark Minukas, Becca O'Brien; McKinsey Center for Government; December 2012

Summary: Lean management creates systemic impact by changing how managers manage – with a focus on leadership skills, offering faster, scalable, and more durable improvements. Lean management helps public sector organizations streamline processes by addressing the causes of organizational inefficiency, building the management systems and capabilities to sustain new ways of working, and engaging everyone in making continuous improvement a part of daily work.



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hrough_lean_manage

[Building High Performance Government through Lean Six Sigma: A Leader's Guide to Creating Speed, Agility, Efficiency](#)

By Mark Price, Walter Mores, and Hundley M. Elliotte; Accenture; www.accenture.com; 2012

Summary: This book highlights viable strategies in use today creating strategic alignment and greater productivity in government.

**[Building a Culture of Innovation through Lean Six Sigma and Learning Organization Principles
US Senate Productivity and Quality Award for Virginia](#)**

Dan Stonecypher and Fred Salanitor, Norfolk Naval Shipyard; Forum for Excellence – Sept. 11, 2011, Richmond VA; 2012

Summary: A PPP slide presentation on how the Norfolk Naval Shipyard built a culture of innovation using Baldrige, Lean Six Sigma, and Learning Organization principles.

Lean Continuous Improvement: Resource Management Agency Lean Deployment and Implementation Plan

Ventura County, California; 2009

Summary: This plan compliments the continuous improvement efforts already begun at the County, and this Deployment and Implementation Plan describes an agency-wide approach to implementing Lean Six Sigma. (See PDF)



Ventura Co. Lean
Deployment or Impl

Lean Performance Management for Public Sector

Oracle White Paper; www.oracle.com; July 2009

Summary: This White Paper on Lean Performance Management states that in the public sector, performance management should influence and inform outcome management by continuously optimizing costs, quality, and customer service. (See PDF)



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A Leaner Public Sector

By Maia Hansen and John Stoner; McKinsey on Government, Number 4; Summer2009

Summary: The article describes how public sector organizations can improve performance using elements of lean and Six Sigma incorporating both “soft” and the “hard” side aspects for long lasting organizational change and improvement. (See PDF)



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[Eight Workable Strategies for Creating Lean Government](#)

By Chew Jian Chieh; Center for Organizational Effectiveness; 2008

Summary: Lean government: The very idea sounds implausible. Governments’ traditionally are seen as guardians of red tape, incomprehensible forms, and endless queues. But, there are workable Lean strategies for governments seeking to reduce waste and be efficient.

[Working Smart for Environmental Protection: Improving State Agency Processes with Lean and Six Sigma](#)

Prepared by Ross & Associates Environmental Consulting; Lean in Government Series; National Center for Environmental Innovation; 2006

Summary: Several state environmental agencies dramatically improved agency permitting and administrative processes using Lean and Six Sigma process improvement methods. Within a few months of implementation, Delaware, Iowa, Michigan, Minnesota, and Nebraska drastically reduced permit application backlogs, reduced lead times for permit reviews by more than 50 percent, decreased the complexity of permit application forms, improved the consistency of permit reviews, and made more staff time available for “mission critical” work—all while improving staff morale and transparency of their processes to stakeholders, *without* sacrificing environmental protection goals or reducing value-added permit review time.

Additional Sources on Implementing Lean

[The Shingo Prize for Operational Excellence](#)

[The Shingo Model: The Shingo Principles of Operational Excellence – The Shingo Transformational Process](#)

[SCOPE: The Shingo Prize](#)

Jon M. Huntsman School of Business; Utah State University; 2013

Summary: The Shingo Prize for operational excellence is a not-for profit foundation located at Utah State University, named for Japanese industrial engineer, Dr. Shigeo Shingo, the renown thought leader pioneering the concepts, management systems and improvement techniques known as the Toyota Business System. The Shingo Prize is to create excellence across the entire organizational enterprise through the application of universally accepted principles of operational excellence, alignment of management systems, and the wise application of improvement techniques through teaching correct principles and new paradigms that accelerate the flow of value, align and empower people, and transform organizational culture.

[Know What Counts. Measure What Matters. Deliver Results. Lean Six Sigma and the Quest for Continuous Improvement](#)

XEROX; www.xerox.com; 2013

Summary: A brochure providing examples continuous improvement projects at Xerox and other private and public sector organizations using Lean Six Sigma principles.

[How to Identify and Select Lean Six Sigma Projects: Alignment with the Strategic Plan](#)

By Douglas Mader, Quality Progress; www.qualityprogress.com; 2013

Summary: Putting Best Practices to work in Strategic Planning using Lean Six Sigma requires understanding of how to identify and select lean Six Sigma projects that are in alignment with the organization’s strategic plan.

[Operationalize Your Strategic Plan Using Lean Six Sigma](#)

By Donald D. Ainsworth; *MetaOps* Magazine; February 6, 2013

Summary: This article describes using Lean Six Sigma in an organization to operationalize your strategic plan for successful strategy execution.

[Driving operational innovation using Lean Six Sigma](#)

By George Byrne, Dave Lubowe, and Amy Blitz; IBM Institute for Business Value – Strategy and Change; IBM; 2012

Summary: CEO's face mounting pressures to innovate; yet finding ways to actually enable innovation remains a challenge. Top companies with successful track records for innovation, have discovered one possible solution. Expanding Lean Six Sigma, used in achieving operational excellence, can also do more than improve processes. It can help leaders discover innovation opportunities far beyond operations, enhance financial performance and create organizations having an inherent inclination toward innovation.

[Strategic Planning with Six Sigma and Lean: Choosing, Certifying, and Implementing](#)

Baldrige.com; November 12, 2012

Summary: This paper discusses the Strategic Planning portion of the Baldrige criteria specifically addressing how organizations approach process and performance improvement, emphasizing that long-term organizational sustainability, operational capability, and alignment are key strategic issues that need to be integral parts of an organization's overall planning.

[Driving Operational Innovation Using Lean Six Sigma](#)

By George Byrne, Dave Lubowe and Amy Blitz; IBM Institute for Business Value; 2012

Summary: Lean Six Sigma, a relatively well-known approach for achieving operational excellence, in addition to improving processes, can help leaders discover innovation opportunities far beyond operations, enhance financial performance, and create organizations that have an inherent inclination toward innovation.

[Can Lean and Six Sigma Be Blended with Other Disciplines?](#)

By Paul Odomirak, MEd; The Possibility Press Thought Leadership Series; Transformation Systems, Inc. www.transformationsystems.com ; 2011

Summary: This article describes different models that incorporate Lean Six Sigma, barriers to implementation, and factors for success. ©Copyright 2011 by Paul Odomirak, M.Ed.

[Lean For Dummies Cheat Sheet - For Dummies](#)

By Natalie J. Sayer, Bruce Williams; Wiley Company; 2010

Summary: To understand how to apply Lean in any organization, you should know the basics: the principles, the definitions of value and waste, how to lead effectively, and how to define and improve the value stream. You should also be aware of how a Lean leader thinks and acts.

[A Taxonomy of Lean Six Sigma Success Factors for Service Organizations](#)

By Reza N. Hajikordestani, University of Florida, Master's Degree Thesis; University of Central Florida, Orlando, FL; 2010

Summary: This thesis reviews the concept of Lean thinking integrated with Lean Six Sigma implementation in service organizations and summarizes the success factors for successful implementation.

[Leading with Lean Six Sigma](#)

By Thomas Pyzdek; PPP at 2009 ASQ Conference Proceedings, www.ASQ.org; www.Pyzdek.com ; 2009

Summary: This is a slide presentation that describes how to use Lean Six Sigma in strategic planning and developing balance scorecards. ©Copyright 2009 by Thomas Pyzdek.

[Better Fostering Innovation: 9 Steps That Improve Lean Six Sigma](#)

Forrest W. Breyfogle III, *Business Performance Management*, Best Practices for Finance Executives; 2008

Summary: Lean Six Sigma brings rigor and discipline to project management, but its approach to project selection is lacking. A new approach incorporates a structured, enterprise-level view of metrics to jump-start corporate innovation.

[Getting the Right Things Done](#)

By Pascal Dennis, Lean Enterprise Institute, 2008

Summary: In this book, Pascal Dennis outlines the basics of strategy deployment, answering two tough questions that ultimately determine a company's lean transformation:

- What kind of planning system is required to inspire meaningful company-wide continuous improvement?
- How might we change existing mental models that do not support a culture of continuous improvement?
- How strategy deployment can help leaders harness the full power of Lean.

[Rapid Transformation: A 90-day Plan for Fast and Effective Change](#)

Behnam N. Tabrizi: Harvard Business School Publishing; 2007

Summary: This book discusses the critical success factors differentiating successful organizational transformations from failed transformations. The most successful transformations are all-encompassing, integrative, fast, and have full, passionate commitment and buy-in at the top layers of the organization.

[Hoshin Kanri - The Strategic Approach to Continuous Improvement](#)

By David Hutchins; David Hutchins International Quality College; 2007

Summary: This book describes the concept of *Hoshin Kanri* and underpins all of the leading Japanese business strategies in companies such as Toyota, Honda, Komatsu, and many others and is viewed internationally as the fundamental building blocks for a successful organization. David Hutchins researched *Hoshin Kanri* since its early development in the late 1960s and applied *Hoshin Kanri* with stunning success and summarizes his experience into this reference and guide.

[Strategic Deployment: How to Think Like Toyota](#)

Jill Jusko; *Industry Week*; October 15, 2007

Summary: This article describes how using Hoshin planning provides organizations with a clear idea of where they are going and how to get there.

[Lean Teams: Developing the Team-Based Organization](#)

The Skills and Practices of High Performance Business Teams

By Lawrence Miller; www.lmmiller.com; 2005

Summary: This paper defines a team-based organization, *the what*, and presents the transition process from a traditional organization to one built around high performance business teams—*the how*.

Recent Books on Creating a Lean Culture

Toyota Culture: The Heart and Soul of the Toyota Way

By Jeffery Liker and Michael Hoseus, Center for Quality, People, and Organization; Copyright © 2008 McGraw Hill

Winner of the Shingo Prize for Research and Professional Publication in 2009, this book describes Toyota's continuous learning and improvement culture.

A New Culture of Learning: Cultivating the Imagination for a World of Constant Change

By Douglas Thomas and John Seely Brown; Copyright ©2011 Douglas Thomas and John Seely Brown

This book provides information on creating a culture of continuous learning.

The Leader's Guide to Radical Management: Reinventing the Workplace for the 21st Century

By Stephen Denning; Copyright ©2010 by John Wiley and Sons, Published by Jossey-Bass; 2010

This book provides a comprehensive review of the principles and practices involved in reinventing management to elicit constant learning and continuous innovation.