Wisconsin Department of Transportation

Lean Government Annual Report

Fiscal Year 2014

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Lean Government Initiative Annual Report

"Measurement is the first step that leads to control and eventually to improvement. If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it." - H. James Harrington

Significant funding issues exist at the state and federal levels, while ongoing transportation needs continue to be present in all modes. Wisconsin's economic vitality depends on a safe and efficient multimodal transportation network to move Wisconsin's citizens to work, and to support industry, agriculture and tourism.

The Wisconsin Department of Transportation (WisDOT) is taking on this challenge by actively employing Lean Six Sigma, in alignment with the department's MAPSS performance improvement program, to assist in meeting our mission to provide leadership in the development and operation of a safe and efficient transportation system.

WisDOT is committed to continuing to make our processes better and more efficient, while showing accountability and transparency for results. Since July 2012, the department has completed 30 projects aimed at improving customer service, maximizing efficient operations, saving costs, streamlining processes, and informing data-driven decisions.

To date, the department has generated project savings in excess of $1.5 million and improved the time spent on these processes by 28,000 hours. The dollars and staff hours will continue to be redirected to other department activities and priorities.

I am pleased to present the Fiscal Year 2014 Lean Government Annual Report.

Mark Gottlieb, P.E.
Secretary
Wisconsin Department of Transportation

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How Lean Government aligns with WisDOT's overall performance improvement system

WisDOT's mission is to provide leadership in the development and operation of a safe and efficient transportation system, with a vision of dedicated people creating transportation solutions through innovation and exceptional service. The department achieves its mission employing the values of accountability, attitude, communication, excellence, improvement, integrity, respect and teamwork. The department's performance improvement system provides the framework for getting it done.

Performance measures are a tool to help the department assess our progress in achieving outcomes that align with our strategic goals - mobility, accountability, preservation, safety and service. WisDOT's MAPSS Scorecard represents those corporate measures identified as of greatest interest to the public in demonstrating wise stewardship for the performance of the transportation system.

In addition to the high-priority Scorecard measures, there are additional metrics at management levels of review and reporting. The strategic measures directly support the core MAPSS goals; the operational measures are intended to support program areas in making progress toward meeting the overall mission.

Each quarter, business areas provide key updates showing how the system is trending and whether the department is meeting established targets. The schedule for review and reporting on individual measures is based on pertinent program cycles, the availability of data and the department's business need for the information.

Strategic initiatives, including the Lean Government Initiative, provide a mechanism for ongoing progress toward meeting performance targets, through the implementation of process improvements aligned with MAPSS core goal areas. There are process metrics associated with these projects to quantify improvements. WisDOT's Lean projects are focused on their ability to contribute to the overall organizational MAPSS goals and progress toward moving performance targets in a positive direction. In short, Lean Government supports the department's overall performance measurement system maturation growth toward using leading metrics to better plan, predict and monitor trends.

MAPSS CORE GOAL AREAS

Mobility – Delivering transportation choices that result in efficient trips and no unexpected delays.

Accountability – The continuous effort to use public dollars in the most efficient and cost-effective way.

Preservation – Protecting, maintaining and operating Wisconsin's transportation system efficiently by making sound investments that preserve and extend the life of our infrastructure, while protecting our natural environment.

Safety – Moving toward minimizing the number of deaths, injuries and crashes on our roadways.

Service – High quality and accurate products and services delivered in a timely fashion by a professional and proactive workforce.

WisDOT Executive Offices are tracking project progress and implementing a review process to ensure projects are completed successfully and in compliance with the requirements identified in Executive Order #66. WisDOT reports these results regularly to the Governor's Office. Annually, a report is compiled and published to the public. Project results are published to the Internet at: http://www.dot.wisconsin.gov/about/performance/lean.htm.

The Lean methodology

WisDOT Lean Six Sigma teams use the DMAIC process to complete their projects. DMAIC is an acronym that refers to the five phases: Define, Measure, Analyze, Improve and Control. The DMAIC process provides teams with a methodological framework to work logically through a process improvement from issue identification through solution implementation and improvement control.

- In the Define phase, teams will have a completed project charter, including an assessment of customer needs, and a high-level representation of the current state.
- In the Measure phase, teams will drill down into the process and produce the baseline data that will be used to measure progress.
- The Analyze phase looks at the linkages between cause and effect. This step also includes an evaluation of the value-added and non value-added steps and identifies "waste." In Lean, waste is something that uses resources but does not add value to the customer. The goal of Lean Six Sigma is to eliminate waste and enable staff to focus on mission-critical tasks of value to WisDOT customers.
- In the Improve phase, teams brainstorm and prioritize potential solutions. At this stage, the team may pilot or actually implement the selected improvement option.
- Finally, the Control phase marks project closure and ongoing controls to ensure the improvement "sticks." The team produces documentation and comparative measures to assess the value-added through the improvement. This is also the time to share the results and acknowledge the work of the team!

WisDOT Lean program metrics

Following is a list of Lean program metrics, which are tracked and reported quarterly to the Department of Administration and Governor's Office:

Number of Lean Six Sigma projects completed
Target: complete 20 Lean projects in CY 2014

Current calendar year-to-date: 9 projects

Fiscal Year 2014 results: WisDOT completed 20 projects in FY 2014. The department currently has 14 active projects and 14 additional projects planned. Individual project results are included in this report, and can also be viewed electronically at:
http://www.dot.wisconsin.gov/about/performance/lean.htm

Number of employees trained in Lean Six Sigma
Target: train 50 WisDOT staff in each of CYs 2014 and 2015

Current calendar year-to-date: 82 employees

FY 2014 results: In FY 2014, 225 WisDOT staff received formal Lean Six Sigma training. The department spent $38,239 on formal training in FY 2014.

Customer satisfaction
Target: Individual targets have been set as part of each Lean project, and established for each performance measure implemented.

FY 2014 results: Family and Medical Leave Act and DMV agent performance Lean projects were primarily aimed at the MAPSS Service goal area. Most Lean projects completed by the department also included the statewide goal of improving customer satisfaction.

In addition, the department established four MAPSS Scorecard measures to monitor progress:

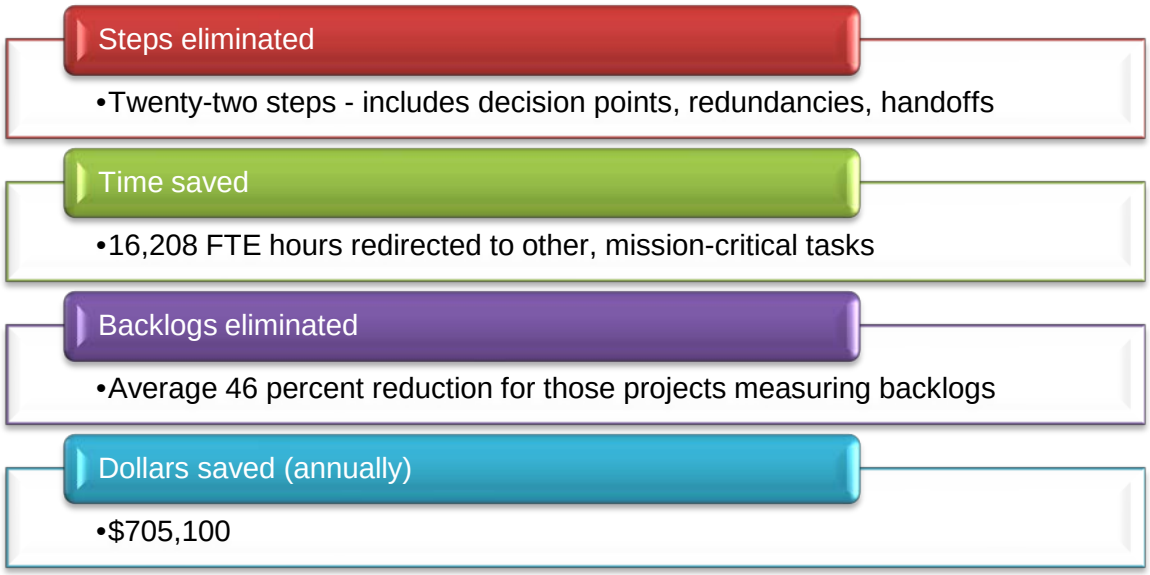
- DMV wait times
- DMV electronic services
- DMV driver license road test scheduling
- DMV phone service

The updated MAPSS quarterly report, MAPSS Scorecard, and visualizations are available on the MAPSS Performance Improvement web site: www.mapss.wi.gov.

Employee work environment
Target: Five-year average of less than 100 worker compensation claims, with no more than 20 percent lost time claims and a cost of less than $3,200.

FY 2014 results: The department established a MAPSS measure to monitor progress in this area. The five-year average is 126 worker compensation claims, with 26.4 percent lost time claims and an average cost of $3,026.

Summary of FY 2014 results



Example LEAN project
The dollars and staff hours saved as a result of Lean improvements are repurposed to other business area priorities and functions.

One example of a Lean project where time and dollars were reinvested is the Highway Signing Lean project. On this project, the recommended improvements will increase staffing efficiencies cost effectiveness of the process. WisDOT will be able to install more signs with the funding allocated toward highway signing. The proposed process changes are expected to result in a 30 percent cost savings ($360,000) statewide per year for sign installation and a reduction in staff time of approximately eight full time staff positions that will be reallocated to other high priority activities.

The proposed process steps will translate to improved highway safety through the replacement of approximately 3,500 additional signs per year through reinvestment of the cost savings. The time between identifying a sign replacement need to installation for routine sign replacements also reduced from 377 days to 253 days (33 percent reduction). This project will be fully implemented in fall 2014 for signs to be installed in 2015. However, the department has already made some improvements for the 2014 installations, including eliminating partial order deliveries.

Projects completed, under a Control Plan:

1. Milestone and resource tracking (FY 2013)
2. Crash scene mapping (FY 2013)
3. Telecommunications long-term action plan (FY 2013)
4. Skills testing availability (FY 2013)
5. School bus inspection process (FY 2013)
6. Transit procurement improvement (FY 2013)
7. Timely aeronautics payments (FY 2013)
8. Let project closeout process (phase 1 – Kaizen event) (FY 2013)
9. Purchasing Card project (FY 2013)
10. Phone bank quality assurance (FY 2013)
11. Post crash inspection process (FY 2014)
12. Let project closeout process (phase 2) work group 1 – glossary of terms (FY 2014)
13. Let project closeout process (phase 2) work group 2 – flowcharts (FY 2014)
14. Let project closeout process (phase 2) work group 3 – roles and responsibilities (FY 2014)
15. Let project closeout process (phase 2) work group 4 – standardize team composition and roles (FY 2014)
16. Let project closeout process (phase 2) work group 5 – project tracking (FY 2014)
17. Let project closeout process (phase 2) work group 6 – Let project sections in manuals (FY 2014)
18. Let project closeout process (phase 2) material certification lead time (FY 2014)
19. Let project closeout process (phase 2) payroll clear date (FY 2014)
20. In-custody arrest report review process (FY 2014)
21. Family and Medical Leave Act (FMLA) process (FY 2014)
22. Consultant contracts (FY 2014)
23. NW region purchasing (FY 2014)
24. Highway signing (FY 2014)
25. Agent performance reports (FY 2014)
26. Traffic simulation modeling for highway capacity analysis (FY 2014)
27. Late invoice payments (FY 2014 – report out delayed)
28. Simplify the IT hardware purchase process (FY 2014)
29. Operating budget process (FY 2014)
30. Trns.port 1st priority funding (FY 2014)

Individual project summaries for FY 2014 projects are included in this report.

Active projects

31. Inactive project closeout process
32. Digital dashboard
33. Aeronautics wage Rate and DBE Goal RFI
34. Overtime call-up for oversize-overweight escorts
35. Out of State document sorting
36. Qualifications and Issuance Section key performance
37. Transit grant application process
38. Service request fulfillment planning
39. MAPSS quarterly review process
40. Out-of-state travel process
41. Audit process closeout
42. Plan addendum material submission
43. Research quarterly progress report review and acceptance
44. Big ticket process

Projects planned for FY 2015:

45. Real estate demolition process
46. MPO/RPC reimbursement processing
47. Damage claims collections
48. Hiring closeout process
49. Highway project accounting closeout
50. Process change reporting
51. Consumer online complaints
52. Self-service reports
53. Motorcycle skills test goals
54. Centralized modular training
55. Harbor assistance program application review and evaluation
56. Airport development cost programming findings
57. GARM-GIS
58. Timely notifications (GTA)

Wisconsin Department of Transportation

Post Crash Inspection Process Lean Project Report

Project Summary

Following a crash involving a commercial motor vehicle (CMV) in which individuals are injured or disabling damage occurs, Division of State Patrol (DSP) inspectors generally perform a post crash inspection of the CMV. In ten percent of these crashes, an additional inspector arrives on scene to download data from the vehicle's electronic data recorder (EDR) (also known as "black box").

The goals of this project were to reduce the time required to complete the inspection by 25 percent and reduce the number of steps it takes to complete the process by 25 percent.

The team took into account concurrent DSP process improvement activities in data collection (e.g., standardized worksheets and training).

Improvements

- Reduce inspection process time
- Ensure standardization of data collected through newly implemented post-crash worksheets for Inspectors.

MAPSS Core Goal Areas

- Accountability
- Safety

Statewide Goal Areas

- Employee work environment
- Cost of state government
- Customer satisfaction

Issue

The post crash inspection process for commercial motor vehicles (CMVs) can take up to eight hours to perform. Inspectors who are called out may not have the appropriate tools to complete the inspections (i.e., calipers and level) and must wait for a set to be located and then relayed to the crash scene. In cases where data must be downloaded from a CMV's electronic data recorder (EDR) a second specially trained inspector must be called out and specialized software located and relayed to the scene. This results in unnecessarily long road closures.

Lean Six Sigma Process

The team, comprising WisDOT Leadership Development Program participants, used value stream mapping to document the current process and identified the major causes of delays in scene clearance:

- Lack of access to tools – not all inspectors are equipped with a caliper and level necessary to take measurements.
- Unnecessary data collection/lack of standard data collection.
- Wait times for EDR trained inspectors/software to arrive on scene.

The team identified areas for process improvements:

- Equip all post crash inspectors with caliper and level at a total cost of approximately $2,000.Continue on-going implementation of standardized and shortened worksheets for data collection/ training.
- Note: there was a recommendation from the group to see if adding another EDR to the Southeast region would save time and money. It was determined that the cost to purchase an additional EDR would be prohibitive, and only save about $1600 per year.

Results

Employee Work Environment: Inspectors inspect close to 500 CMV crashes each year. Under the proposed improvements, we estimate that scene clearance time for CMV post crash inspections will be reduced by 21 percent. Each minute saved reduces the risk of secondary accidents and increases inspector safety.

Reduced staff time: We estimate that reducing scene clearance time will result in a 17 percent reduction in staffing time devoted to CMV post crash inspections which can be redirected to other mission critical activities.

Increase customer satisfaction: While road closure time depends on factors outside of DSP's control (e.g., tow truck availability), the new process will likely reduce road closure times. It is estimated that each hour of traffic congestion costs Wisconsin drivers and businesses $20 for each auto and $70 for each CMV due to extra travel time and fuel consumption.[i]

Next Steps

Distribute calipers and levels to all reconstructionists and provide training. Continue to track savings from use of new, standardized forms.

[i] Texas Transportation Institute, "2011 Annual Urban Mobility Report," Texas A&M Transportation Institute, 2011.

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Glossary Work Group Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires multiple functions to provide information to formally close out a project and make the final payment to the prime contractor.

Several dozen terms are associated with the closeout process. To facilitate a common understanding and application of the Let project closeout process terms, a work group was formed to develop a glossary along with reviewing and updating definitions.

The goal for the work group was to publish a glossary in support of increasing the percentage of Let projects to achieve the six-month closeout goal.

Improvements

- Identified and defined 30 terms associated with the Let project closeout process for inclusion in the "Standard Specifications" or "Construction and Materials Manual"
- Updated definitions associated with four existing terms

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Customer satisfaction

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed.

A glossary of terms did not exist for the Let project closeout process resulting in regional offices having different interpretations of the terms. These different interpretations resulted in variability of process steps and lead times among regional offices.

Lean Six Sigma Process

- Reviewed current "Standard Specifications" and "Construction and Materials Manual" for use of terms associated with Let project closeout process
- Developed definitions for terms that did not exist in "Standard Specifications" and "Construction and Materials Manual."
- Provided all regions with the opportunity to review and comment on glossary
- Provided the final list of glossary terms and definitions to the work group responsible for updating the "Standard Specifications" and "Construction and Materials Manual"

Results

Customer satisfaction: Established definitions for 30 terms and updated four existing definitions which will aid all regions in having a consistent process for closing out Let projects and make it less complicated for contractors when they are closing out projects in more than one region.

Lead time: An anticipated 50 percent increase in the number of Let projects that will achieve the six-month closeout lead time goal, during the first year of implementation.

Next Steps

- Provide results to the Project Tracking Updates work group.
- Provide results to the Specifications and Manual Update work group.
- Provide training on the glossary terms to all affected department employees and contractors.

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative
Flowchart Work Group Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires multiple functions to provide information to formally closeout a project and approve the final payment to the prime contractor.

To facilitate a common understanding of information flow and key information transaction milestones, a work group was formed to update the flowchart for the Let project closeout process.

The goal of this project was to publish a flowchart in support of increasing the percentage of Let projects to achieve the six-month closeout goal.

Improvements

- Identified the key transaction milestones, from substantially complete through final estimate approved
- Established lead time goals for key process milestones

MAPSS Core Goal Area

- Service
- Accountability

Statewide Goal Area

- Customer satisfaction
- Cost of Government

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed.

In practice, regional offices employed similar, but different, processes for closing construction projects. The differences in processes resulted in variability of process steps and lead times among regional offices. Multiple interpretations of the "Finals Process Timeline" flowchart were a contributing factor for regional offices having slightly different processes for closing out projects.

Lean Six Sigma Process

Using the swim lane process map developed in Phase I of the Let project closeout process lean government initiative, the work group:

- added key milestones and made them consistent with the definitions developed by the glossary work group.
- established the lead times for key process milestones.
- provided the final version of the flowchart to the work group responsible for updating the "Standard Specifications" and "Construction and Materials Manual."

Results

Customer satisfaction: Established lead times for key process intervals which will aid all regions in having a consistent process for closing out Let projects and make it easier for contractors when they are closing out projects in more than one region.

Cost of Government: An anticipated 50 percent increase in the number of Let projects that will achieve the six-month closeout lead time goal, during the first year of implementation.

Next Steps

- Provide results to the Project Tracking Updates work group
- Provide results to the Specifications and Manual Update work group
- Provide training on the flowchart to all affected department employees and contractors

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Roles and Responsibilities Work Group Summary Report

Project Summary

One of the responsibilities of the Division of Transportation System Development (DTSD) is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires multiple functions to provide information to formally close out a project and approve the final payment to the prime contractor. The initial lean government project examining the Let projects closeout process identified the lack of a process owner and process lead, as well as variations in project team roles across regions, as one of the contributing factors to long process lead times.

This work group was established to identify the Let project closeout process owner and process lead, to facilitate a common understanding of the roles and responsibilities of those working on Let project closeout, and to establish recommendations for standard team composition across the regions.

Improvements

- The process owner was identified as the Project Development Section Chiefs.
- Contract Specialists will serve as process leads.
- Roles and responsibilities were defined for all staff and contractors who participate in the Let project closeout process

MAPSS Core Goal Area

- Service
- Accountability

Statewide Goal Area

- Customer satisfaction
- Cost of Government

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed.

The Let project closeout process relies on information from multiple individuals to be completed including material certification, labor compliance, contract administration and construction site management.

No single person was responsible for overseeing from beginning to end. The absence of a process owner with budgetary and resource allocation authority resulted in the unintended consequence of long lead times to close projects.

Lean Six Sigma Process

- Reviewed the Let project closeout process flowchart
- Identified the position that should have serve as the Process Owner with end-to-end process oversight and authority to allocate resources as needed
- Identified the position that should have serve as the Process Lead with day-to-day engagement and familiarity with all process steps associated with the Let project closeout process
- Developed a list of standard team composition for Let projects
- Developed a list of tasks for the process owner, process lead, and other department employees who participate in the process

Results

Customer satisfaction: Identified the process owner and process lead along with a list of tasks for all department employees who participate in the Let project closeout process. Publishing the roles and tasks will aid all regions in having a consistent process, with shorter lead times, for closing out Let projects and make it easier for contractors when they are closing out projects in more than one region.

Cost of Government: An anticipated 50 percent increase in the number of Let projects that will achieve the six-month closeout lead time goal, during the first year of implementation.

Next Steps

- Provide training on the roles and tasks to all affected department employees and contractors
- Provide results to the work group responsible for updating the "Standards Specifications" and "Construction and Materials Manual"

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Project Tracking Work Group Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires employees from multiple functions to access several WisDOT software applications to effectively and efficiently share information on the status of key process milestones.

Updating the Let project closeout process glossary and flowchart resulted in the need to form a work group to assure WisDOT software applications supported the glossary and flowchart.

The goal of this project was to update WisDOT software applications in support of the overall effort of increasing the percentage of Let projects to meeting the six-month closeout goal.

Improvements

- Identified the updates to Project Tracking, Field Information Tracking, FieldManager, FieldNet, Construction Administration System, and Materials Tracking System
- Developed a budget and implementation plan

MAPSS Core Goal Area

- Accountability
- Service

Statewide Goal Area

- Customer satisfaction
- Employee work environment

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed.

Several WisDOT software applications are utilized throughout the construction and Let project closeout processes. These software applications were missing linkages to key process milestones as identified by the glossary, flowchart, and materials certification teams.

Lean Six Sigma Process

- Reviewed new and updated glossary terms and compared the terms tracked in Project Tracking, FieldManager, and Materials Tracking databases
- Matched new and updated terms to the most appropriate application screens
- Created mock-ups of proposed screen revisions
- Developed a budget for having the programming completed for the terms to be integrated into current applications
- Provided updates to the work group responsible for updating the "Standard Specifications" and "Construction and Materials Manual"

Results

Customer satisfaction: Identified the updates for six department software applications which will aid all regions in having a consistent process across all regions for closing out Let projects and make it easier for contractors when they are closing out projects in more than one region.

Employee work environment: Updates to the existing applications will include automation that will improve communications of key process steps being realized. The automated communications will reduce time delays and has been identified as increasing employee job satisfaction.

Cost of Government: An anticipated 50 percent increase in the number of Let projects that will achieve the six-month closeout lead time goal, during the first year of implementation.

Next Steps

- Implement changes to Project Tracking, Field Information Tracking, and Materials Tracking by December 16, 2013
- Provide updates to the work group responsible for updating the "Standard Specifications" / "Constructions and Materials Manual"

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Specifications and Manual Updates Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The "Standard Specifications" and "Construction and Materials Manual" define rules / procedures for division staff and contractors related to the execution and closeout of a road construction project.

Updating the Let project closeout process glossary and flowchart resulted in the need to form a work group to review and update the "Standard Specifications" and "Construction and Material Manual."

The goal of this project was to update the "2015 Standard Specifications" and "Construction and Materials Manual" in support of increasing the percentage of Let projects meeting the six-month closeout goal.

Improvements

- Identified the flow of information, and key transaction milestones, from "Substantially Complete" through "Final Estimate Approved"
- Developed a User's Guide for the closeout process

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Customer satisfaction
- Employee work environment

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed.

The "Standard Specifications" and "Construction and Materials Manual" do not provide a detailed description, including key process terms and process interval lead times, to assure Let projects are closed out within the six-month goal, beginning at "Substantially Complete" and ending at "Final Estimate Approved."

Lean Six Sigma Process

- Reviewed the results of the other teams and determined what needed to be updated in the Standard Specifications" and "Construction and Materials Manual"
- Developed a timeline for revision implementation
- Incorporated the Let project closeout work groups and lean teams' deliverables into the "Standard Specifications" and "Construction and Materials Manual"
- Developed a Process User's Guide

Results

Customer satisfaction: Established updates for the "Standard Specifications" and "Construction and Materials Manual" which will aid in having a consistent process across all regions for closing out Let projects and make it easier for contractors when they are closing out projects in more than one region.

Employee work environment: Updates to the "Standard Specifications" and "Construction and Materials Manual," along with the Process User's Guide, will provide the process documentation that division employees have been requesting and will result in increased employee job satisfaction.

Cost of Government: An anticipated 50 percent increase in the number of Let projects that will achieve the six-month closeout lead time goal during the first year of implementation.

Next Steps

- Update and release "Additional Special Provision-6" to incorporate process changes, glossary and flowchart
- Integrate updates into the "2015 Standard Specifications" and "Construction and Materials Manual"
- Provide training on the changes to the "Standard Specifications" and "Construction and Materials Manual"

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Reduce Material Certification Lead Time Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires material quantities and tests to be certified before the contract can be closed out and final payment made to the prime contractor.

More than 50 percent of contracts completing work during 2011 and 2012 took more than six months to receive their materials certification.

The goal of this project is to reduce the lead time from "Substantially Complete" to "Materials Certification," which was previously identified at one of the major impediments preventing Let projects from meeting the six month closeout goal.

Improvements

- Established procedures to complete interim materials review during the construction process
- Identified WisDOT and contractor roles in completing interim reviews
- Identified fields to be added to the Materials Tracking System and Project Tracking
- Recommended online training for the WisDOT and Contractor Designated Materials Persons

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Customer satisfaction
- Cost of Government

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed. Material certification lead time is a significant factor in determining whether regional or local program projects are able to achieve the six-month Let project closeout goal.

Thirty-nine percent of regional construction projects that reached "final estimate submitted" during 2011 and 2012 had a material certification lead time greater than six months measured from "All Contract Work Complete" through "Material Certification." Thirty-four percent of completed projects took three to six months to issue material certification; making it likely that 50 percent or more of all completed projects did not achieve the closeout lead time goal of six months due to long material certification lead times.

Lean Six Sigma Process

- Reviewed and analyzed material certification data for 2011, 2012, and 2013
- Created swim lane process map for materials certification pre- and post-construction
- Identified sources of process variation and time bottlenecks using data and analysis

Results

Cost of Government: Reduce lead time of the material certification process by more than 60 percent, with a lead time goal of 45 days.

Customer satisfaction: Reducing the material certification lead time will facilitate a 50 percent performance improvement in the number of projects that will achieve the six-month goal for the Let project closeout process.

Next Steps

- Provide results to lean work group working on implementing changes to Project Tracking, Field Information Tracking, and Materials Tracking
- Provide results to the lean work group working on updating the "2015 Standard Specifications" and "Construction and Materials Manual"
- Develop curriculum for the online training for project materials coordinators
- Develop interim materials review process documentation guidelines

Wisconsin Department of Transportation

Let Project Closeout Process Lean Initiative

Reduce Payroll Clear Date Lead Time Summary Report

Project Summary

The Division of Transportation System Development (DTSD) oversees highway construction projects statewide. One of the responsibilities of DTSD is to oversee the closing out of road construction projects and making final payment to the contractor.

The Let project closeout process requires all payrolls and payments to be reviewed and cleared before the contract can be closed out and final payment made to the prime contractor.

During 2011 and 2012 a significant number of contracts, possibly greater than 50 percent, took more than six months to receive a "Payroll Clear Date."

The goal of this project is to reduce the lead time of 60 percent of all projects, from "Substantially Complete" to the "Payroll Clear Date," to 60 days in support the six-month lead time goal for the Let project closeout process.

Improvements

- Developed process to achieve 60 percent of projects issuing a "Payroll Clear Date" within 60 days of "Substantially Complete"
- Implemented process for assigning reasons why payrolls and payments are not reviewed weekly

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Customer satisfaction
- Cost of Government

Issue

During 2011 and 2012, only 30 percent of regional and local program construction projects closed within six months of all construction work being completed. The "Payroll Clear Date" lead time is a significant determining factor whether regional or local program projects are able to achieve the six-month Let project closeout goal.

Of the Let projects which had final estimates submitted in 2011 and 2012, the "Payroll Clear Date" lead time measured from "All Contract Work Complete" through "Payroll Clear Date" was greater than six months for 45 percent of the projects. An additional 28 percent of completed projects took three to six months to issue a "Payroll Clear Date." This means long "Payroll Clear Date" lead times were likely to have been a major impediment to the closeout process in 50 percent or more of all Let projects that did not closeout within six months of completion during 2011 and 2012.

Lean Six Sigma Process

- Created a current state process map
- Developed a timeline for achieving a "Payroll Clear Date" within a 60 day timeframe and incorporated it into the process map
- Utilized an interrelationship digraph to identify high leverage issues
- Utilized a two-by-two matrix to evaluate the effort versus impact for potential projects
- Identified time lag for notification of all project work complete as a significant contributing factor to long "Payroll Clear Date" lead times

Results

Cost of Government: 60 percent of Let projects will have their "Payroll Clear Date" within 60 days of labor compliance being notified that a project has achieved "Substantially Complete" status (greater than a 100 percent improvement).

Customer satisfaction: Reducing the "Payroll Clear Date" lead time will facilitate a 50 percent performance improvement in the number of projects that will achieve the six-month goal for the Let project closeout process.

Next Steps

- Update Project Tracking to include an automated e-mail to the Labor Compliance Officers when a project reaches "Substantially Complete" status. Update is scheduled to be implemented by December 16, 2013.
- Update "2015 Standard Specifications" and "Construction and Materials Manual" to be consistent with updated "Payroll Clear Date" process
- Document any reasons that prevent Labor Compliance Officers from reviewing payrolls and payments on a weekly basis over the next year in order to develop a deeper understanding of impediments to the new process

Wisconsin Department of Transportation

In-Custody Report Notification Lean Project Report

Project Summary

Sworn officers within the Division of State Patrol (DSP) submit an electronic incident report when they take a subject into custody. In-custody reports require supervisory review.

These documents must be filed with prosecutors, social services or other governmental bodies in a timely manner to facilitate efficient processing of the subjects. Delays may result in dropped charges, additional costs, compromised cases and possibly legal liability.

The goal of this project was to eliminate delays in the review process for in-custody reports.

Using Lean Six Sigma methodology, the team analyzed the existing process and reduced the amount of time it took to review the backlog of reports awaiting supervisory review by leveraging existing staffing capabilities and expertise.

This project was completed on October 16, 2013.

Improvements

- 75 percent reduction in backlogs for review
- Daily automated email notifications delivered to supervisors for in-custody reports in need of review
- Division of State Patrol supervisors are able to efficiently view and eliminate in-custody report backlogs

MAPSS Core Goal Area

- Accountability
- Service

Statewide Goal Area

- Customer satisfaction
- Cost of government

Issue

Divisions of State Patrol (DSP) in-custody arrest reports provide important information used by prosecutors, social services and the courts to facilitate processing subjects. Timely review of reports is essential; detention facilities and prosecutors all take-on additional costs when a person is held in custody. The reports are needed to initiate the bail hearings or probable cause hearings necessary for the release of the subject.

The current state system for the review of incoming reports has a number of limitations for supervisors with review responsibility:

- Notifications of reports completed only by their assigned officers
- No special notification of high priority reports in need of review
- No readily available means for reviewing in-custody report backlogs
- Reports from retired, resigned, or terminated employees, and those assigned to a different post are not readily visible to supervisors

Lean Six Sigma Process

The team mapped the current process and identified key factors that play a role in creating backlogs and delays in reviewing reports. Analysis of options and staffing resources moved the team to modify a similar existing process to improve the in-custody reports process.

Results

Increased report quality promotes more efficient handling of in-custody cases and reflects positively upon the reputation of our officers and agency.

Customer satisfaction

A review process assures reports are complete and of good quality. The improved notification system allows supervisors to intervene early if a report is in need of additional detail or correction. A streamlined system for timely supervisory review of in-custody reports allows for higher quality reports to be delivered more rapidly to downstream customers.

Reduced cost of government

Previously, a lieutenant could obtain similar information in around 20 minutes. The likelihood that this was being done is low given the expertise required and competing demands. Backlogs of in-custody reports in need of review translate into decreased awareness of officer activities that have high liability potential. The automated system of notifications for in-custody reports reduced backlogs for review by 75 percent and the time for supervisory review by up to 121 hours annually (7 lieutenants x 20 minutes x 52 weeks) by providing an email notification every 24 hours.

Next Steps

This has been implemented as a pilot at the Wausau and Waukesha posts. We anticipate a statewide rollout to be complete by 1/1/2014.

Wisconsin Department of Transportation

Family and Medical Leave Act

Request Submittal & Approval Lean Six Sigma Project Report

Project Summary

The Family and Medical Leave Act (FMLA) request submittal and approval process includes determining eligibility for FMLA leave, obtaining necessary documentation to make a determination, and final approval or denial of the request for FMLA leave within the regulatory timeframes.

The current process involves staff throughout the agency, including employees requesting FMLA leave, their supervisors, payroll and benefits coordinators and human resources staff to process FMLA leave requests.

The goals of this project were to reduce lead time in processing FMLA requests, clarify roles and responsibilities of all parties involved, and to reduce variability and processing time.

This project was completed on November 27, 2013.

Improvements

- Reduced total processing time to better ensure compliance with state and federal requirements.
- Reduce internal lead time by 50 percent

MAPSS Core Goal Areas

- Service
- Accountability

Statewide Goal Areas

- Customer satisfaction

Issue

The Family and Medical Leave Act (FMLA) request submittal and approval process involves staff throughout the agency to process the request, determine FMLA eligibility, and make a final determination for FMLA approval or denial. Several issues were identified in the current FMLA request process:

- Significant variations in the point of contact for the FMLA request process
- Relying on supervisory staff unfamiliar with FMLA guidelines and employee information to make a determination that an employee is eligible for FMLA
- FMLA forms are dated due to changes in state and federal law
- FMLA forms did not request all of the information necessary to make a determination, which led to processing delays

Lean Six Sigma Process

Using Lean Six Sigma methodology, the team mapped the current FMLA request submittal and approval process and identified a number of process components that could be streamlined. The team identified the resources needed to streamline the FMLA request submittal and approval process and identified eight process improvements. These improvements include:

- Creating a consistent single point of contact for the FMLA request process
- Modifying the roles of staff involved in the FMLA request process
- Streamlining and updating FMLA forms to reflect current state and federal guidelines, improve completion rate, and reduce lead time due to incomplete information

Results

Modified and Streamlined FMLA Forms: Modifications to the agency's FMLA forms will bring the forms into alignment with state and federal FMLA requirements and improve the quality of the information provided in order to more quickly make a final determination.

Reduced Lead Time: With improvements to the forms and streamlining of the FMLA request process, it is anticipated that there will be improvements in form completion and fewer processing delays, reducing the internal lead time for the process by 50 percent from 28 days to 14 days.

Next Steps

The Division of Business Management will implement several of the proposed process improvements, including the rollout of new FMLA forms and process in early 2014.

Wisconsin Department of Transportation

Consultant Contracts Project Lean Initiative Final Report

Project Summary

The Wisconsin Department of Transportation's Division of Transportation System Development oversees the administration of numerous engineering consultant contracts. These contracts have been increasing in complexity over the past years as the improvement projects within the department increase in complexity and numbers. The current process used in the Southeast Region for executing these contracts has potential for conflicting demands on budgets, schedules and scoping staff resources.

The goal of this project is to reduce the time and improve the process of consultant contracting from project scoping through executed contract within the region. The project was completed and baseline metrics established in January 2014.

Improvements

- Reduce time to scope and negotiate consulting contract to a range of 6 weeks to 10 weeks maximum for contracts greater than $1M. On average, the Southeast Region solicits 5 contracts greater than $1M per fiscal year; comprising approximately 20 percent of all solicited consultant contract work.
- Define and implement a standardize tool to track contracts by Fiscal Year. Tracking includes: scoping, negotiating, submittal, review and execution

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Cost of government

Issue

The current process for executing engineering consultant contracts in the Southeast Region includes numerous processes and staff. The goal of this project is to reduce the time to scope and negotiate a consulting contract with the selected engineering firm. Based on current contract tracking data, less than 30 percent of the Southeast Region's consultant contracts are executed within 12 weeks of consultant selection.

Lean Six Sigma Process

- Developed a project selection matrix to help define specific areas of the contract execution process on which to improve. Identified areas with the largest impact on project criteria
- Completed Kano Analysis to identify customer needs and desires.
- Performed SIPOC exercise to gain greater understanding of entire regional input, processes and output
- Completed a comprehensive assessment of the current regional workflow/business procedures for implementing an engineering consultant contract
- Developed recommended support tools and a control plan

Results

Cost of government: The department has processes in place for contract document preparation and review. This team identified and developed tools to address tracking and preparation of project scope, design estimate and concise solicitation documents within the region. It is anticipated that lead time in the future consultant contract work flow process will be reduced by 3 weeks and the accuracy of internal scopes and estimates to be improved by 25 and 30 percent respectively. The improvement will be measured by tracking submittals and comparing internal scope and estimates versus executed contract amounts.

Implementing the best practices and next step recommendations will result in a reduction of time to scope and negotiate consultant contracts to between 6 and 10 weeks, depending upon the type, size and scope of the consultant contract. It is anticipated that over 60 percent of regional contracts greater than $1M will be scoped and negotiated in under 10 weeks. Savings are estimated at approximately 4 weeks of regional staff time per fiscal year, which will be redirected to other region activities.

Next Steps

- Monitor implementation of more detailed project scoping and engineering estimating and Fiscal Year contract tracking tool
- Consider creating future Lean project to examine the additional barriers to timely consultant contract execution created by the statewide contract reviews and signatures process

Wisconsin Department of Transportation

NW Region Purchasing Lean Initiative Report

Project Summary

The Division of Transportation System Development Northwest Region has no formal purchasing process and no way to track purchasing card purchases. The lack of approval procedures and tracking mechanism creates difficulties in managing budget projections.

The goal of this project was to develop a formal process in the region for requesting, monitoring and tracking purchases. This will allow staff to ensure that all purchases are approved at the appropriate level and completed in a timely manner. It will also allow them to more effectively manage the regional budget.

This project was completed on January 6, 2014.

Improvements

- All purchasing for the region will be tracked, allowing them to closely monitor their budget and inventory.
- Keeping an inventory of purchases will increase the Region's ability to do effective resource planning.
- Training is being developed for staff and management on the purchasing process and budget monitoring.

MAPSS Core Goal Area

- Accountability
- Service

Statewide Goal Area

- Cost of government
- Customer satisfaction
- Change government work culture

Issue

The Northwest Region has several purchasing card users and a purchasing agent but no formal process to request and approve purchases. Several disadvantages were identified in the current process:

- Each authorized purchaser followed a different process.
- The region had no automated way to report what was being purchased with purchasing cards
- The region had no automated way to track how much money was obligated for purchases at any point in time.
- Staff were not aware of purchasing guidelines

Lean Six Sigma Process

The team contacted all authorized purchasers within the region and documented the process flow. The results showed an inconsistent process flow and approval process. The team created a new purchasing process to ensure that each step in the process adhered to purchasing rules and added value to the process.

Results

Cost of government: The region created a database for all purchasing card purchases from request through delivery, which will allow regional management to monitor expenditures and prevent wasteful spending. Budget reports have been created to track purchasing efficiency and accurately project budget expenditures. The budget will be monitored more closely with the tools have been developed to ensure the region does not exceed the budget allocation. This project establishes baseline data for future process monitoring in the NWR and implementation in other regions.

Increased customer satisfaction: All NWR employees will be trained on the region purchasing process, which will eliminate confusion over purchasing request. The training will be equivalent to the need of the customer. All approved purchases will be completed within two weeks of the request. supervisors will have resources to more accurately determine what funds are available. Quarterly, the region will compute the time necessary to complete each purchase. The goal is to have 95 percent of all approved purchases complete within two weeks.

Change government work culture: Reduced the number of people authorized to make purchases from seventeen pcard holders to nine. Created and documented processes for all purchasing under $1,000 and for all purchasing between $1,000 and $5,000. Created method to improve monitoring and tracking results to ensure more accurate budgeting and less waste. Created a database for all purchasing card transactions to monitor expenses and inventory.

Next Steps

Provide results of pilot project to other regions by September 2014.

Wisconsin Department of Transportation

Highway Signing Lean Initiative Report

Project Summary

The Wisconsin Department of Transportation's Division of Transportation System Development (DTSD) manages the identification, ordering, delivery and installation of state highway signs. Signs are manufactured by private vendors and installed by county highway departments.

The goal of this project is to reduce the average time between ordering and installation of signs, reduce the installation costs per sign and reduce the backlog of signs beyond life expectancy.

All portions of the revised process will be implemented in fall 2014 for signs to be installed in 2015. However, several incremental changes have been made for 2014 sign installations, including the elimination of partial order deliveries.

Improvements

- Order signs for complete replacement of all signs within defined highway segments
- Eliminate partial order deliveries
- Reduce number of sign installation providers
- Ship directly to county highway departments
- Utilize performance based maintenance practices

MAPSS Core Goal Area

- Accountability
- Preservation
- Safety

Statewide Goal Area

- Cost of government
- Customer satisfaction
- Government work culture

Issue

The current process for ordering, delivery and installation of state highway signs involves several duplicated and inefficient steps. Signs currently are first identified by the regions, compiled and ordered by Bureau of Traffic Operations (BTO) from several vendors, the signs are shipped to the BTO sign shop, then to the region, and finally to individual counties. Duplicate steps include checking orders for proper signs, sorting of signs, and quality assurance/quality control at each level. The multiple steps in the current process also create opportunity for error, lengthening of the lead time to final installation and increased cost.

Lean Six Sigma Process

- Completed a comprehensive assessment of current state workflow and business procedures at each of the regional offices and bureaus
- Developed and collected current state performance metrics
- Held a two-day kaizen event with team members, subject matter experts and other stakeholders to develop the current workflow process map and to analyze the current process
- Developed proposed state process map
- Developed performance metrics for future process control

Results

Cost of government: Implementation of the proposed process will increase efficiencies and be more cost effective, allowing WisDOT to install more signs with the funding allocated toward highway signing. The proposed process changes are expected to result in a thirty percent cost savings ($360,000) statewide per year for sign installation and a reduction in staff time of approximately eight full time staff positions that will be reallocated to other high priority activities in the division.

Customer satisfaction: Implementing the proposed process steps will translate to improved highway safety through the replacement of approximately 3,500 additional signs per year through reinvestment of the cost savings. The time between identifying a sign replacement need to installation for routine sign replacements reduced from 377 days to 253 days (33 percent reduction).

Government work culture: Baseline data on cost per sign, sign age and process flow was gathered and will be used to compare to the proposed process once implemented. Twenty-four WisDOT and county staff were involved in the kaizen event and received basic Lean Six Sigma training.

Next Steps

- Integrate the new highway signing process into the CY 2015 Performance Based Maintenance effort.
- Develop training for WisDOT and County Highway Department staff on new process
- Identify technology needs to improve efficiencies and data integrity

Wisconsin Department of Transportation

Agent Performance Report Project

Project Summary

Each year, WisDOT employees receive a Performance, Evaluation, Planning and Development (PEPED) report. These reports facilitate communication and are used to enhance individual job performance. Supervisors within Division of Motor Vehicles (DMV) draw on data from a variety of sources in wide range of formats to complete a PEPED. The process is time consuming and results in a low first pass yield with a high degree of variation.

Using a swim lane flow chart and Voice of Customer tools, the team was able to evaluate the work required to access a data sources and the value it adds to a PEPED. This information allowed the team to identify the measures that would result in the most improvement through automation. The product was an automated report card that aggregated data and display results quickly, accurately and consistently.

Improvements

- Reduced the PEPED process steps from 12 to 7
- Reduced the time to complete a PEPED from 4 hours to 30 minutes
- Reduced pages of source documents from over 400 to 4
- Eliminated 9 MB of Electronic documents
- Expanded on a previous LEAN project

MAPSS Core Goal Area

- Service
- Accountability

Statewide Goal Area

- Employee work environment
- Culture of government

Issue

The Wisconsin Department of Transportation has developed a Performance Evaluation, Planning and Employee Development (PEPED) Program. In April, supervisors complete a PEPED report for each of their employees. The program is designed to facilitate two-way continuous communications between the supervisor and the employee and to objectively enhance the employee's individual job performance. It is the supervisor's responsibility to collect and complete necessary documentation for the evaluation and within the DMV, complete PEPEDs draws on data from a variety of sources in wide range of formats. In many cases, only a limited number of staff have access to the source data and hours are spent extracting this date to create reports that are one-dimensional and lack manipulability. These limitations cause this process to be time-consuming while also resulting in a low first pass yield and a high degree of variation.

Lean Six Sigma Process

The team began this project by reviewing the "as-is" process for completing a PEPED. First, the team created a swim lane flow chart that described the work it currently took to report each measure. Second, the team reviewed the PEPED goals and used Voice of Customer tools to identify how to best objectively quantify each goal. Using this information, the team evaluated each measure and ranked them on the value added and the amount of manual work required. This process allowed the team to identify measures card that would result in the most savings while also delivering the most value to the employee, supervisor and department. The team then set out to combine these measures into a single automated report card that would aggregate the data and display results quickly, accurately and consistently.

Results

Reduced time: Finding data, compiling results and displaying information would take a supervisor approximately four hours under the old process; it now takes 30 minutes and yields significantly more information. Additionally, each month the auditors will save five hours. Applying this to two units with 24 employees saves 204 hours annually.

Reduced paper and electronic documents: The report card consolidates data from over 400 pages of source documents, eliminates 9 MB electronic files and makes several Business Objects reports obsolete.

Improved employee-supervisor communication: The report card improves communication between the supervisor and employees by facilitating the communication of objective measures. This communication specifically focuses on the measures. If there were a reduction of one sick day per year and one minute of extended breaks, WisDOT would realize a recovery of 492 productive hours per year from these 24 employees.

Next Steps

The team plans to review feedback on the new process after PEPEDs are completed in April. This feedback will be combined with additional measures the team identified to create a plan that will guide continuous improvement. Additionally, the infrastructure is easily modified to meet a specific supervisor's needs so the DMV anticipates replicating this project in other units, sections and bureaus.

Wisconsin Department of Transportation

Traffic Simulation Modeling Process

Lean Initiative Summary Report

Project Summary

This Lean project involved review and suggested improvements to traffic analysis procedures; specifically microscopic traffic simulation models. As traffic analysis tools, simulation models assist planning and project teams to identify highway capacity issues prior to construction. The Lean project was led by the Wisconsin Department of Transportation (WisDOT) Division of Transportation Investment Management's (DTIM) traffic forecasting section and involved teaming up with experts across planning, traffic operations and project development disciplines (including consultant teams).

The team provided insight and examined inconsistencies on development timelines, costs and general microsimulation analysis. For example, the number of hours to complete a microscopic traffic simulation model varies between 200 and 8,200 hours per project. This variability makes it difficult for WisDOT staff to properly scope traffic analysis timelines as part of a transportation project.

Improvements

- Developed a formalized process to define WisDOT business roles and responsibilities across several disciplines
- Clarified that formal guidance is needed for standards, consultant contracts and data development

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Cost of Government
- Customer satisfaction

Issue

Currently, the Wisconsin Department of Transportation's (WisDOT's) microscopic traffic simulation models go through an inconsistent and inadequate development and review process. Project deliverables can vary between consultants making WisDOT's modeling results inconsistent. Additionally, the current maintenance and storage structure does not permit traffic simulation model use for more than one project even if the projects are located in the same area. This often adds additional time and costs to develop individual traffic simulation models for each project.

Because of this and other minor factors, WisDOT has undergone a review and goal setting process to clarify business area roles so as not to lose valuable and important input and data. Microscopic traffic simulation models can be properly vetted and projects will experience less delay with more streamlined costs associated with traffic analysis activities.

Lean Six Sigma Process

- Identified key issues and concerns from the WisDOT business areas
- Identified the lack of a formalized process as a key factor to the confusion and added time it takes to develop and review the models
- Conducted research about modeling standards and how other DOTs, organizations and consultants develop and review the models
- Developed a flowchart to outline tasks associated with the process
- Defined clear roles and responsibilities for each business area

Results

Cost of Government: The number of consultant hours associated with microscopic traffic simulation model development should be reduced by eight percent (or approximately 150 hours per project), resulting in a savings of approximately up to $18,000 per project; assuming six-nine models are built per year, up to $162,000 annually.

Customer Satisfaction: Formalizing and streamlining the traffic analysis process will eliminate confusion, provide more consistent results and reduce time and costs associated with development and review.

Next Steps

- Develop centralized storage system to allow for the storage, tracking and version control of all microscopic simulation models
- Update the *Mega/Major Guidelines*, *Transportation Planning Manual* and *Facilities Development Manual* to include details on the process
- Provide training on the new process
- Implement the new process throughout the department
- Document the number of consultant hours it takes to complete the various stages associated with the development and review of a model; provide yearly summary of average consultant hours per project

Wisconsin Department of Transportation

Late Invoice Payments Lean Six Sigma Project Report

Project Summary

State law requires agencies to pay interest on external vendor invoices that are not paid within 30 days of receipt, with certain exceptions.

This process involves staff in the accounts payable area who process invoices for payment and program staff who ensure that goods and/or services were received and that the correct amounts were billed. During fiscal year 2012 the department paid over $46,700 in interest due to the late payment of invoices.

The goals of this project were to reduce the total interest due to late payments, reduce the number of invoices paid late and increase the number of invoices forwarded by program staff for payment within 10 days of receipt.

This project was completed on November 1, 2013.

Improvements

Based on fiscal year 2012 data, the project recommendations are expected to achieve the following improvements:

- Decrease late interest paid by 50 percent
- Decrease the number of invoices paid late by 30 percent
- Almost all invoices are to be forwarded for payment by the program areas within 10 days of receipt to ensure timely payment

MAPSS Core Goal Areas

- Service
- Accountability

Statewide Goal Areas

- Customer satisfaction
- Cost of government

Issue

State law requires that agencies pay interest on external vendor invoices that are not paid within 30 days of receipt unless there is a legitimate reason to delay payment (such as goods not received or invoice amounts are incorrect) and the agency notifies the vendor of the deficiency. Invoices paid from federal funding are exempt from this requirement. In fiscal year 2012, the department paid $46,750 in late interest.

Many staff and stakeholders were not aware of the 30 day requirement or the process for protesting an incorrectly prepared invoice. There was no centralized system of tracking invoices prior to being forwarded to the accounts payable unit for payment.

Lean Six Sigma Process

Using Lean Six Sigma methodology, the team mapped the current process and analyzed each step in terms of the value added for the customers. Interviews were conducted with staff responsible for processing payments and program staff responsible for receiving and authorizing invoices for payments.

The team identified that a barrier to timely processing was a lack of an invoice tracking system by program staff. They also determined that training including cross training of payables staff along with educational sessions for program staff were needed to ensure that staff are aware of current procedures and timelines.

Results

Program staff in the regions implemented an invoice tracking system to ensure they are forwarded for payment within 10 days of receipt. The accounts payable unit will increase training for program staff on the proper procedures for protesting an invoice, the late payment interest law, and the importance of timely transmittal of invoices to the accounts payable unit. The accounts payable unit has implemented cross training to ensure invoices can be paid within the 30 day period. Finally, the accounts payable unit now provides regular reports to the program areas on invoices paid late and the associated interest charged. These improvements are expected to decrease the annual amount of late interest paid by 50 percent, or approximately $23,400.

Next Steps

The project was conducted during FY13 and used FY12 data as a baseline for the improvements. FY14 will be the first full year that all of the changes will be in place. That data should be available by October 1, 2014. Accounting staff and the regional offices will monitor the interest due to late invoice payments annually to ensure that the training is effective, the estimated targets are achieved, and the resulting gains are sustained.

Wisconsin Department of Transportation

Simplify the IT Hardware Purchase Process

Lean Project Report

Project Summary

Procurement cards (p-cards) are a convenient mechanism to procure low-cost goods, including IT hardware. On an annual basis, approximately 3,000 IT hardware transactions are processed and 2,000 of these transactions could be done using a p-card rather than a purchase order.

The team's goal was to find ways to decrease administrative costs and staff time associated with ordering IT hardware products.

This initial project was completed on September 30, 2013.

Improvements

- Increased service and efficiency. Reduces the time spent in placing an order from two or more days to one day.
- Reduces the steps in the ordering process from 17 to 4.
- Reduces administrative costs involved with issuing a purchase order

MAPSS Core Goal Area

- Service
- Accountability

Statewide Goal Area

- Cost of Government

Issue

The purpose of the team was to find a way to decrease administrative costs and staff time when ordering IT hardware. The current process utilizes the purchase order (PO) process for IT hardware purchases.

Lean Six Sigma Process

Using Lean Six Sigma methodology, the team identified 17 steps used for the purchase order (PO) process while only 4 steps are needed for a p-card process. The team found that over a 12-month period, 3,000 individual POs were used to make IT hardware purchases. Estimates of the cost of PO processing vary widely, so the team utilized a conservative range between $75 and $125 for generating and processing a PO.

The team identified that the p-card process could be used for making low dollar IT hardware orders for items that do not require inventory management. The team determined that 2,000 purchase orders could be eliminated annually by using a p-card for these low dollar orders.

Results

Both processes may still be used for purchasing IT hardware, but the p-card could be used on as many of the small IT hardware purchases.

Improved Staff Efficiency and Service: When implemented, the p-card purchase process will be utilized on approximately 2,000 POs placed each year. This will result in estimated savings of between $150,000 and $250,000 annually.

Also, by using a p-card, the time spent in making a purchase is reduced in both process steps (from 17 steps to 4 steps) and the time spent in making a purchase (from at least two days to less than one day). With increased use of the p-card, we would also anticipate an increase in the p-card rebate.

Next Steps

The Procurement & Distribution Section will work with the Bureau of Information Technology (BITS) to activate the p-cards and determine the appropriate charge limits. Procurement will monitor the number of purchase orders avoided on an annual basis to ensure that the resulting efficiency gains are sustained.

Wisconsin Department of Transportation

Operating Budget Process Lean Project Report

Project Summary

The Wisconsin Department of Transportation's Office of Policy, Budget and Finance (OPBF) is responsible for overseeing biennial budget implementation through annual operating budget monitoring within the department.

Divisions use operating budget funds on an ongoing basis to conduct the statutory intent of the department's appropriations.

The goals of this project are to reduce the lead time for the operating budget process, and to reduce the ratio of non-value added steps in the process.

This project was completed in May 2014.

Improvements

- Implemented a streamlined, formal process to perform quarterly technical operating budget adjustments, including allotments and budget line transfers
- Developed a standing agenda items for communicating operating budget issues as part of regular monthly meetings between divisions and OPBF
- Developed guidance for divisions on the new process

MAPSS Core Goal Area

- Accountability
- Service

Statewide Goal Area

- Cost of government
- Customer satisfaction

Issue

Proper management of the operating budget ensures department resources are used effectively, and expended for their intended purpose. Currently, there are two operating budget reviews; each process takes each division budget coordinator/analyst and Office of Policy, Budget and Finance Budget (OPBF) staff six to eight weeks to complete. The current process has redundant manual steps, with a high potential for data entry errors. The semi-annual process was developed many years ago; it is an outdated method for communicating emerging operating budget issues.

Lean Six Sigma Process

The cross-divisional team composed of staff within OPBF and division budget coordinators and analysts used a kaizen approach to:

- review and analyze the operating budget process within each of the divisions and OPBF
- create a single, metrics-based process map for the current state
- identify causes of time bottlenecks and non-value added steps using data and root cause analysis
- develop recommendations to overcome causes

After the event, OPBF staff developed a revised process map, updated procedures and a revised report, based on the recommendations of the group. They also implemented a SharePoint site to leverage additional technology efficiencies. Prior to implementation, they developed performance metrics to ensure ongoing process control.

Results

Cost of Government: The team reduced total process time department-wide by 78 hours per review (156 hours annually), a 36.7 percent improvement. It also reduced the total lead time of the operating budget process by 72.5 percent (the equivalent of 143 staff days per review).

Customer satisfaction: The team anticipated that standardizing the process would reduce the number of non-value added steps in the process. Since the new process replaced a non-standard process, these savings varied by division. Three of the five divisions saw gains in "first time right" accuracy. These improvements varied from 30 to 80 percent compared to the former process.

Next Steps

- Implement Transportation Administrative Manual changes by the end of June 2014
- Investigate OPBF providing divisions with some flexibility to centralize budget lines as part of the next ASR set-up
- Investigate the possibility of OPBF budget analysts making operating budget adjustments on behalf of their assigned divisions by June 2015
- Explore possible opportunities for further efficiencies through the Enterprise Resource Planning system budget modules

Wisconsin Department of Transportation

Trns.port 1st Priority Funding Lean Project Report

Project Summary

The Bureau of State Highway Programs is charged with ensuring accurate billing of improvement projects. The business area must coordinate with a variety of stakeholders, including regional Financial Integrated Improvement Programming System (FIIPS) Coordinators, Executive Offices and the Federal Highway Administration to ensure accurate payments are made to the correct recipients at the right time throughout the systems.

FIIPS outlines the order costs will be allocated to different funding sources. A known shortcoming in the Trns.port proposal estimate system for projects with a non-Federal 1st Priority FIIPS setup resulted in incorrect billing on 243 authorized project categories, affecting 24 unauthorized project categories. Concerns were raised regarding incorrect billing and incorrect timing of billing to federal, state and local stakeholders. The project team worked to identify 100 percent of the affected projects, correct their billing processes and financial systems setup and eliminate the potential for future errors to occur.

This project was completed in January of 2014.

Improvements

- 100 percent of reports corrected
- 150 staff hours saved / redirected
- Implementation of updated cost-share policy in Program Management Manual
- Implementation of FIIPS error message preventing problematic non-Federal 1st Priority setup

MAPSS Core Goal Area

- Accountability

Statewide Goal Area

- Reduce cost of government

Issue

There is a known issue in the Trns.port proposal estimate system (PES) when there is federal funding outside of the 1st Priority in a category. When this occurs, the user must check the "Federal Funding" box in one of the fund codes in the 1st Priority. Failure to do this incorrectly treats the whole category as non-participating, resulting in incorrect billing and payment for the items within the category during construction.

Trns.port processes were not followed, partially caused by employee turnover, resulting in significant dollars, approximately $5 million per year, not being billed to The Federal Highway Administration (FHWA). This issue affected 243 authorized project categories and 24 unauthorized project categories. Procedures have corrected errors in the financial system, but the process resulted in the incorrect timing of billing and inaccurate financial reports. This creates uncertainty in financial reports and must be corrected to restore confidence in internal and external stakeholders.

Lean Six Sigma Process

Lean Six Sigma methodology was applied throughout the process improvement to pinpoint the root causes of inefficiencies and offer realistic solutions compatible within the constraints of existing software. The project team included participants from various offices and bureaus throughout the Wisconsin Department of Transportation (WisDOT), including Bureau of State Highway Programs (BSHP), the Office of Policy, Budget, and Finance (OPBF), and the Bureau of Business Services (BBS). After BSHP identified the atypical non-Federal 1st Priority FIIPS setup triggering the billing inaccuracies, the team explored how key process input variables (KPIVs) resulted in projects using the faulty Trns.port procedures.

The project team determined the viable solution to eliminate non-Federal 1st Priority project setups must include both automatic and manual precautions. As such, a FIIPS error message has been implemented in conjunction with a new cost-share policy in PMM Document 03-05-15.

Results

Cost of government: BSHP identified 267 project categories with problematic financial system setups. All affected authorized and unauthorized project categories have been corrected, a 100 percent improvement in completeness and accuracy. Additional incorrect project setups will be avoided through the implemented FIIPS constraint and related cost-share policy adjustments, preventing approximately $5 million per year from being billed correctly. In addition, 150 hours of staff time spent identifying and correcting billing errors will be redirected to more effective activities.

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Appendices

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Mission

Provide leadership in the development and operation of a safe and efficient transportation system.

Vision

Dedicated people creating transportation solutions through innovation and exceptional service.

Values

- **Accountability** – Being individually and collectively responsible for the impact of our actions on resources, the people we serve, and each other.
- **Attitude** – Being positive, supportive and proactive in our words and actions.
- **Communication** – Creating a culture in which people listen and information is shared openly, clearly, and timely — both internally and externally.
- **Excellence** – Providing quality products and services that exceed our customers' expectations by being professional and the best in all we do.
- **Improvement** – Finding innovative and visionary ways to provide better products and services and measure our success.
- **Integrity** – Building trust and confidence in all our relationships through honesty, commitment and the courage to do what is right.
- **Respect** – Creating a culture where we recognize and value the uniqueness of all our customers and each member of our diverse organization through tolerance, compassion, care and courtesy to all.
- **Teamwork** – Creating lasting partnerships and working together to achieve mutual goals.

MAPSS core goal areas

- **Mobility** – Delivering transportation choices that result in efficient trips and no unexpected delays.
- **Accountability** – The continuous effort to use public dollars in the most efficient and cost-effective way.
- **Preservation** – Protecting, maintaining and operating Wisconsin's transportation system efficiently by making sound investments that preserve and extend the life of our infrastructure, while protecting our natural environment.
- **Safety** – Moving toward minimizing the number of deaths, injuries and crashes on our roadways.
- **Service** – High quality and accurate products and services delivered in a timely fashion by a professional and proactive workforce.

WisDOT Lean strategies **Statewide Lean priorities**

	Reduce the cost of government	Improve customer satisfaction	Improve employee work environment	Change government work culture
Implement Lean Six Sigma projects to realize significant quantifiable improvements.	x	x	x	x
Monitor and promote quantitative results to increase the use of Lean Six Sigma tools.	x	x	x	x
Establish baseline data to measure worker satisfaction and working conditions.	x		x	x
Provide Lean Six Sigma training to develop staff and team competence at all levels within the department.			x	x
Leverage Lean Six Sigma methodology to improve external customer satisfaction.	x	x		x
Support management, staff and team use of Lean methodology in daily operations.			x	x

Measures and performance indicators:

- Number of Lean Six Sigma projects implemented.
- Number of projects with quantitative results.
- Percent of projects that met the quantitative targets stated in the project charter.
- Dollars saved/ costs avoided.
- Corrections and other defects reduced.
- Staff hours saved that can be redirected to mission-critical tasks.
- Non-value-added wait times and process times reduced.
- Number of handoffs eliminated.
- Employee satisfaction scores.
- Customer satisfaction scores.
- Number of department staff trained in Lean Six Sigma methodology.

Program goals:

1. Develop quantifiable Lean program goals within each division.

2. Implement 20 Lean projects in each of CYs 2014 and 2015.

3. Achieve quantitative improvements for 90 percent of completed Lean projects, including all projects already completed that established baseline metrics.

4. Report Lean results monthly to the WisDOT Board of Directors as projects are completed and periodically thereafter to ensure controls are maintained.

5. Draft scheduled Lean cabinet updates for the Secretary's Office.

6. Continue to develop baselines for employee and customer satisfaction and report on results.

7. Provide a wide range of training in Lean Six Sigma and related principles and tools with attendance of at least 50 WisDOT staff in each of CYs 2014 and 2015.

8. Develop and report four monthly Lean metrics to the Governor's Office upon request.

9. Develop internal training resources that increase the department's capacity in team methods and tools and reduce the ongoing cost of Lean training. Publish a Lean Primer to the dotnet Lean site by March 1, 2014.

10. Compile and issue annual (FY) Lean Reports to the Governor's Office by June 1 each year.