

Data Driven Coaching

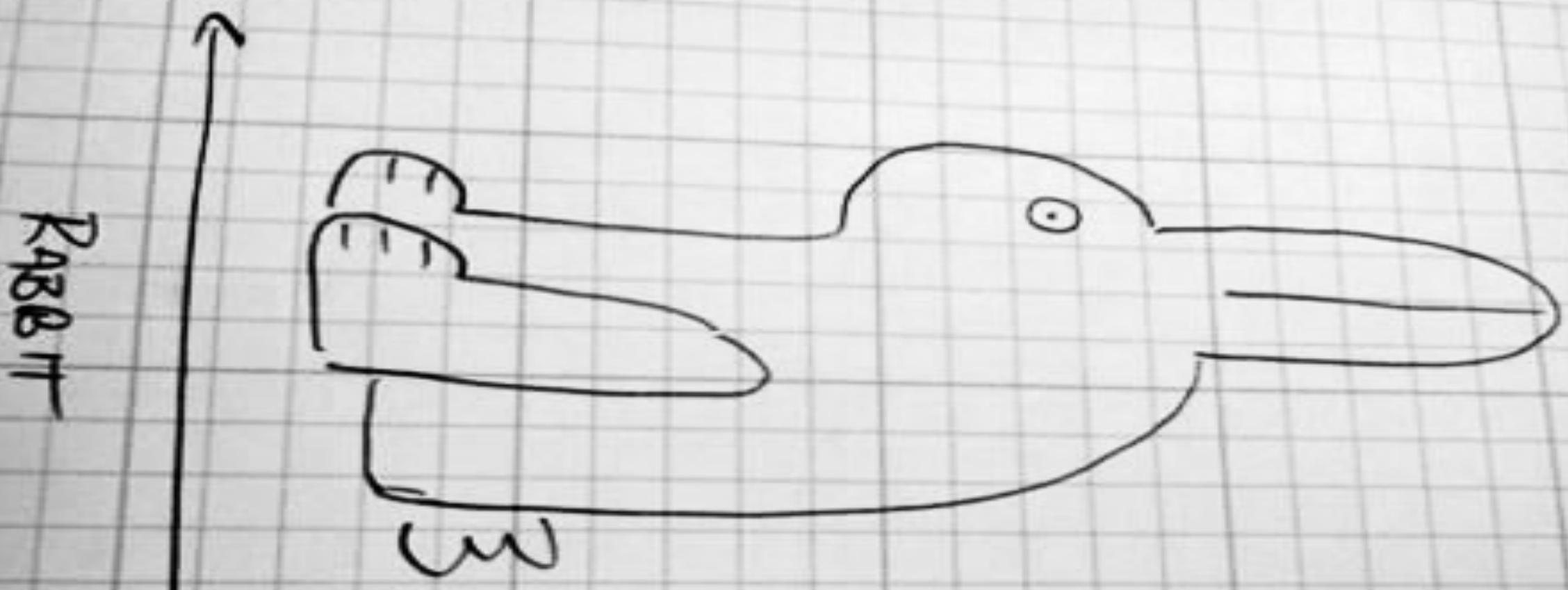
Safely turning team data into coaching insights (Troy Magennis)

These slides available here:

<http://www.slideshare.net/FocusedObjective/data-driven-coaching-agile-2016-troy-magennis>

@t_magennis

troy.magennis@FocusedObjective.com



If it walks like a duck, and quacks like a duck,
it could still be a rabbit.

DUCK

Data is
E V I L



**Being judged
unfairly is
un-bearable...**

**Never coerce
Never embarrass**





Make a difference,
not just make a point

Use data to tell a story...



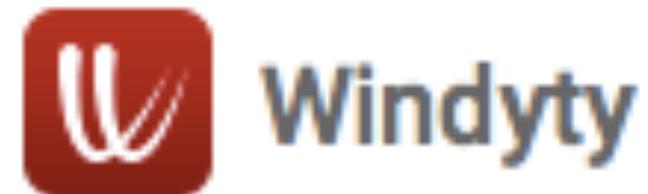
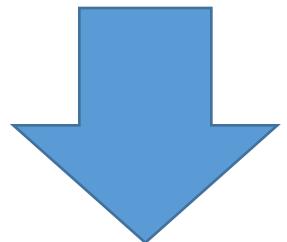
**Without a
story, data
is boring...**



STATION,STATION_NAME,ELEVATION,LATITUDE,LONGITUDE,DATE,TMAX,TMIN,PRCP
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NOAA



Ivo

 Search location...



X TOOLS ⚙ SETTINGS

+

-

animation info

GFS13km NAM5km

Wind ▾

ALTITUDE

150hPa 13.5km FL450

200hPa 11.7km FL390

250hPa 10km FL340

300hPa 9000m FL300

350hPa 8000m FL260

450hPa 6000m FL200

550hPa 4800m FL160

700hPa 3000m FL100

750hPa 2400m 8000ft

850hPa 1500m 5000ft

900hPa 900m 3000ft

925hPa 750m 2500ft

950hPa 600m 2000ft

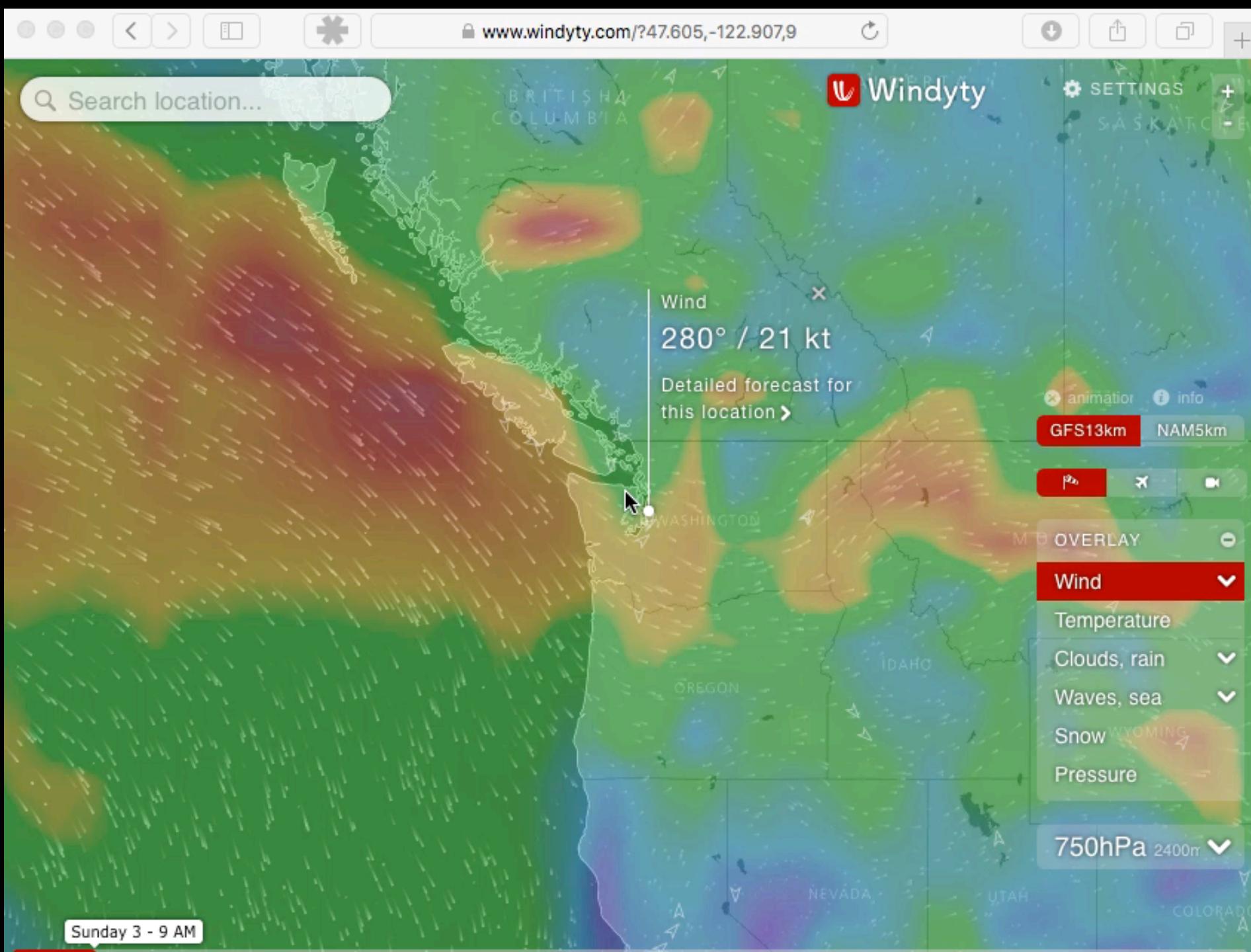
975hPa 300m 1000ft

Surface

Available for: Wind,
Temperature, Humidity

WindyTy.com

Monday 27 - 12 PM

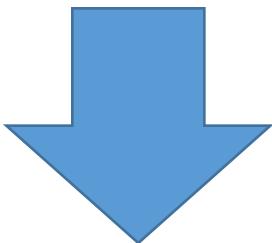


WindyTy.com

A	B	C	D	E	F	G
1	Weekly Poliomyelitis Case reports for Washington					
2	Data provided by Project Tycho, Data Version 1.0.0, released 28 November 2013.					
3	YEAR	WEEK	WASHINGTON			
855	1943	17	1			
856	1943	18	0			
857	1943	19	0			
858	1943	20	2			
859	1943	21	-			
860	1943	22	-			
861	1943	23	3			
862	1943	24	1			
863	1943	25	0			
864	1943	26	3			
865	1943	27	0			
866	1943	28	-			
867	1943	29	-			
868	1943	30	2			
869	1943	31	5			
870	1943	32	13			
871	1943	33	20			
872	1943	34	25			
873	1943	35	19			
874	1943	36	7			
875	1943	37	27			
876	1943	38	22			
877	1943	39	19			
878	1943	40	30			
879	1943	41	28			
880	1943	42	24			
881	1943	43	37			
882	1943	44	15			
883	1943	45	8			
884	1943	46	30			
885	1943	47	-			
886	1943	48	3			
887	1943	49	7			
888	1943	50	-			



University of Pittsburgh



THE WALL STREET JOURNAL.



Battling Infectious Diseases in the 20th Century: The Impact of Vaccines

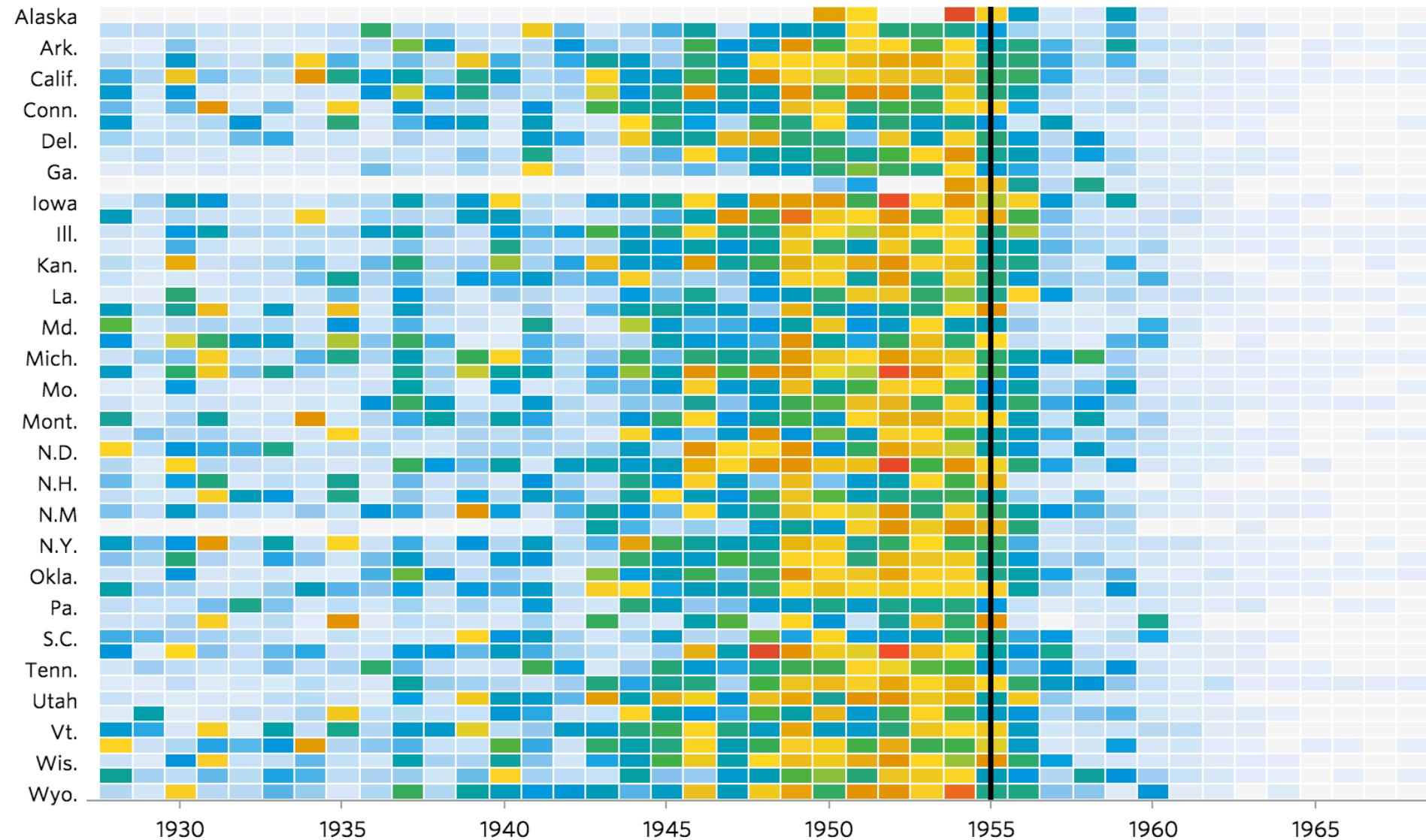
By [Tynan DeBold](#) and [Dov Friedman](#)

Published Feb. 11, 2015 at 3:45 p.m. ET

The number of infected people, measured over 70-some years and across all 50 states and the District of Columbia, generally declined after vaccines were introduced.

Polio

Polio Vaccine Introduced



THE WALL STREET JOURNAL.

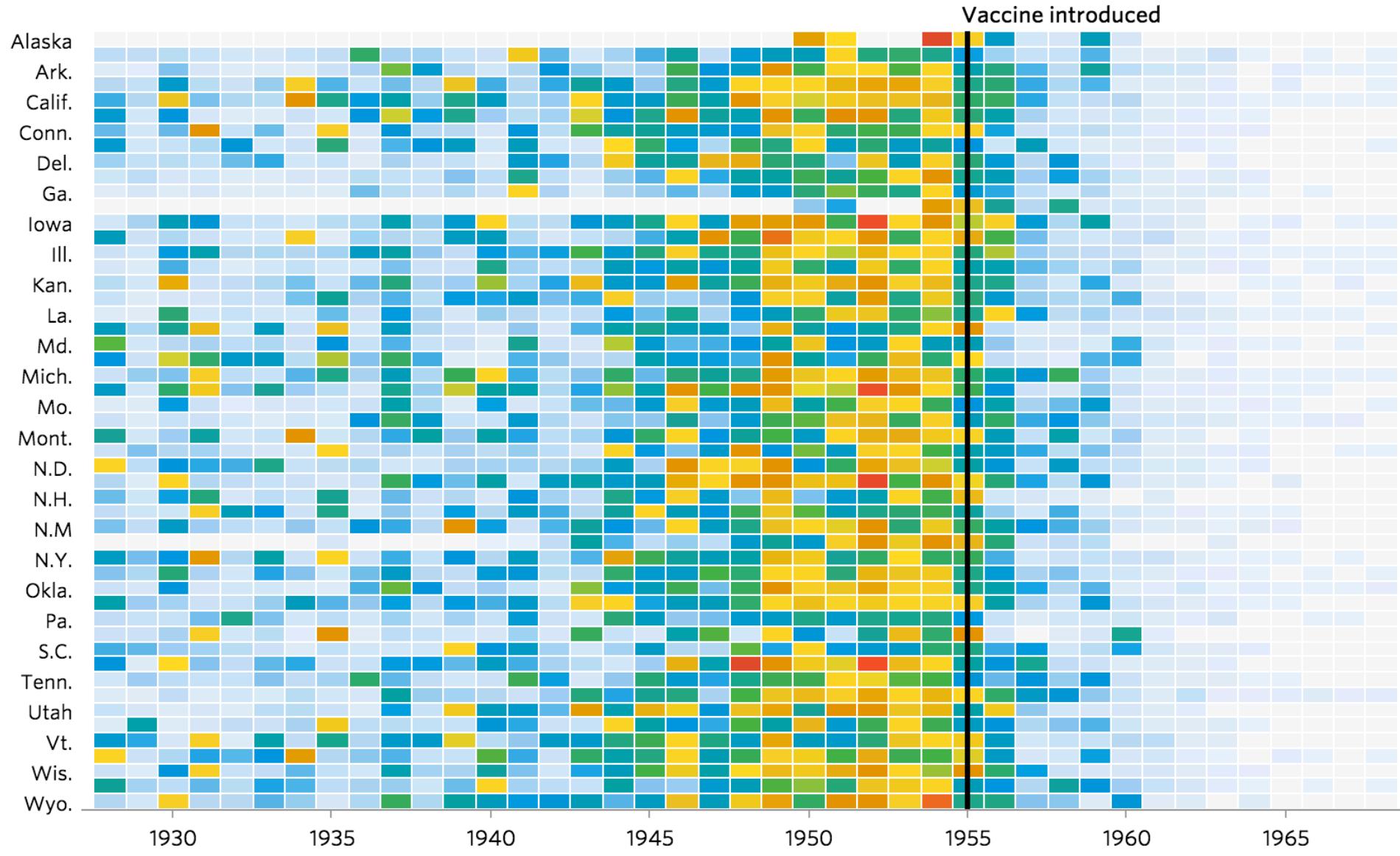


**Compared
To What?**

States of the US

Polio

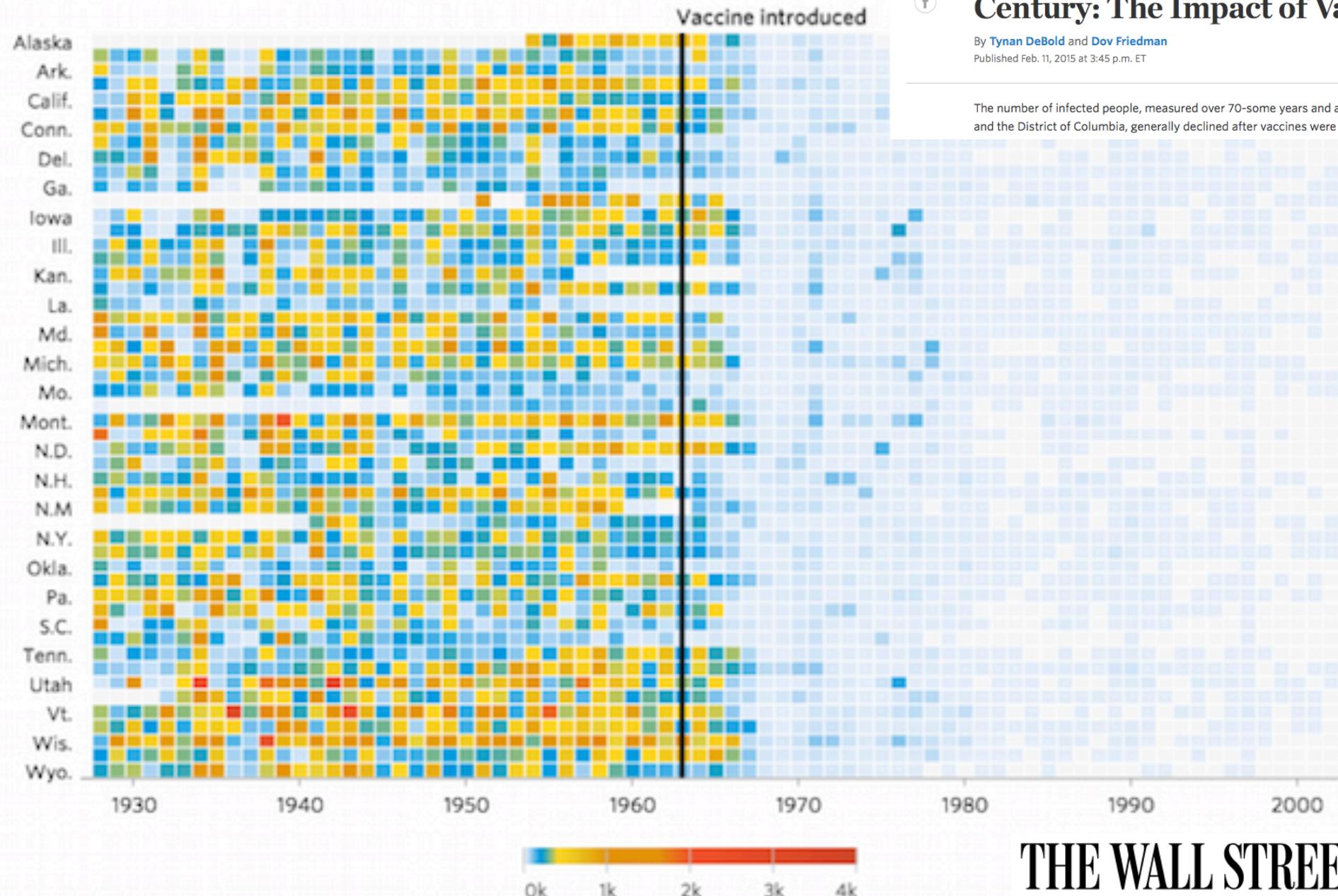
Events



Years

Occurrence Rate

Measles



Battling Infectious Diseases in the 20th Century: The Impact of Vaccines

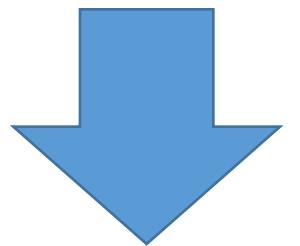
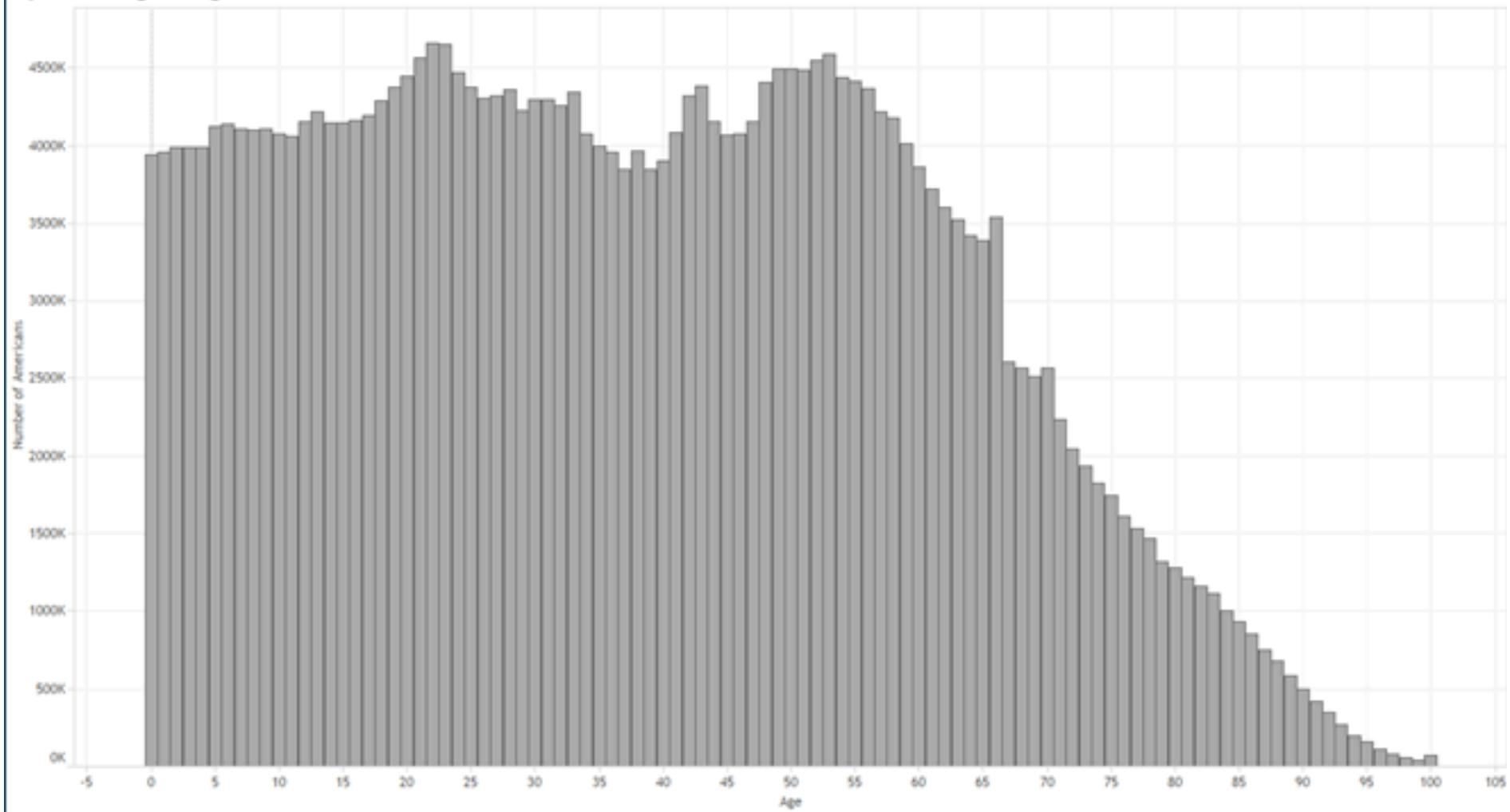
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THE WALL STREET JOURNAL.

Population / Age Histogram



Not compared with anything meaningful (to me.) Boring.

Are you over the hill?

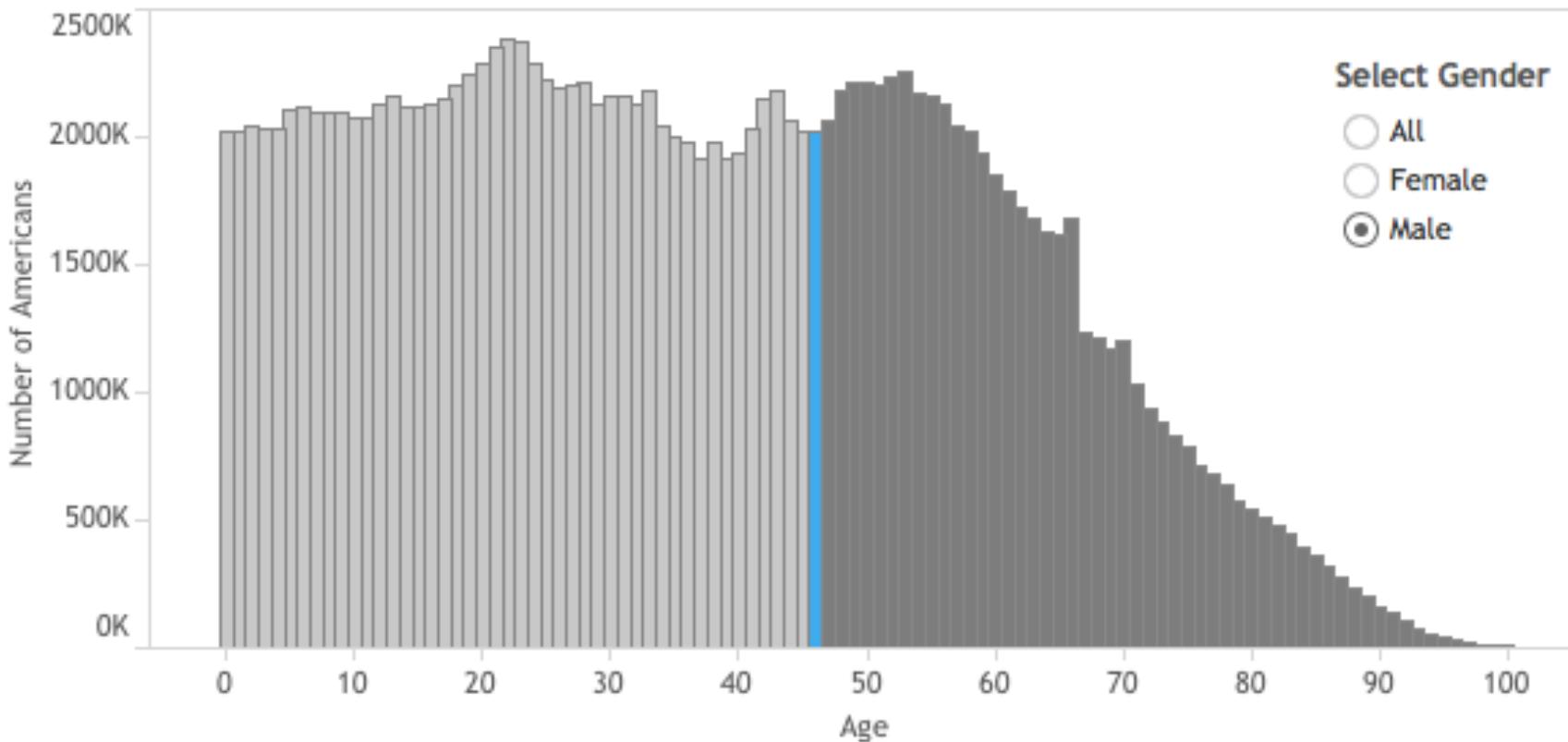
See how many Americans are older and younger than you

Move slider to select your age



46

You are YOUNGER than 37.3% of Male Americans

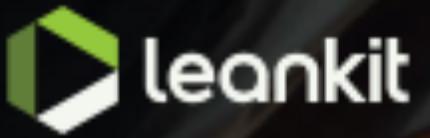


“Me”

On the 7th August

I WANT TO KNOW

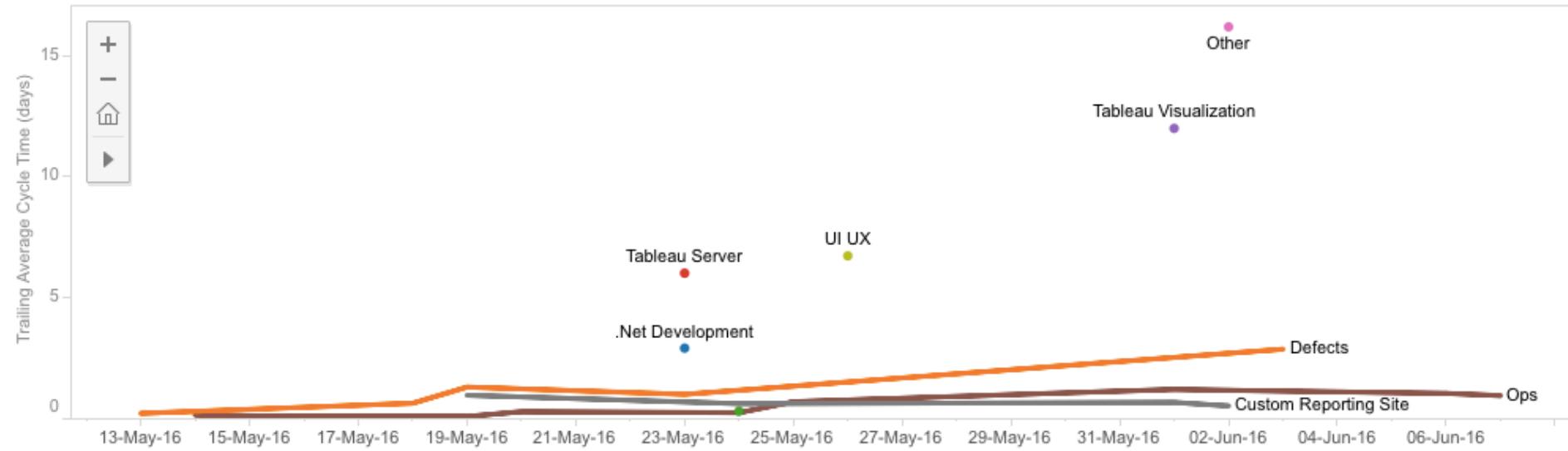
But, I may not want
you to know.



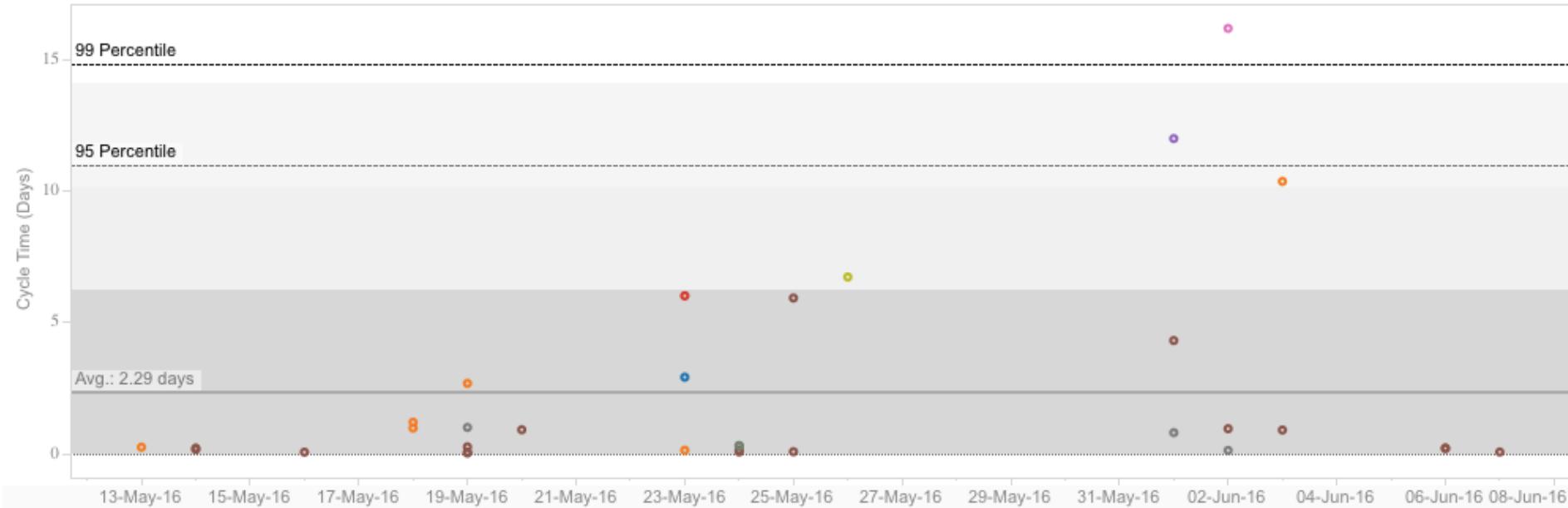
Makeover



How long does it take us to complete cards?



Where do we need to focus our improvement efforts?



DATE RANGE

05/11/2016

TO

06/10/2016

Card Event Data for Last 365 Days

?

TAGS

Calculate based on Card Size
(No card size = 1)

 [Reset Filters](#)

Card Type

.Net Development

Tableau Visualization

Node Development

QA

Tableau Server

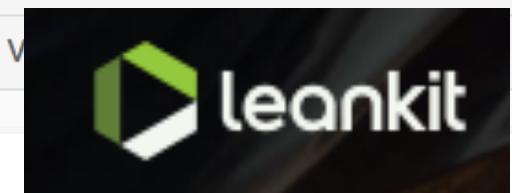
SQL Server

Defects

Other

Class of Service

Calculate Average By



2



Troy Magennis @t_magennis · Oct 2

"What types of work cause the most future variation in our process delivery rates and lead-time" - finding what work types cause chaos



4



...

2



Troy Magennis @t_magennis · Oct 2

"Is the age of work in process similar to the overall average age for similar types of work" - are we growing or shrinking our average



4



...

1



Troy Magennis @t_magennis · Oct 2

"Is the rate we are completing similar items of work sustainable?" - is the departure rate and arrival rate balanced, how transient.



6



...

3



Troy Magennis @t_magennis · Oct 2

"Are we completing similar work types at the same rate" - is our process getting to completion (done-done)



2



...

3



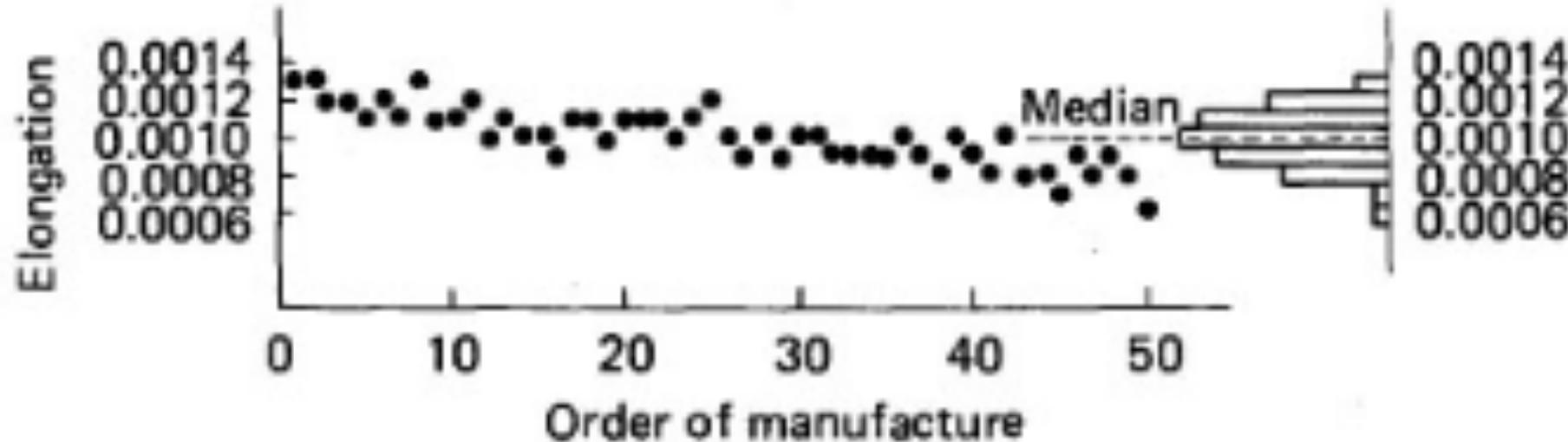
Troy Magennis @t_magennis · Oct 2

"Is similar work types taking longer to complete?" - is our process changing

Time and Pace related questions

1. Is it taking us longer to do the same type of work?
2. What is a good commitment cycle time to others? (SLA)
3. What is and how stable is our completed work rate?
4. Where should we focus improvement efforts?
 - Compared to what?
 - Compared to the same type of work versus all work
 - Compared to the same time period last week/month/year
 - My work compares to others (only seen by me so I can improve)

Q. Is the process stable? First, do no harm.



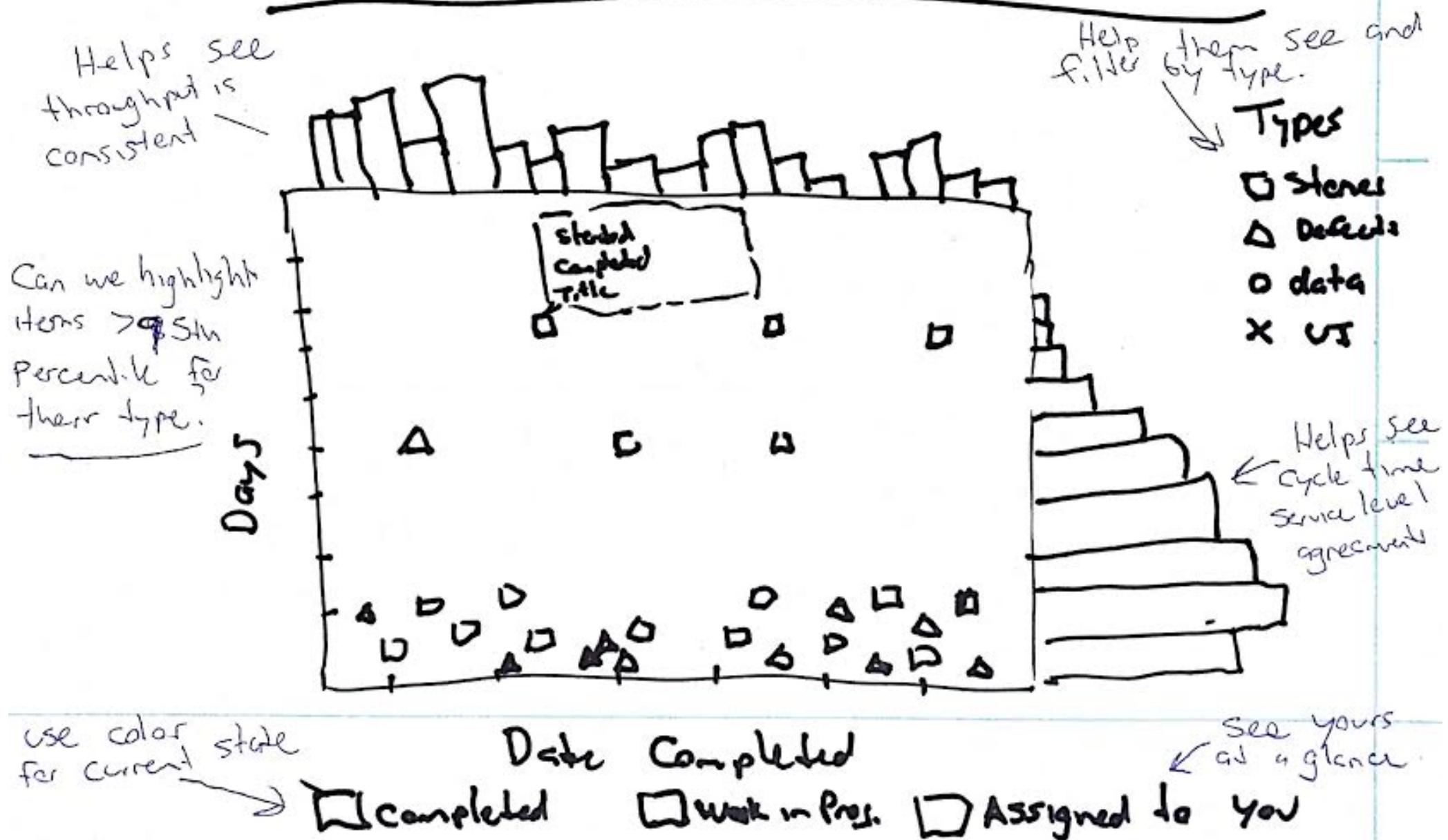
“If anyone adjusts a stable process, the output that follows will be worse than if (s)he had left the process alone”

Attributed to William J Latzko.

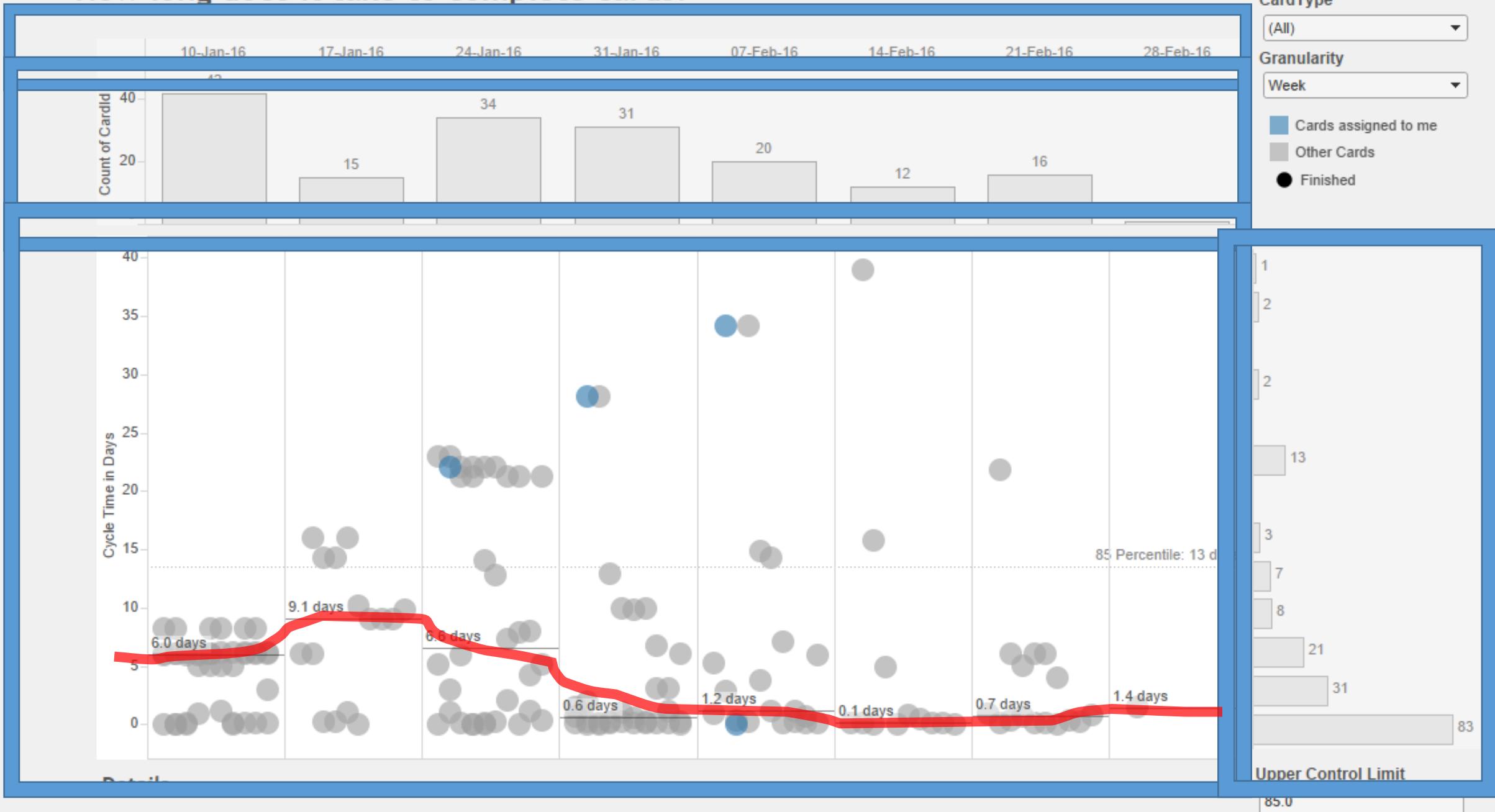
Source: Out of the Crisis. Deming.



Cycle time / Lead time Scatter plot -

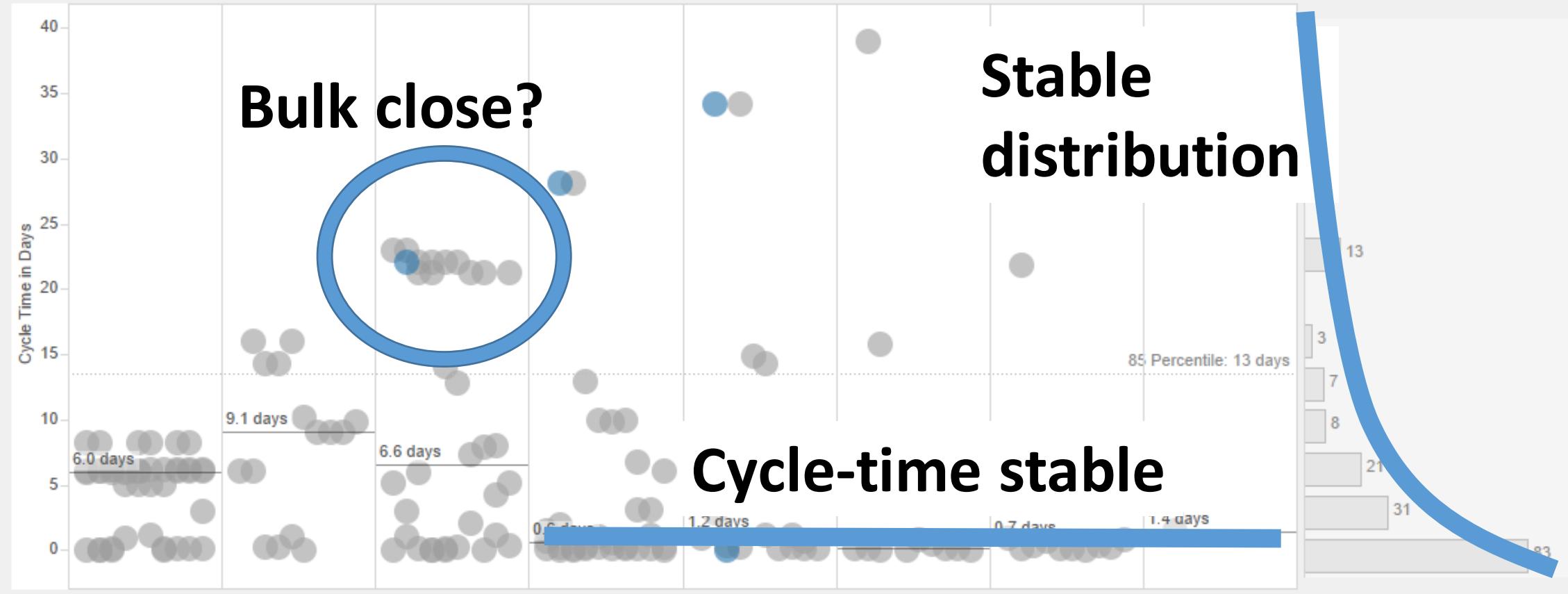
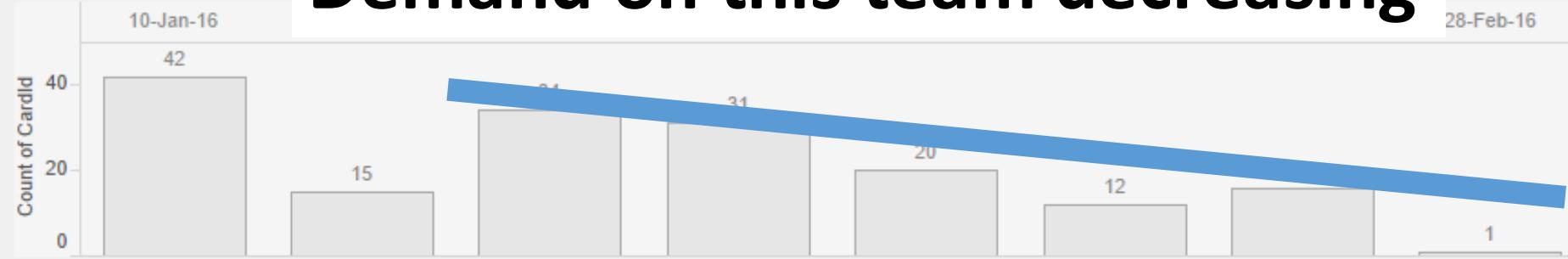


How long does it take to complete cards?



How long does

Demand on this team decreasing



Details

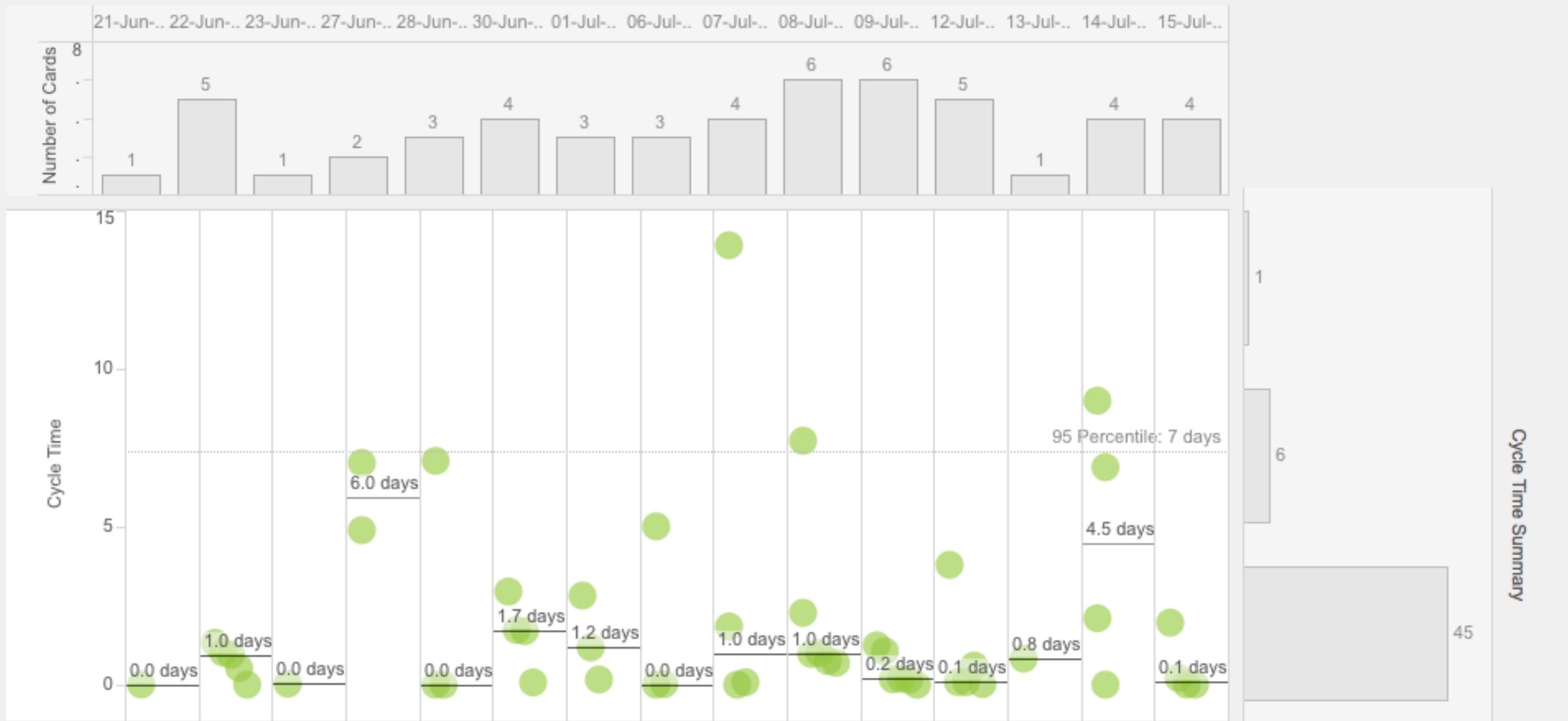
CardType
(All)

Granularity
Week

- Cards assigned to me
- Other Cards
- Finished

Upper Control Limit
85.0

How long does it take us to complete cards?



To view card details, click on top bar chart area or scatter plot data points.

How long does it take us to complete cards?



DATE RANGE

06/18/2016

TO

07/18/2016

Card Event Data for Last 365 Days



TIME PERIOD

Daily

Weekly

Monthly

REFERENCE LINE PERCENTAGE

95

TAGS

Calculate based on Card Size
 (No card size = 1)

Reset Filters

Card Type

.Net Development

Tableau Visualization

Node Development

QA

Tableau Server

SQL Server

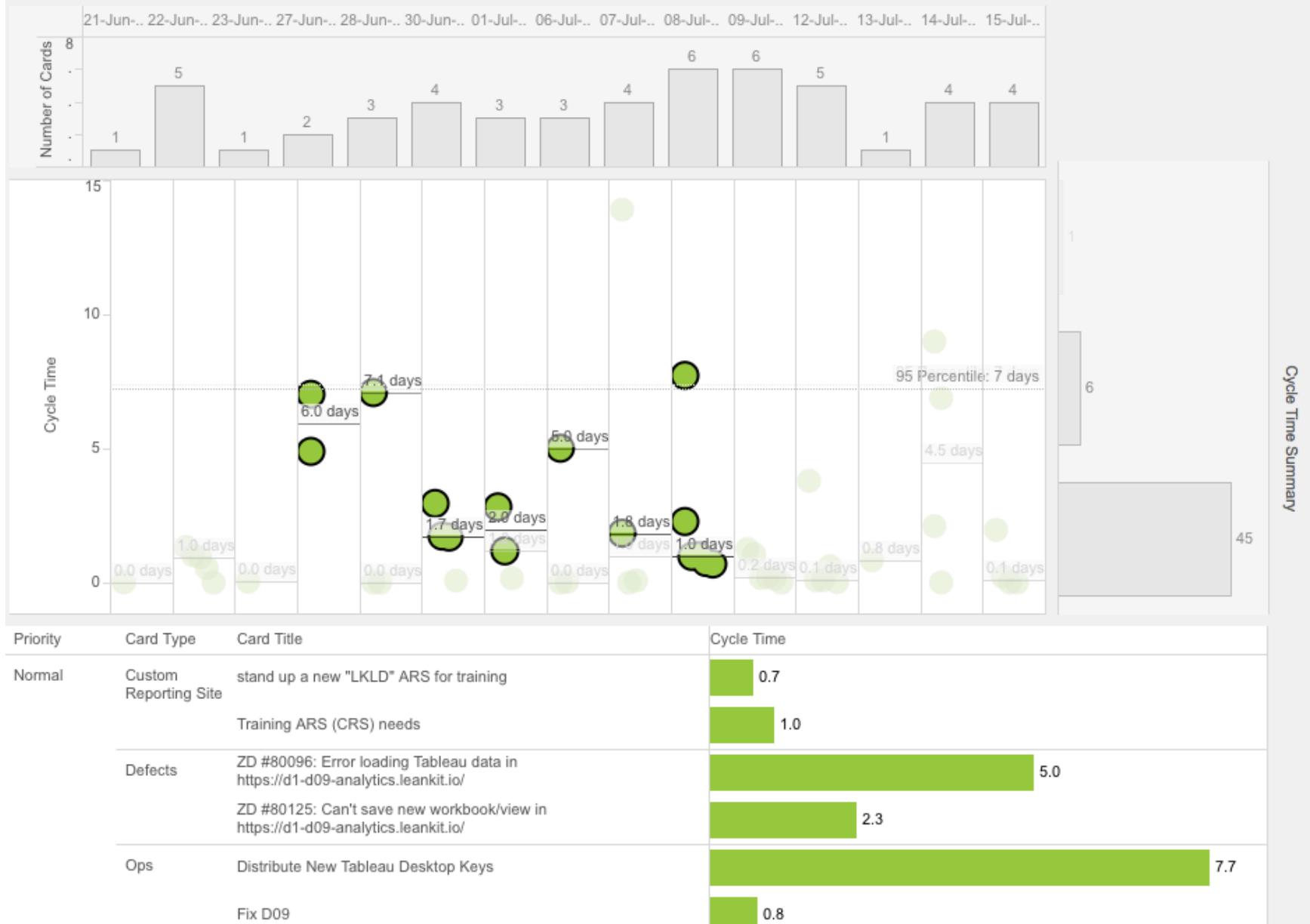
Defects

Other

Class of Service



How long does it take us to complete cards?



DATE RANGE
06/18/2016 TO 07/18/2016

Card Event Data for Last 365 Days

TIME PERIOD
Daily Weekly Monthly

REFERENCE LINE PERCENTAGE
95

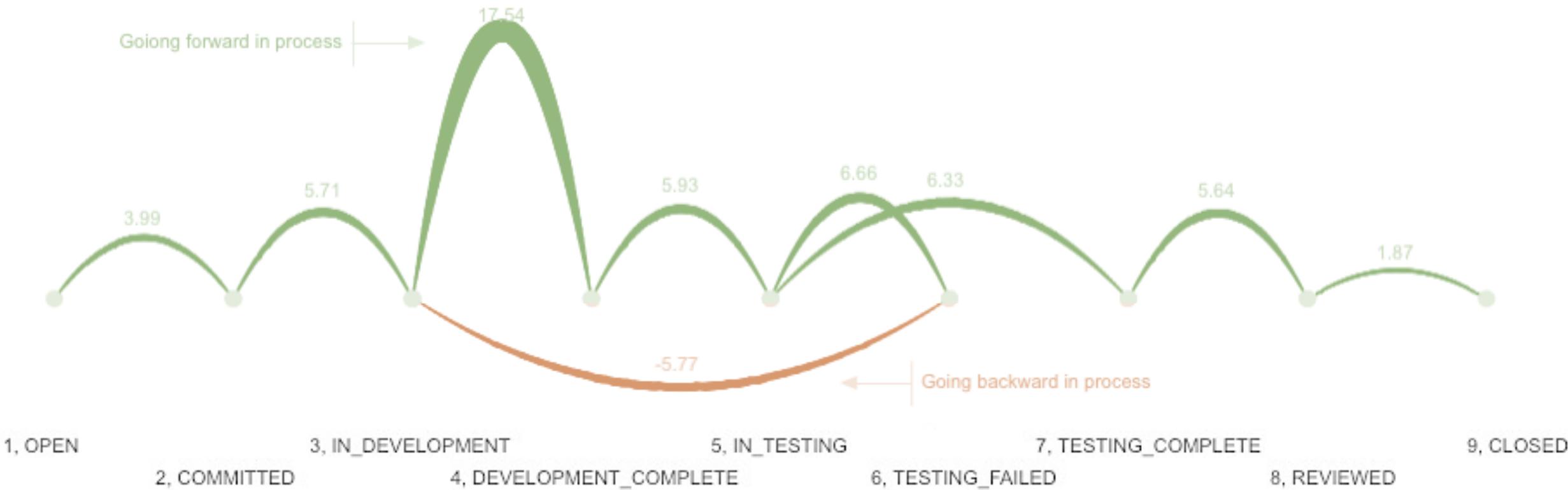
TAGS

Calculate based on Card Size
(No card size = 1)

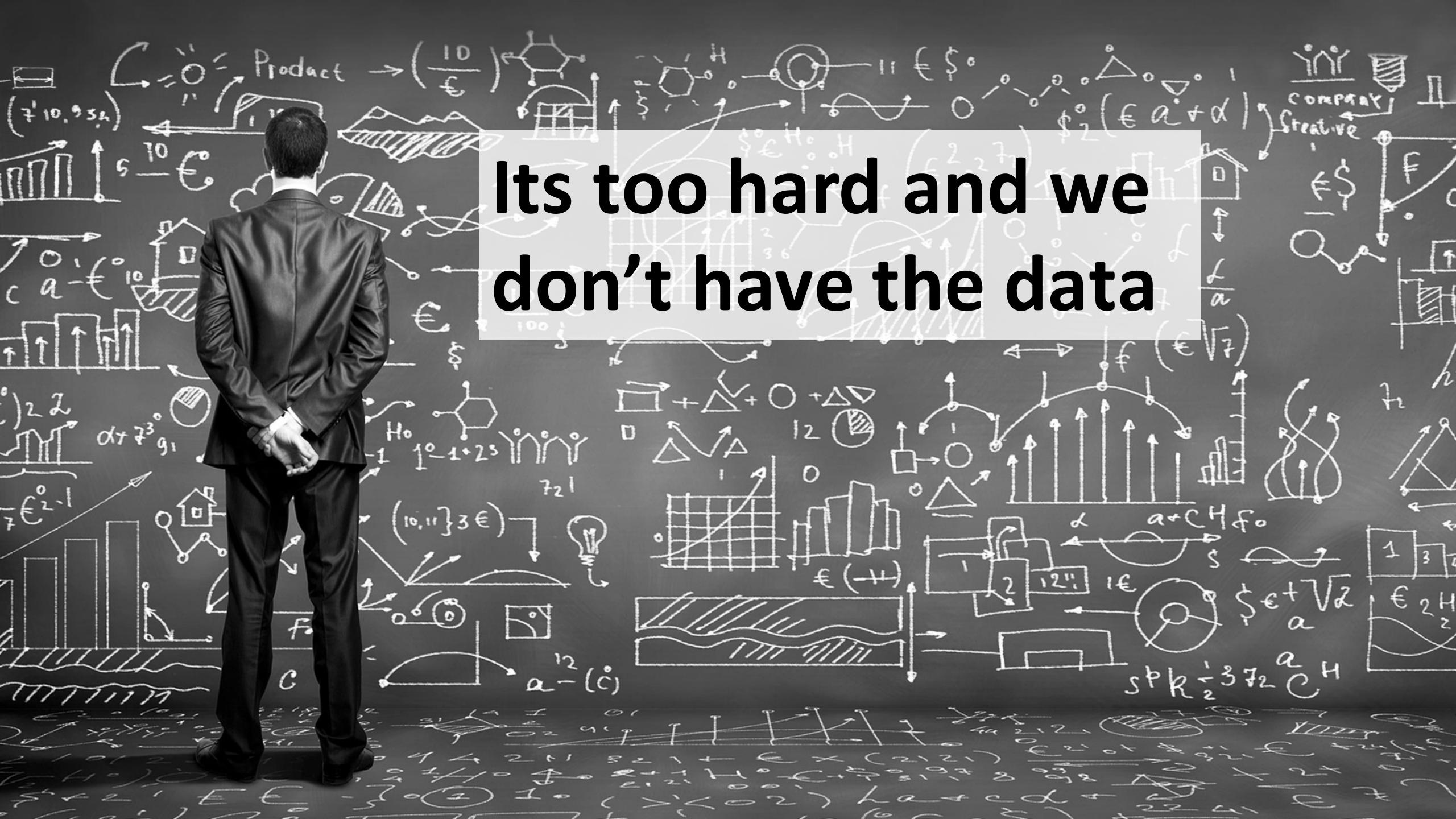
Reset Filters

Card Type
.Net Development
Tableau Visualization
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Defects
Other
Class of Service





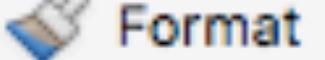
**Its too hard and we
don't have the data**



**Q. What could I do with just
start and completed date?**

<http://bit.ly/Throughput>

Or follow @t_magennis



Format

A2

▲ X ▾

http://bit.ly/Throughput

	Completed Date	Start Date (optional)	Type (optional)	Id
1	Completed Date	Start Date (optional)	Type (optional)	Id
2	1/21/15	1/14/15		
3	1/26/15	1/14/15	Story	
4	1/26/15	1/14/15	Defect	
5	1/26/15	1/21/15	Story	
6	1/26/15	1/22/15	Story	
7	1/29/15	1/23/15	Story	
8	2/2/15	1/23/15	Story	
9	2/2/15	1/20/15	Defect	
10	2/2/15	1/20/15	Defect	
11	2/4/15	1/20/15		
12	2/4/15	1/26/15		
13	2/4/15	1/23/15		
14	2/4/15	1/22/15		

17 charts so far...

Throughput (planned & un-planned)

Throughput Histogram(s)

Cycle Time (planned & un-planed)

Cycle Time Histogram(s)

Work In Process

Cumulative Flow

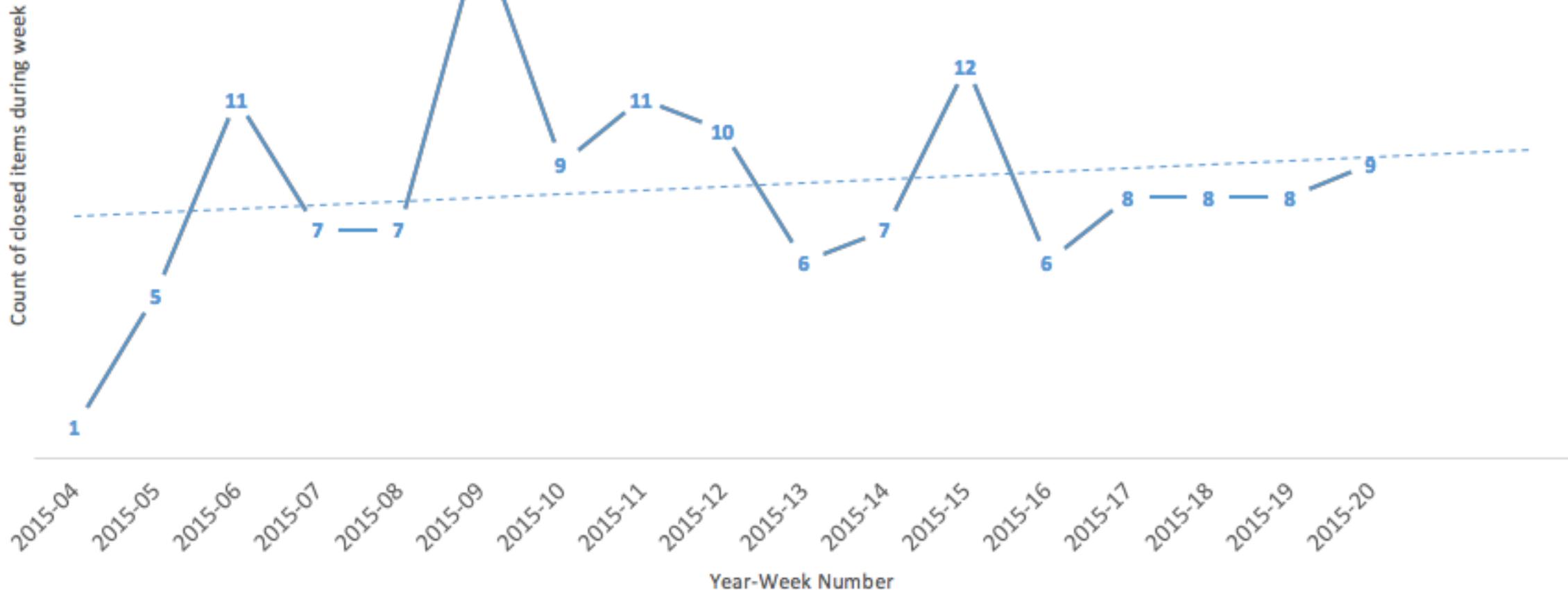
Arrival vs Departure Rate

Un-planned work Percentage

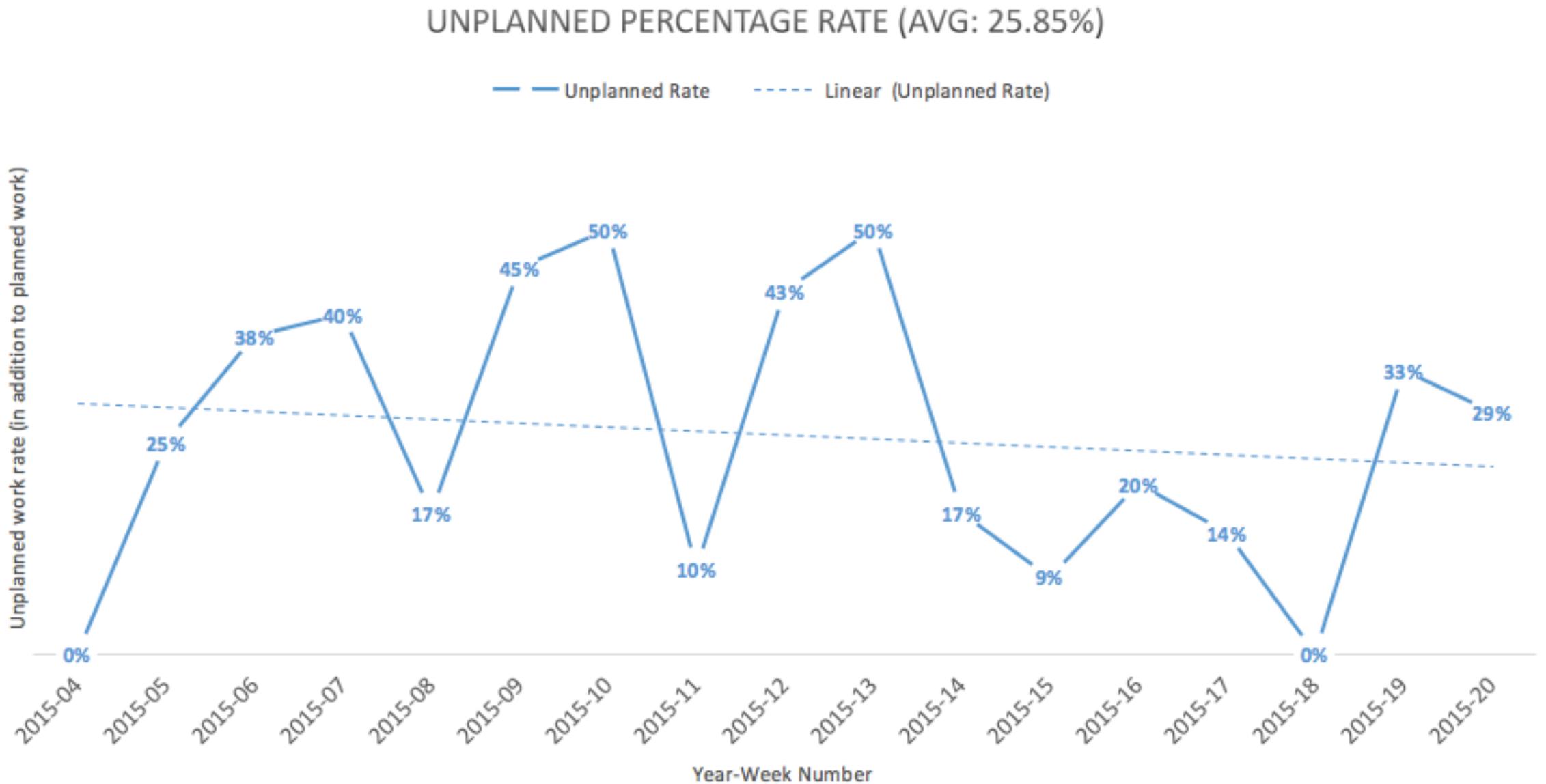
Cycle Time Distribution Fitting

<http://bit.ly/Throughput>

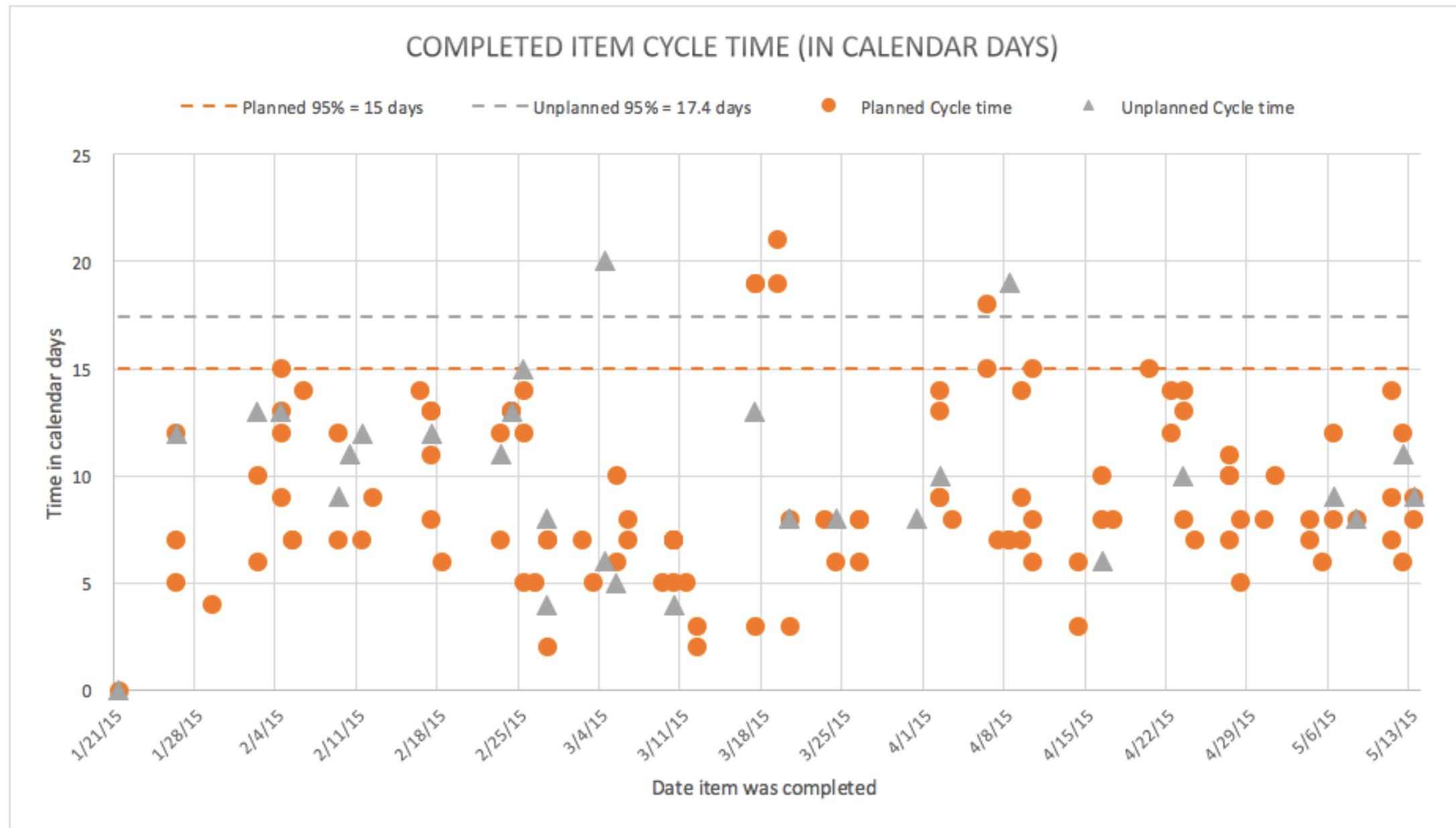
THROUGHPUT HISTORY TREND (COMPLETED ITEMS PER WEEK)



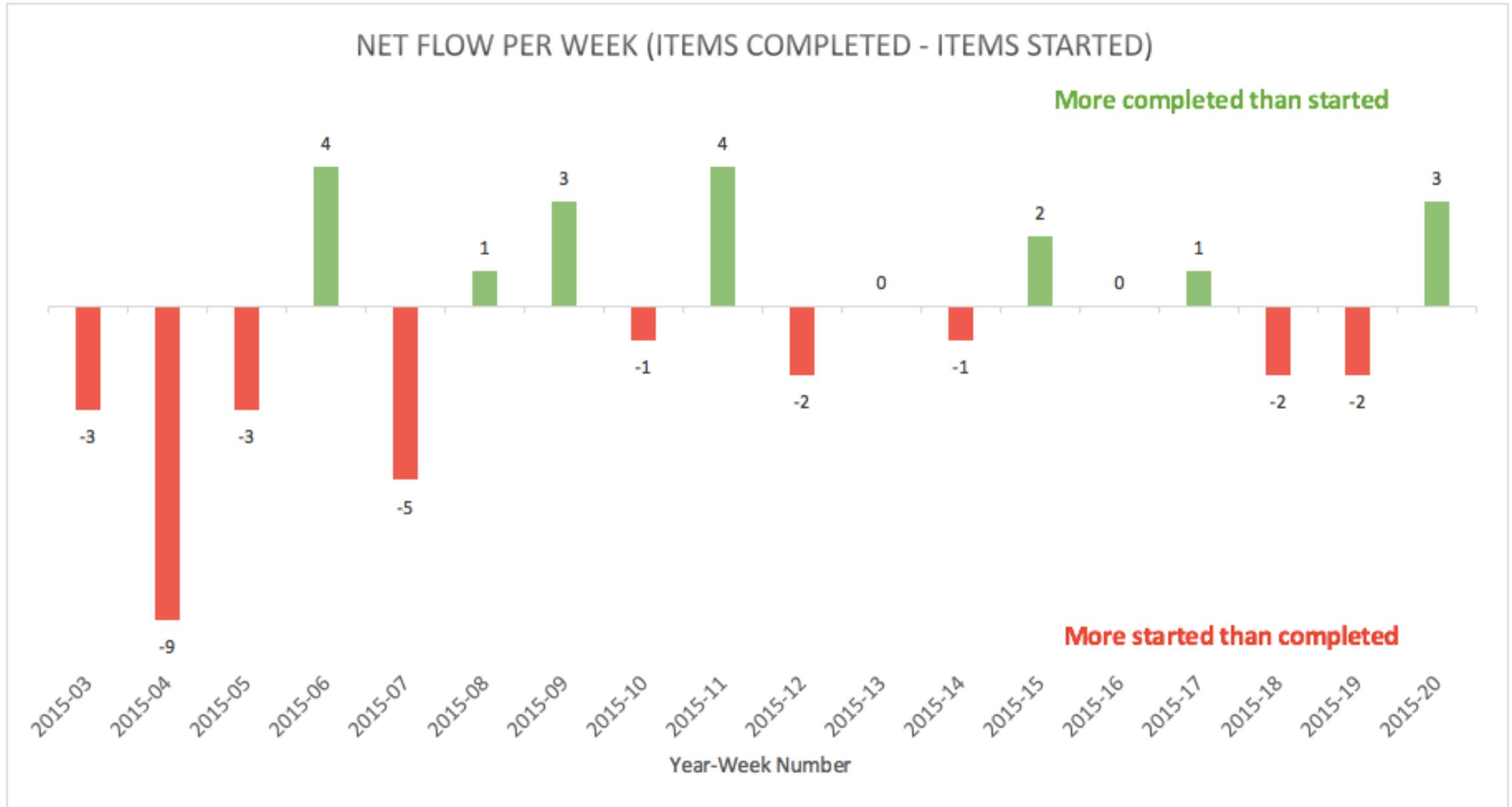
<http://bit.ly/Throughput>



<http://bit.ly/Throughput>



<http://bit.ly/Throughput>





1930 to 2012
National League MVP
 $23\% = 19 \text{ out of } 82$ (last time 1988 - Carston)

1930 to 2013
All-American League MVP
 $19 \text{ out of } 82$ (last time 1984 - Hernandez)

Source: ESPN Playbook - SportsData (infographic at end of this deck)



1955-56 to 2015-16
NBA MVP
 $37\% = 23 \text{ out of } 62$ (last time 2014 – Curry)

Source: NBA Most Valuable Player Award. (2016, June 24). In Wikipedia, The Free Encyclopedia. Retrieved 18:28, July 3, 2016, from https://en.wikipedia.org/w/index.php?title=NBA_Most_Valuable_Player_Award&oldid=726766319

Hope Solo
Team USA



You can't WIN by just
having the BEST goalkeeper

A 0-0 draw is the best you can HOPE
The goalkeeper can't win SOLO



Team versus individual improvement

- As professionals, we are expected to know our jobs
 - Just like in sports, NBA Kobe Bryant is expected to already know core skills.
 - We are expected to know our strengths and weaknesses
- Coaches and managers for professional teams deal more with
 - Balancing the skills available versus needed
 - Helping individuals work as a team in an effective way
 - Help the team focus on improvements based on recent performance

http://bit.ly/CapabilityMatrix

Team Name:

Your Name: _____

For each capability choose from the list of CURRENT skill level values. If in doubt, err low (left)!

http://bit.ly/CapabilityMatrix

Captains: Ability	5	11	5	3	5	9	4	2	8	3	4
Players: Ability to	9	11	9	6	8	9	8	6	8	5	6
Bench: Ready to	1	0	2	0	0	1	1	1	2	3	2
Create Video Content	2	4	2	0	2	4	2	3	4	3	3
Person 1 - red	2	3	3	2	2	3	2	2	3	1	2
Person 2 - blue	3	3	4	3	3	4	4	4	4	2	3
Person 3	4	4	2	2	4	4	3	2	4	4	1
Person 4	2	3	2	0	0	3	1	0	3	0	0
Person 5 - blue	4	4	4	2	4	0	2	2	3	0	0
Person 6	4	3	4	4	4	3	3	1	1	4	4
Person 7 - red	1	4	3	0	0	3	3	0	1	1	2
Person 8	4	4	2	4	4	4	2	2	3	1	3
Person 9	2	3	1	0	2	3	0	0	3	2	1
Person 10	0	4	1	0	0	1	0	0	0	0	0
Person 11 - blue	0	0	0	0	0	0	0	0	0	0	0
Person 12	0	0	0	0	0	0	0	0	0	0	0
	28	39	28	17	25	32	22	16	29	18	19

Urgency (Redder = more urgent)

Teachers			
Doers	0	1	2+
0	9	7	3
1	8	5	2
2+	6	4	1

If skill is growing in demand, prepare the bench strength -

Teachers			
Novices	0	1	2+
0	9	7	3
1	8	5	2
2+	6	4	1

Goals -

Have 2+ people who are Doer's for each skill on the team. If creating new innovations, have at least 1 teacher for each skill.

If a skill is in demand, have at least 1 (preferably 2) teachers on the team (or available), and know who is willing (or able) to be a novice in training to doer.

Know what skills might be needed elsewhere in the company, as your team members might be pulled off at short notice.

Know what skills might be needed to fix incoming defects or production issues when rolling to customer usage.

Know how long (and plan to reduce) the onboarding time from novice to doer levels, prioritized by the skills most anticipated in need for the future.

Its *not* a goal to have everyone at Teacher level for every skill: Your goal is to have a resilient team given un-planned disruptions and the next feature demands.





Find balance...

In changing
conditions

And
competing forces



Balanced competing metrics

- If you show just one metric, it will be hit...
 - At the expense of everything else
- Coaching is about seeing the bigger picture
- Coaching is about getting the team to recognize competing forces
- Coaching is about teach the team to make smart trades
- Coaching is about little adjustments
- Coaching is teaching how to adapt to changing conditions/pressures

1. Quality (how well)

- Escaped defect counts
- Forecast to complete defects
- Measure of release “readiness”
- Test count (passing)

2. Productivity (how much, delivery pace)

- Throughput
- Velocity
- Releases per day

3. Responsiveness (how fast)

- Lead time
- Cycle time
- Defect resolution time

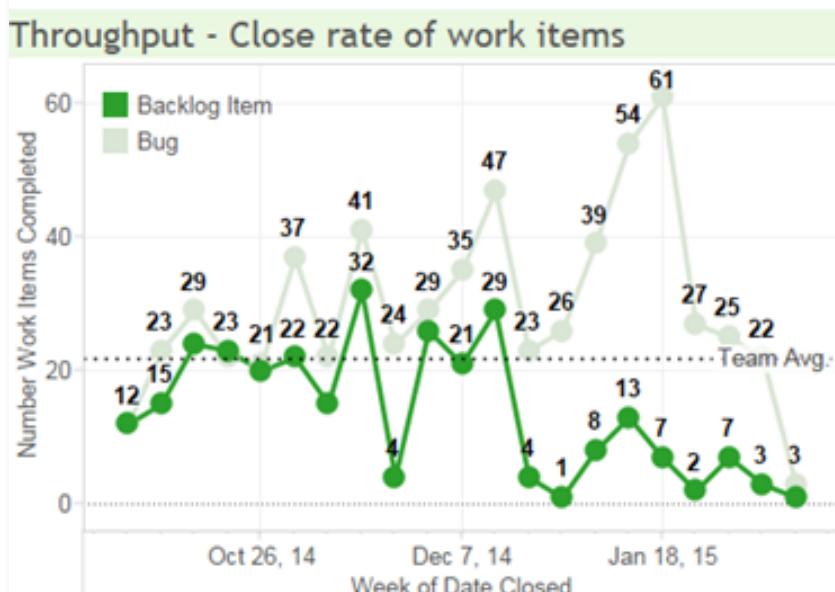
4. Predictability (how repeatable)

- Coefficient of variation (SD/Mean)
- Standard deviation of the SD
- “Stability” of team & process



Team Historical Agile Diagnostic Dashboard

Productivity (how much)



ZBB - Days to Close Active Bugs

Dev Days to Zero Bugs: 138.1

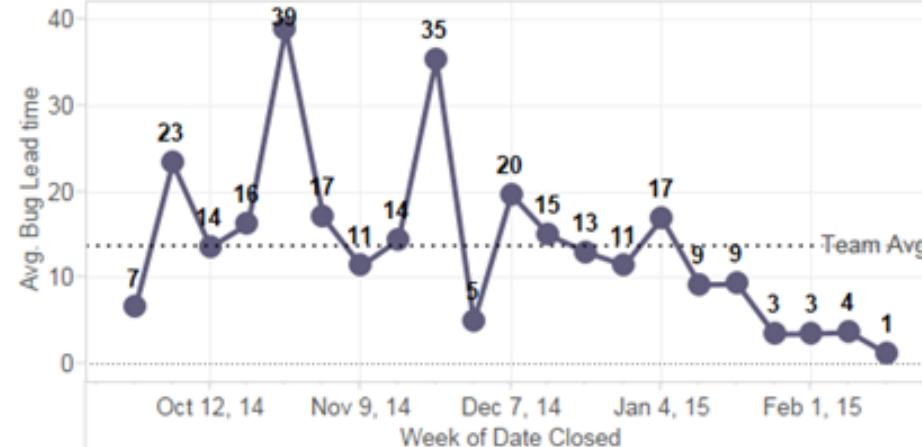
27 bugs would be resolved by 22 developers in 6.28 days

Override Bug Count or 0
0

Override Dev Count or 0
0

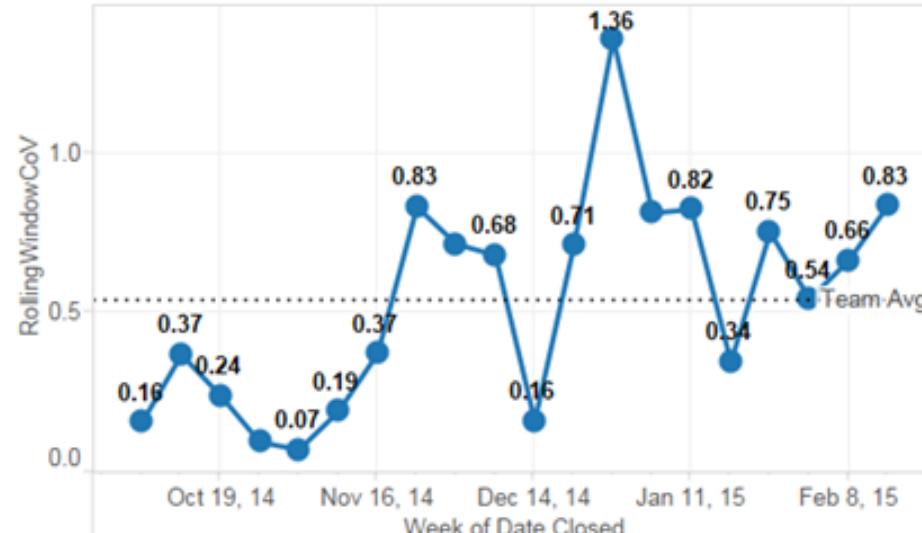
Avg forecast using recent bug cycle-time data. Lower is better.

Responsiveness - Bug cycle-time average



How long it takes from opened to resolved for bugs. Lower is better.

Predictability - Consistency of delivery pace



How variable is work throughput. Lower is better.

Quality (how well)
Responsiveness (how fast)

Quality

“If OUR entire TEAM did nothing else but fix bugs this sprint, at OUR historical rate, we would have x days of work”

- Goal is to keep the TEAMS within 10 days of releasable
- Forecast has to be personal for the team
- Days = Open Bugs x Avg(recent cycle time samples)
Number of Devs on team

ZBB - Days to Close Active Bugs

Dev Days to Zero Bugs: 138.1

27 bugs would be resolved by 22 developers in **6.28** days

Override Bug Count or 0
0

Override Dev Count or 0
0

Avg forecast using recent bug cycle-time data. Lower is better.

Compare “my” team

Coaching Advice

All Teams Agile Dashboard - Your Trend vs Others

Select your team...

Other Teams
 Selected Team

Other Teams
 Selected Team

Show lines
True

Date range to display...
10/1/2014 12:00:00 AM to 3/31/2015 11:59:59 PM

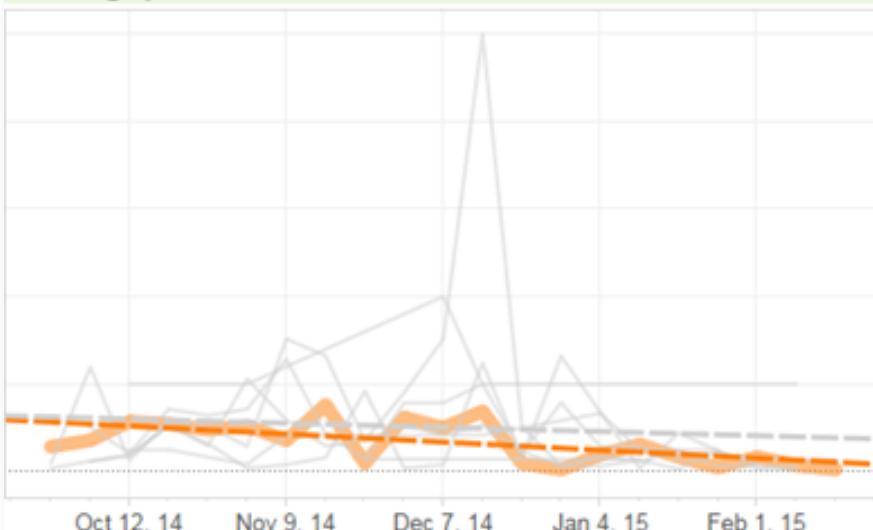
Three ways to decrease bug counts and cycle time -

1. Triage bugs quickly. Set them to P1 (fix immediately), P2 (fix as soon as possible), or defer them.
2. Share expert knowledge. Consider having the “expert” who would normally be assigned a defect in a code area lightly assist someone else – now you have an expert in training.
3. Before calling code complete, demo the software to the product owner and testers. This helps obvious defects being found later (and means you don’t get disturbed six months from now).

Three ways to increase and stabilize work item throughput -

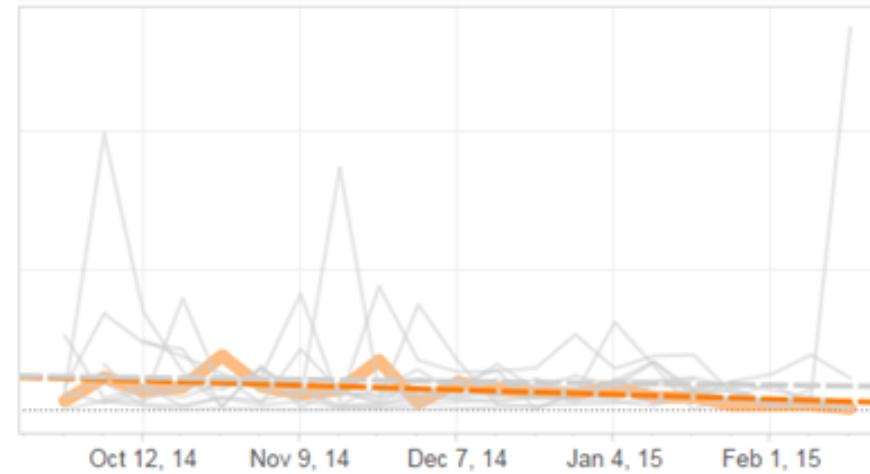
1. Stop starting, start finishing, stop starting. Avoid starting every story on day one of the sprint only to have everything ALMOST done at the end of the sprint.
2. Get early feedback on your work from the product owner and testers. This early feedback will avoid bugs and mis-understandings that inhibit “Complete”. ..

Throughput All - Close rate of work items / Devs



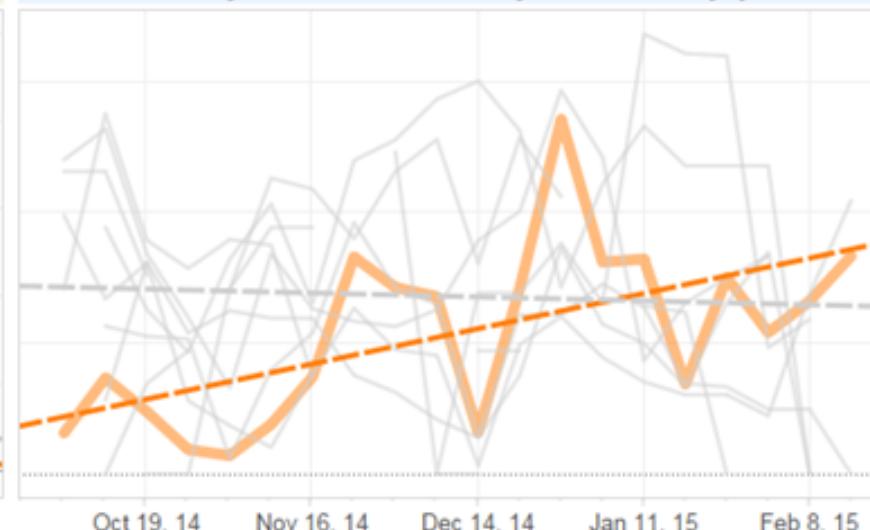
How many work items have been closed. Higher is better.

Responsiveness All - Bug cycle-time average



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Predictability All - Consistency of delivery pace



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Throughput All - Close rate of work items / Devs

Improving, against company trend



How many work items have been closed. Higher is better.

Responsiveness All - Bug cycle-time average

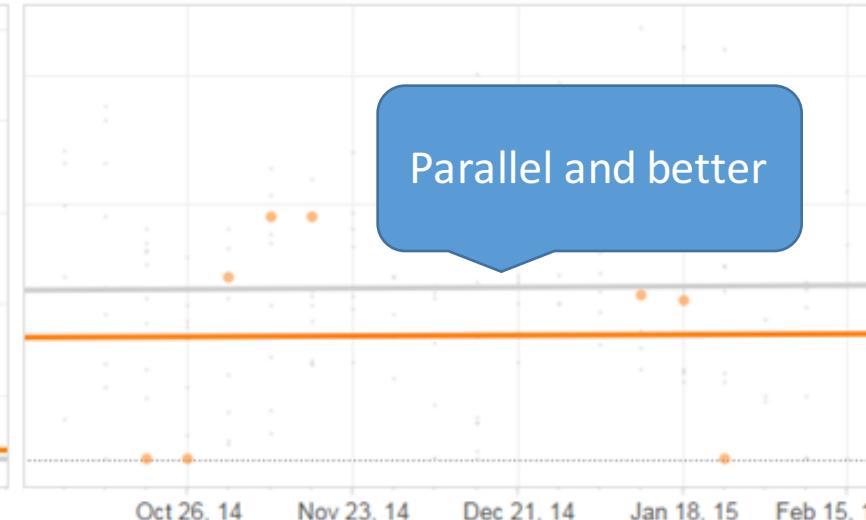
Started worse, but corrected



How long it takes from opened to resolved for bugs. Lower is better.

Predictability All - Consistency of delivery pace

Parallel and better



How variable is work throughput. Lower is better.

All Teams Agile Dashboard - Your Trend vs Others

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Other Teams
 Selected Team

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Show lines
False

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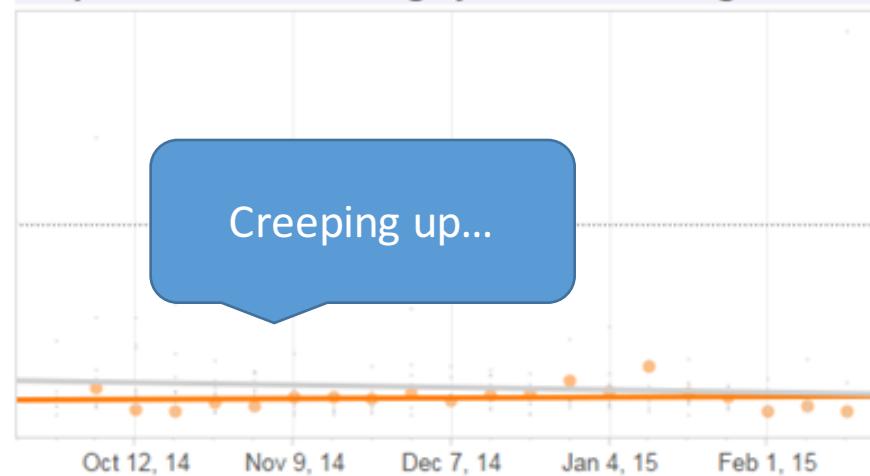
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Throughput All - Close rate of work items / Devs



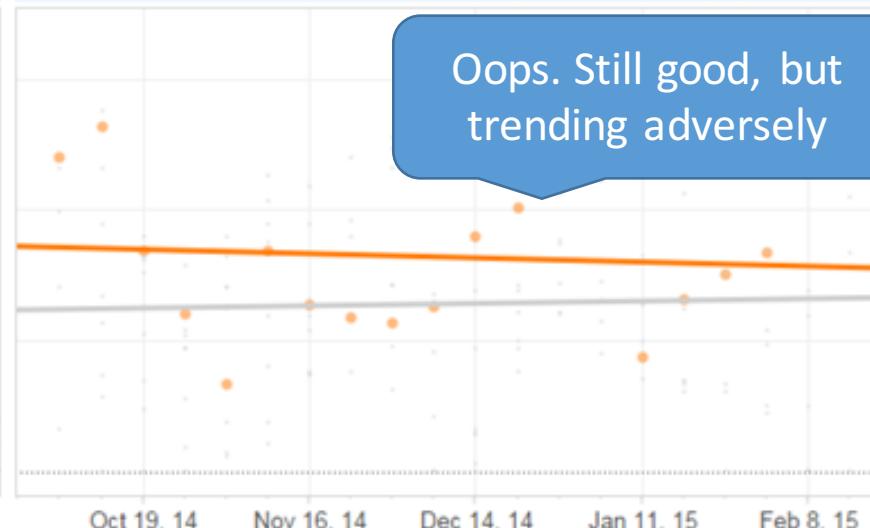
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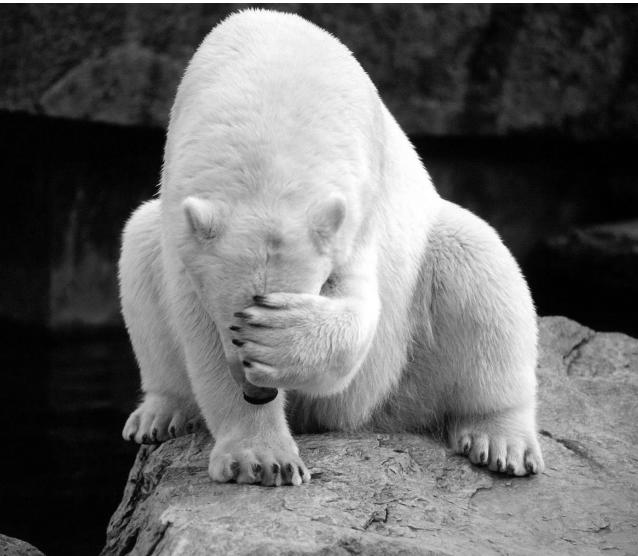
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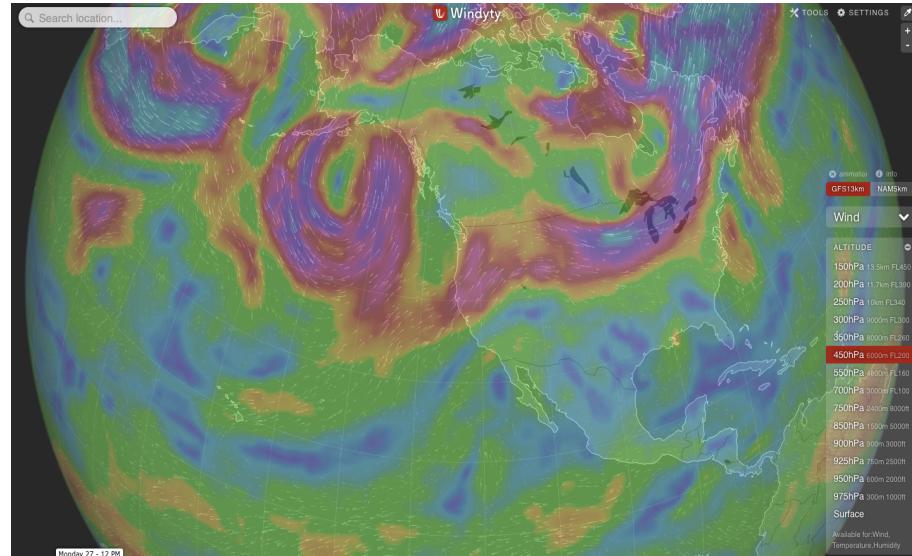
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Don't Make it Personal



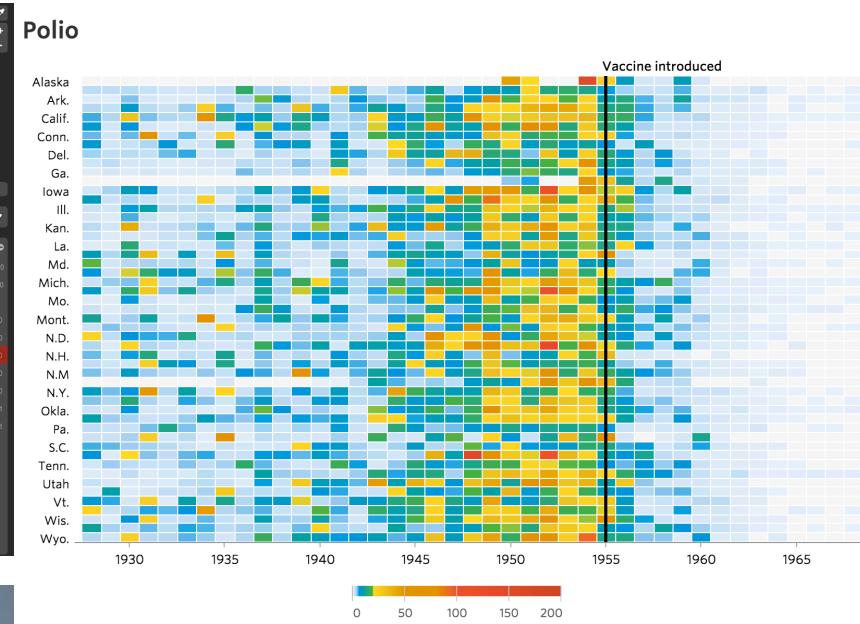
Compared to What

Beautiful + Engaging



Keep it Simple

Tell a Story



1. Quality (how well)

- Escaped defect counts
- Forecast to complete defects
- Measure of release “readiness”
- Test count (passing)

2. Productivity (how much, delivery pace)

- Throughput
- Velocity
- Releases per day

3. Responsiveness (how fast)

- Lead time
- Cycle time
- Defect resolution time

4. Predictability (how repeatable)

- Coefficient of variation (SD/Mean)
- Standard deviation of the SD
- “Stability” of team & process



Balanced Metrics

Make GREAT tradeoff Decisions

@t_magennis

Troy.Magennis@FocusedObjective.com



Please consider
doing the review



Focused Objective
software risk solutions

FocusedObjective.com
@AgileSimulation

Troy Magennis

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phone: 425 223 8097 skype: troy.magennis twitter: @t_magennis

Conference Special:
Download the session slides,
a free copy of our simulation
software and a copy of this
book in PDF format from
<http://bit.ly/agilesim>

Forecasting and
Simulating Software
Development Projects

Effective Modeling of Kanban & Scrum
Projects using Monte-carlo Simulation

The book cover features a blue header with the title and subtitle. Below the title is a small image of a bar chart. The author's name, 'Troy Magennis', is at the bottom right, along with the website 'FocusedObjective.com'. A grey bar at the bottom has the text 'Includes Risk Assessments for Iterated Objectives, Stories, and Activities'.

Forecasting and Risk

Helping teams see and understand risk impacts

Q. Could I make a simple forecast tool that worked?

Without macros or add-ins!

<http://bit.ly/ThroughputForecast>

Or follow @t_magennis

<http://bit.ly/ThroughputForecast>

Forecast Completion Date

1. Start Date

4/1/15

2. How many stories are remaining to be completed?

(enter the range estimate of stories. Tip: start wide and narrow as certainty increases)

Low guess

20

Highest guess

30

3. Stories are often split before and whilst being worked on. Estimate the split rate low and high bounds.

(often the throughput in the backlog is pre-split, but captured throughput post-split. Adjust for this here)

Low guess

1.00

Highest guess

1.00

4. Throughput. How many completed stories per week or sprint do you estimate low and high bounds?

Throughput estimate/samples are per

Week

7 days

Use historical throughput data OR enter a low and high estimate below. Use:

[Estimate](#)

Low guess

1

Highest guess

5

Can I use velocity rather than throughput?

Yes. If you do have estimates in story points, then you can sum all of the estimates and use that for input 2 and estimate or use historical team velocity for input 4. The benefit of using throughput (count of completed stories) is that it's much easier to validate than velocity (count of story points).

<http://bit.ly/ThroughputForecast>

Results

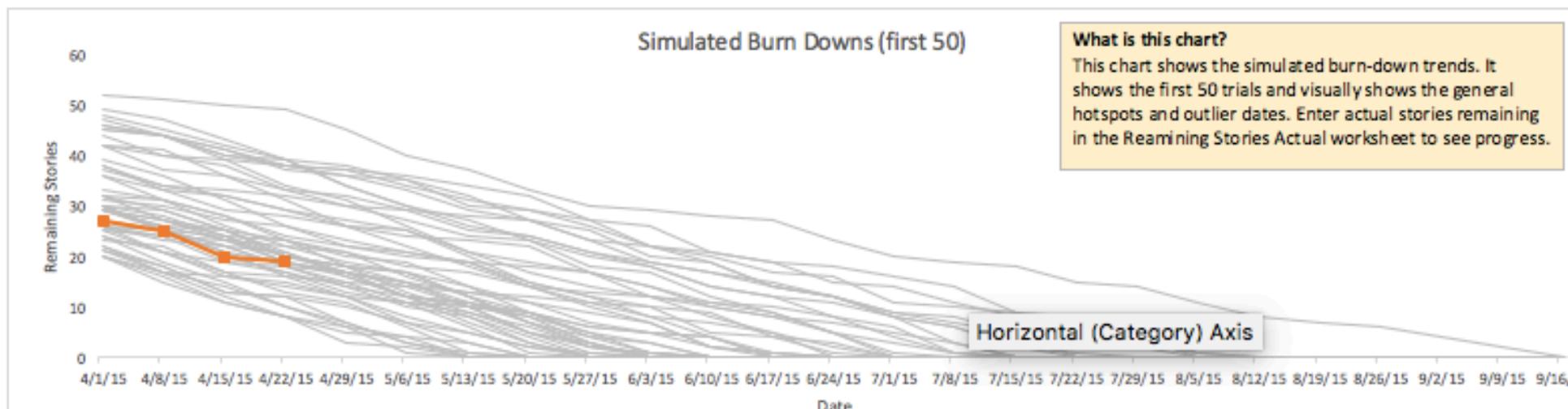
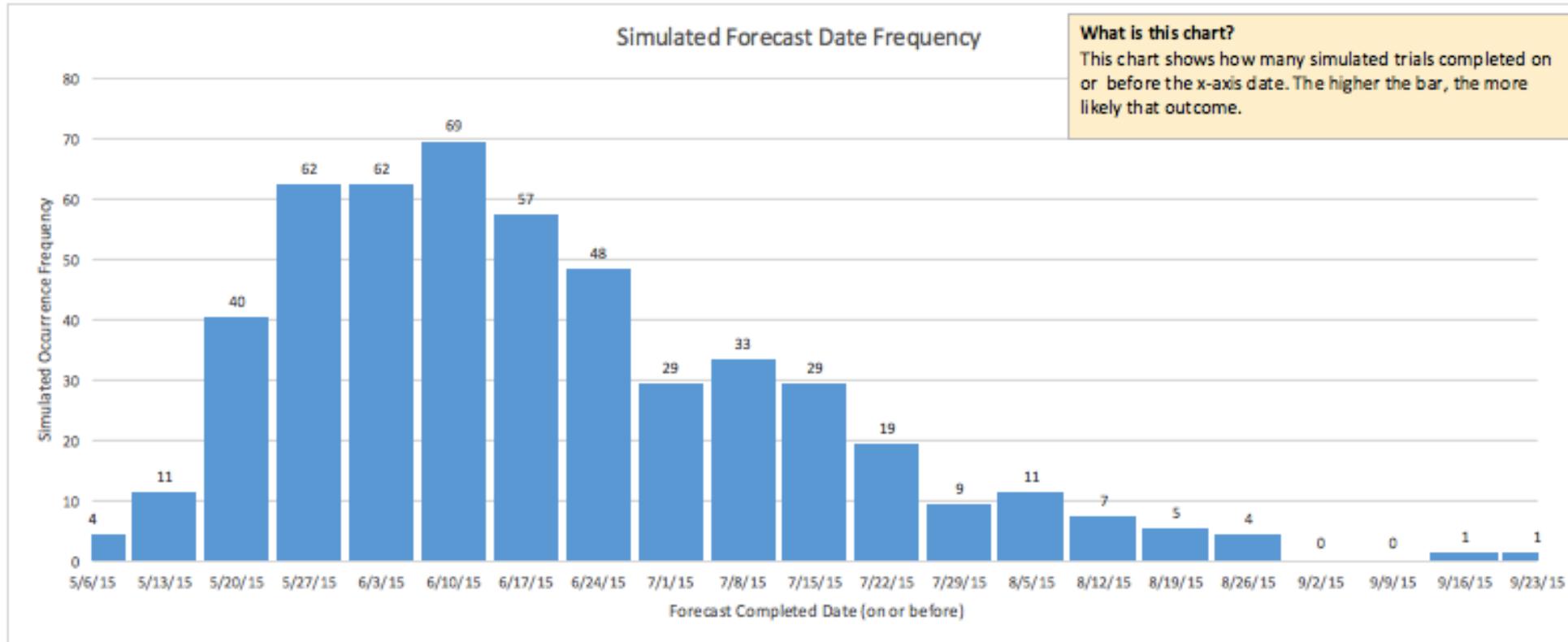
Likelihood	Duration in	
	Week's	Date
100%	25	9/23/15
95%	18	8/5/15
90%	16	7/22/15
85%	15	7/15/15
80%	14	7/8/15
75%	13	7/1/15
70%	12	6/24/15
65%	12	6/24/15
60%	11	6/17/15
55%	11	6/17/15
50%	11	6/17/15
45%	10	6/10/15
40%	10	6/10/15
35%	9	6/3/15
30%	9	6/3/15
25%	9	6/3/15
20%	8	5/27/15
15%	8	5/27/15
10%	7	5/20/15
5%	7	5/20/15

Almost certain

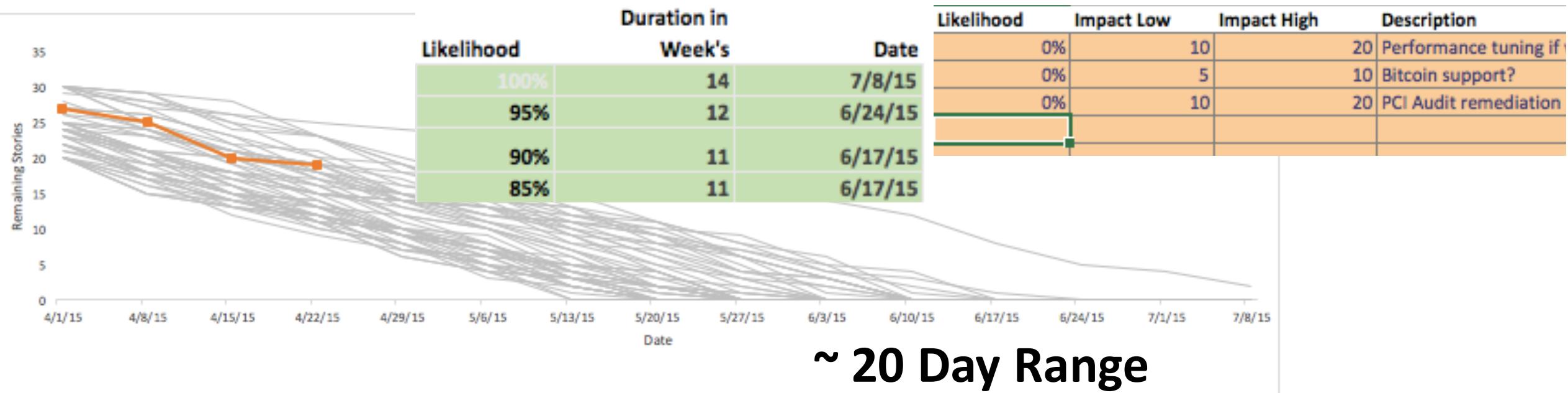
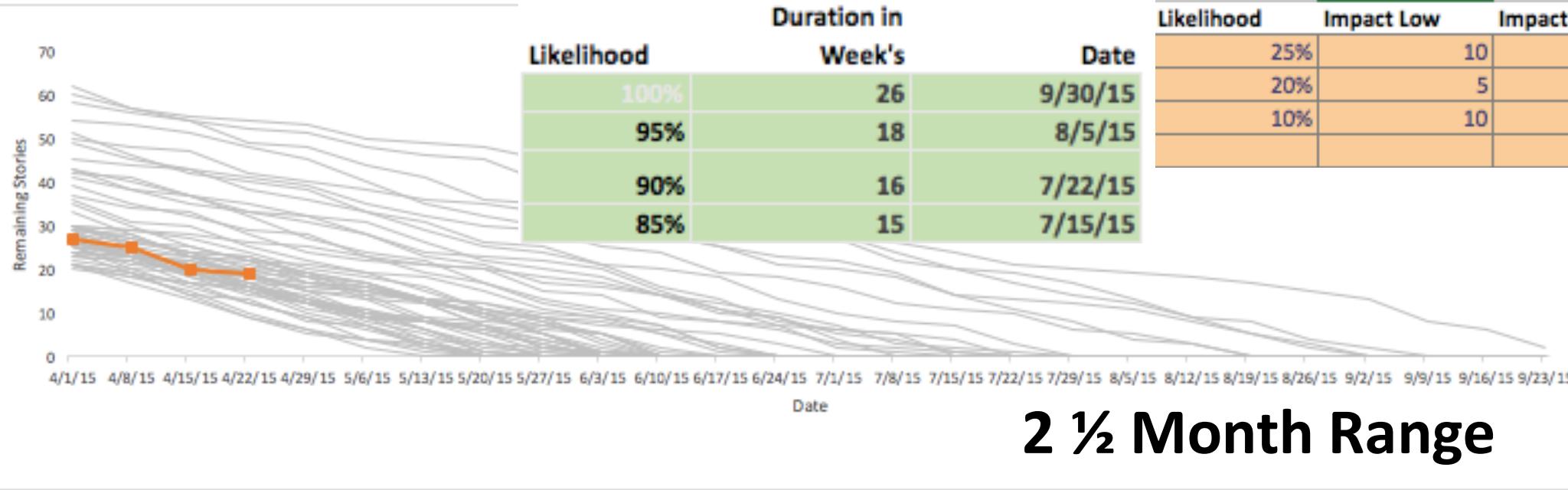
Somewhat certain

Less than coin-toss odds. But if you are game?

<http://bit.ly/ThroughputForecast>



<http://bit.ly/ThroughputForecast>



Cycle time analysis

How to interpret cycle time distributions in coaching

Q. Can historical cycle-time be used for coaching advice?

2015 48th Hawaii International Conference on System Sciences

**The Economic Impact of Software Development Process Choice -
Cycle-time Analysis and Monte Carlo Simulation Results**

Troy Magennis
troy.magnenis@focusedobjective.com

Abstract

IT executives initiate software development process methodology change with faith that it will lower development cost, decrease time-to-market and increase quality. Anecdotes and success stories from agile practitioners and vendors provide evidence that other companies have succeeded following a newly chosen doctrine. Quantitative evidence is scarcer than these stories, and when available, often unverifiable.

This paper introduces a quantitative approach to assess software process methodology change. It proposes working from the perspective of impact on cycle-time performance (the time from the start of individual pieces of work until their completion), before and after a process change.

This paper introduces the history and theoretical basis of this analysis, and then presents a commercial case study. The case study demonstrates how the economic value of a process change initiative was quantified to understand success and payoff.

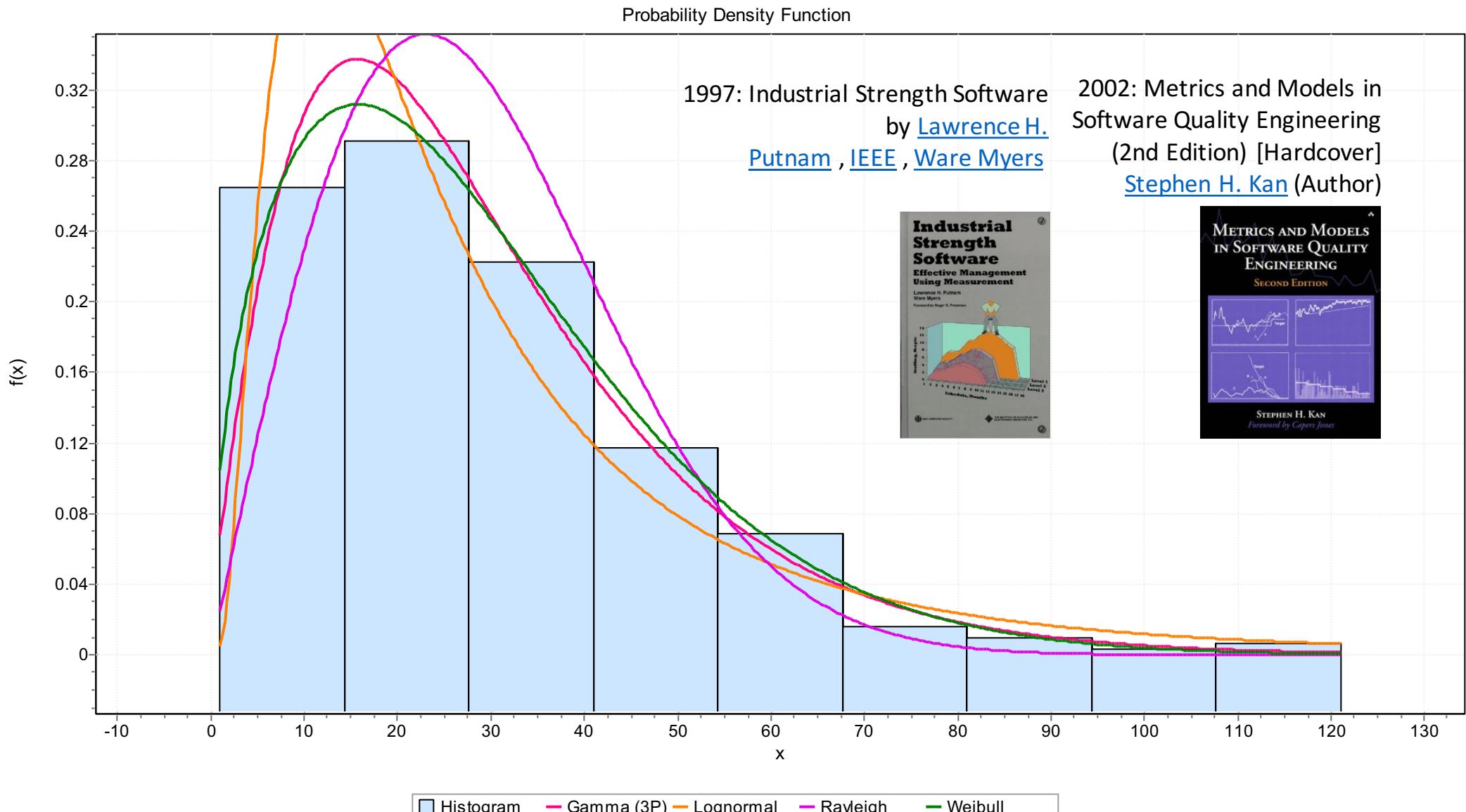
Cycle-time is a convenient metric for comparing proposed and ongoing process improvement due to its ease capture and applicability to all processes. Poor cycle-time analysis can lead to teams being held to erroneous service level expectations. Properly comparing the impact of proposed process change scenarios, modeled using historical or estimated cycle-time performance helps isolate the bottom line impact of process changes with quantitative rigor.

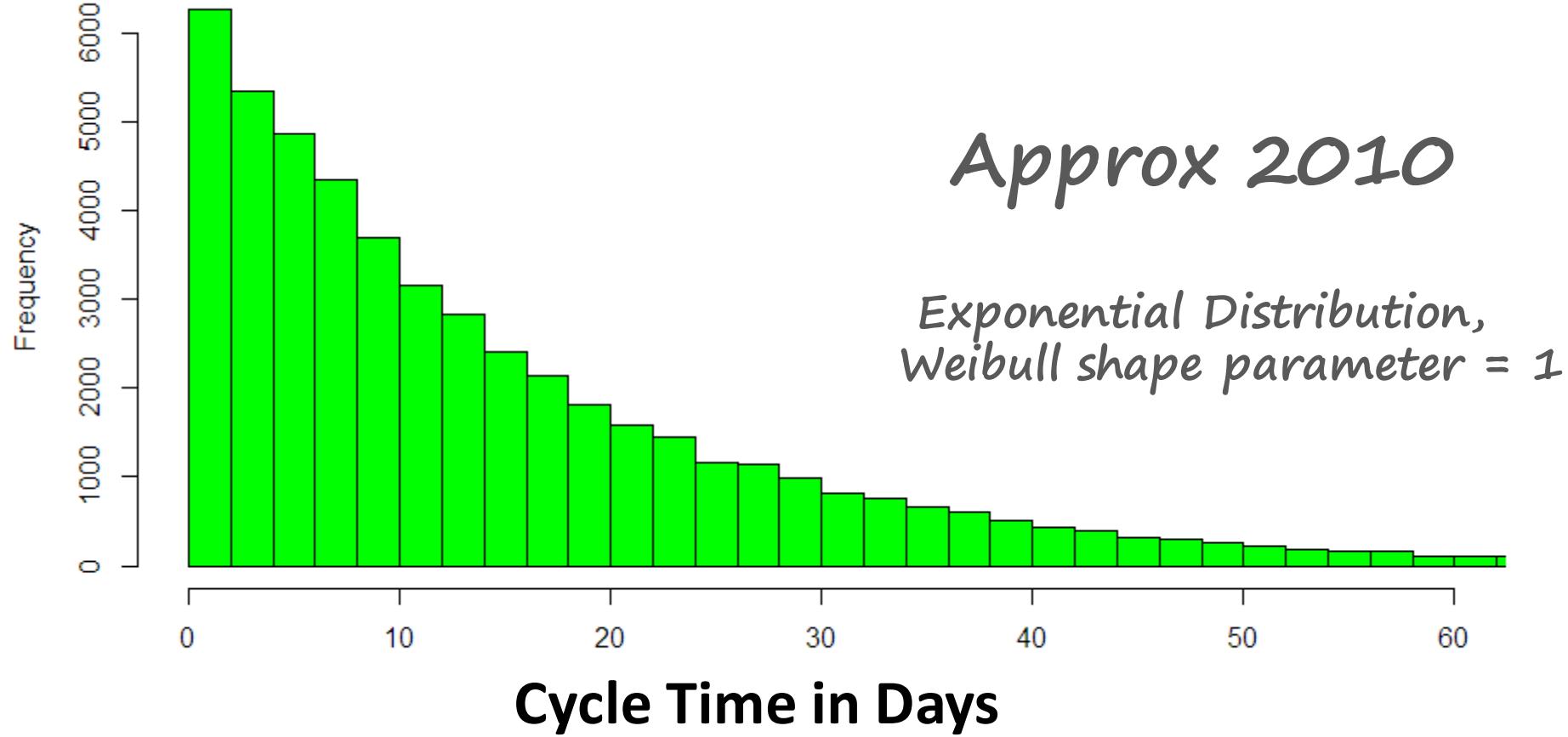
Scrum, and Kanban are some of the well-known processes that have risen to the top of the popularity charts, each with case studies (often just one) showing great impact when applied correctly by the inventors. The final choice appears to fall on faith based lines, with many organizations moving from one process to the next in search of nirvana. A quantitative framework for estimating and assessing true impact is needed for informed decisions.

Measuring the quantitative impact of a software development process change is hard. Measurable change takes weeks or months to evolve, and there is little in the way of control group – change is implemented and the outcome if that change wasn't performed isn't an interesting or easily discernable metric. This paper presents one technique for quantitatively estimating the potential economic outcomes both before and after a change has been implemented.

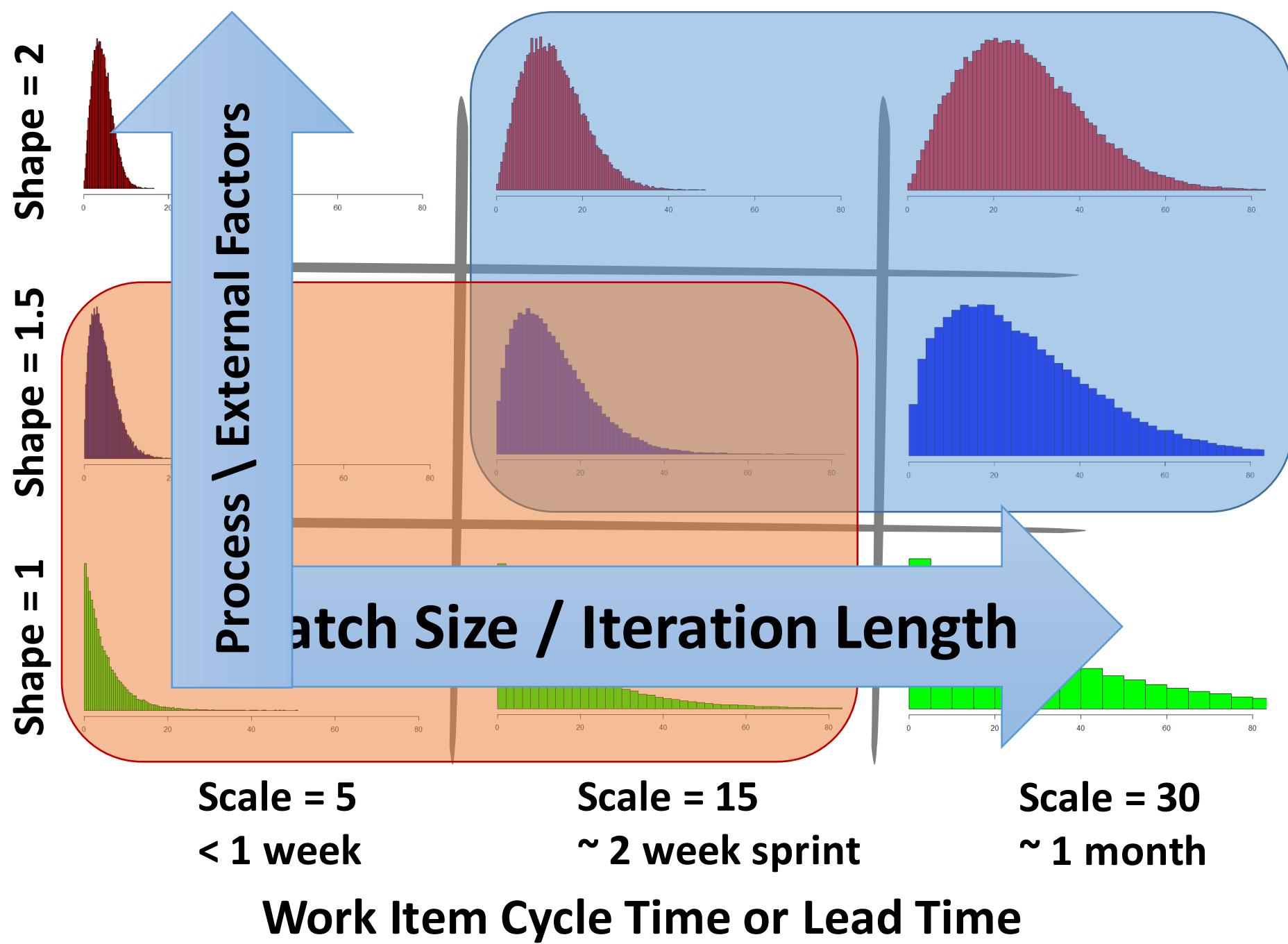
The basis for the method described here is probabilistically simulating the impact of changes in cycle-time samples from a prior project to a completed project using new methodology. To estimate the potential payoff for a new process, existing cycle-time samples can be discounted by fixed percentage amount to simulate the financial return for hypothetical reductions (10%, 25%, for example). Once change has occurred, actual results can be compared to the predicted data to validate the difference and improve modeling efforts on future initiatives.

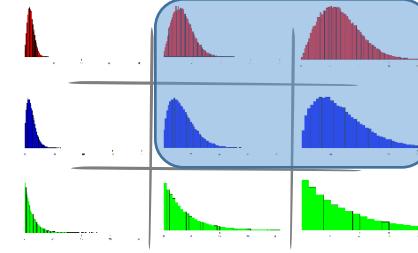
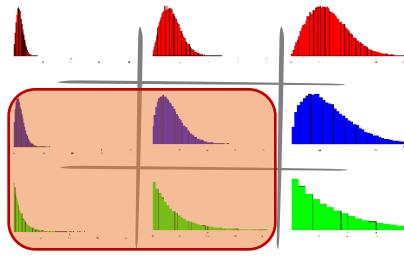
<http://conferences.computer.org/hicss/2015/papers/7367f055.pdf>





Work Item Cycle Time or Lead Time Distribution Through the Ages



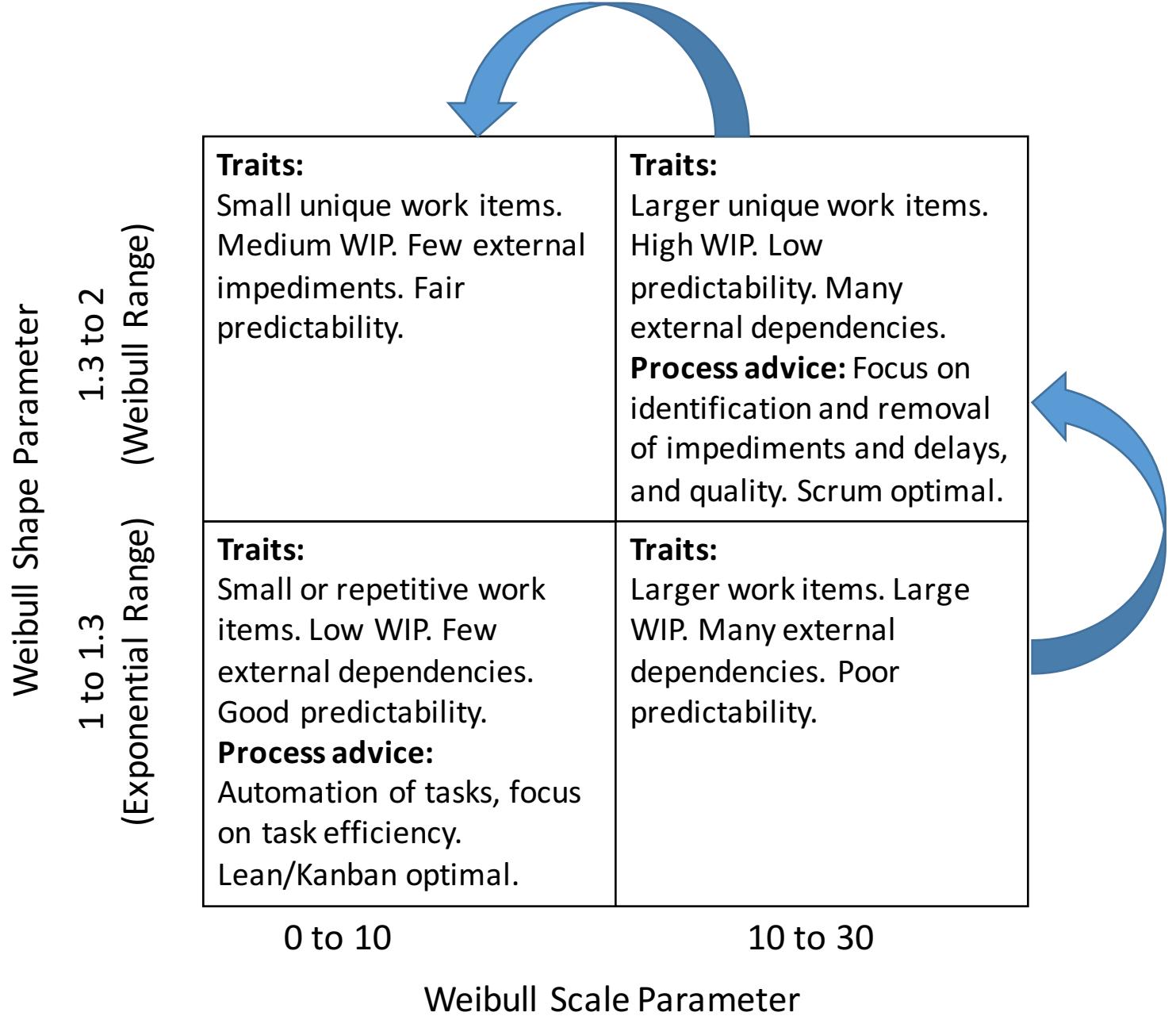


Lean, Few dependencies

- Higher work item count
- More granular work items
- Lower WIP
- Team Self Sufficient
- Internal Impediments
- Do: Automation
- Do: Task Efficiency

Sprint, Many dependencies

- Lower work item count
- Chunkier work items
- Higher WIP
- External Dependencies
- External Impediments
- Do: Collapse Teams
- Do: Impediment analysis



References, Sources and Links

Tools

- Excel or Google Sheets Spreadsheets (all free)
 - General metrics spreadsheet (17 charts) –
 - Team Capability Matrix –
 - Forecasting –
 - 10+ other spreadsheets tools all free –
- Visualization Tools
 - Tableau (\$995-\$1995) – Tableau.com
 - PowerBI (free) –
 - Plotly (free) –
- Online Lean/Kanban Tool
 - Leankit.com

Cool Visualization Resources and Websites

- My blog – FocusedObject.com/blog
- WindyTy.com – weather
- NY Times
- Tableau Public
- Books
 - Tufty
 - Few

FALL CLASSICS

MVPs whose teams won the World Series the same year

ESPN PLAYBOOK

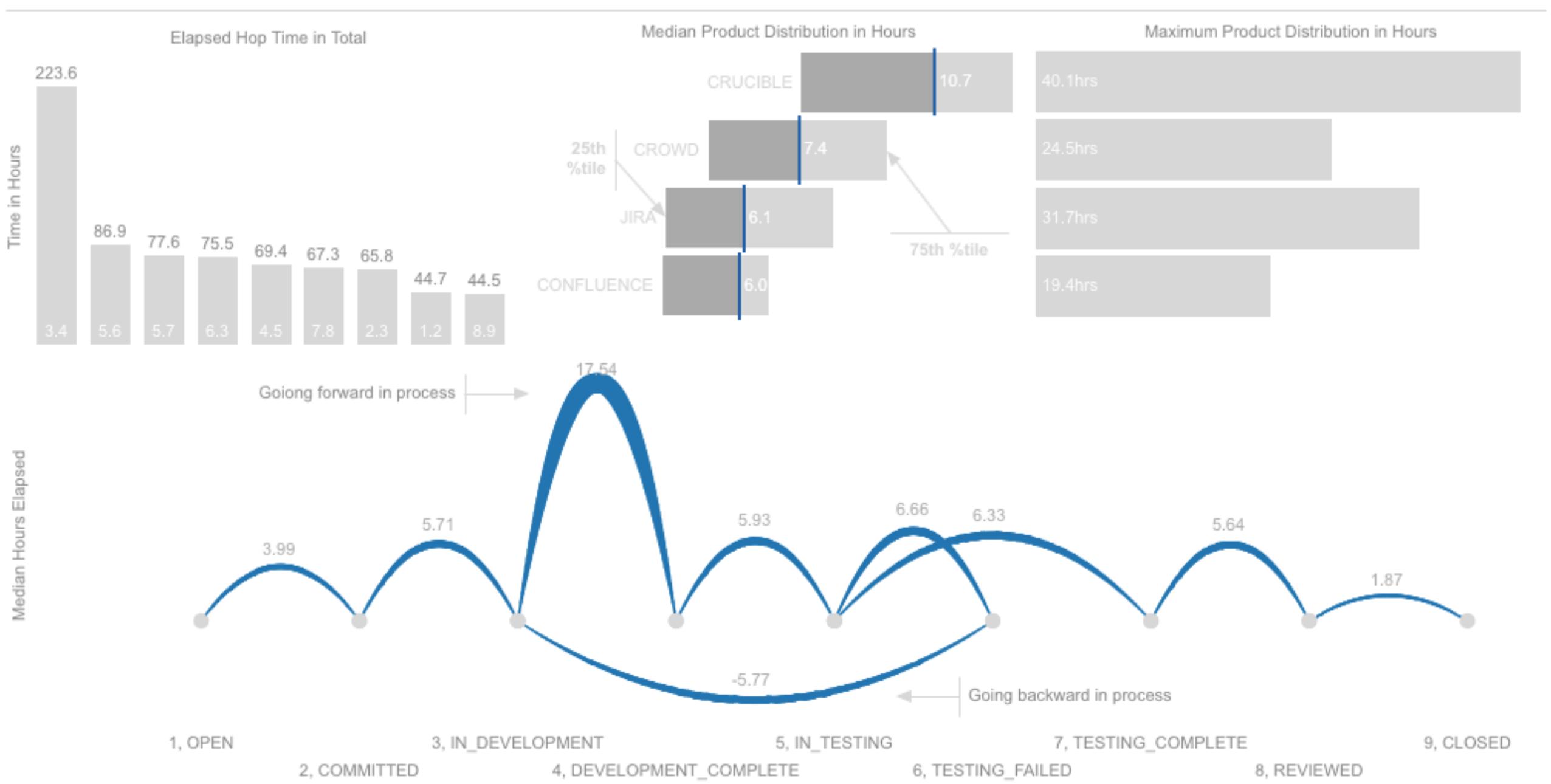
NATIONAL LEAGUE MVPs



AMERICAN LEAGUE MVPs



SD SPORTS DATA
CONTRIBUTED MATERIAL © 2014 THE ESPN NETWORK, INC.



Source: JumpPlot.com (total kudos to Tom VanBuskirk and Chris DeMartini)

Coaching professional teams

- Is about team performance, not individual
 - If they don't know it by now, they self improve it
- http://www.landofbasketball.com/awards/nba_season_mvps_year.htm
- $23 \text{ championships} + \text{MVP} / 60 = \sim 1/3$
- <http://www.nba.com/2011/news/features/04/08/race-to-the-mvp-final-rankings/index.html>
- <http://national.suntimes.com/nba/7/72/1237030/lebron-james-stephen-curry-nba-finals-mvp>



SDPI Dimensions

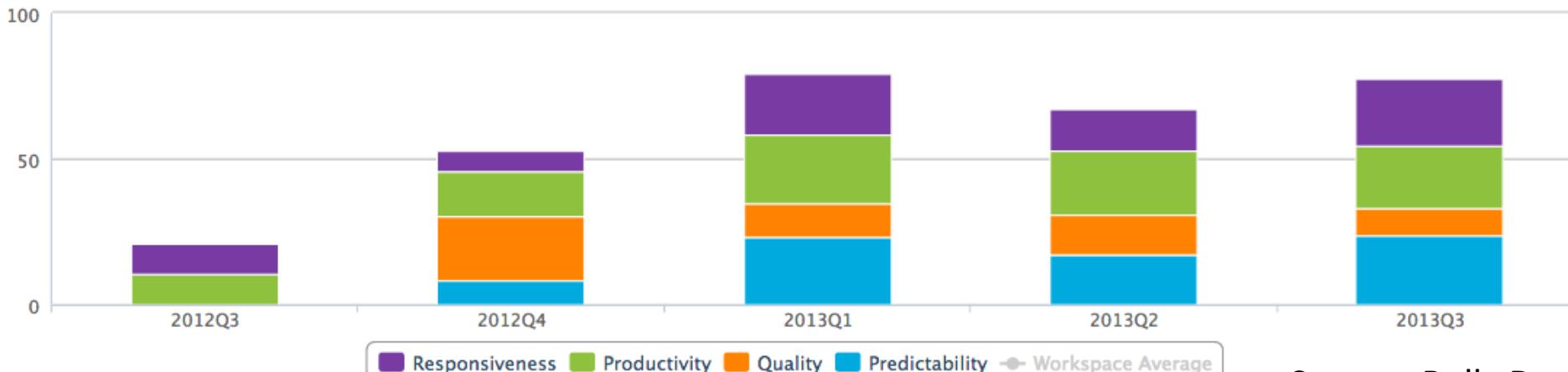
■ Responsiveness ■ Productivity ■ Quality ■ Predictability

- Productivity = throughput avg / team size
- Predictability = variability of throughput / size
- Responsiveness = time in process average
- Quality = released defect density / throughput

The Software Development Performance Index
The SDPI framework includes a balanced set of outcome measures. These fall along the dimensions of Responsiveness, Quality, Productivity, Predictability, ...

Example, team over time -

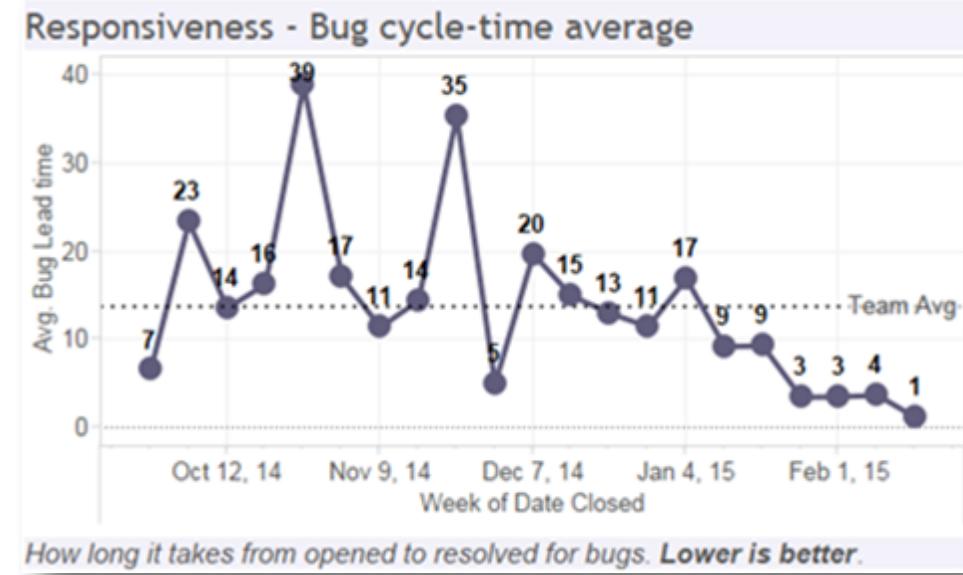
Software Development Performance Index
(Higher is better)



Source: Rally Dev.

Responsiveness

"If something urgent comes along, how fast can we turn that around"



- Average or median of the number of days between two dates for items closed within a period
- Cycle time or Lead time of ???
 - If reliable first touch date, use that
 - If just created date, then use P1 and P2 bug

Completion Rate

“What is holding us back on completing more. Lets discuss dependencies and blockers in the retrospective”



- Team goal is to maximize number of COMPLETED items, not started items
- Count of items completed each period
- Don't celebrate bug throughput (as much)

Predictability

“How consistently do we deliver value?”



- How much variation there is each week in throughput, normalized by “team size” in a rough way
- Coefficient of Variation = Mean/SD

Data is evil, but it doesn't have to be

- Manipulate behavior by
 - Embarrass
 - Coerce
- Make a point rather than make a difference
 - No action,
 - just data to classify someone is good and someone is bad
- They can tell a story that helps balance and improve where time and energy is best spent
 - Metrics tell a story
 - We learn from the story and make actions
 - Through these actions we improve

Purpose of coaching dashboards

- **Improvement – what to change**
 - To help teams identify their weakest area comparable to other teams in similar circumstances
 - To confirm improvement has been achieved after a process change experiment
 - To identify what was traded to achieve that improvement
- **Avoidance – what to watch (sense)**
 - To identify what internal team factors most disrupt team momentum
 - To identify what external factors most disrupt team momentum

Data is un-necessary...

- When there is unlimited time and money, or the journey to a destination is well known, perhaps.
 - But this isn't the most common case
 - And even when data isn't captured on paper, its assumed in peoples heads
- There is always more demand than supply
- There are always insights that are missed
- There is always room for improvement
- You can try and guess. You may be often right, but how do you know?

What makes a good metric?

- **Is relevant to the team or individual** - personalized
 - To compare against others, and to see progress
- **Is within the teams ability to move** (or get moved)
 - Has value in being diagnostic
- **Passively captured** (low cost and effort)
 - Look for cheapest correlated metric to a more costly metric where possible
- **Balances another metric** – demonstrates tradeoff and impacts – trends adversely to another metric
 - Look for cheapest metric that will likely be negatively impacted by movement of another metric