



Lean 6-Sigma Program



Department of Transportation

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(Project Greenbelt)

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(Project Champion)

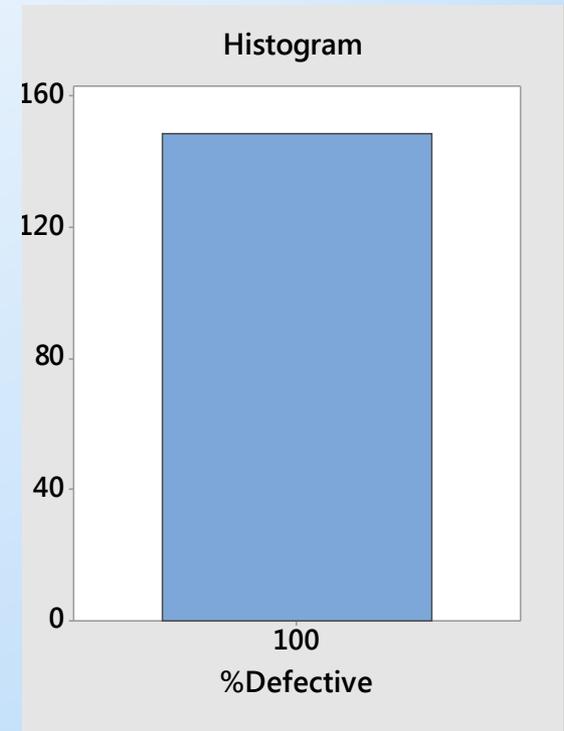
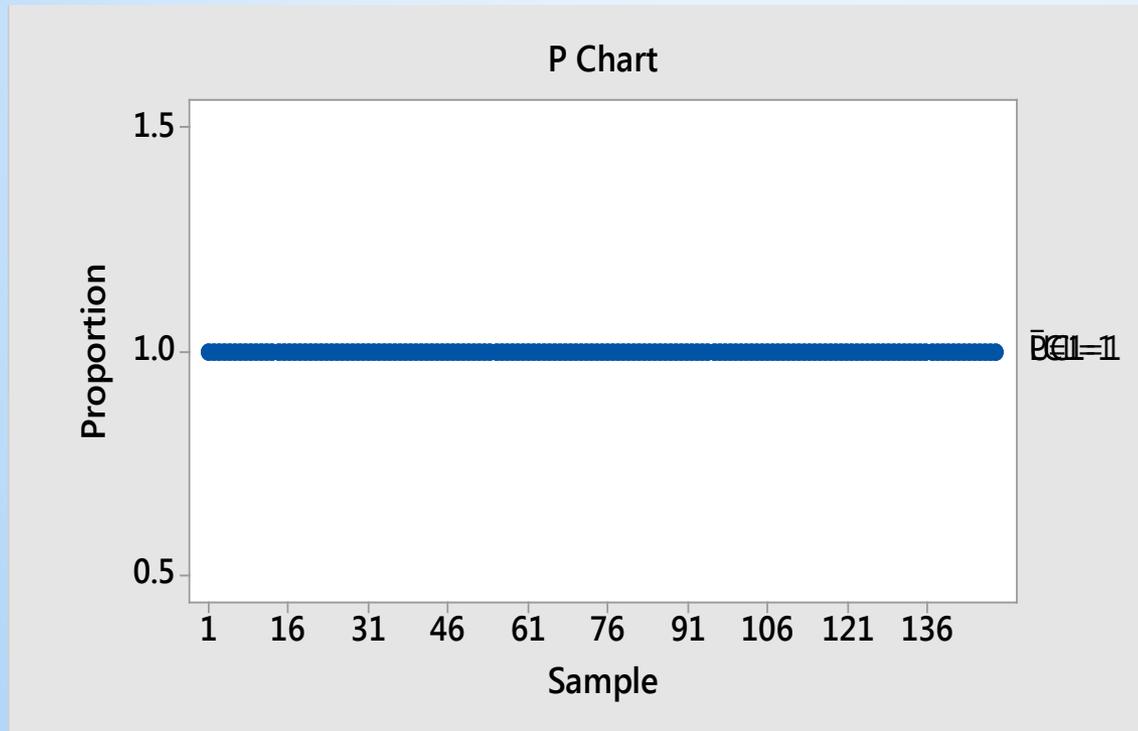
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Property Accounting of Operational Land & Buildings

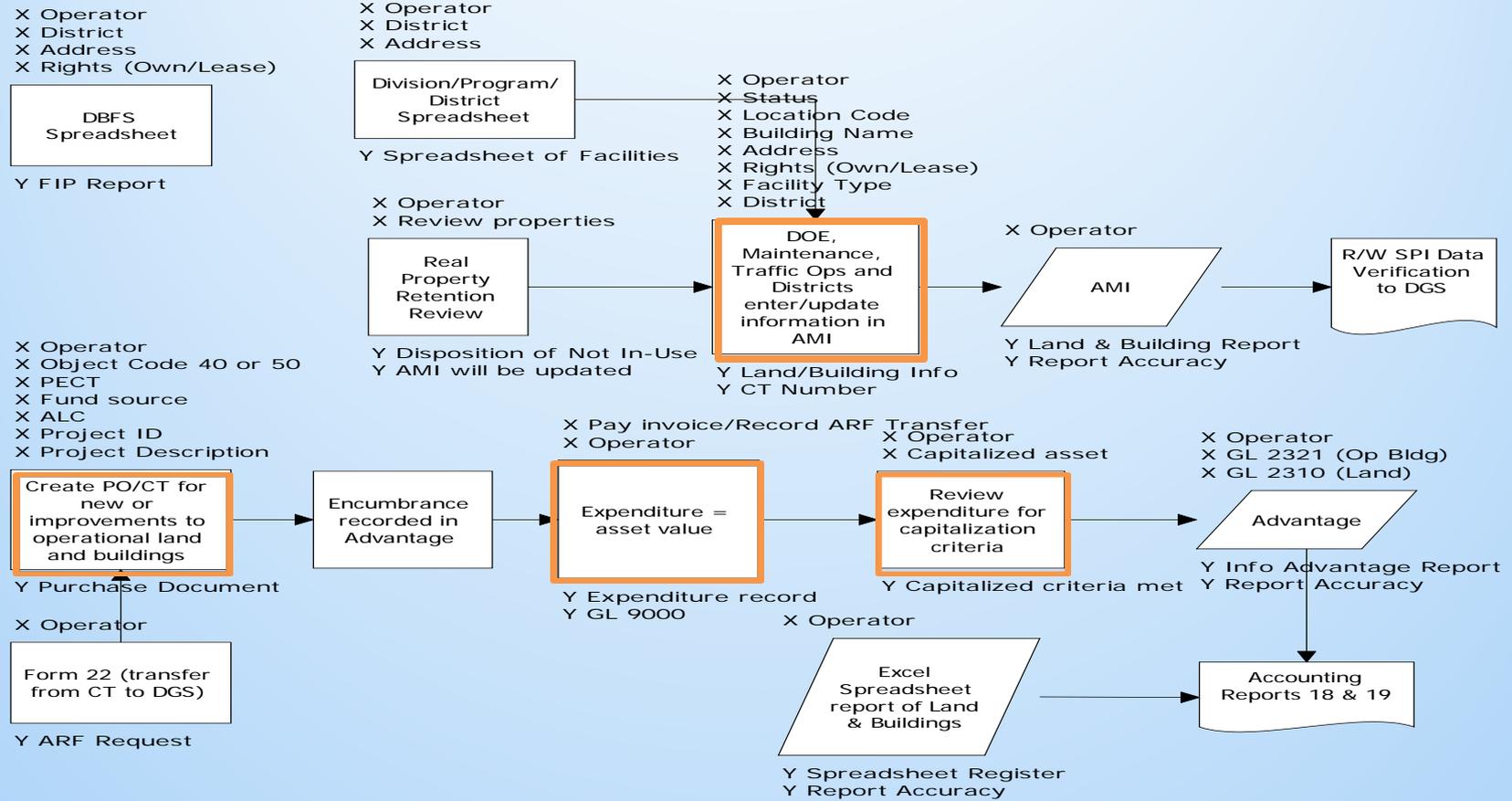
- ❖ **Problem Statement:** *Caltrans lacks comprehensive policies and procedures for property accounting of operational land and buildings, resulting in an incomplete and inaccurate property register*
- ❖ **Objective:** *95% all operational land and buildings held are reflected in the Property Accounting Register*
- ❖ **Project Team:**
 - ❖ *Brad Ensminger/Cecilia Gutierrez – Division of Administration/Facilities*
 - ❖ *Herby Lissade/Suong Vu – Division of Equipment*
 - ❖ *Linda Mercado/Kim Phan – Division of Accounting*
 - ❖ *Abbas Pourheidari – Division of Equipment*
 - ❖ *Michael Rodrigues – Division of Right of Way & Land Surveys*
 - ❖ *Brian Simi – Division of Traffic Operations*

Baseline Capability



- ❖ Binomial capability showed 100% defects in output
- ❖ Based on sample of 151 of 453 total operational land & building assets

Initial Process Map



❖ The non-value added steps are in white, while the value added steps are outlined in orange.

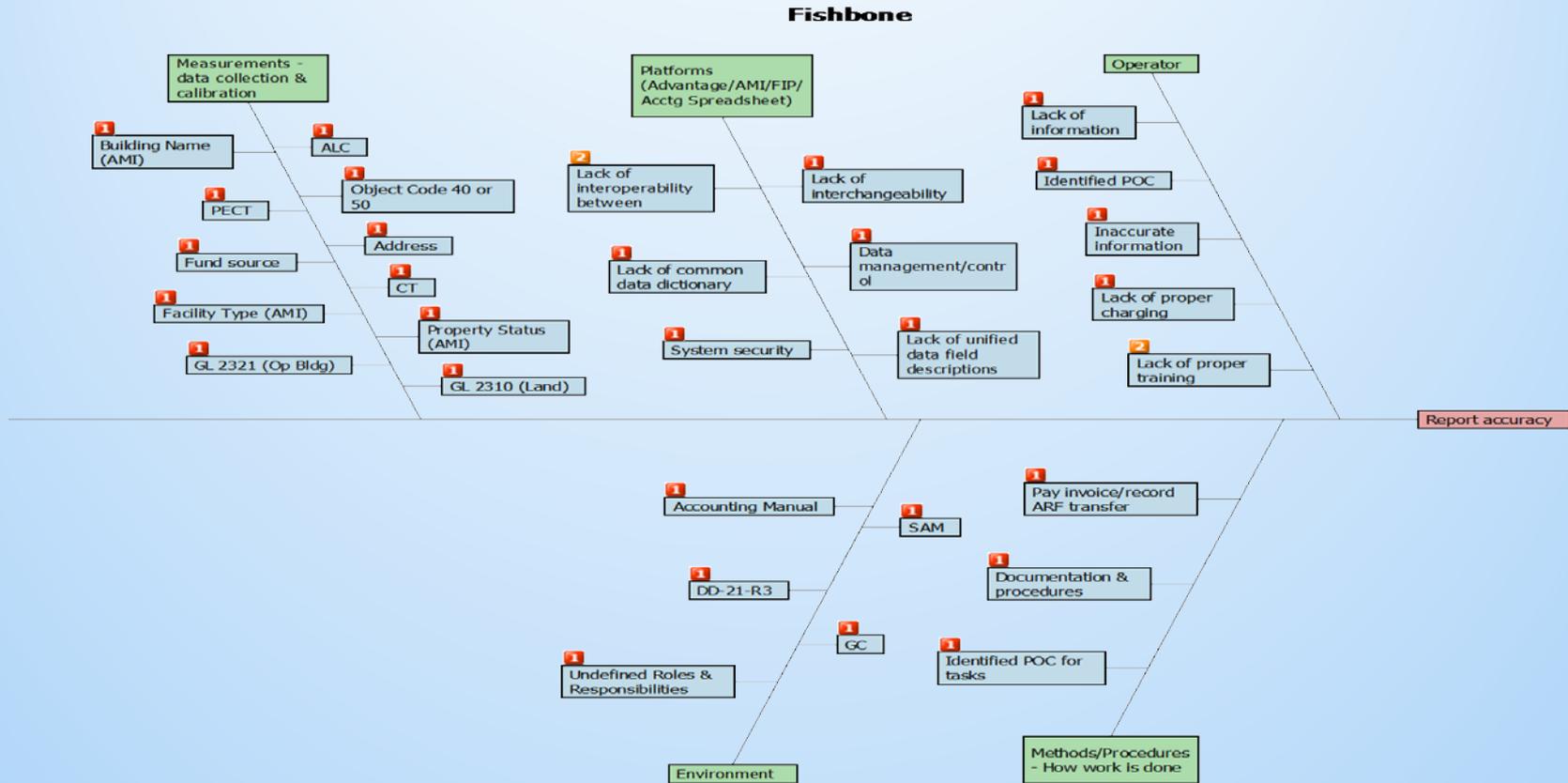


Analysis Tools

- ❖ Attribute Agreement Analysis
- ❖ Fishbone Diagram
- ❖ Pareto Chart
- ❖ FMEA
- ❖ Multi-vari Analysis
- ❖ 1-proportion Hypothesis Test



Key Analytical Finding 1



- ❖ Fishbone Diagram categorized, then detailed the root causes and factors that impact the primary objective (accuracy of reported assets)
- ❖ It also provided a graphical representation of the relationships of the systems, procedures, and regulations that may affect process improvement

Key Analytical Finding 2

Step#	Process Map - Activity	Key Process Input	Potential Failure Mode	Potential Failure Effects	SEV	Potential Causes	OCC	Current Controls	DET	RPN
1	(not in current process)	Date of acquisition	missing information	property register is not complete	9	not being done	10	none	9	810
		Link of unique identifier between AMI & Accounting	incomplete data	property register is not complete	9	not being done	10	none	9	810
		Notification to Accounting of property disposal	incorrect information	inaccurate capitalized asset data	9	not being done	9	none	9	729
1	Process Map - Real Property Retention Review	Review properties	information is not up to date	capitalized assets are inaccurately stated	9	not being done	9	SOP	9	729
1		Operator	asset not reviewed	data is not current or accurate	9	undefined role	9	DD	8	648
3	Process Map - DOE, Maintenance, Traffic Ops and Districts enter/update information in AMI	Address	incorrect address	data not reported	9	data entry error	5	SOP	9	405
3		District	incorrect district no.	data does not match register	9	data entry error	5	SOP	9	405
4	Process Map - Create PO/CT for new or improvements to operational land and buildings	Object Code 40 or 50	incorrect object coding	inaccurate capitalized asset data	9	data entry error	6	SOP	6	324
3	Process Map - DOE, Maintenance, Traffic Ops and Districts enter/update information in AMI	Building Name	incorrect information	lack of data clarity	5	data entry error	5	SOP	9	225

❖ Failure Modes & Effect Analysis revealed the key process inputs that needed to be addressed to minimize defect rate



Critical X's (root causes of problems)

- ❖ Operator role and responsibility
- ❖ Review/reconciliation of property inventory
- ❖ Date of acquisition (Certificate of occupancy/Title deed/Expenditure date)
- ❖ Property description (District, Facility Name, Address)
- ❖ Accounting (Object code, Property Description, Expenditure Record)
- ❖ Unique identifier for every property which links Accounting system with Inventory System

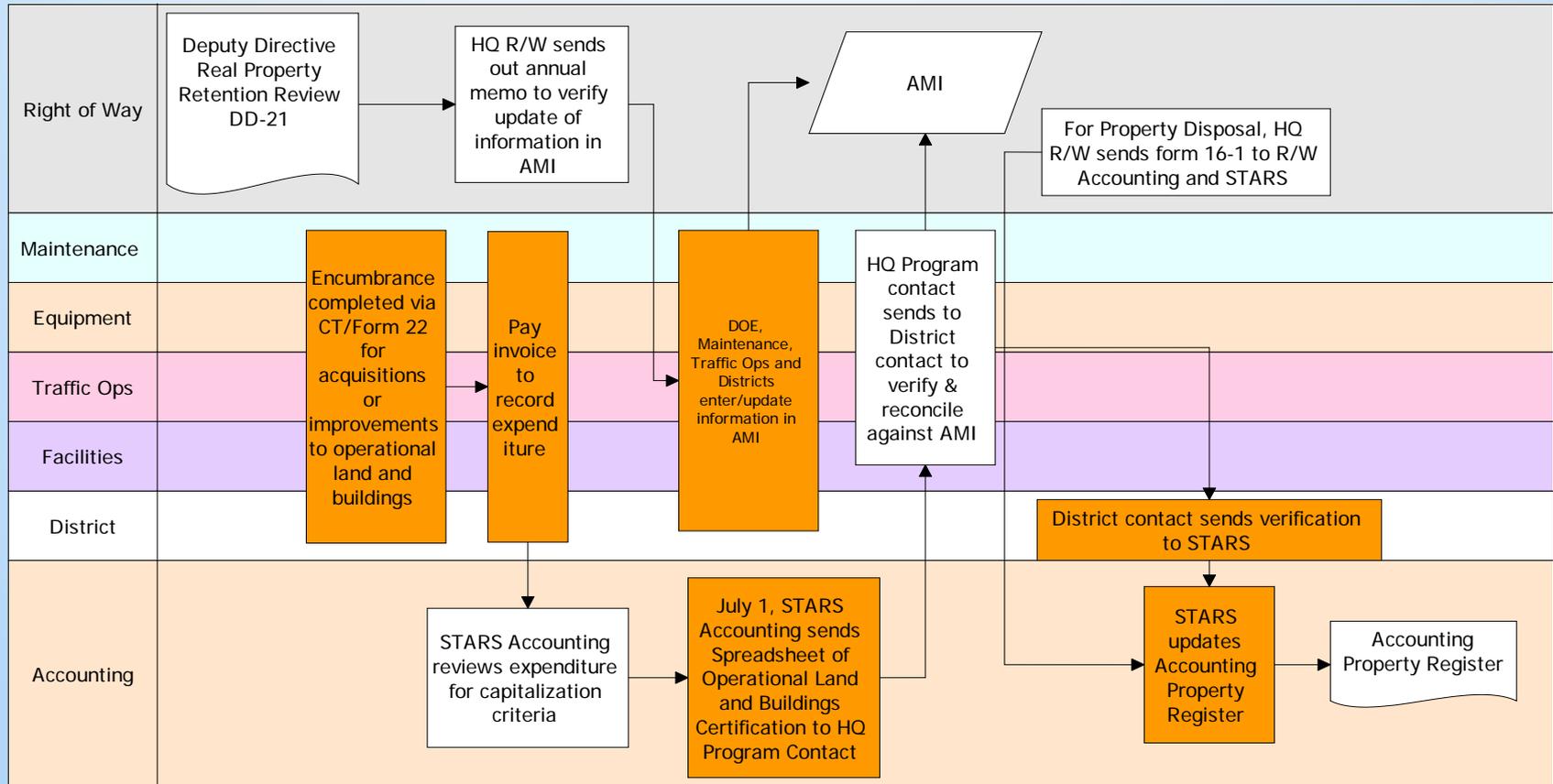


Improvement Techniques

- ❖ Developed value stream map
- ❖ Developed cross-functional process map
- ❖ Assigned roles and responsibilities
- ❖ Determined reporting criteria to satisfy SAM 8650 requirements
- ❖ Tied financial system to asset management system
- ❖ Updated internal policies and directives

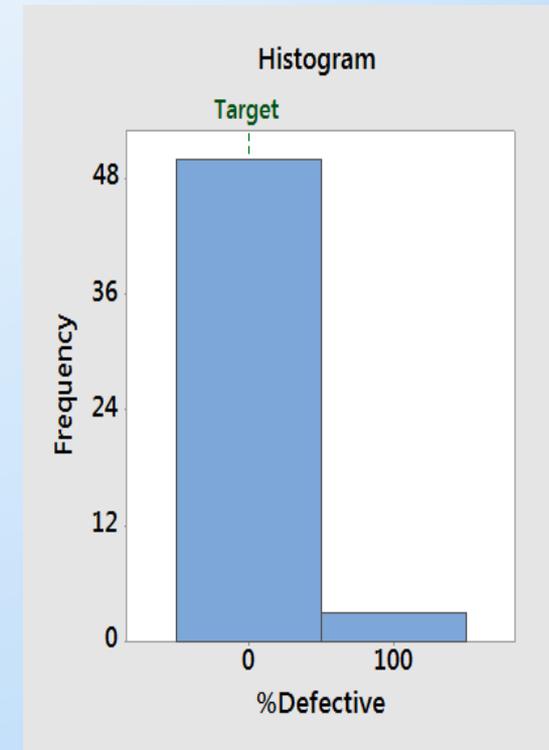
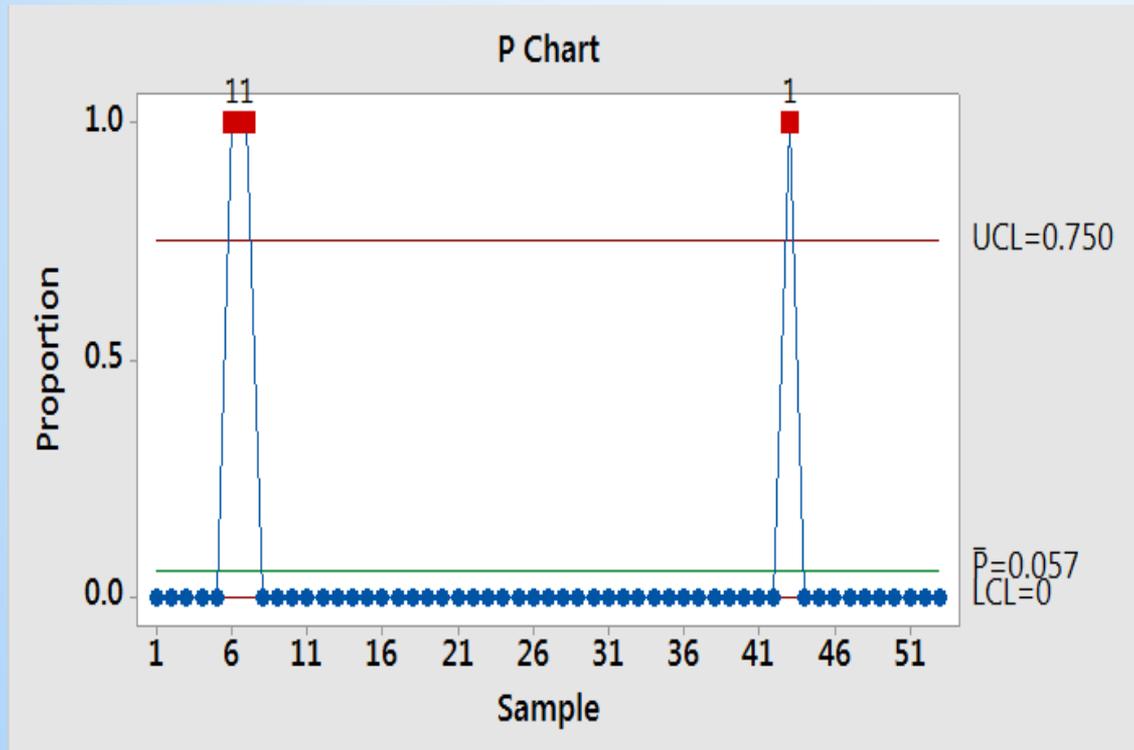


New Process Map



❖ The Cross Functional Process Map links asset management with the financial information

New Capability Analysis



- ❖ Binomial capability showed that defect rate has been reduced to 5.6%.
- ❖ Outliers of sample due to phasing in of improvement implementation

Control Plan

- ❖ Complete implementation of improvements
- ❖ Process owners assigned
- ❖ SOP's confirmed for every critical input
- ❖ Mistake-proofing at each critical step
- ❖ Follow-up audits will be completed



Additional Benefits

- ❖ Reaffirmation of roles and responsibilities across districts and programs
- ❖ Stewardship and continued compliance can be easily maintained
- ❖ Sustainability of improved business process



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