



# Raising the Bar at INDOT

Derek J Weinberg

# Our Experience

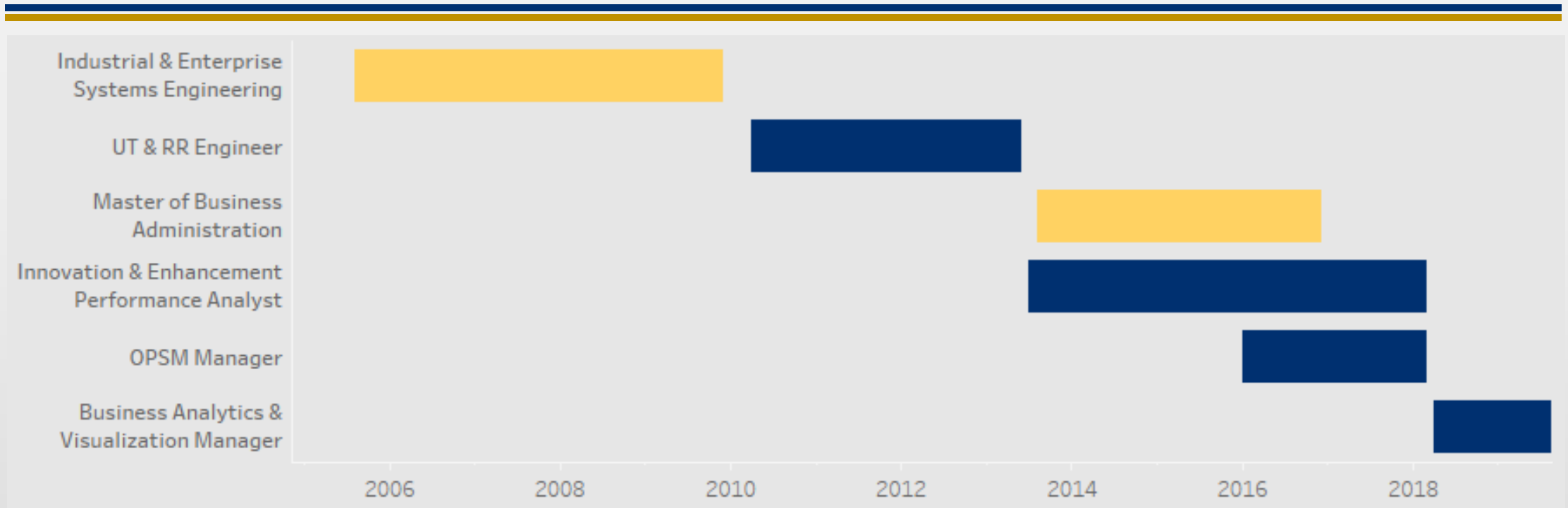
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- Introductions
- Visual Pattern Recognition
- The Broken Cycle
- Cultural Challenges
- Technical Challenges
- What We've Done

# About Me...



# A Career of &s



# What is BizViz?

## Business Analytics

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- Discovery
- Interpretation

## Visualization

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- Communication
- Meaningful patterns

# What is BizViz?

## Business Analytics

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- Discovery
- Interpretation
  
- Identify decision points
- Evaluate and investigate data
- Work with MIS on technical challenges

## Visualization

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- Communication
- Meaningful patterns
  
- Develop the culture
- Develop and iterate live dashboarding
- Manage Tableau Server

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# Visual Pattern Recognition

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# Visual Pattern Recognition

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# Visual Pattern Recognition

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# Visual Pattern Recognition



tuppus/Flickr

# Visual Pattern Recognition

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# Visual Pattern Recognition

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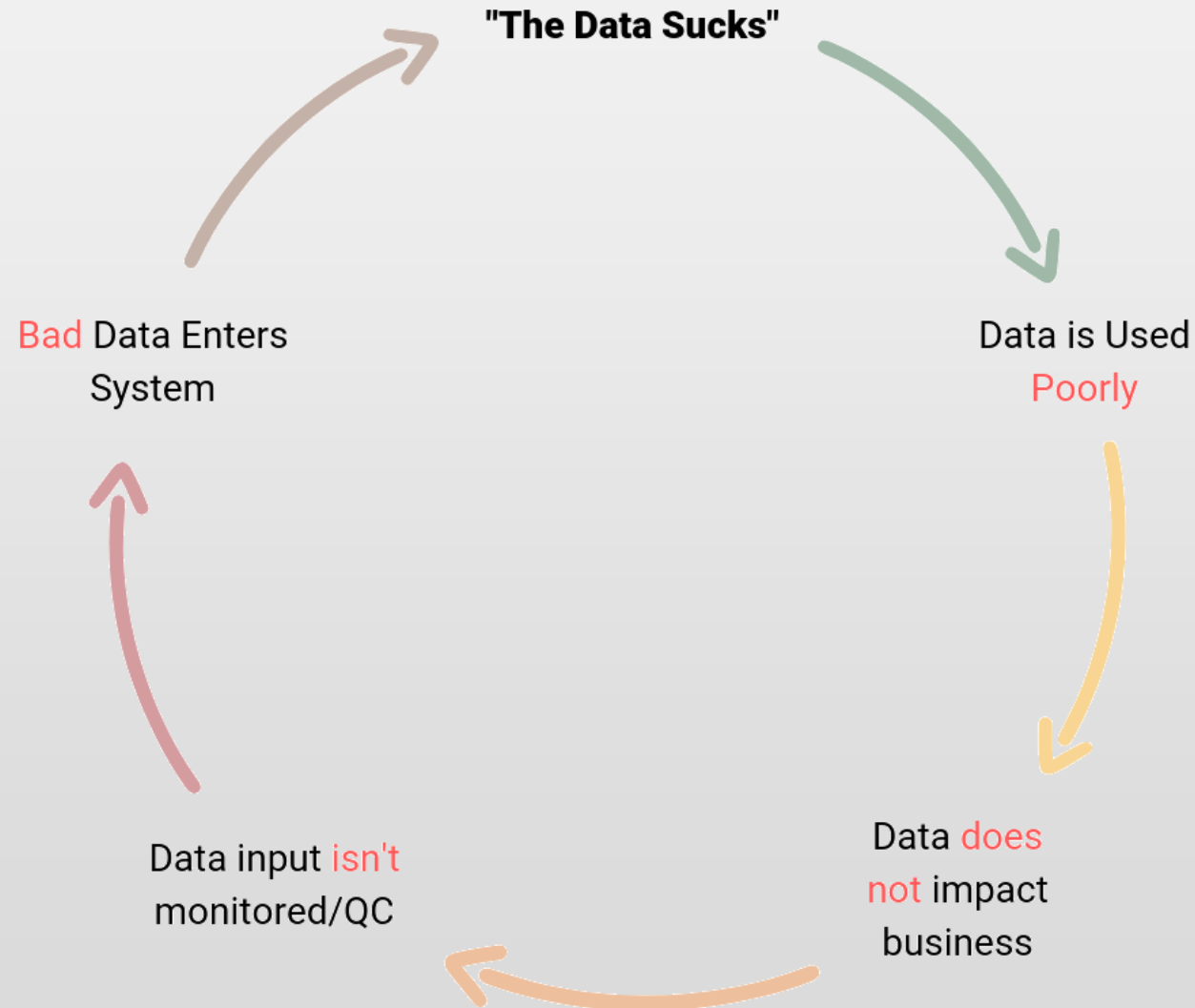
# Challenges Faced

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Cultural & Technical

# The Broken Cycle





# Enter Work Order Review

## ▫ 5% of WOs sampled statewide

Reporting	Reporting Units	Linear Feet
<ul style="list-style-type: none"><li>Accomplishment is in the linear feet of installed pipe liner. Report all work to one Work Order including sign placement, sight preparation, material deliveries, installation, grouting, and finish grading.</li><li>Report to the specific small culvert or large culvert assets.</li></ul> <p><b>NOTE:</b></p> <ol style="list-style-type: none"><li>This activity shall NOT include pipe liners installed into pipes less than or equal to 36" in diameter. Pipe liner installed into pipes less than or equal to 36" in diameter shall be reported to Activity 2336.</li><li>Pipe extensions shall be reported to Activity 2390 (Other Drainage Maintenance)</li></ol>		

Reporting	Reporting Units	Lane Miles
<p>Accomplishment shall be reported in LNM - Lane Miles.</p> <p>Each road should be completed on one work order with multiple day cards.</p> <p>Crack filling on shoulders &lt; 4 feet wide should be reported to this activity and performed in conjunction with mainline; crack filling on shoulders &gt; 4 feet wide should be reported to Activity 2071 and performed separately.</p> <p>Single, transverse cracks over composite pavement should be routed, sealed and reported to Activity 2090.</p> <p>All work, including taping of pavement markings, should be reported to 2070.</p>		

## ▫ Items not adhering to standard, or otherwise “look funny” flagged as Anomaly.



# Evidence

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- Winter Anomaly Rate, January 2017: **49%**
  - 677 WOs evaluated
- Summer Anomaly Rate, May 2017: **55%**
  - 367 WOs evaluated

# Actions Since Initial Review

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- Anomalies are sent back to the management unit for teaching, not correction.
  - Acknowledging data quality wasn't where it should be
  - Intent is to adjust future behavior, improve quality moving forward
  - Memory impacts effectiveness of “correcting” WOs a month later
- Training developed for high-anomaly winter activity:

## Training Videos

- [WMS Training Videos](#) (New)

## • [Work Performance Standards](#)

- [Previous Work Performance Standards Revisions](#)
- [02/15/2018 Revisions](#)

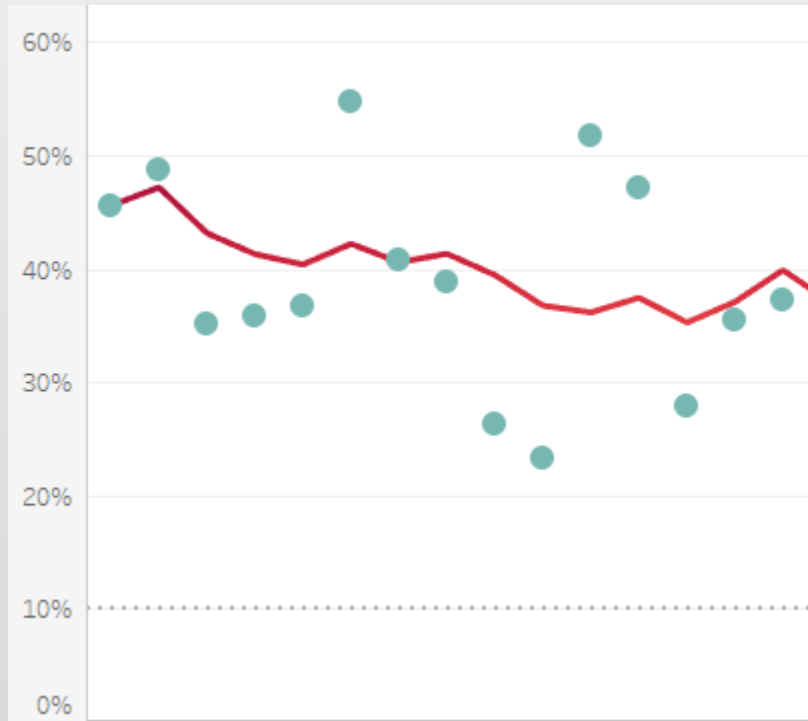
## Snow & Ice

- [Act. 2630 – Snow & Ice Removal \(WO Reporting and Guidelines\)](#) (January 2019 update)
- [Anti-Icing WO Reporting](#)
- [Dedicated Loader Operator WO Reporting](#)
- [Act. 2660 – Patrolling for Snow & Ice \(WO Reporting and Guidelines\)](#)
- [Act. 2640 – Brine Mixing WO Reporting](#)
- [Releasing Material Outside INDOT \(For Material Managers ONLY\)](#)

- Coordination on clarified policy guidance

# Progress?

- WO Review having some effect, but not consistently or quickly
  - Team anticipated a 10% anomaly target as feasible



# Exception Reporting

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- Decision made to tie poor-quality data to Performance Appraisals

FISCAL YEAR 2019  
HIGHWAY MAINTENANCE PERFORMANCE EXPECTATIONS

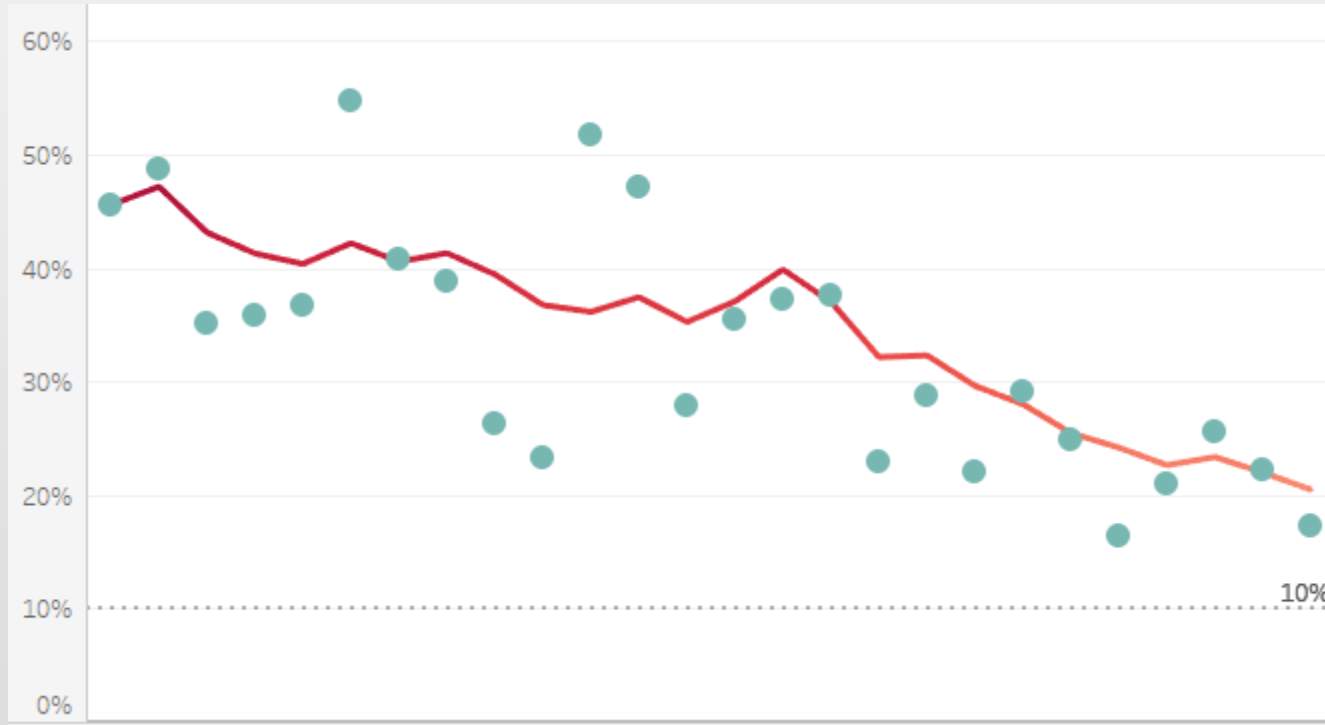
5. Develop INDOT's 21<sup>st</sup> Century Workforce – WMS Data Integrity  
i. To improve quality of WMS data ensure the total error backlog identified on the monthly exception report is at zero before the next month report.

- Four types of exceptions included initially
  - *Objective measures of adhering to policy*
  - Man-hours not equal to Accomplishment (for activities measured in labor)
  - No asset (for activities specified to require an asset)
  - No accomplishment, but labor spent
  - No cost, but accomplishment reported



# Progress!

- Clear effect of Performance Appraisals being tied to Data Integrity

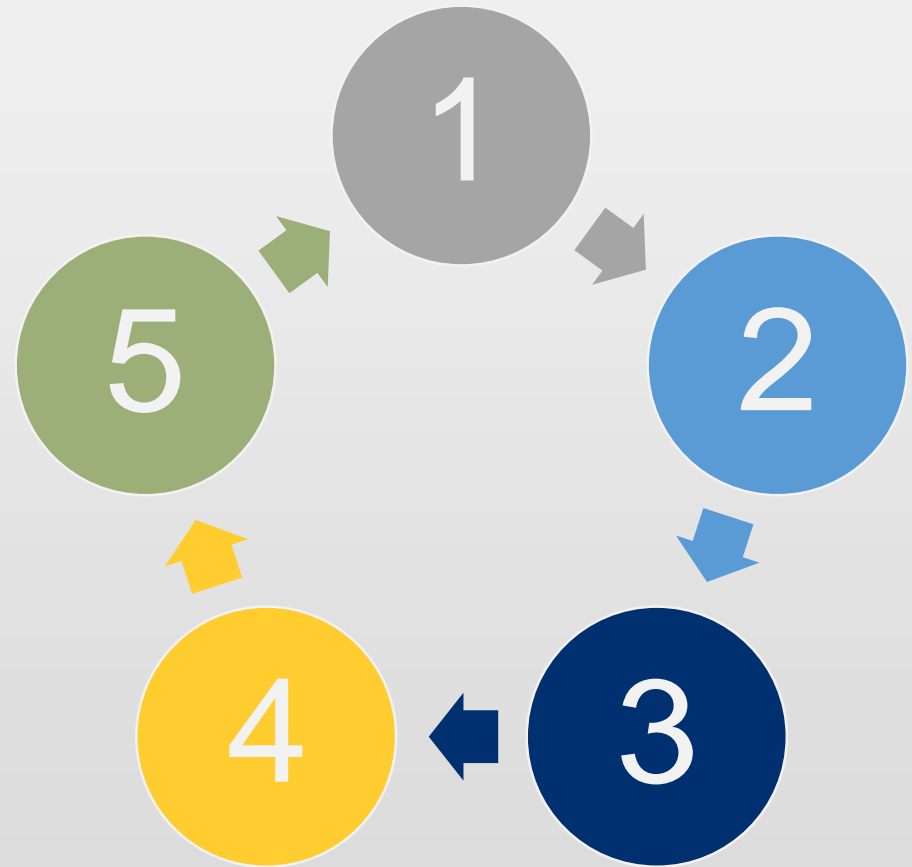




# Cultural Challenges

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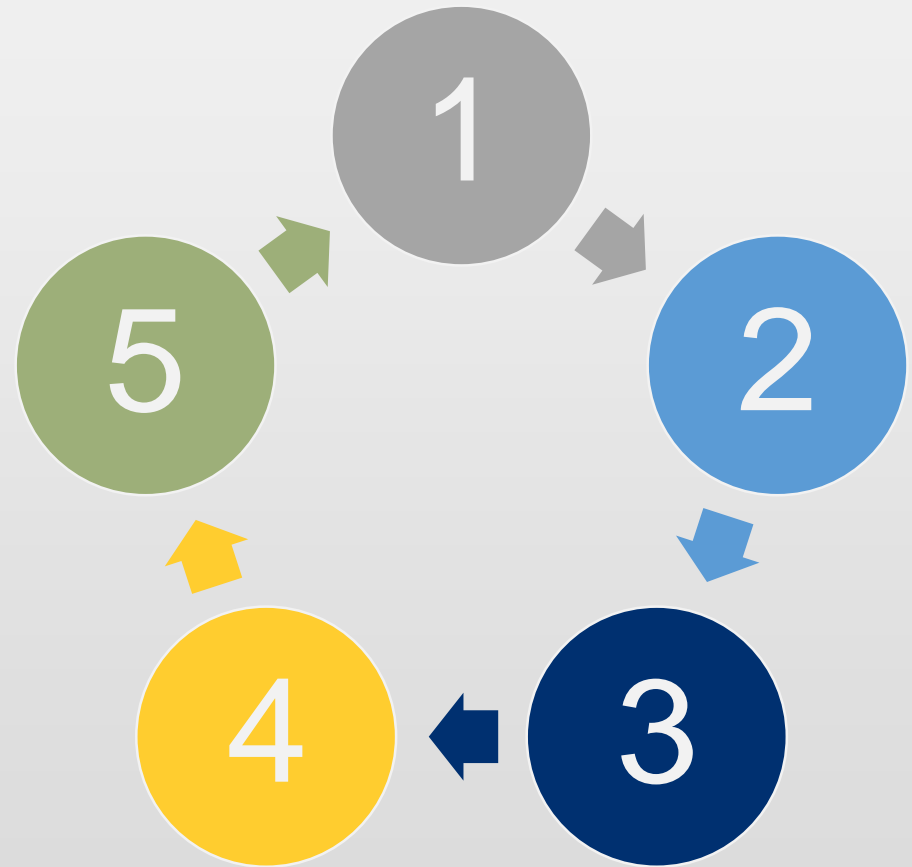
- Bad data enters the system
- Data is used poorly
- Data does not impact business (positively)
- Data input isn't monitored



# Cultural Challenges

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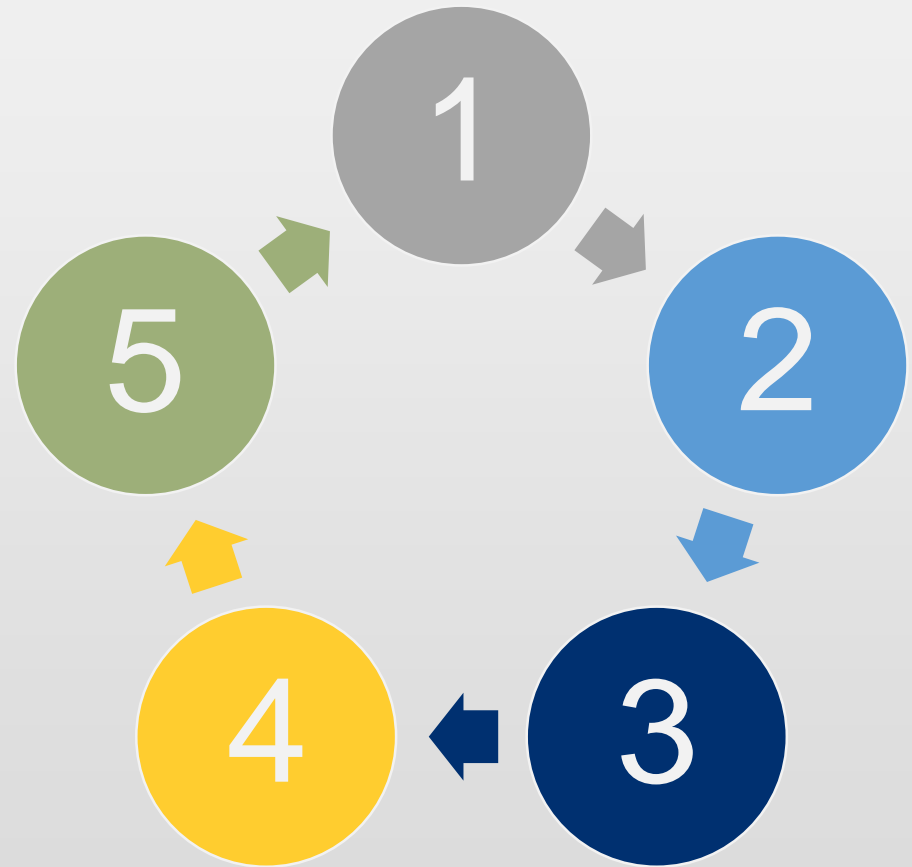
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# Cultural Challenges

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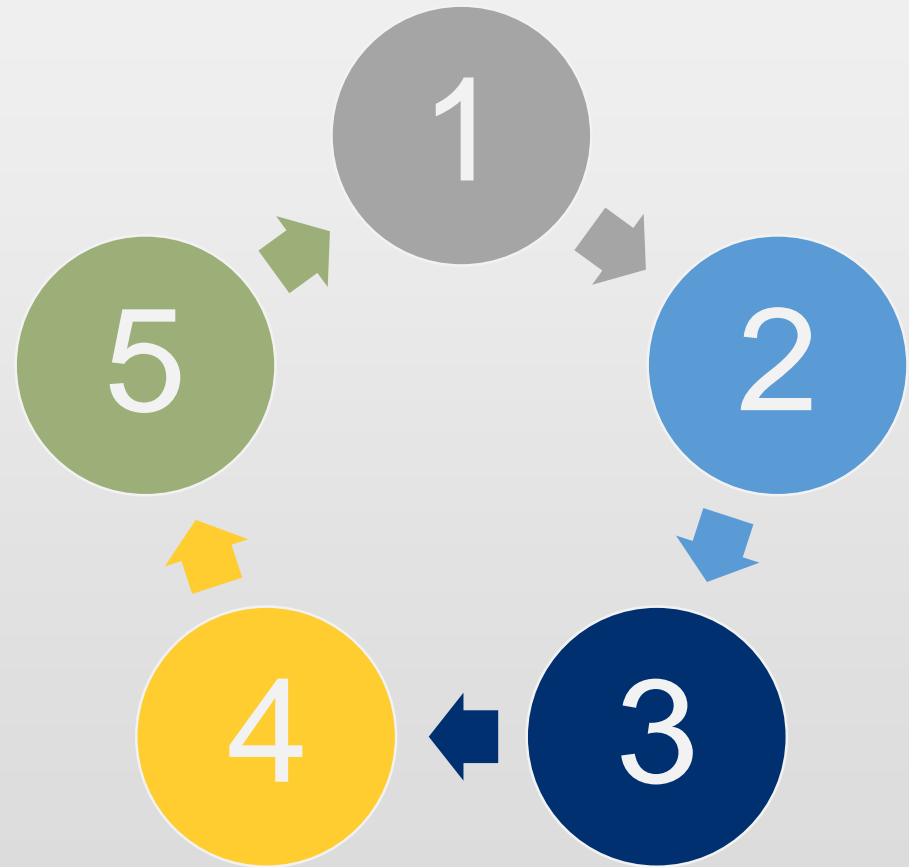
- Weak policies for data entry
- Varying definitions and analysis strategies
- Data does not impact business (positively)
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# Cultural Challenges

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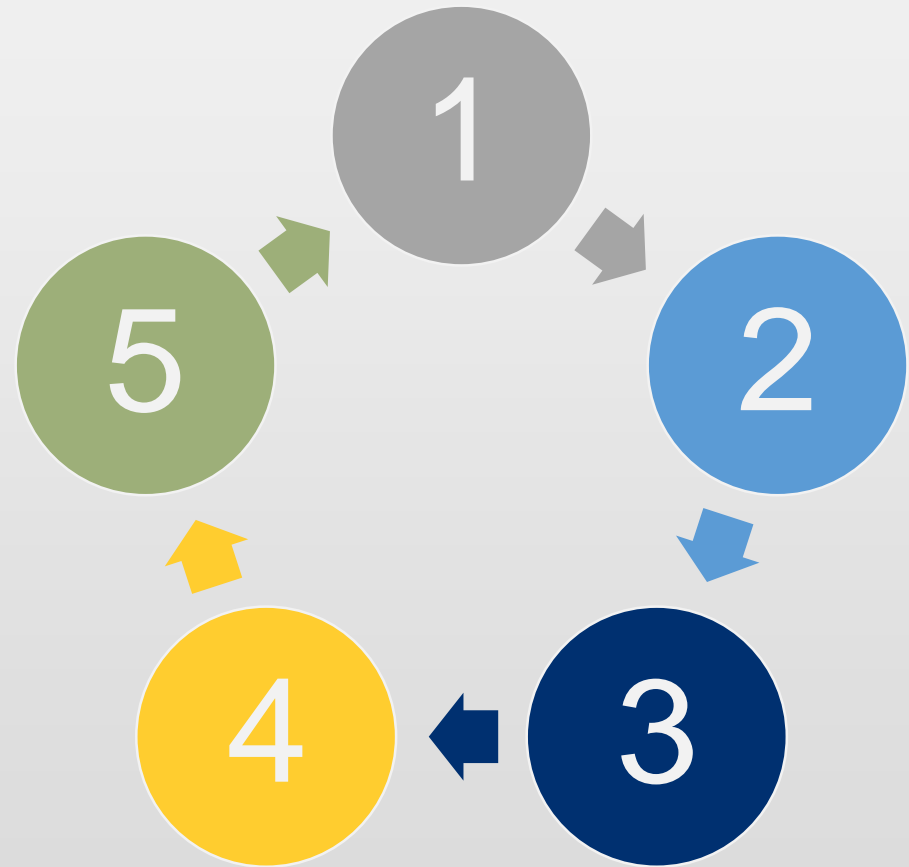
- Weak policies for data entry
- Varying definitions and analysis
- Manage to metric, not business
- Data input isn't monitored



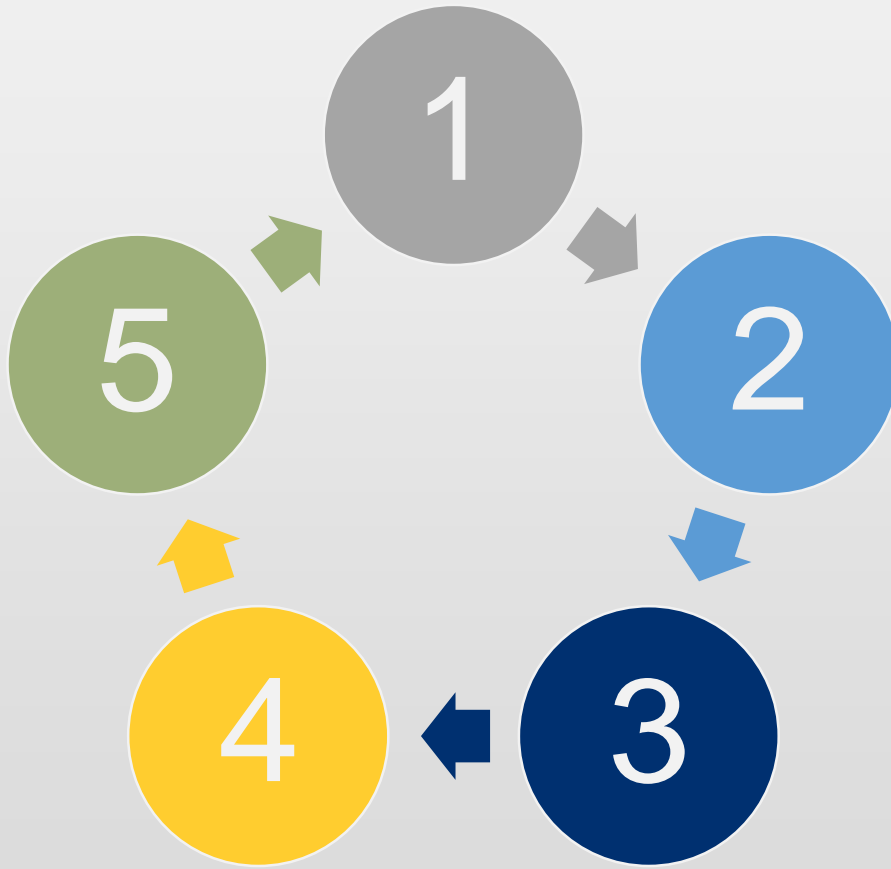
# Cultural Challenges

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- Weak policies for data entry
- Varying definitions and analysis
- Manage to metric, not business
- Lack of awareness and oversight



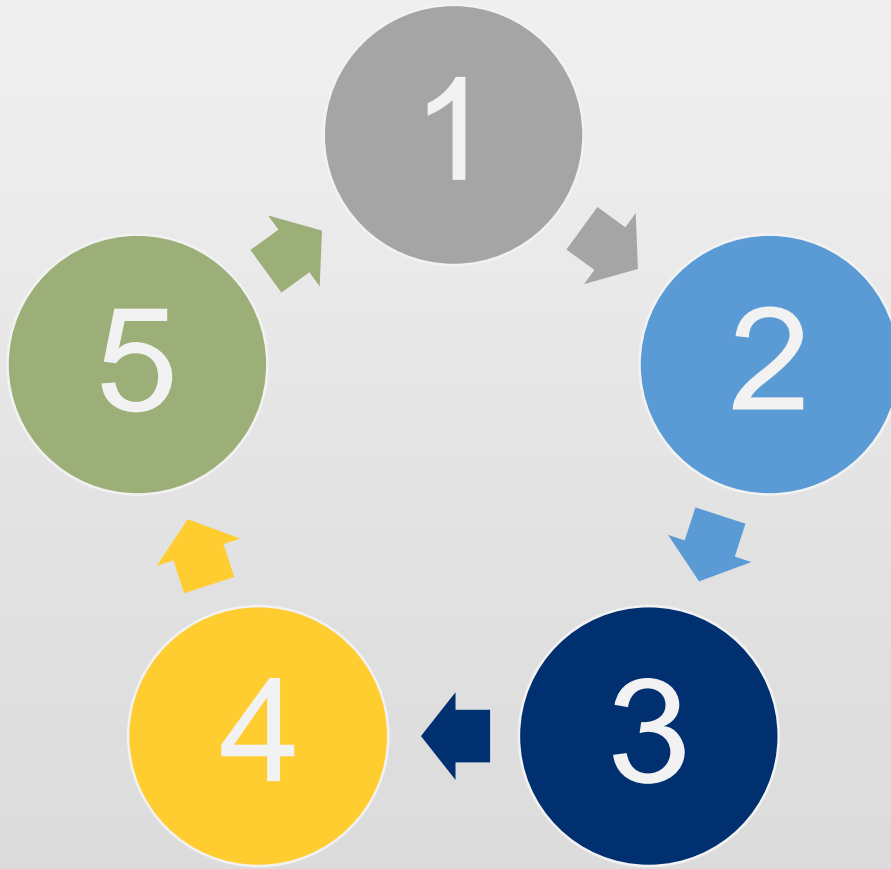
# Technical Challenges



- Bad data enters the system
- Data is used poorly
- Data does not impact business (positively)
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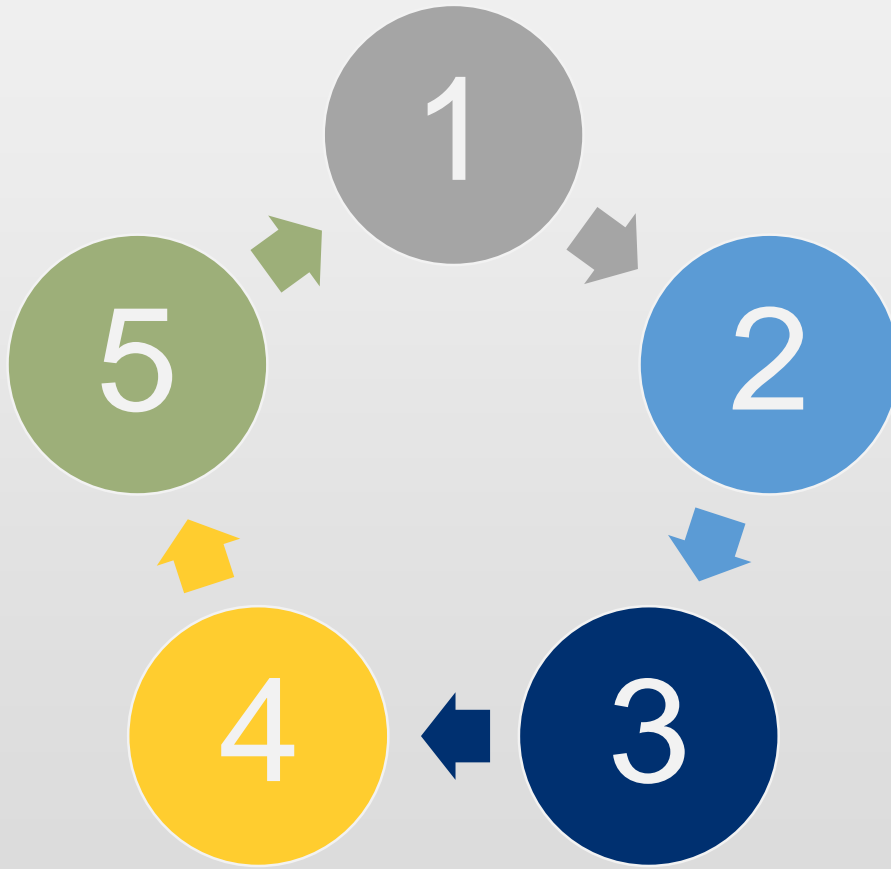


# Technical Challenges



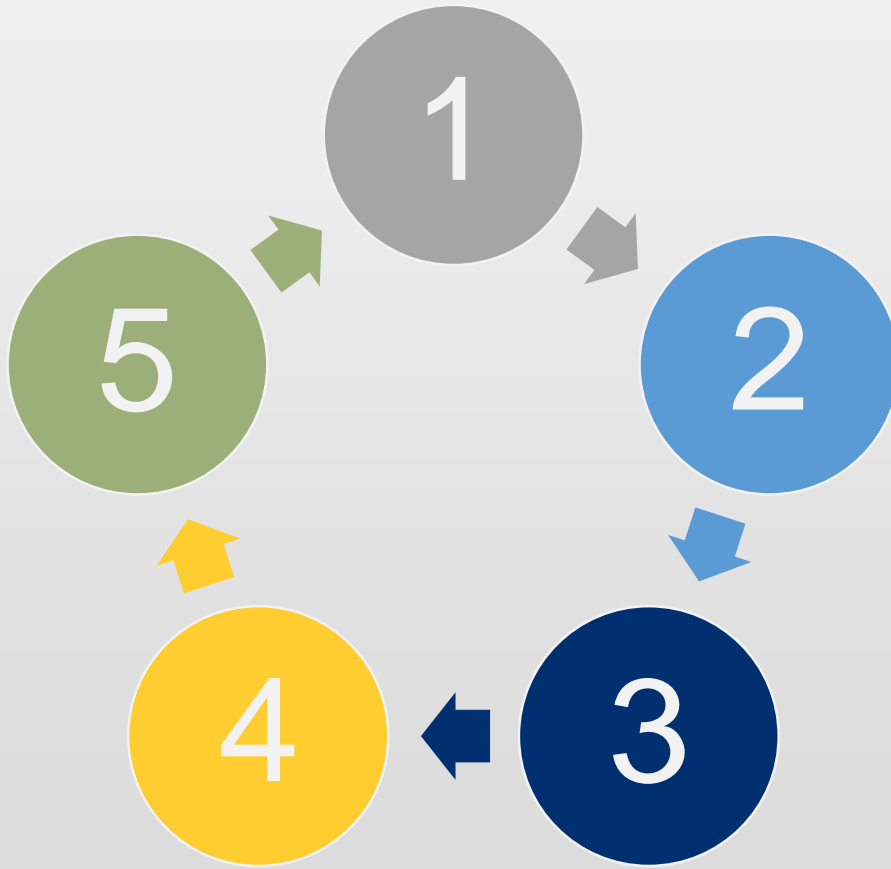
- Data can be difficult to enter
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# Technical Challenges



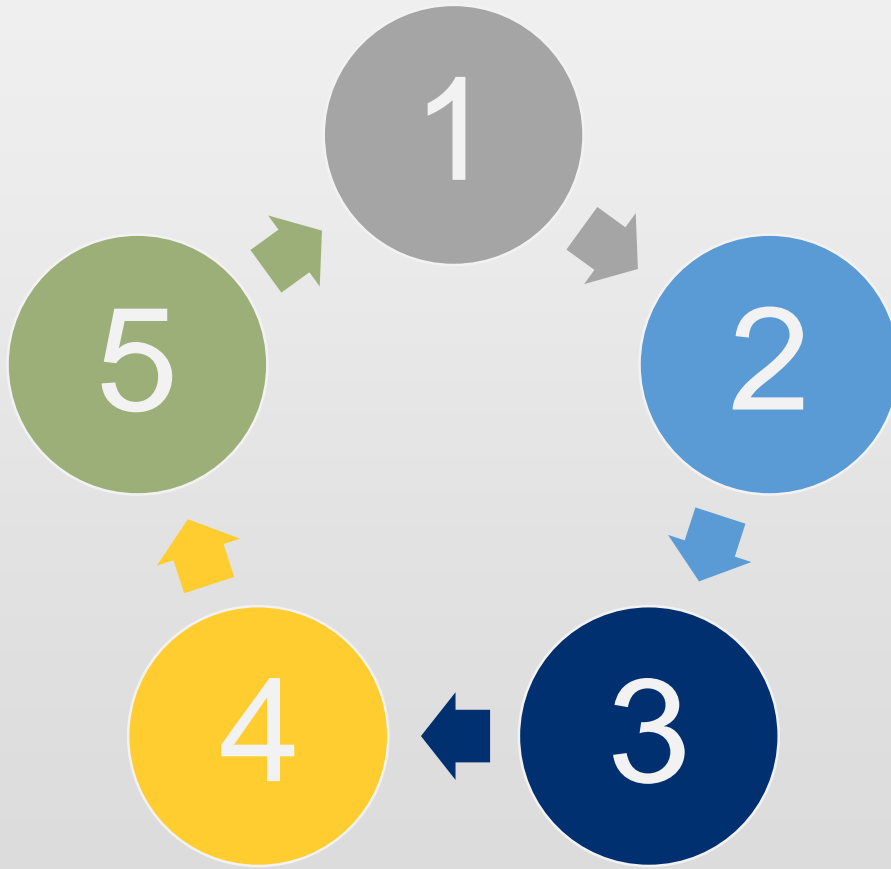
- Data can be difficult to enter
- Lack of metadata and data dictionary
- Data does not impact business (positively)
- Data input isn't monitored

# Technical Challenges



- Data can be difficult to enter
- Lack of metadata and data dictionary
- Data spread across numerous systems and reports
- Data input isn't monitored

# Technical Challenges



- Data can be difficult to enter
- Lack of metadata and data dictionary
- Data spread across numerous systems and reports
- No “Live” data

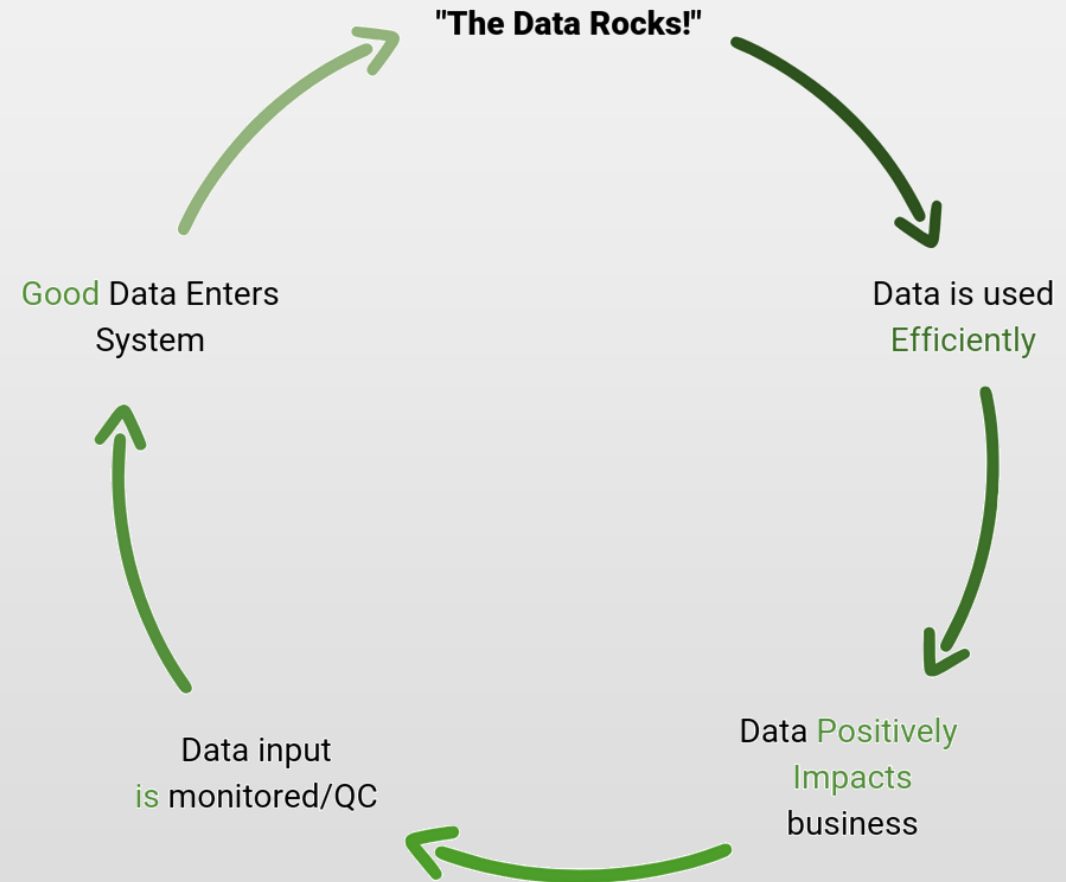
# Keys to Early Success:

Start with “clients” that are interested and willing to learn how to manage using data analytics as a tool

Show the effects of bad data

Make data integrity and managing to data part of the job

Challenge the business to push past the first question; get to the decision point



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# What We've Done

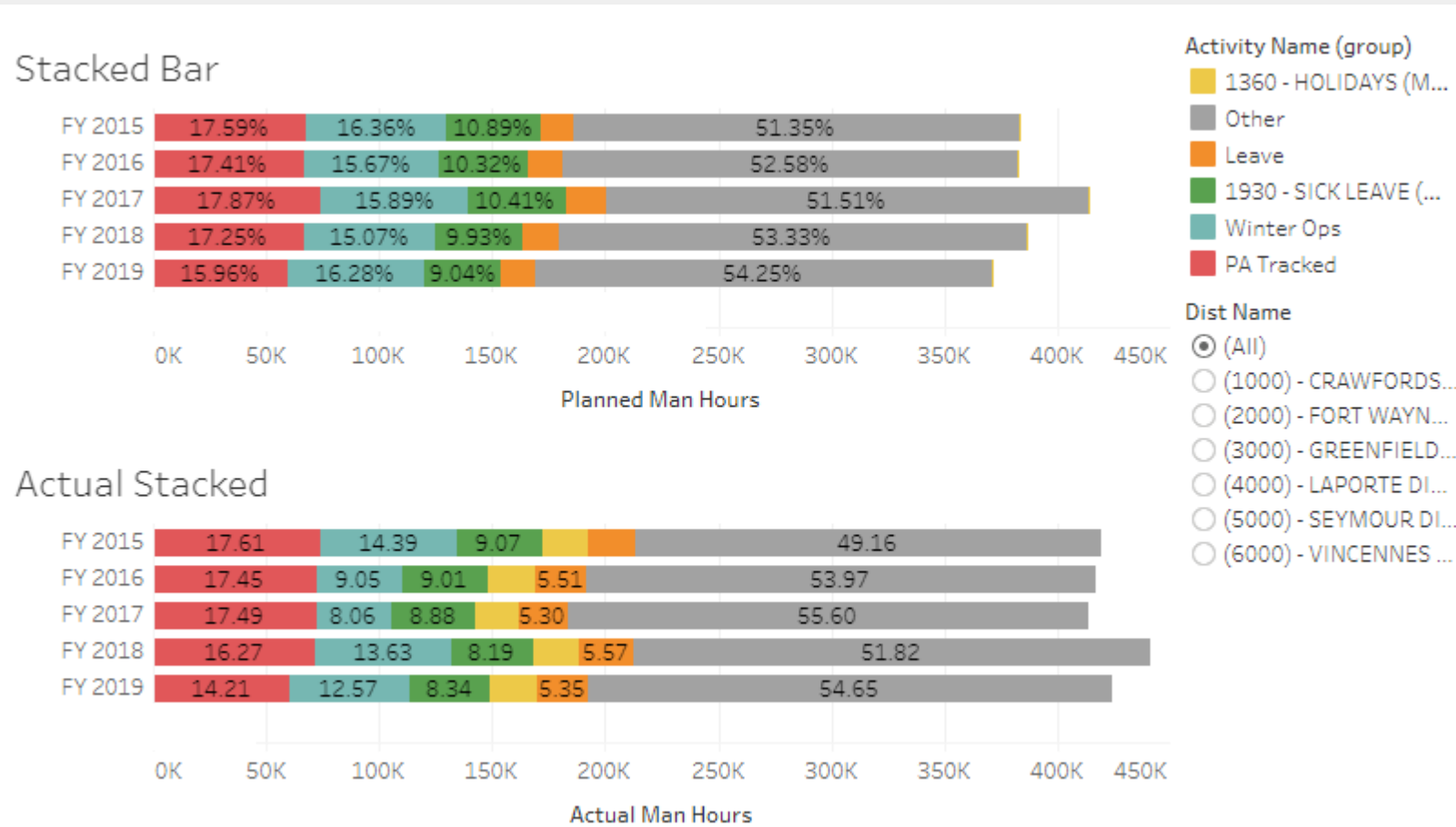
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Key Examples



# Planned & Tracked Work

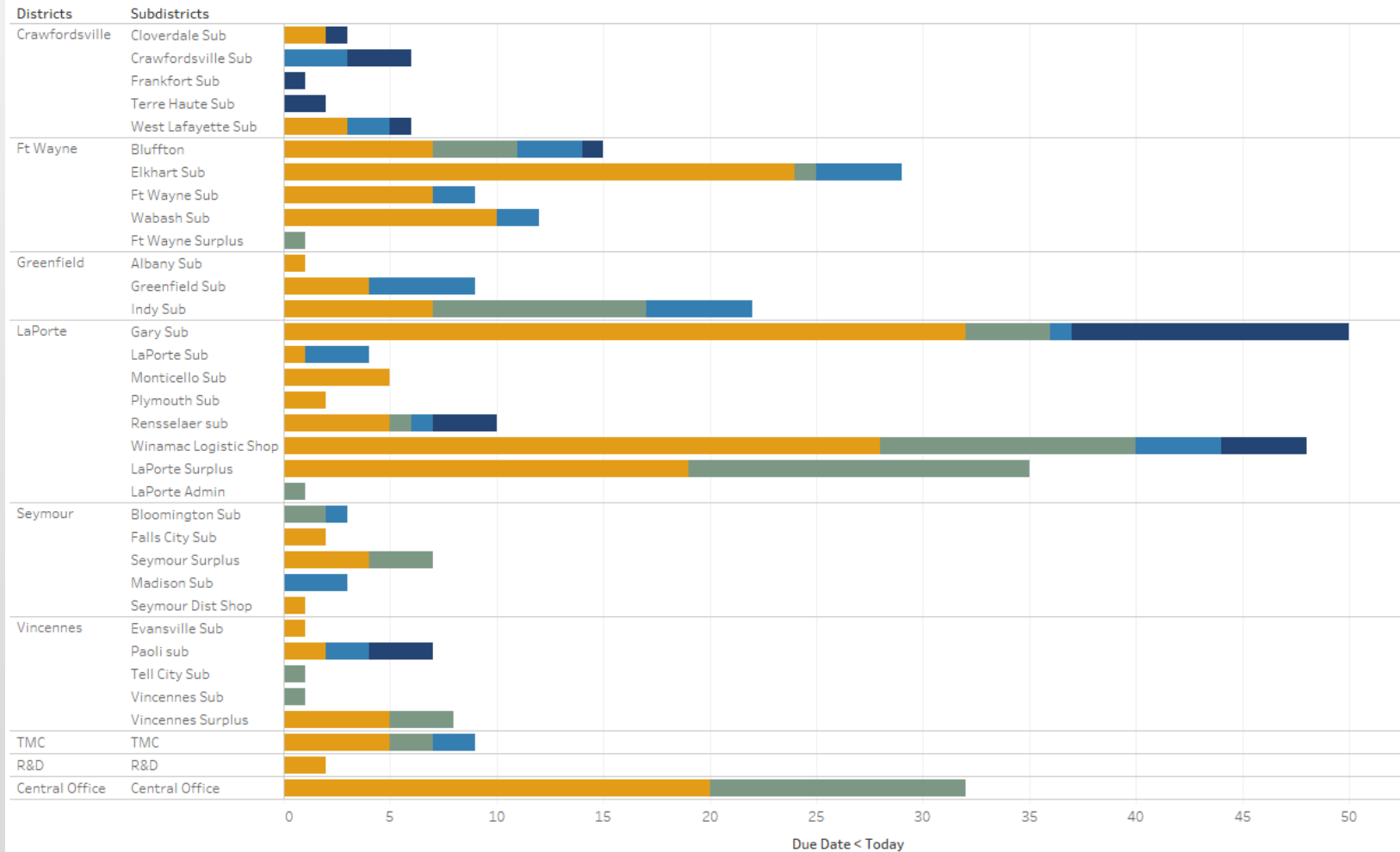


# Fleet Work Requests

	A	B	C	D	E	F	G	H
1	Location/WR Number	Unit	Job Code	Job Code Desc.	R	Reason Description	Location	Due Date
2	Work Request Loc: 800420 - CO - RESEARCH & DEVELOPMENT							
3	12144457-1	139779	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800420	07/29/2019
4	12144919-1	60054	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800420	06/13/2019
5	12144524-1	60569	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800420	08/05/2019
6	Work Request Loc: 800830 - CO - INDIANAPOLIS HOOSIER HELPERS							
7	12144873-1	60049	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800830	08/02/2019
8	12144895-1	60056	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800830	07/22/2019
9	12144767-1	60426	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800830	07/09/2019
10	12144768-1	60427	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800830	07/08/2019
11	12144746-1	60533	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	800830	08/05/2019
12	Work Request Loc: 801300 - WEST LAFAYETTE SUBDISTRICT							
13	12144459-1	139783	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801300	07/29/2019
14	12144781-1	14740	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801300	07/24/2019
15	12144145-1	61157	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801300	07/25/2019
16	12144394-1	61220	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801300	08/05/2019
17	Work Request Loc: 801500 - CLOVERDALE SUBDISTRICT							
18	12144443-1	144861	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801500	03/13/2007
19	12144825-1	165371	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	801500	04/30/2018
20	Work Request Loc: 802200 - ELKHART SUBDISTRICT							
21	12144256-1	128122	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	05/27/2005
22	12144327-1	136727	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	06/14/2019
23	12144323-1	137351	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	07/12/2019
24	12144430-1	138389	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	03/27/2019
25	12144431-1	138390	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	04/03/2019
26	12144331-1	139178	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	07/17/2019
27	12144239-1	139563	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	06/04/2019
28	12144841-1	165875	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	08/01/2019
29	12144758-1	165899	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	03/27/2019
30	12144809-1	177660	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	01/05/2018
31	12144810-1	177661	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	01/05/2018
32	12144489-1	200095	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	06/27/2019
33	12144568-1	200580	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	07/18/2019
34	12144618-1	200929	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	07/18/2019
35	12144646-1	200966	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	08/01/2019
36	12144676-1	202122	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	05/16/2019
37	12144387-1	59680	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	08/01/2019
38	12144587-1	62231	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	07/24/2019
39	12144152-1	62241	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	06/04/2019
40	12144885-1	62278	07-PM-000	PERFORM PM All Services	P	PREVENTIVE MAINT	802200	08/02/2019

# Fleet Work Requests

Fleet Past Due Work Requests



Work Request Job Reason

- All Other WR
- Factory Recall
- Inspections
- PMs

# Fleet Stockrooms

## Inventory Storeroom

Report Printed: 10/22

PART NO.	PART DESCRIPTION	MIN QTY	MAX QTY	QTY ON HAND	CORE COST	LOC AVG PRICE	ON-HAND VALUE	BIN
LOCATION: 805700 - SEYMOUR SUBDISTRICT								
0000597163	60# TUBE SAND QUICKRETE	0	0	0	0.00	4.17	0.00	
0010929600	SPINNER ADAP	0	0	6	0.00	144.00	\$64.00	
002454180	STRAP,AIR TANK	0	0	0	0.00	8.30	0.00	
005114195443	MAILING TAPE	0	0	0	0.00	4.97	0.00	
0091415H	4IN SQ HD PIN JACK	0	0	0	0.00	140.25	0.00	
01002419	RESISTOR ASSEMBLY	0	0	0	0.00	27.89	0.00	
01010	BOLT	0	0	0	0.00	0.00	0.00	
01026425801G	DOT FLASHER	0	0	0	0.00	76.00	0.00	
01-0264258-06	LED FLASHER	0	0	2	0.00	165.95	331.90	
01-0418643-00C	SAFETY LIGHT INSTALLATION KIT	0	0	0	0.00	1926.93	0.00	
01055	CAMPER TAPE	1	1	1	0.00	10.69	10.69	
0107-2-2	ADAPTER LUBE LUBE SYSTEM	0	0	5	0.00	1.23	6.15	
01-50600-014	ELEMENT,FILTER	0	0	0	0.00	0.00	0.00	
02088	HOOKIT CLEARCOAT DISC 1500G	1	1	1	0.00	54.26	54.26	
022659	OUTERSHIELD 71M .45 25SP	0	0	0	0.00	91.50	0.00	
0290469	ANVIL	0	0	0	0.00	38.55	0.00	
0316271	DRILL BIT 1 1/4	0	0	0	0.00	0.00	0.00	
033868000	CONNECTOR DEF HOSE	0	0	0	0.00	12.98	0.00	
03860861	PROPANE TORCH	0	0	0	0.00	29.75	0.00	
04035	LOCKING PADDLE LATCH L3885	0	0	0	0.00	18.13	0.00	
04101051	SWENSON(PARKER)SPINNER MOTOR	0	0	0	0.00	464.29	0.00	
0410105100	BIG SPINNER MOTOR	0	0	1	0.00	551.08	551.08	
04675	DISINFECTANT SPRAY,LYSOL	0						
046U836N	BRAKE SHOE KITS	2						
04RE00100005	FILTER, PROPANE	0						
050A0000I	1/2"WIRE 13'	0						
0525213	TIE DOWNS	1						
05432	DIESEL CON NOGEL QT	0						
05532	AIR BRAKE CONDITIONER	0						
0603694	LYSOL YELLOW	1						
0608294	TOWEL ROLL	0						
0609236 LG	LARGE TRASH BAGS	0						

FleetFocus M5 - INVSTOREROOM - Inventory Storeroom V3.0

## Inventory Stock Activity

IDOA Fleet Services

Report Printed: 11/30/2017 22:06:23 By User: SSHAW

Part No.	Description	Manufacturer	Bin	Qty On Hand	Loc Avg Price	On-Hand Value	Last Txfr Date	Last Receipt Date	Last Issue Date
LOCATION: 804100 - LAPORTE SUBDISTRICT									
Last Issue Date: -									
TRE-501	HYDRAULIC FILTER	MUNCIE	2CB39	0	19.85	0.00	No Transfers		
FIL4864	CAB/FIL	NAPA	2CC18	3	8.54	25.62	No Transfers		
MESP-402A-VL2	DATA CABLE / FLOW S	MUNCIE	2CD04	2	0.00	0.00	No Transfers		
70001070	ADAPT CABLE D TO E	UNKNOWN	2CE06	2	209.64	419.28	No Transfers	02/23/2016	
50-262-3	FLASHER	NAPA	2FA27	2	8.90	17.80		11/04/2015	
UI-50FSY	GAS CAN	NAPA CHEMICALS	2HD17	1	49.72	49.72	No Transfers	08/14/2015	
50-10700-3	GROMMETT	NAPA	2IA34	3	0.00	0.00	No Transfers		
340020093	LED STROBE	MASTER	2IA35	3	0.00	0.00	No Transfers		
XC45 13047 AA	RING HD/LP ADJ	GENERIC	2IC05	1	92.24	92.24	No Transfers	10/29/2015	
11750-11956	36-38" CHAINSAW CHA	FASTENAL	2JA04	2	99.95	199.90	No Transfers		
FC-3602	HEAT BLANKET	GENERIC	2KD06	2	363.22	726.44	No Transfers	03/23/2016	
3G	ALTERNATOR, REMFG	MOTORCRAFT	2LI02	1	139.00	139.00	No Transfers	10/13/2011	
750-16	TIRE R-1 13.16 28	AMERICAN FARMER	SHED05	1	131.17	131.17	No Transfers		
18.4X30	TIRE,TRACTOR 18.4X30	GOODYEAR	SHED08	1	727.00	727.00	No Transfers	07/24/2012	
900X10	TIRE,BIAS 900X10	GOODYEAR	SHED11	11	57.22	629.42			
185/70R14	TIRE	GOODYEAR	SHED16	2	0.00	0.00	No Transfers		
385/65R22.5U	TIRE	GOODYEAR	SHED18	1	0.00	0.00	No Transfers		
44743	1/2"X6X40-3/4" BLADE	GENERIC	SHED24	5	51.68	258.40	No Transfers	11/26/2014	
					176.00	704.00	No Transfers	12/31/2015	
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		
					0.00	0.00	No Transfers		

IDOA Fleet Services

Report Printed: 08/24/2016 07:45:03 By User: HHOLDER

## Inventory Value

Part No.	Description	Location	Quantity On Hand	Last Rec'd Cost	Inventory Value
Line Count: 1,138 10,614 276,428.44					



# Fleet Stockrooms

Inactive inventory = M5 stockroom inventory that has not been issued or transferred out of the stockroom in the past 365 days.

## Inactive Parts

- Active
- Inactive
- New within 365d

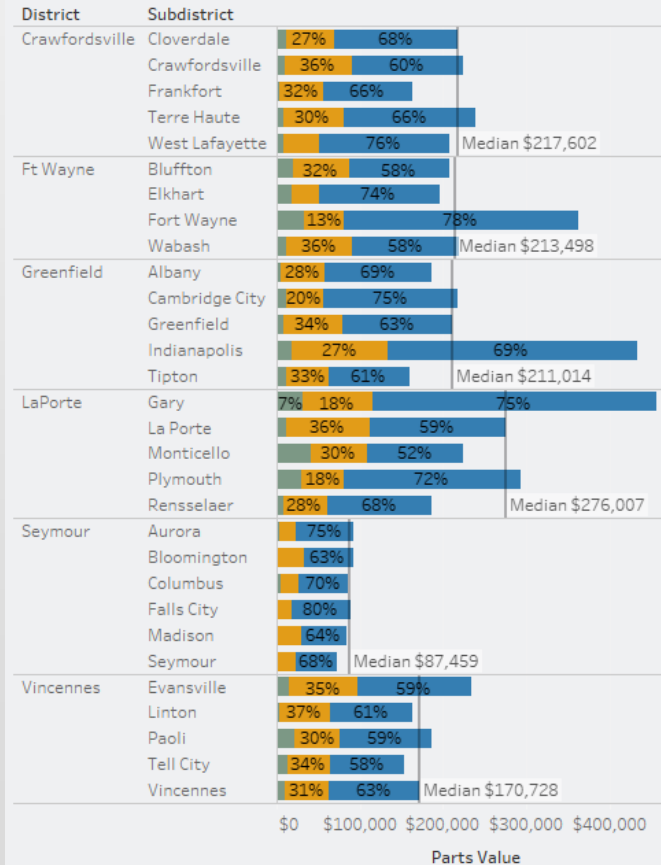
## District

(All)

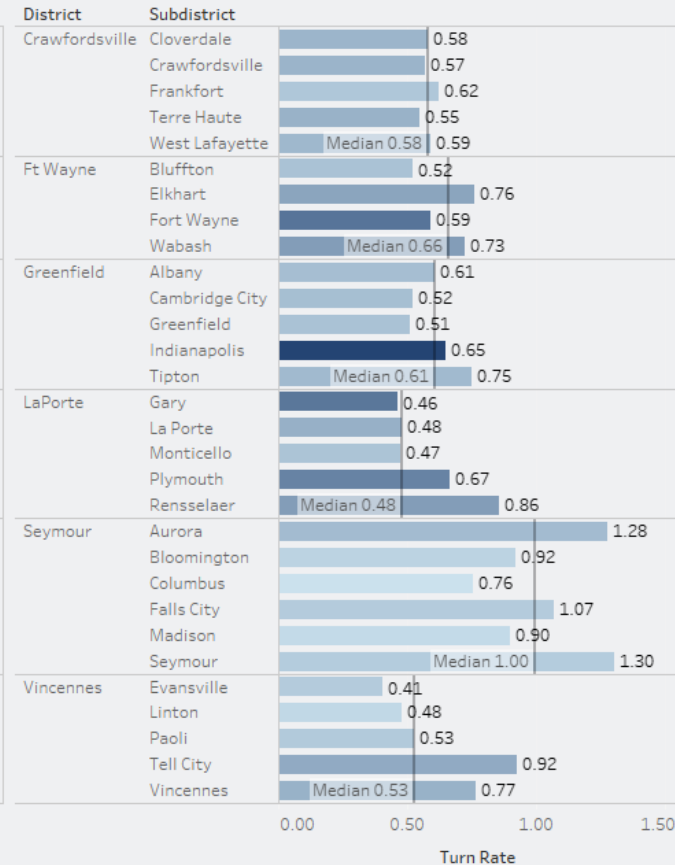
## Total Issue Cost (last 365d)

\$64,652 \$281,424

## Stockroom Inventory Value - Inactive



## Inventory Turn Rate



# Salt Inventory

ERIN Home Page Main Page Main Page My Tasks Material Management / (26... x)

File Edit View Favorites Tools Help

**Resources** [Production] Version AMS\_IN 7.0.6.0-RELEASE app. 1706191411-1706191411 Build

HATHAN / (2601) - BLUFFTON UNIT 1 (PS065421) / INDOT Material Inventory

Utilities Labor Equipment Materials Reports

Resources > Materials > Inventory > Material Management

Save Data Retrieve Data

Transactions from 8/12/2019

**Mgmt. Units**

- ☐ INDOT (PS065356)
  - ☐ (8000) - TRAFFIC MANAGEMENT & DISTRICT SUPPORT (PS065375)
  - ☐ (9000) - OPERATIONS CENTRAL OFFICE
    - ☐ (1000) - CRAWFORDSVILLE DISTRICT (PS065120)
    - ☐ (2000) - FORT WAYNE DISTRICT (PS065134)
      - ☐ (2020) - Fort Wayne Facilities (PS065410)
      - ☐ (2030) - FORT WAYNE HVY EQ / BR / HERB (PS065138)
    - ☐ (2080) - FORT WAYNE DIST. TRAFFIC (PS065140)
    - ☐ (2200) - ELKHART SUBDISTRICT (PS065144)
    - ☐ (2300) - FORT WAYNE SUBDISTRICT (PS065145)
    - ☐ (2400) - (History) ANGOLA SUBDISTRICT (PS065146)
    - ☐ (2500) - WABASH SUBDISTRICT (PS065147)
    - ☐ (2600) - BLUFFTON SUBDISTRICT (PS065148)
      - ☒ (2601) - BLUFFTON UNIT 1 (PS065421)
      - ☐ (2602) - (History) MARKLE UNIT 2 (PS065422)
      - ☐ (2603) - MONROE UNIT 3 (PS065423)
      - ☐ (2604) - GAS CITY UNIT 4 (PS065427)
    - ☐ OTHER D2
      - ☐ (2100) - (History) WARSAW SUBDISTRICT (PS065143)
    - ☐ (3000) - GREENFIELD DISTRICT (PS065149)
    - ☐ (4000) - LAPORTE DISTRICT (PS065164)
    - ☐ (5000) - SEYMOUR DISTRICT (PS065181)
    - ☐ (6000) - VINCENNES DISTRICT (PS065196)

**Stock List**

Material Master Code	Measurement Unit	Mat. Class Code	Current Amount	PROSPECTIVE IN	PROSPECTIVE OUT	Full Capacity	Unit Cost (\$)	Thresh
446M00126 - SOFT - ONE LANE ROAD AHEAD	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00129 - SOFT - RECKLESS DRIVING MAX 8 YRS	EA - EACH	446 - SOFT SIGN & POST	1	0	0	1	\$1.00	
446M00130 - SOFT - RIGHT LANE CLOSED	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00139 - SOFT - ROAD WORK AHEAD	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00144 - SOFT - SLOW OR STOPPED TRAFFIC	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00146 - SOFT - SPEEDING MAX \$1,000	EA - EACH	446 - SOFT SIGN & POST	6	0	0	1	\$1.00	
446M00151 - SOFT - NO CENTER LINE	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00161 - SOFT - RAMP CLOSED	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
446M00163 - SOFT - RAMP WORK AHEAD	EA - EACH	446 - SOFT SIGN & POST	0	0	0	1	\$1.00	
450M00010 - ROAD SALT, UNTREATED	STN - SHORT TON	450 - SALT	6399.36	0	0	9000	\$63.80	
450M00011 - ROAD SALT, TREATED	STN - SHORT TON	450 - SALT	0	0	0	1	\$89.75	
450M00040 - Salt Brine	GAL - GALLON (US LIQ)	450 - SALT	4240	0	0	18000	\$0.13	
450M00060 - Pelletized Calcium Chloride	LB - POUNDS	450 - SALT	1	0	0	2000	\$0.22	
450M00080 - Beet Heet Concentrate	GAL - GALLON (US LIQ)	450 - SALT	7458.09	0	0	18000	\$1.20	
616M00010 - Gabions	EA - EACH	616 - GABIONS	0	0	0	1	\$41.00	
621M00010 - Any Grass Seed Besides R&U Mix	LB - POUNDS	621 - SEED MIXTURES	3.5	0	0	1	\$2.39	
80111209 - ROAD CLOSED, 48X30	EA - EACH	SIGNS (80111)	6	0	0	1	\$66.00	
80111322 - BUMP, 30X30	EA - EACH	SIGNS (80111)	0	0	0	1	\$42.00	

<< 1 2 3 4 5 6 7 8 9 10 >> Rows 24-41 of 184 total rows

**Material Class Codes**

- ☒ SIGNALS - LENS (39112102)
- ☒ SIGNALS - LED & HEADS (46161504)
- ☒ SIGNALS - LAMPS & FILTERS (55121719)
- ☒ SIGNS - DEMOUNTABLE (55121710)
- ☒ SIGNS - ROLL UP (55121723)
- ☒ SOLVENT (13101723)
- ☐ Facilities Materials
  - ☒ 700 - FACILITIES MATERIALS
- ☐ ITS MATERIALS
  - ☒ AFP

**Transactions**

Accepted	Fulfilled	Order #	Order Source	Transaction Type	Direction	Management Unit	Material Master Code	Route	Direction	Lane	Offset	Start MP	End MP	Full Amount
----------	-----------	---------	--------------	------------------	-----------	-----------------	----------------------	-------	-----------	------	--------	----------	--------	-------------

1:26 PM 8/12/2019





# Salt Inventory

## WMS Salt Inventory

Master Code Name

- ☐ (All)
- ☒ 450M00010 - ROAD SALT, UNTREATED
- ☐ 450M00011 - ROAD SALT, TREATED
- ☐ 450M00040 - Salt Brine

District

(All)

CapRatio

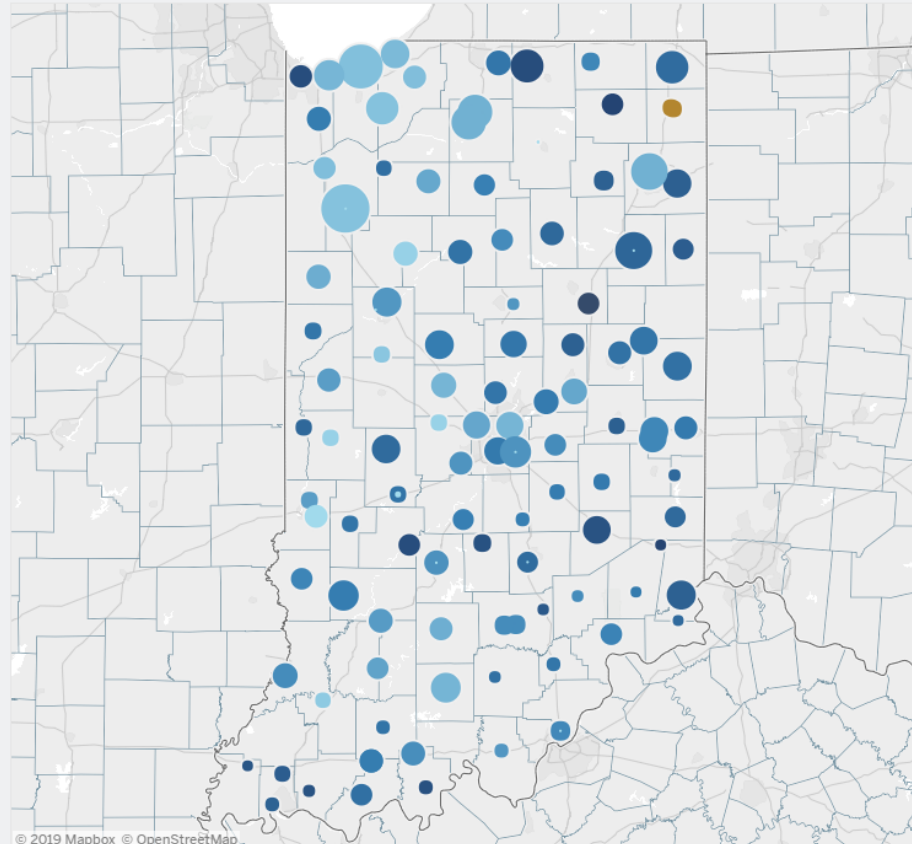
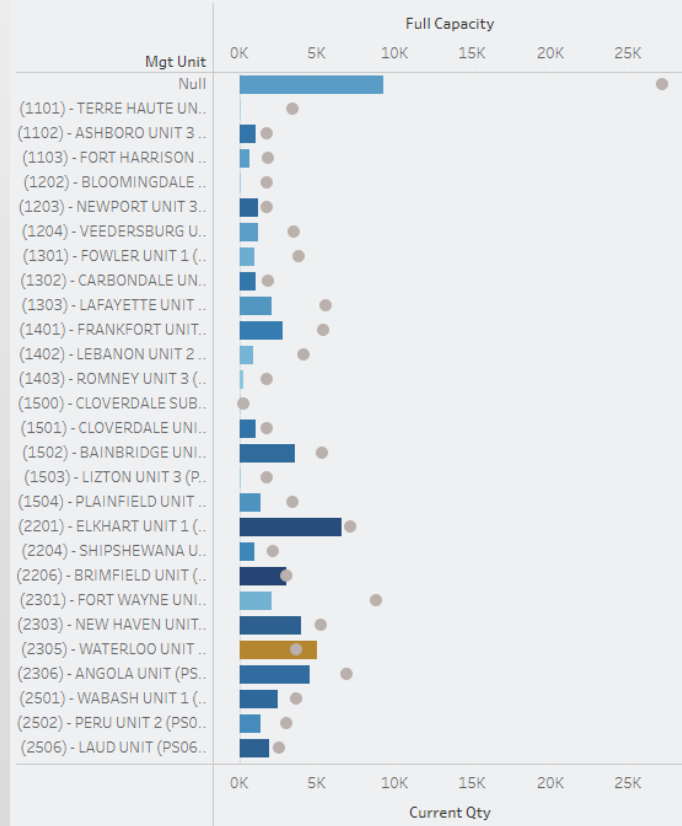


Full Capacity



Needs Update

- ☒ 1
- ☒ \*



## Last Update

Mgt Unit	Last Update
(1101) - TERRE HAUTE UNIT 2 (PS065409)	3/30/2019
(1102) - ASHBORO UNIT 3 (PS065407)	6/27/2019
(1103) - FORT HARRISON UNIT (PS065408)	3/8/2019
(1202) - BLOOMINGDALE UNIT 2 (PS065389)	8/8/2019
(1203) - NEWPORT UNIT 3 (PS065391)	6/17/2019
(1204) - VEEDERSBURG UNIT 4 (PS065392)	3/8/2019
(1301) - FOWLER UNIT 1 (PS065395)	7/1/2019
(1401) - FRANKFORT UNIT 1 (PS065398)	5/13/2019
(1402) - LEBANON UNIT 2 (PS065399)	3/31/2019
(1403) - ROMNEY UNIT 3 (PS065400)	3/5/2019
(1500) - CLOVERDALE SUBDISTRICT (PS0651..	11/16/2012
(1501) - CLOVERDALE UNIT 1 (PS065403)	3/30/2019
(1502) - BAINBRIDGE UNIT 2 (PS065402)	5/14/2019
(1503) - LIZTON UNIT 3 (PS065404)	3/31/2019
(1504) - PLAINFIELD UNIT 4 (PS065405)	7/18/2019
(2204) - SHIPSHEWANA UNIT (PS065419)	3/16/2019
(2206) - BRIMFIELD UNIT (PS065430)	6/3/2019
(2301) - FORT WAYNE UNIT 1 (PS065415)	5/8/2019
(2303) - NEW HAVEN UNIT 3 (PS065416)	5/8/2019
(2305) - WATERLOO UNIT (PS065420)	4/26/2019
(2501) - WABASH UNIT 1 (PS065429)	3/30/2019
(2502) - PERU UNIT 2 (PS065428)	3/30/2019
(2506) - LAUD UNIT (PS065424)	3/31/2019
(2601) - BLUFFTON UNIT 1 (PS065421)	7/22/2019

## Totals

Master Code Name	Total
450M00010 - ROAD SALT, UNTREATED	185,687
450M00011 - ROAD SALT, TREATED	10,938
450M00040 - Salt Brine	1,426,767



# Customer Service

**Roadway** Production | Version AMS\_IN 7.0.6.0-RELEASE app: 1706191411-1706191411 Build KDCORN / (3101) - BROOKVILLE UNIT (PS065452) / INDOT CO Bus Admin 4 Quick Links Settings Help

Home Roadway > Issue > Work Request Save Data Retrieve Data

Work Requests Actions Filter applied Y

WR#	Work Request Name	Management Unit (District)	Work Request Type	Status	Reported Date / Time	District	Subdistrict	Assigned Mgmt Unit	County	Route	Direction	Lane	Start MP	End MP	Inv...	Location	Description	C
9640596	Miscellaneous	(3000) - GREENFIELD DIS	Damagewise - WMT	06 - F	11/14/2018, 0:00:00	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							Interstate-174E at 94	61142	
9640596	Miscellaneous	(3000) - GREENFIELD DIS	Damagewise - WMT	06 - F	11/14/2018, 0:00:00	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							Interstate-174E - E o	61107	
9643130	Miscellaneous	(3000) - GREENFIELD DIS	Damagewise - WMT	06 - F	12/13/2018, 0:00:00	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							Interstate-155S - Nea	61716	
9659943	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/14/2019, 6:22:38	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_74	74 EB median	R
9657988	Other - Grading, Clipping	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/6/2019, 1:09:35	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485 between 47.5	1485 sb guard	J
9662311	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:21:57	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70 WB	Guardrail need	J
9657991	Other - Grading, Clipping	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/6/2019, 1:14:55	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485 between 48.3	1485 sb mm 4	J
9662320	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:31:13	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662326	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:39:27	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662330	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:43:56	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662335	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:47:31	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9656797	Pavement	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	4/29/2019, 1:20:04	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							US_52 before Davi	EB delaminat	M
9657179	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/1/2019, 12:56:00	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485	Pipe inlet need	M
9657990	Other - Grading, Clipping	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/6/2019, 1:13:33	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485 BETWEEN 48	1485 sb mm 4	J
9657994	Other - Grading, Clipping	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/6/2019, 1:44:15	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485	1485 sb mm 3	J
9657997	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/6/2019, 2:04:30	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_485	Ramp from us	J
9662305	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:17:02	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662343	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:54:30	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662344	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 6:57:05	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J
9662356	Drainage	(3000) - GREENFIELD DIS	INDOT - Deficiency	04 - V	5/28/2019, 7:09:56	Green	(3100) - IN	(3101) - BROOKVILLE	49 Ma							I_70	Guardrail need	J

Rows 21-40 of 47 total rows



# Customer Service

Owner Name (District) (All) Subdistrict Name (All) Work Request Name (All)

## Open WR by Sub and Unit (with tooltip)

Subdistrict Name	Assigned Unit (Crew)	Due				Past Due					Grand Total
		+14 days	7-14 days	Next 7 days	Total	Less than 7 days	7-14 days	15-21 days	Over 21 days	Total	
(3600) - ALBANY SUBDISTRICT	Total	9	3		12						12
	(3000) - GREENFIELD DISTRICT (PS065149)	1			1						1
	(3303) - NEW CASTLE UNIT 3 (PS065457)			1	1						1
	(3600) - ALBANY SUBDISTRICT (PS065163)		1		1						1
	(3601) - MUNCIE UNIT 1 (PS065447)	1			1						1
	(3603) - ALBANY UNIT 3 (PS065448)	3		1	4						4
	Greenfield - Technical Services (PS065150)	13	1		14						14
	Total	18	2	2	22						22
(4080) - LAPORTE DIST. TRAFFIC	(4000) - LAPORTE DISTRICT (PS065164)						1			1	1
	(4072) - TRAFFIC SIGNALS DEPT	12		1	13	2			1	3	16
	(4080) - LAPORTE DIST. TRAFFIC (PS065170)	4		1	5						5
	(4080R) - LAPORTE DIST. TRAFFIC - ROADWAY								1	1	1
	(4080S) - LAPORTE DIST. TRAFFIC - SIGNALS	1			1						1
	(4083) - NORTHWEST SIGN CREW (GARY)								1	2	2
	(4084) - SOUTHEAST SIGN CREW (WINAMAC)						1			1	1
	(4085) - NORTHEAST SIGN CREW (LAPORTE)	1			1						1
	(4089) - PANEL SIGN CREW	1			1	1			8	9	10
	(4090) - TRAFFIC MARKINGS DEPT	2	1		3				4	4	7
	Total	21	1	2	24	3	3		15	21	45
(4100) - LAPORTE SUBDISTRICT	(4000) - LAPORTE DISTRICT (PS065164)		1		1						1
	(4100) - LAPORTE SUBDISTRICT (PS065174)		1		1						1
	(4101) - LAPORTE UNIT 1 (PS065465)	1		1	2						2
	(4102) - WANATAH UNIT (PS065467)		1	1	2						2
	(4103) - MICH CITY UNIT 3 (PS065466)	2			2						2
	Total	3	3	2	8						8
(4200) - MONTICELLO SUBDISTRICT	(4090) - TRAFFIC MARKINGS DEPT								1	1	1
	(4201) - MONTICELLO UNIT 1 (PS065474)	2		1	3						3
	(4202) - LOGANSPOUT UNIT 2 (PS065473)	1		1	2						2
	Total	3		2	5				1	1	6
(4300) - PLYMOUTH SUBDISTRICT	(4085) - NORTHEAST SIGN CREW (LAPORTE)								1	1	1
	(4090) - TRAFFIC MARKINGS DEPT	1			1						1
	(4300) - PLYMOUTH SUBDISTRICT (PS065176)		2		2						2
	(4301) - PLYMOUTH UNIT (PS065471)			1	1	1				1	2
	(4302) - MISHAWAKA UNIT (PS065470)		2		2						2



# Customer Service

Owner Name (District)

(All)

Subdistrict Name

(All)

## Open WR by Sub and Unit (with tooltip)

Subdistrict Name	Assigned Unit (Crew)	Due				Past Due	
		+14 days	7-14 days	Next 7 days	Total	Less than 7 days	7-14 days
(3600) - ALBANY SUBDISTRICT	Total	9	3		12		
	(3000) - GREENFIELD DISTRICT (PS065149)	1			1		
	(3303) - NEW CASTLE UNIT 3 (PS065457)			1	1		
	(3600) - ALBANY SUBDISTRICT (PS065163)		1		1		
	(3601) - MUNCIE UNIT 1 (PS065447)	1			1		
	(3603) - ALBANY UNIT 3 (PS065448)	3		1	4		
	Greenfield - Technical Services (PS065150)	13	1		14		
(4080) - LAPORTE DIST. TRAFFIC	Total	18	2	2	22		
	(4000) - LAPORTE DISTRICT (PS065164)						1
	(4072) - TRAFFIC SIGNALS DEPT	12		1	13	2	
	(4080) - LAPORTE DIST. TRAFFIC (PS065170)	4		1	5		
	(4080R) - LAPORTE DIST. TRAFFIC - ROADWAY						
	(4080S) - LAPORTE DIST. TRAFFIC - SIGNALS	1			1		
	(4083) - NORTHWEST SIGN CREW (GARY)						1
	(4084) - SOUTHEAST SIGN CREW (WINAMAC)						1
	(4085) - NORTHEAST SIGN CREW (LAPORTE)	1			1		
	(4089) - PANEL SIGN CREW	1			1	1	
	(4090) - TRAFFIC MARKINGS DEPT	2	1		3		
	Total	21	1	2	24	3	3
(4100) - LAPORTE SUBDISTRICT	(4000) - LAPORTE DISTRICT (PS065164)		1		1		
	(4100) - LAPORTE SUBDISTRICT (PS065174)		1		1		
	(4101) - LAPORTE UNIT 1 (PS065465)	1		1	2		
	(4102) - WANATAH UNIT (PS065467)		1	1	2		
	(4103) - MICH CITY UNIT 3 (PS065466)	2			2		
	Total	3	3	2	8		
(4200) - MONTICELLO SUBDISTRICT	(4090) - TRAFFIC MARKINGS DEPT					1	1
	(4201) - MONTICELLO UNIT 1 (PS065474)	2		1	3		3
	(4202) - LOGANSPOUT UNIT 2 (PS065473)	1		1	2		2
	Total	3		2	5		6
(4300) - PLYMOUTH SUBDISTRICT	(4085) - NORTHEAST SIGN CREW (LAPORTE)					1	1
	(4090) - TRAFFIC MARKINGS DEPT	1			1		1
	(4300) - PLYMOUTH SUBDISTRICT (PS065176)		2		2		2
	(4301) - PLYMOUTH UNIT (PS065471)			1	1	1	2
	(4302) - MISHAWAKA UNIT (PS065470)		2		2		2

Assigned Unit (Crew): (4090) - TRAFFIC MARKINGS DEPT  
 Past Due Status Binary: Past Due  
 Time Category: Over 21 days  
 Subdistrict Name: (4080) - LAPORTE DIST. TRAFFIC  
 # of Open Work Requests: 4

## LIST BELOW ONLY WORKS ON COLORED VALUES:

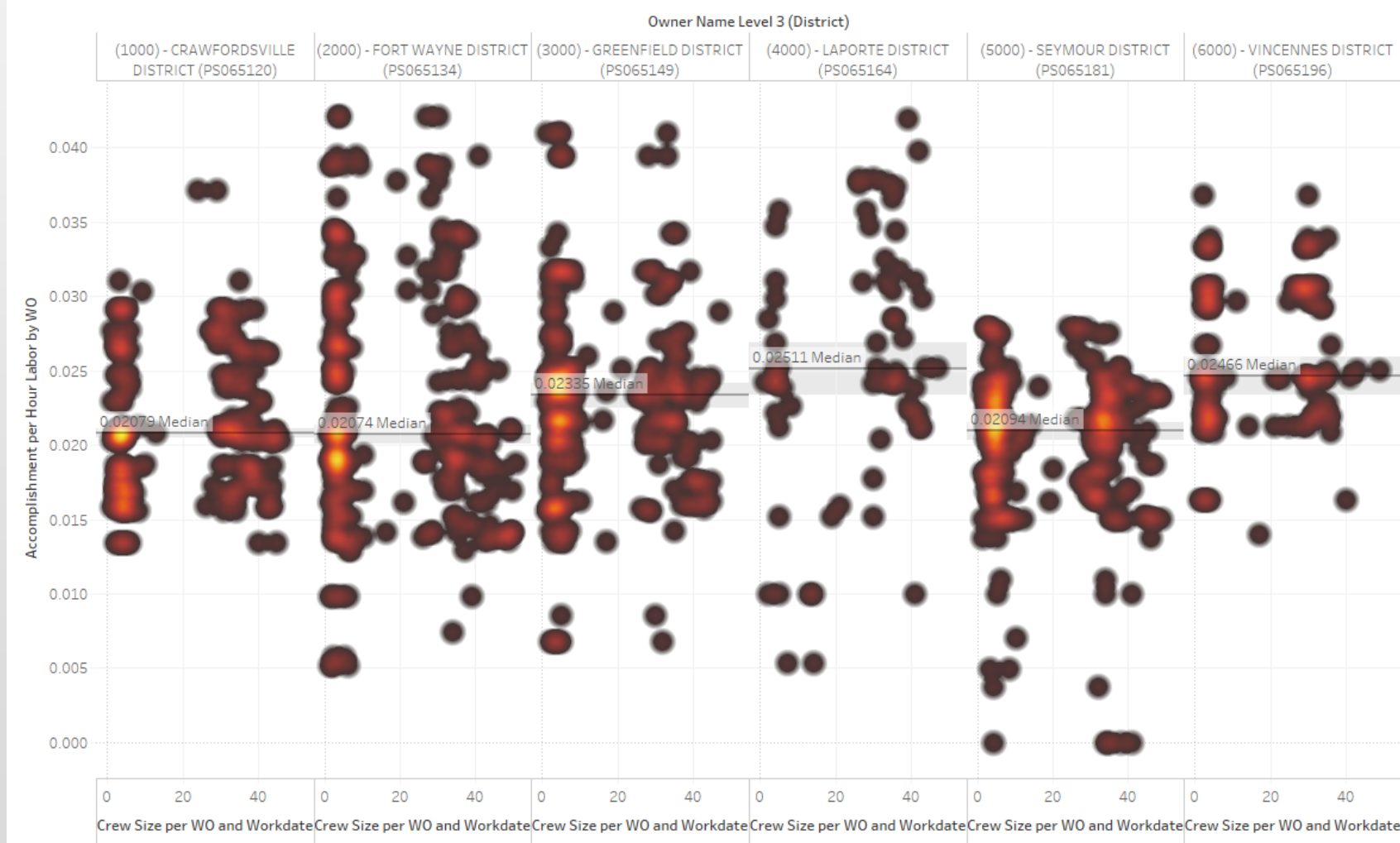
Work Request..	Description	Days Remaining
9639578	They are asking for the lines to be repainted on US 24 Monticello to Reynolds.	-226.0
9641206	Ms. Rafkan is calling in concern to lines that have not been painted on the stretch of SR 18, starting from US 31 to past Galveston, IN. Now that the days are getting shorter and it gets dark earlier it is very hard to see the roadway especiall...	-208.0
9644536	Ms. Giddens was trying to report that the centerline markings on SR 29 between Burlington and SR 18 in Carroll County were recently repaved, and the new markings are so thin that when there is light inclement weather or when it i...	-163.0
9693757	The customer is calling to report an issue with the roadway of SR-16 between US-231 and County Line Rd. the white lines are fading away.	-31.0

✓ Keep Only ✗ Exclude

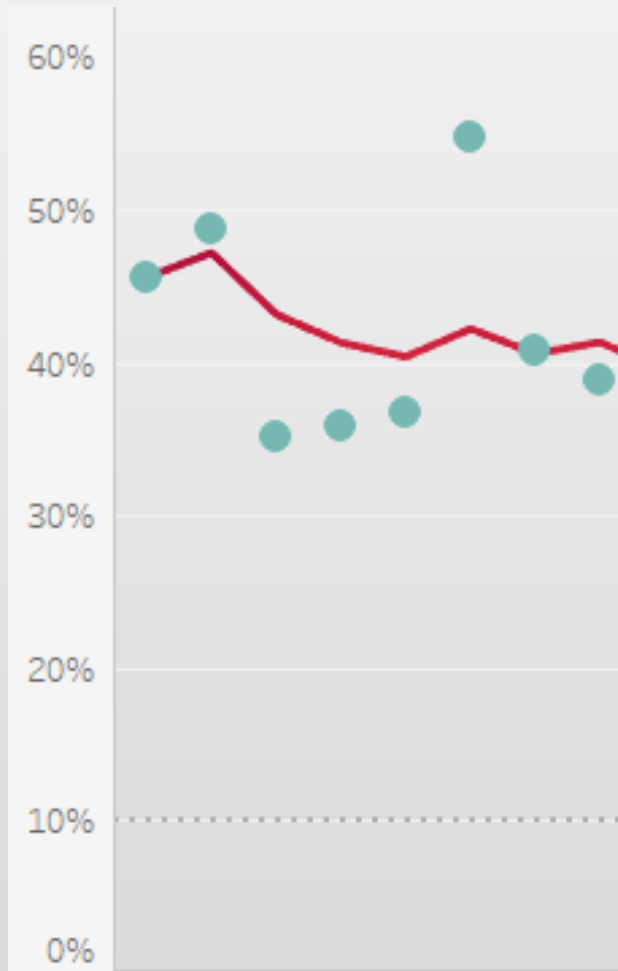


# Performance by Labor-hour

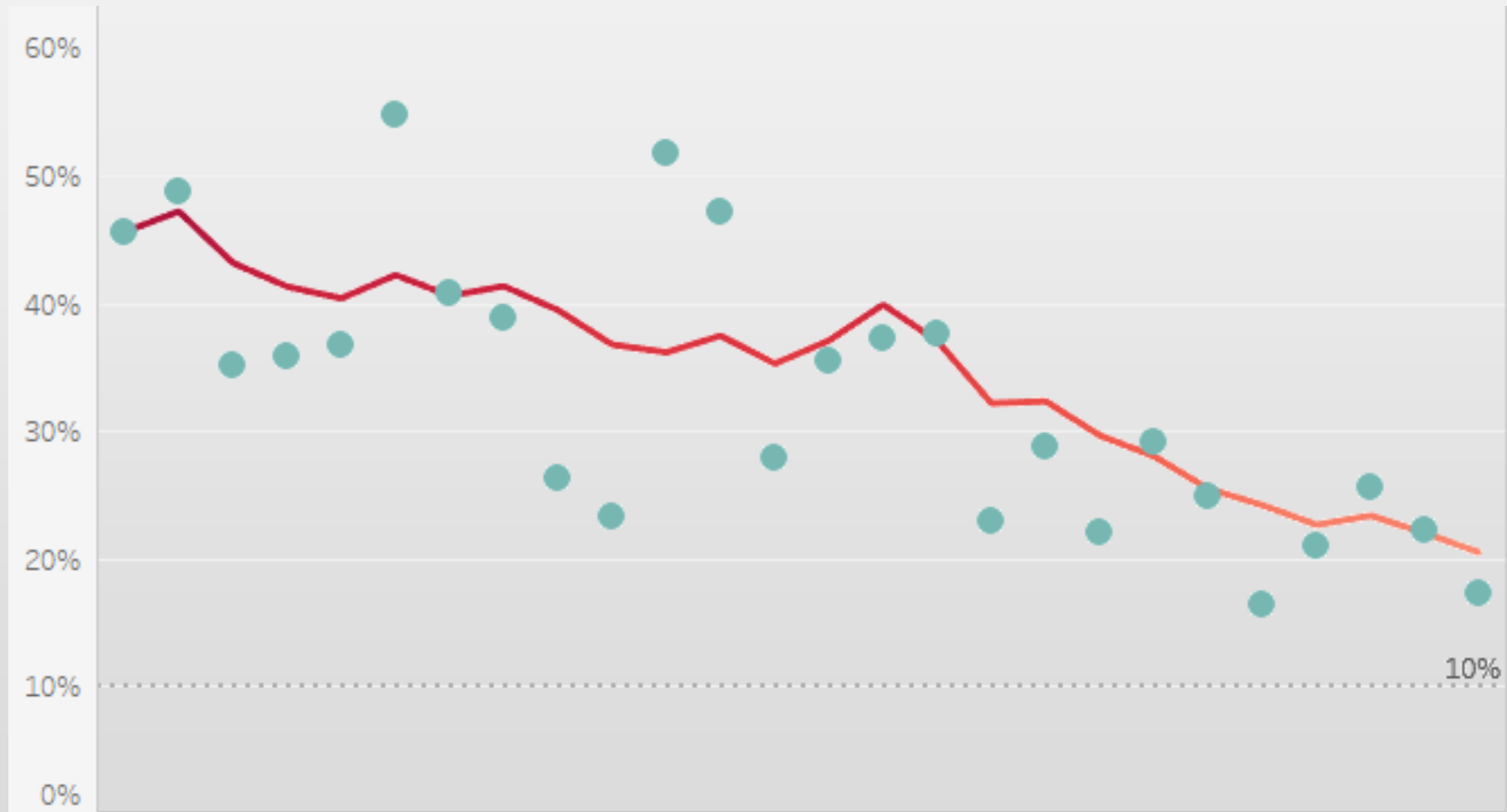
Accomplishment per work hour by district (lava lamp)



# Data Integrity



# Data Integrity





# INDOT's Data Integrity Journey

Derek J Weinberg  
[dweinberg@indot.in.gov](mailto:dweinberg@indot.in.gov)

