

# Performance, Innovation and Excellence Section (PIE)



*VTrans*

*Finance & Administration Division*

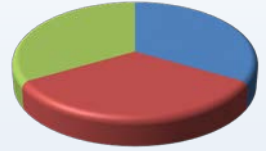
*Michael Lozier - PIE Section Chief*

*Paul Keegan - Lean Program Manager*

*June Burr - Business Process Manager*

*January 2017*

# Why PIE?



## *VTrans Mission*

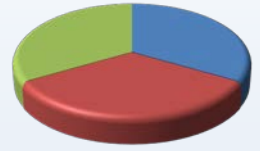
Provide for the safe and efficient movement of people and goods.

*White Paper August 2014:*

CHALLENGE: Under pressures of constrained revenues and budgets, and skill drain due to a retiring workforce, increase our capacity to meet our Mission through proper resource allocation, and become more efficient, effective, and productive with available resources.

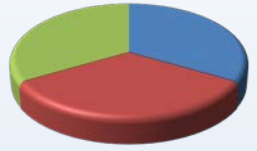
PROPOSED SOLUTION: Creation of the PIE Section (manager position), charged with “...*promoting process improvement, innovation and excellence throughout the Agency by leading process improvement activities, promotion and support of innovation and performance measurement.*”

# What is PIE?



- ❖ Executive Management priority to operationalize/institutionalize **Continuous Improvement (CI) @ VTrans**
- ❖ **Vision:** Assist in cultivating at VTrans an organizational culture of Continuous Improvement
- ❖ **Mission:** Operationalize by aligning with specific Goals of the VTrans Strategic Plan (Goals 4 and 5)
- ❖ **Strategy:** Affect cultural and adoptive change through awareness, education, training, and engagement of VTrans management and staff

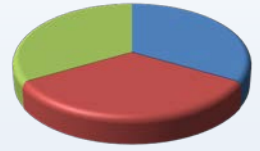
# What is PIE?



## Continuous Improvement

- ❖ Core business of PIE
- ❖ Ongoing effort within the organization to plan, implement, and review/measure for further improvement opportunities
- ❖ Innovative **growth strategy**. It grows the organization **from within with existing resources** by creating new capacities and employee skills, allows for doing more with less, and expands the capabilities and services of the organization in support of organizational goals and objectives.

# What is PIE?



## Continuous Improvement

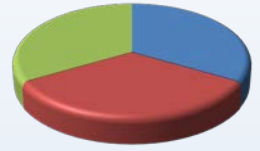
### ❖ Benefits include:

- ✓ Cost reduction
- ✓ Increased productivity/capacity
- ✓ Accelerated task completion
- ✓ Improved quality of a product or service through added value and better alignment with customer needs
- ✓ Human Resources

### ❖ PIE CI initiatives include:

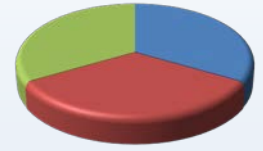
- ✓ *Electronic Signatures (E-Sign)*
- ✓ *Lean Process Improvement*
- ✓ *Business Process Management (BPM)*

# What is PIE?



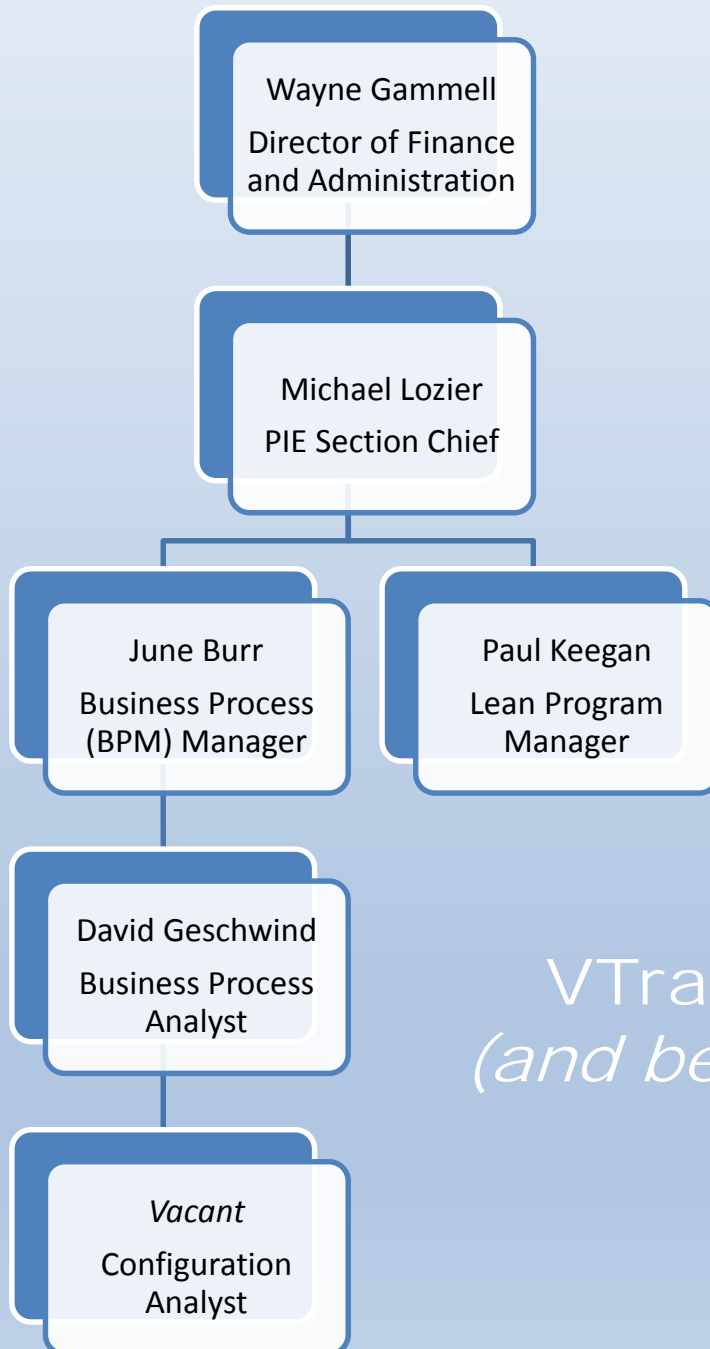
## Strategic

- ❖ VTrans internal support for accomplishing Agency Strategic Goals
- ❖ Operationalizes VTrans towards Governor's Statewide Strategic Goals and EO's
  - ✓ Growing the Vermont Economy
  - ✓ Making Vermont an Affordable place to live, work, and do business; and
  - ✓ Protecting Vulnerable Vermonters
  - ✓ Efficiency in Government
  - ✓ Continuous Improvement



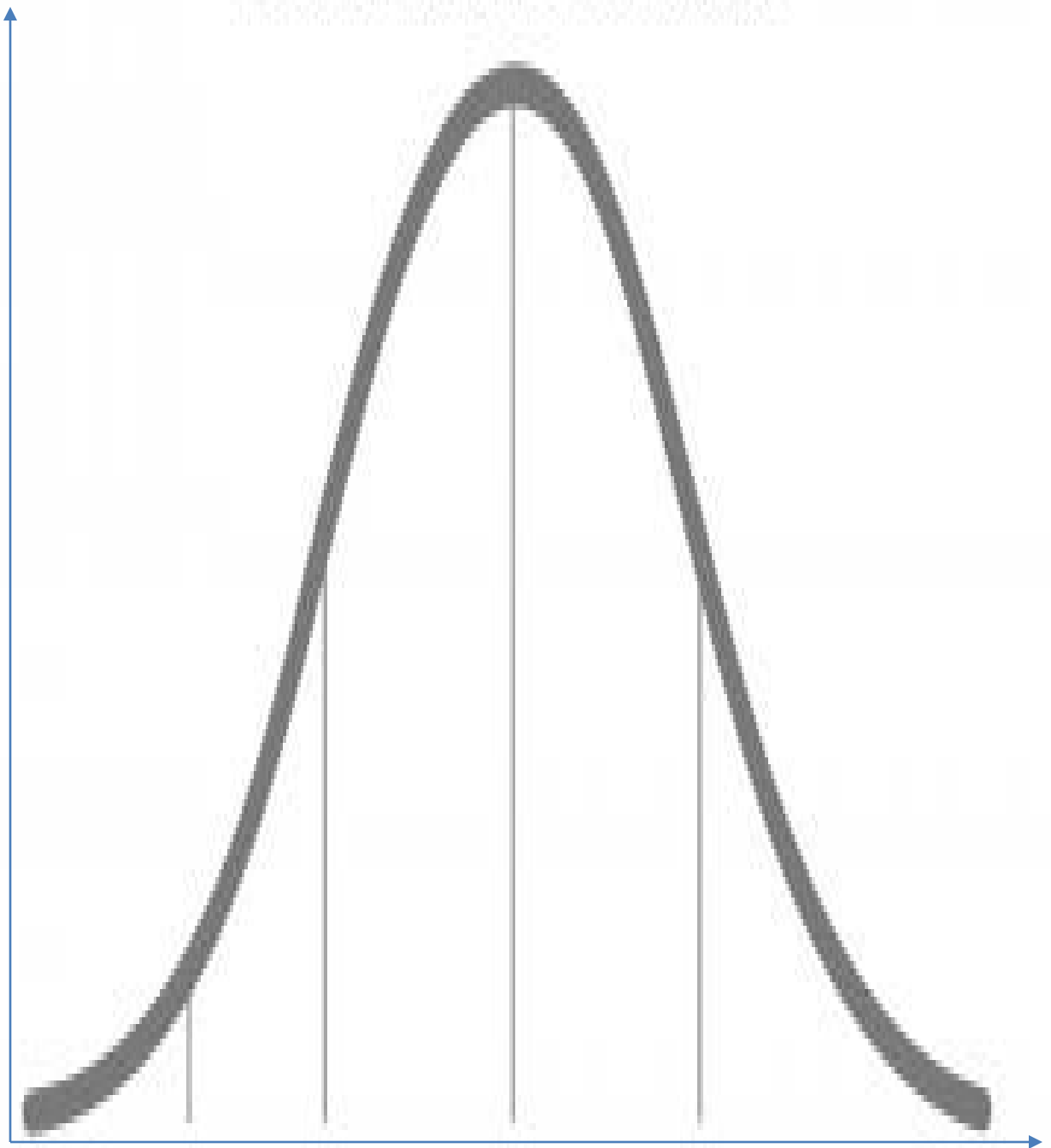
# Who is PIE?

“Established” June 2015



VTrans!!  
*(and beyond)*

# Adoption Rate over Time



2.5%

Innovators

13.5%

Early adopters

34%

Early majority

34%

Late majority

16%

Laggards



# VTrans E-SIGN Background

- ❖ Spring 2016: State of Vermont (through DII) commits to Silanis (eSignLive™) as our electronic signature partner
- ❖ PIE Section designated as internal “business lead” to advance initiative at VTrans
- ❖ Initial Objectives:
  - Catch up with and get out ahead of user’s needs (from reactive to proactive)
  - Establish framework for user support
    - Champions
    - Support Team (PIE Chief, LPM, IT System Administrator)
  - Establish framework for resource development and communications (E-Sign Resources Page, e-mail)
- ❖ **No Mandates!!**
- ❖ Project Effort



## VTrans E-Sign Resources

This page is for information and resources related to the utilization of electronic signatures in processing and authorizing VTrans business documents.

The Department of Information and Innovation (DII) has contracted with Silanis as the State of Vermont's electronic signature partner, for the use of eSignLive™ for the electronic signing of documents. Additional general information is available on DII's website at:

<http://dii.vermont.gov/application/esignature/guidelines>

## Statute, Policy & Best Practice

[Vermont Statute 9 V.S.A. § 276](#)

[VTrans Policy 1015 – Electronic Signature](#)

[Electronic Signatures Best Practice for All Public Agencies](#)

[Agency of Administration Bulletin 3.5 Requirements](#)

## Training Materials & Related Information

[E-Sign Glossary of Terms](#)

Media

[Video 1 – Timesheets: A Guide for First-Time Users](#)

[Video 2 – Timesheets: A Guide for Second-Time Users](#)

[PowerPoint 1 – Timesheets & eSignLive™](#)

*(\$2.19/timesheet; 4 min 45s)*

[PowerPoint 2 – Performance Evaluations & eSignLive™](#)

*(\$1.23/evaluation; 1 min 30s)*

[PowerPoint 3 – Closure Memos & eSignLive™](#)

*(TBD)*

[PowerPoint 4 – Construction Project Bid Analysis & eSignLive™](#)

*(\$3.65/analysis; 5 min 30s)*

[PowerPoint 5 – Travel Request & eSignLive™](#)

*(TBD)*

E-Sign Tips

[E-Sign Tip #1 – Adding Signers](#)

[E-Sign Tip #2 – Delegation](#)

[E-Sign Tip #3 - Reviewers](#)

[E-Sign Tip #4 – Adding Signer Fields](#)

[E-Sign Tip #5 – Folder Management](#)

[E-Sign Tip #6 – Change Signer](#)

## Contact Information

User Accounts

For user account information, including set-up for new accounts, please contact IT Systems Administrator Jason Boyd @ (802) 249-2771 or [jason.boyd@vermont.gov](mailto:jason.boyd@vermont.gov).

VTrans E-Sign Champions

VTrans E-Sign Champions have the multi-level responsibility to: advance their own knowledge of eSignLive™, identify opportunities for its use, train others, and trouble shoot for users within their business areas. They are your first line of inquiry and expertise to support your eSignLive™ user needs! [VTrans E-Sign Champions](#)

VTrans Timekeepers

VTrans Timekeepers are available to directly assist you with your processing of timesheets through eSignLive™. Please contact your respective Timekeeper with related inquiries! [VTrans Timekeepers](#)

VTrans E-Sign Support Team

The VTrans E-Sign Support Team is in place to support the efforts of VTrans Champions and Timekeepers, to assist in staying out ahead of user needs, and to assist in advancing the use of eSignLive™ as a process improvement initiative. The E-Sign Support Team will meet regularly with E-Sign Champions and Timekeeper representatives to discuss current issues and recommend development of related notifications, Tips, Instructions, or other training materials. Contact the Team with your ideas for E-Sign!!

Jason Boyd – IT Systems Administrator

[jason.boyd@vermont.gov](mailto:jason.boyd@vermont.gov)

Paul Keegan – PIE Lean Program Manager

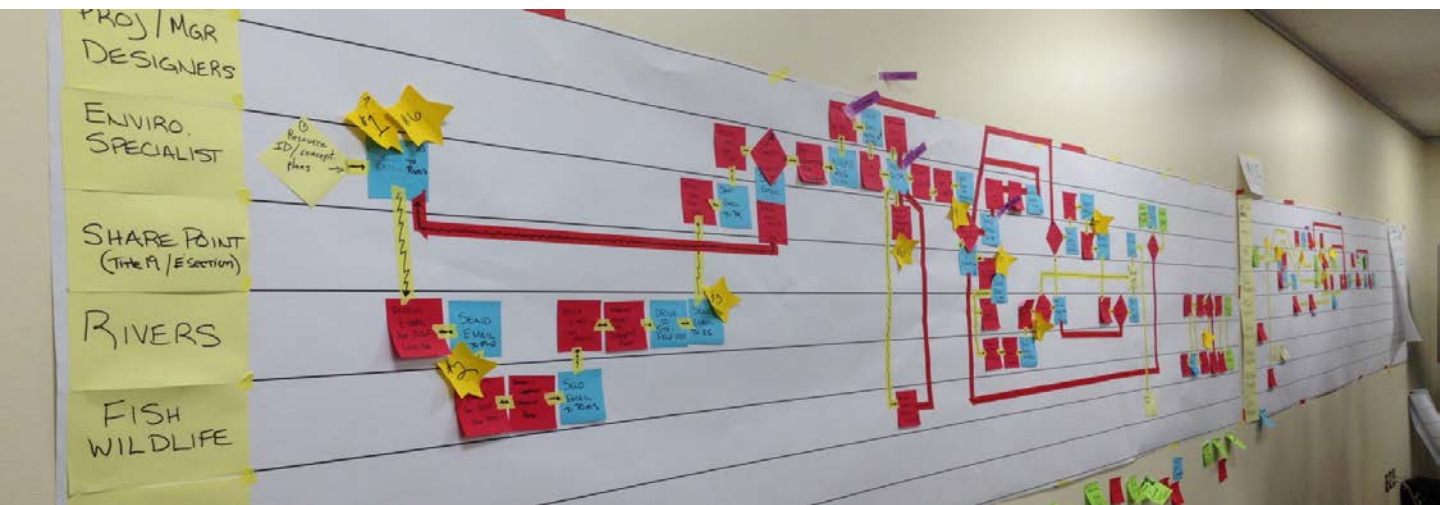
[paul.keegan@vermont.gov](mailto:paul.keegan@vermont.gov)

Michael Lozier – PIE Section Chief

[mike.lozier@vermont.gov](mailto:mike.lozier@vermont.gov)

# Lean Continuous Improvement

## Vermont Agency of Transportation



Lean:

Culture Shift - Is a different way of thinking about what we do and how we do it.

Rapid Results - It uses a set of practical tools to understand processes and implement actual improvements.

*Every employee, every process, every day...*

# PROGRAM RESULTS (2016)

<b>Number Of Events Conducted</b>	12
<b>Processing Time Saved</b>	23,838 hrs.
<b>Monetary Savings (Supplies,etc)</b>	\$290,085.40
<b>White Belt Training Attendees</b>	226
<b>Yellow Belt Training Attendees</b>	70
<b>Green Belt Training Attendees</b>	47
<b>Number Of Newsletters Circulated</b>	6
<b>Number Of Lean Project Presentations (AOT)</b>	16
<b>Number Of Lean Continuous Improvement Presentations (Non Aot)*</b>	5

# Project Summaries:

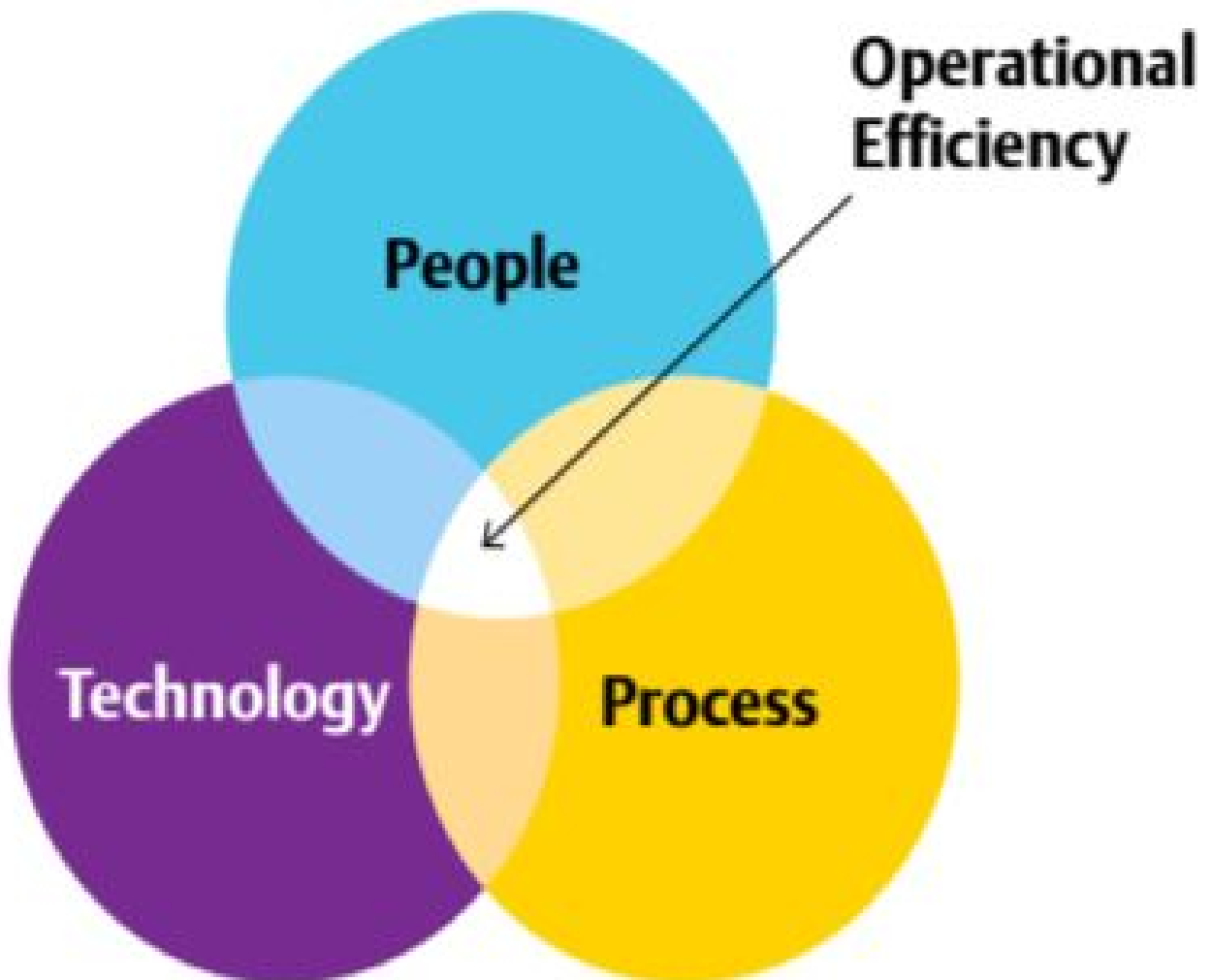
PROJECT NAME	GOALS	% COMPLETE	MAJOR OUTCOMES
Town Highway Grants Process	<ul style="list-style-type: none"> <li>Simplify process for customer</li> <li>Eliminate unnecessary handoffs, loopbacks, reviews, signatures, delays</li> <li>Create grant tracking system</li> <li>Decrease Grant process time</li> <li>Create consistency for all</li> </ul>	100%	30 steps removed 110 days removed
Governor's Hwy Safety Program	<ul style="list-style-type: none"> <li>Create procedures</li> <li>Consolidate several grants</li> <li>Eliminate complexity</li> <li>Create grant tracking system</li> <li>Pay down carry-forward funds</li> </ul>	100%	\$8m paid down 20 new grants <b>Intelligrants</b> Granting system designed
RFP Process	<ul style="list-style-type: none"> <li>Consolidate tracking tools</li> <li>Remove delays</li> <li>Cross train program staff</li> <li>Create guidance document</li> <li>Automate signatures</li> </ul>	100%	2,020 hrs. saved 140 days removed
State Highway Safety Plan	<ul style="list-style-type: none"> <li>Improve the organizational structure</li> <li>Develop a process to address Critical Emphasis Areas (CEA)</li> <li>Develop process to handle unforeseen hwy safety issues</li> <li>Roles/Responsibilities for board members, officers, working groups</li> </ul>	100%	CEA's addressed Org restructured
Hiring Process	<ul style="list-style-type: none"> <li>Create agency-wide consistency</li> <li>Reduce time-to-hire by 50%</li> <li>Central point of contact for bus. Units</li> <li>Create roles and responsibilities</li> <li>Combine/Simplify associated forms</li> </ul>	90%	60% reduced time <b>Forms</b> simplified
NHPA Section 106 Process	<ul style="list-style-type: none"> <li>Improve coordination</li> <li>Create tracking system</li> <li>Decrease process time</li> <li>Create procedures</li> </ul>	80%	21 added reviews <b>Tracking</b> system created
Sign Work Order Process	<ul style="list-style-type: none"> <li>Create work order tracking system</li> <li>Remove delays</li> <li>Clarify roles and responsibilities</li> <li>Reduce time to deliver product</li> <li>Reduce spending on supplies</li> </ul>	75%	\$8,255 savings

# Project Summaries:

PROJECT NAME	GOALS	% COMPLETE	MAJOR OUTCOMES
<b>Systemic Local Roads Program</b>	<ul style="list-style-type: none"> <li>• Improve data manipulation</li> <li>• Automate crash date collection</li> <li>• Reduce project delivery time</li> <li>• Create sustainable field review process</li> <li>• Improve customer communications</li> </ul>	<b>65%</b>	<b>3,200</b> hrs. saved <b>110</b> days removed
<b>DMV – Motor Vehicle Registration</b>	<ul style="list-style-type: none"> <li>• Automate process</li> <li>• Reduce process time</li> <li>• Eliminate backlog</li> <li>• Remove confusion of roles/resp.</li> <li>• Reduce rework, handoffs, errors</li> </ul>	<b>30%</b>	<b>15</b> days removed
<b>Parts Ordering Process – Central Garage</b>	<ul style="list-style-type: none"> <li>• Create tracking system</li> <li>• Improve vendor relations</li> <li>• Create consistent procedures</li> <li>• Capture discounts (15-30 day)</li> <li>• Train pertinent staff on database</li> </ul>	<b>25%</b>	<b>Vendor</b> coordination <b>Discounts</b> captured (TBD)
<b>DMV – Refund Process</b>	<ul style="list-style-type: none"> <li>• Create tracking tool</li> <li>• Remove complexities, errors</li> <li>• Remove duplicate refunds</li> <li>• Centralize reviews and payment</li> <li>• Challenge statute (min. \$10)</li> </ul>	<b>25%</b>	<b>POS</b> system <b>16</b> days removed <b>\$282k</b> savings (projected)
<b>1111 ROW Access Permit</b>	<ul style="list-style-type: none"> <li>• Create online application</li> <li>• Reduce paper use by 75%</li> <li>• Reduce incomplete applications</li> <li>• Statewide consistency</li> <li>• Simplify application for user</li> <li>• Reduce time to approve permit</li> </ul>	<b>0%</b>	<b>8</b> days removed (per application) <b>10%</b> permit error rate (from 97%)

# Business Process Management Optimization Strategy 2007 - 2017

Integration of  
People, Process & Technology



# Business Process Management History 2007 – 2017

- 2007 Introduced BPM approach
  - Documented/Analyzed ~ 100 workflows
  - Applied BPM framework
  - 2009 Proof of Concept
  - 2011 Prototype
- 2012 Introduced BPM Technology
  - 2015 Construction Finals
  - 2016 ROW Phases 1 & 2
  - 2017 ROW Phase 3
  - 2017 – 18 Utility Relocation
  - ?



# Estimated Efficiency Gain\*

## ➤ Achieved

### ■ 205% Construction Finals

Project (521 to 171 avg. days; 350 less)

## ➤ Initial Estimate

### ■ 65% ROW Project

## Project Manager Requests for ROW – Existing Plot

Program	March 2011 - March 2016 Baselines (Days)						Initial Improvement goal*		
	N	SD	Max	Min	Mode	Baseline Average	25%	50%	65%
Traffic & Safety	86	0	0	0	0	34	26	17	12
Town Highway	54	67	262	0	28	63	47	32	22
State Highway	94	111	1078	0	21	51	38	26	18
Roadway	83	235	1872	0	0	112	84	56	39
Rail	26	83	435	0	0	47	35	24	16
Paving	6	148	453	36	75	123	92	62	43
Park & Ride	11	18	64	0	20	28	21	14	10
Maintenance	2	11	30	8	0	19	14	10	7
Interstate Bridges	32	41	191	1	49	39	29	20	14
Bike Ped	6	15	62	19	0	29	22	15	10
All	400	131	1872	0	0	61	46	31	21

# Estimated Efficiency Gain & Savings\*

## Project Manager Requests for Plans & Titles

	Aug 1992 - Aug 2014 Baselines (days)						Improvement goal*		
Program	N	SD	Max	Min	Mode	Baseline Average	25%	50%	65%
Traffic & Safety	180	186	475	20		254	191	127	89
Town Highway	23	52	124	0		124	93	62	43
State Highway	42	30	57	30		47	35	24	16
Roadway	37	25	110	49		79	59	40	28
Rail	4	94	212	0		132	99	66	46
Paving									
Park & Ride	7	64	236	94		184	138	92	64
Interstate Bridges									
Bike Ped	24	29	87	18		56	42	28	20
All	180	390	3637	0		184	138	92	64

## Project Manager Requests for Original Survey

	March 2011 - March 2016 Baselines (days)						Improvement goal*		
Program	N	SD	Max	Min	Mode	Baseline Average	25%	50%	65%
Maintenance	3	115	267	14	na	104	78	52	36
Traffic & Safety	25	41	111	18	94	76	57	38	27
Town Highway	47	41	190	91	197	137	103	69	48
State Highway	87	14	91	56	70	72	54	36	25
Roadway	93	111	236	0	98	79	59	40	28
Rail	19	13	53	24	49	42	32	21	15
Paving	29	41	131	30	72	78	59	39	27
Park & Ride	14	29	95	29	32	55	41	28	19
Interstate Bridges	18	0	64	64	64	64	48	32	22
Bike Ped	7	18	64	22	32	39	29	20	14
All	342	41	111	18	94	76	57	38	27

\*Estimations validated by Independently Reviewed by Coeur Group, October 2014

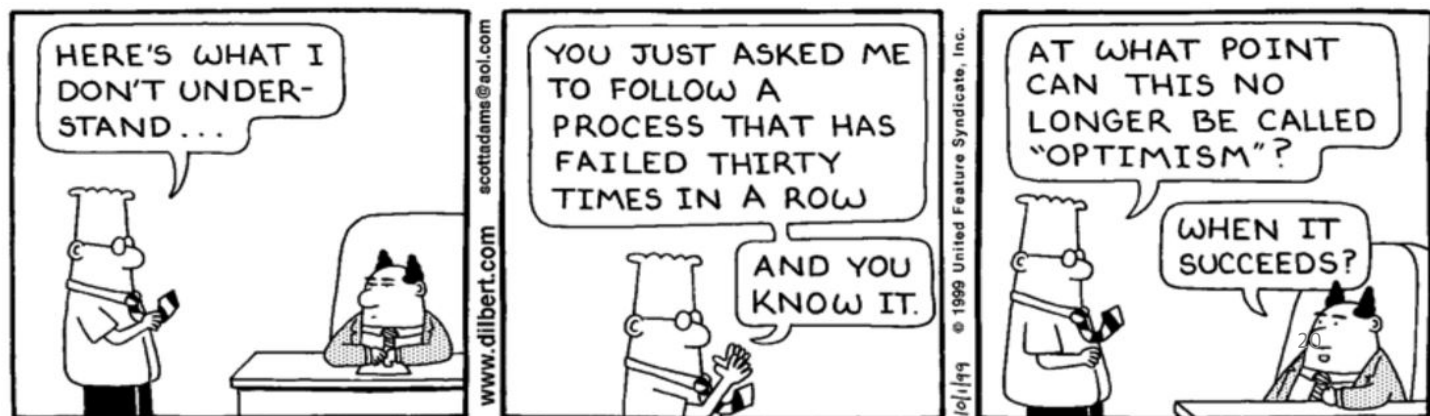
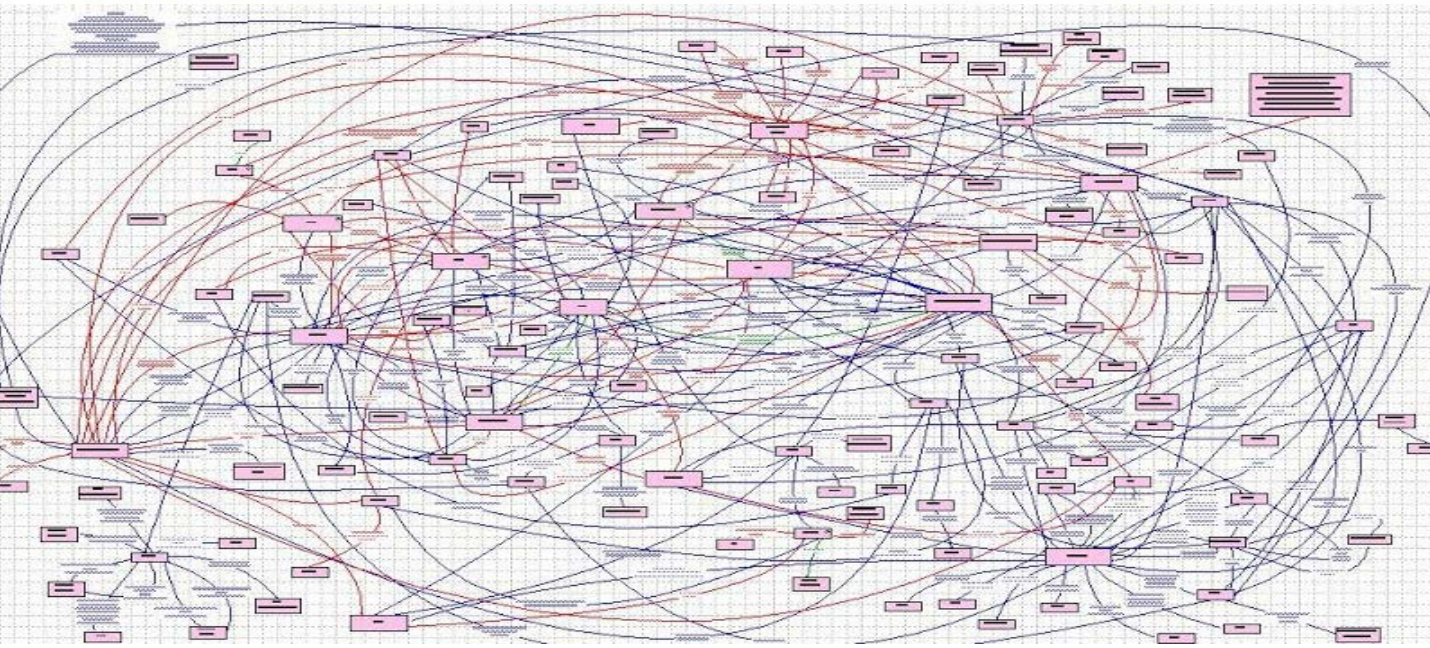
# Estimated Efficiency Cost Savings\*

	Finals Pilot Project	ROW Project
<b>Lifetime Efficiency Gain</b>	<b>\$712,500</b>	<b>\$18,540,000</b>
<b>20 Year NET GAIN Lifetime Efficiency Gain (Total Dev Cost - Lifetime Operational Run Cost)</b>	<b>\$245,065</b>	<b>\$17,095,410</b>
<b>State ROI</b>	<b>6.62</b>	<b>63.17</b>
<b>State Investment Gain</b>	<b>\$1 State Investment</b>	<b>\$1 State Investment</b>
	<b>= \$6.62 Return</b>	<b>= \$63.17 Return</b>

## BPMS Platform End-Users

	Mar-14	Oct-16	Feb-17	Jun-17	Total
	CCF	ROW Phase 1	ROW Phase 2	ROW Phase 3	
AOT Staff	9	7	0	19	35
Project Managers	0	0	42	24	66
FHWA	2	0	0	1	3
Contractors	22	0	0	0	22
	33	7	42	44	126

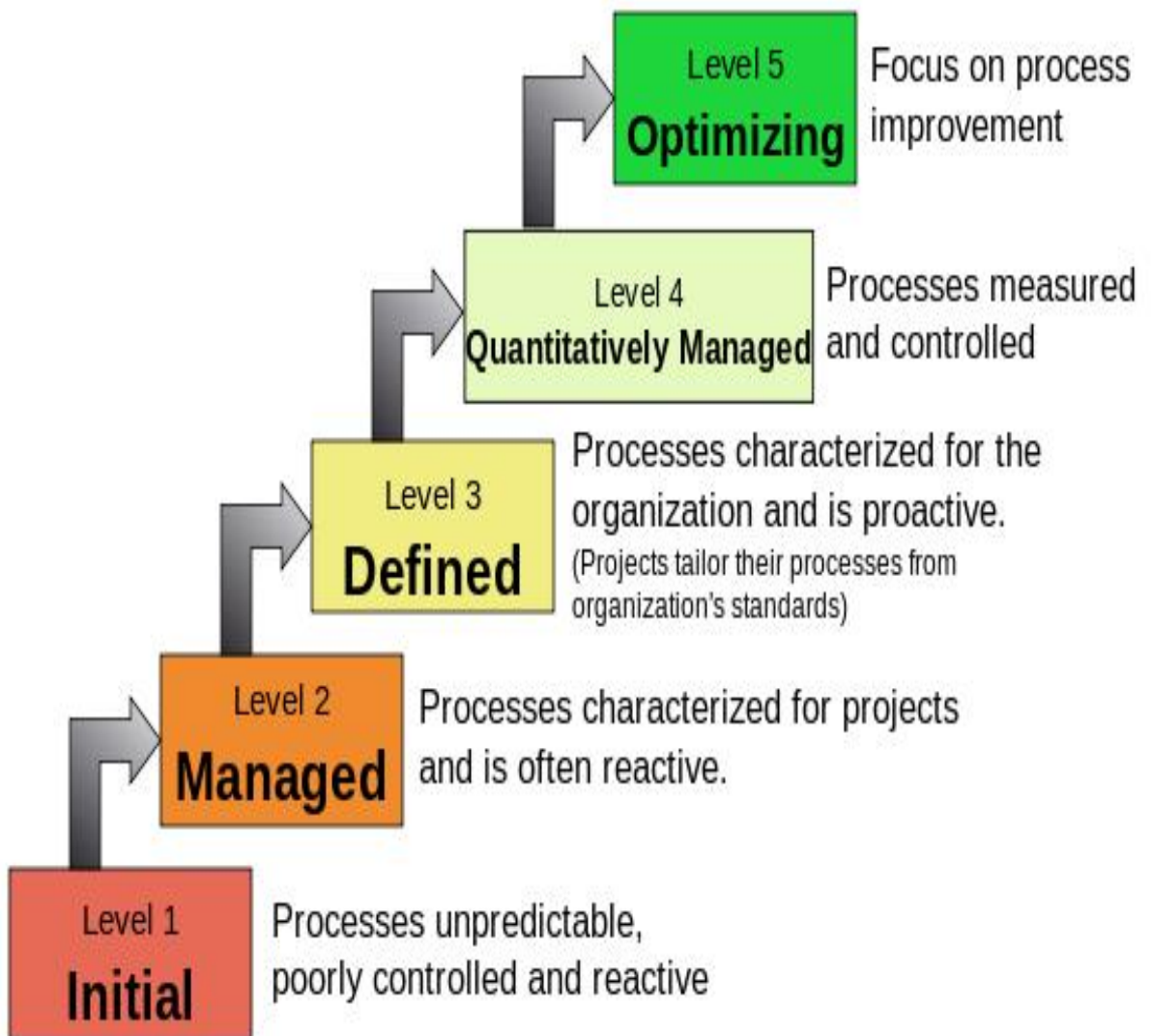
# Opportunities for Improvement





# How it Works

## Characteristics of the Maturity levels



# AOT's Process Integration Stack



# Business Process Management Value

- Higher **Efficiency**
- Improved Business **Agility**
- Compliance Ease & **Visibility**
- Reduced Costs
  - More Output w/Less Resources
- Customer Focus
- Staff Satisfaction
- Improved Processes
  - Integrated
  - Measurable
  - Standardized
  - Controlled
  - Flexible

# Truth

**“If we put a good performer  
in a bad system,  
the system will win every time”**

**G. Rummler & A. Brache**  
*Organizational Performance Pioneers*