



Innovation in State Government and its Unique Challenges

Cris McFall

Indiana Department of Administration



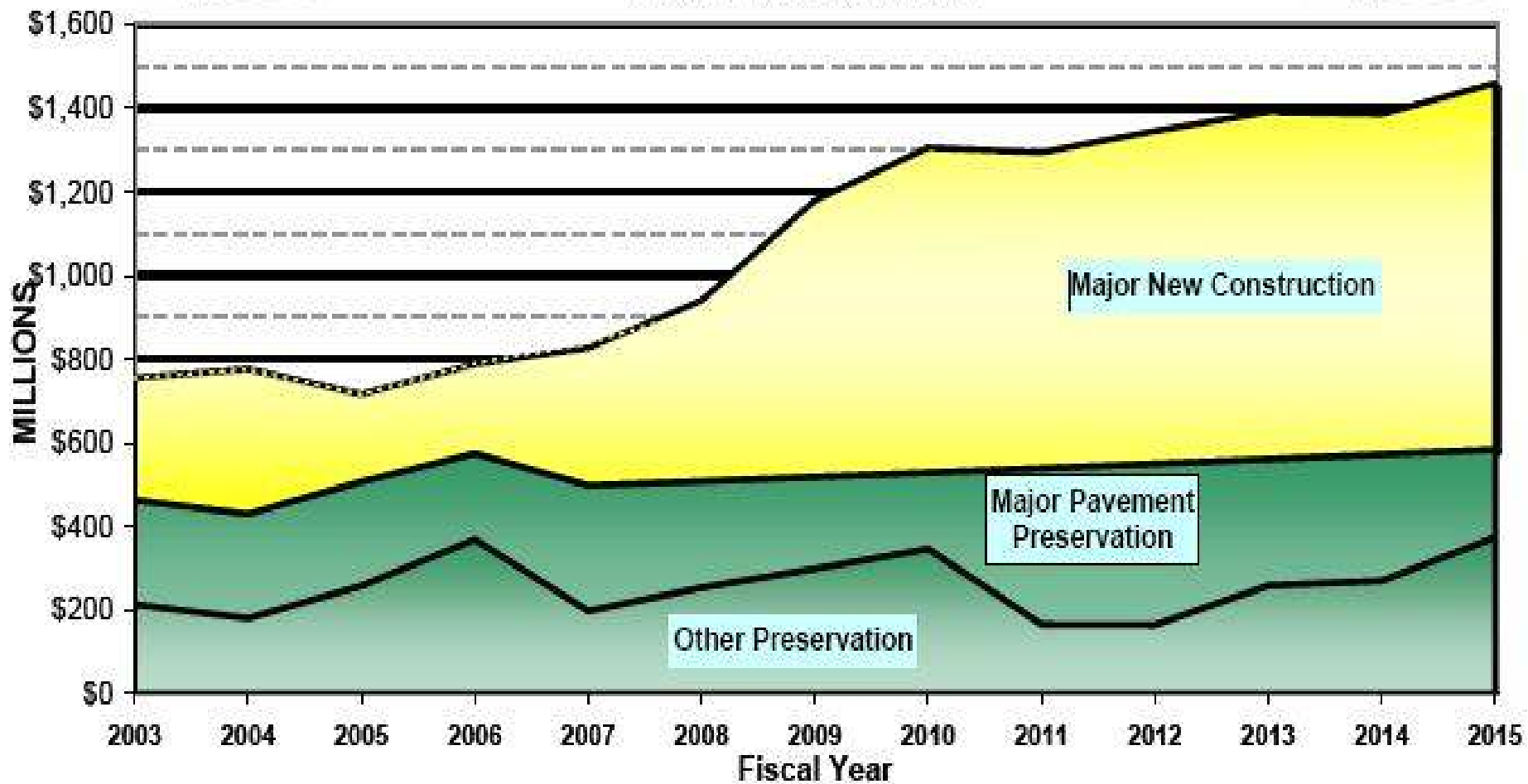
The Case for Lean Six Sigma

- Commissioner Tom Sharp – Retired executive from Alcoa
- Maximize income from Toll Road lease

MAJOR MOVES

Highway Construction Plan Fiscal 2006 to 2015

MAJOR MOVES





“No state has ever been in a position this strong: with billions in the bank and projects identified by order of importance. Now, it’s a matter of implementing the plan in the fastest and most efficient way possible.”

Governor Daniels - November 9, 2006



INDOT's Strategic Initiatives

Strategic Initiative #3: Deliver construction projects “on time and on budget”

Strategic Initiative #4: Effect cultural change which promotes both team and personal growth



The Case for Lean Six Sigma

- Commissioner Tom Sharp – Retired executive from Alcoa
- Maximize income from Toll Road lease
- Could not succeed under current conditions and structure
- Complete overhaul of INDOT (2005-06)
- GOAL: Deliver Major Moves on Time and On Budget



Off to a Good Start

- CEO's full support
- Educated key leadership
- Selected five top-talent black belt candidates
- Provided best equipment and training
- Brought in experienced MBB to identify and groom a future home-grown MBB
- Tied in Lean Six Sigma to overall agency goals



First Round Projects

1. **Project Cost Estimating**: Minimize variation between Engineer's project cost estimate and contractor bids.
2. **Real Estate Procurement**: Improve the on-time performance of the real estate procurement process.
3. **Professional Services Contracting**: Reduce lead time and variation for professional services contracting.
4. **Full Staffing/Hiring Process**: Reduce lead time in the employment hiring process.
5. **Environmental Permitting**: Reduce lead time and variation in the environmental permitting process.



First Round Projects

Project Cost Estimating

Problem: By State law bids that exceed 105% of the State's estimate are refused and result in project delays.

Overestimating a project's cost obligates excess funds prior to letting.

Goal: Reduce the variation between the State's estimate and the contractor's bid.



First Round Projects

Real Estate Procurement

Problem: In one year, 24 out of 104 projects were delayed on average 9 months each due to Right of Way procurement complications.

Goal: Reduce the delays in the Real Estate Procurement process to ensure the projects begin on time and eliminate waste and rework.

Cost Savings: The expected annual value of this project based only on the cost of delay is \$2,077,641.00



First Round Projects

Professional Services Contracting

Problem: Contracting for professional services took 4 to 7 months, impacting INDOT's ability to deliver the Major Moves program on time.

Goal: Reduce the lead time and variation for professional services contracting.



First Round Projects

Full Staffing/Hiring Process

Problem: The convoluted hiring process impeded INDOT's ability to reach a staffing goal of 95% by July 1, 2007. Additionally, if we cannot fill key technical positions (engineering, IT, etc.) we must pay consultants to do it.

Goal: Reduce lead time in the hiring process (where lead time is from the time a position is posted to the time an offer has been accepted)



First Round Projects

Environmental Permitting Process

Problem: Current environmental permit process was delaying the letting of many projects. INDOT image with permitting agencies is historically tainted.

Goals:

1. Optimize process flow to eliminate project delays
2. Become 100% compliant with permit regulations
3. Improve reputation with outside permitting agencies

Cost Savings: Annual letting delays cost \$553,000.



How Lean Six Sigma was Perceived

- “Flavor of the day”
- Commissioner’s hatchet men
- Your direct line to the Commissioner
- Fixers – not facilitators
- You may improve my process, but you’re going to make me look bad



What Happened?

- Project started October 16, 2006 at TQM
- Election Day, November 8th, 2006
- Commissioner Sharp announced resignation November 9th
- Dec. 1 - New Commissioner declared “I don’t do six sigma,” and “show me results.”
- MBB began early December – had little support from key leaders



Environmental Waterway Permits Process

Indiana Department of Transportation
Lean Six Sigma Project



INDOT Waterway Permits

Problem Statement:

Current environmental permit process was delaying the letting of many projects. INDOT image with permitting agencies is historically tainted.



INDOT Waterway Permits

Goals:

- 1) Optimize the permit application flow
- 2) Bring INDOT into 100% compliance with all environmental permitting regulations
- 3) Improve INDOT's reputation with environmental permitting agencies



INDOT Waterway Permits

- **Team Members (Eleven total)**
 - Executive Sponsor/Deputy Commissioner
 - Black Belt (*Facilitator*)
 - Four District Design Engineers (*End customer*)
 - Two District Environmental Specialists (*Local resource for engineers*)
 - Two Office of Environmental Services Specialists (*enforcers of environmental regulations*)
 - One Indiana DNR Representative



Project Obstacles

- No present permit tracking system (no historical/baseline measure)
- No response from permitting agencies (DNR, IDEM, Corps of Engineers)
- Poor response to internal surveys
- Distrust and finger pointing between Districts (customer) and Office of Environmental Services (enforcer)



Project Findings

- 21 out of 463 projects delayed (4.5%) in previous 12 months.
- Not a systemic delay problem. Something else must be the real cause of pain (Myth busting).
- 2006 delays cost INDOT \$553,812.



Project Results

- Developed the first Process Flow chart for the total environmental permits process (a first for INDOT)
- Identified six key steps (Value Added) in the process that determine the success of the whole process
- Five of these steps involved scoping the project properly (major surprise to all)



Project Results (Cont.)

- Identified a critical need for a centralized shared database for logging and tracking permit applications. Laid groundwork for INDOT's first Permit Tracking Database.
- Identified serious lack of training on the permit application process in the Districts.
- Identified need to ingrain environmental issues as part of INDOT's new culture.



Project Results (Cont.)

- Moved to include environmental permit course as part of the maintenance training.
- Initiated changes to the INDOT Design Manual and Standard Spec Book to include environmental considerations in all contracts.
- Resolved issues of overlapping authority in environmental matters

Results Summary

- Hiring Process: 25% reduction in hiring time
- Professional Services Contracting: Streamlined the process, cutting many NVA steps
- Project Cost Estimating: Unified a fractured and multi-departmental process
- Real Estate Procurement: Estimated cost savings = \$9 million – first year. 25% increase in throughput.

End of the Program

- Four of the five returned to previous assignments
- Lean Six Sigma in the Indiana Department of Administration (Aviation/Motor Pool)
- Hope to learn from others in this area and emulate their projects
- Paired oil study (synthetic vs. re-refined)

Lessons Learned

- Lean Six Sigma CAN achieve significant results in the entrenched bureaucracy of State government
- Total support from top leadership is critical
- Cannot be “flavor of the day”
- Tie any Lean Six Sigma initiative to larger agency goals

Lessons Learned

- MBB cannot mentor the BB's and fight to keep the program alive
- Governmental projects/programs can take multiple years to conclude: improve them anyway (but with patience)
- Use top-talent BB's and invest in them
- Aim at culture change – LSS is not an end in itself

What if Lean Six Sigma...

- ..was applied to Homeland Security?
- ..changed the culture of the Department of Education?
- ..streamlined the many bureaucratic processes of the FSSA (food stamps, welfare, Medicaid, etc.)
- ..was used in addressing the current property tax mess?

Innovation in State
Government and its Unique
Challenges

Questions or
Comments?