ActionableAgile
Take Control

Actionable Agile Metrics for Predictability

Daniel S. Vacanti
ActionableAgile™
daniel@actionableagile.com
@danvacanti

“When will it be done?”

“When will it be done?”

Date (number of days)

Elapsed Time

“When will it be done?”

Date (number of days)

Story Points / Velocity

Stop me if you've heard this one before…

“Relative Complexity is the best predictor of how long it takes an item to complete”

Year 2014

	Stories		Points	InProgress	Ready for QA	QA	Ready for Aceptance	Aceptance	Holding	Total Days
							Average Days			
Total Closed	157	Total Closed	182	2.82	0.57	1.34	0.53	0.04	0.55	**5.85**
0 Points	9									
Half Point	86	Half Point	43	0.95	0.48	0.59	0.47	0.02	0.35	**2.86**
1 Points	25	1 Points	25	2.60	0.56	1.40	0.36	0.04	0.44	**5.40**
2 Points	12	2 Points	24	5.50	0.42	2.00	0.33	0.00	0.42	**8.67**
3 Points	19	3 Points	57	8.00	1.21	4.47	1.32	0.05	1.95	**17.00**
5 Points	5	5 Points	25	9.20	0.40	2.60	0.20	0.00	0.60	**13.00**
8 Points	1	8 Points	8	25.00	0.00	2.00	0.00	0.00	0.00	**27.00**
12 Points	0	12 Points	0							

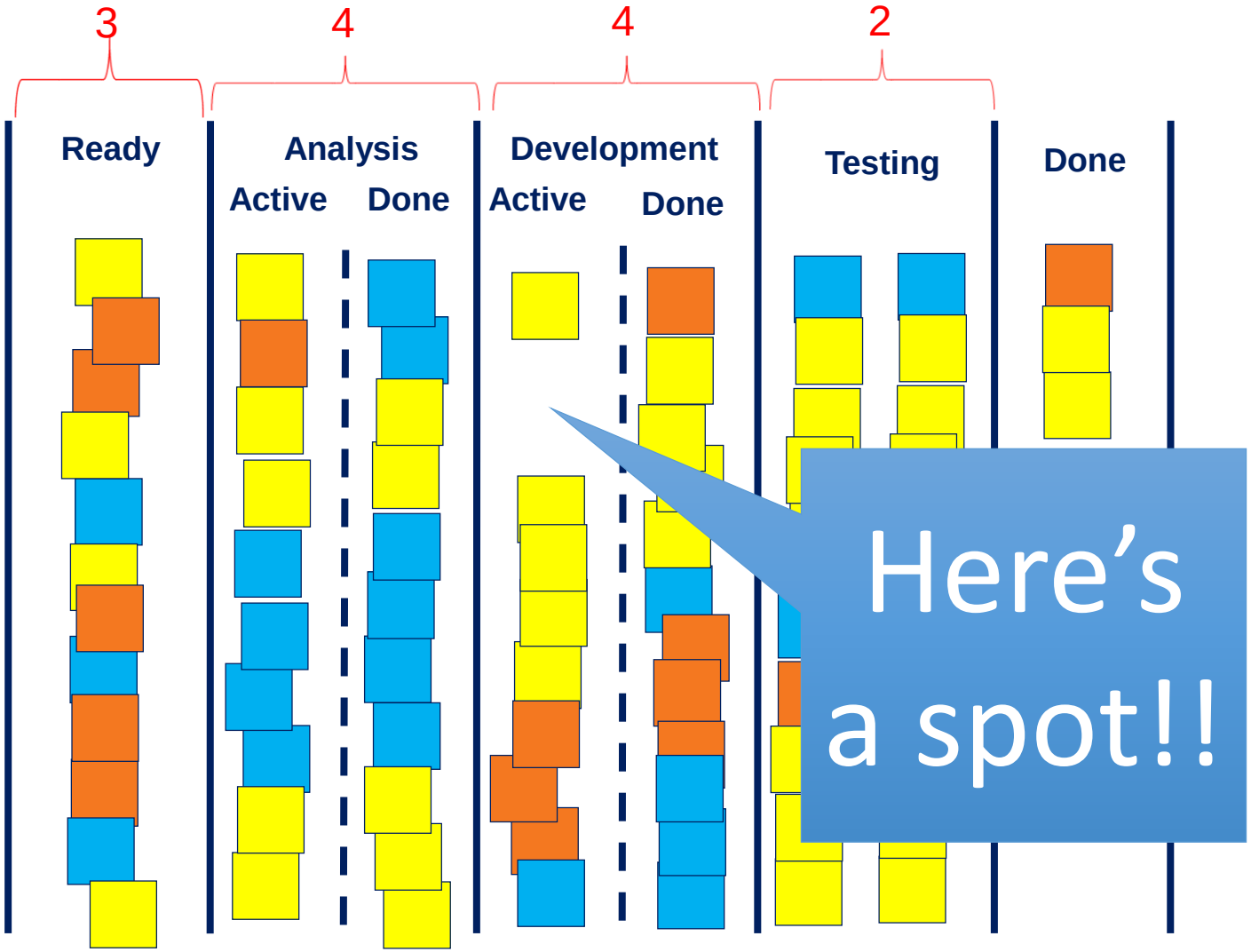
I'm going to suggest something radical…

As an example:

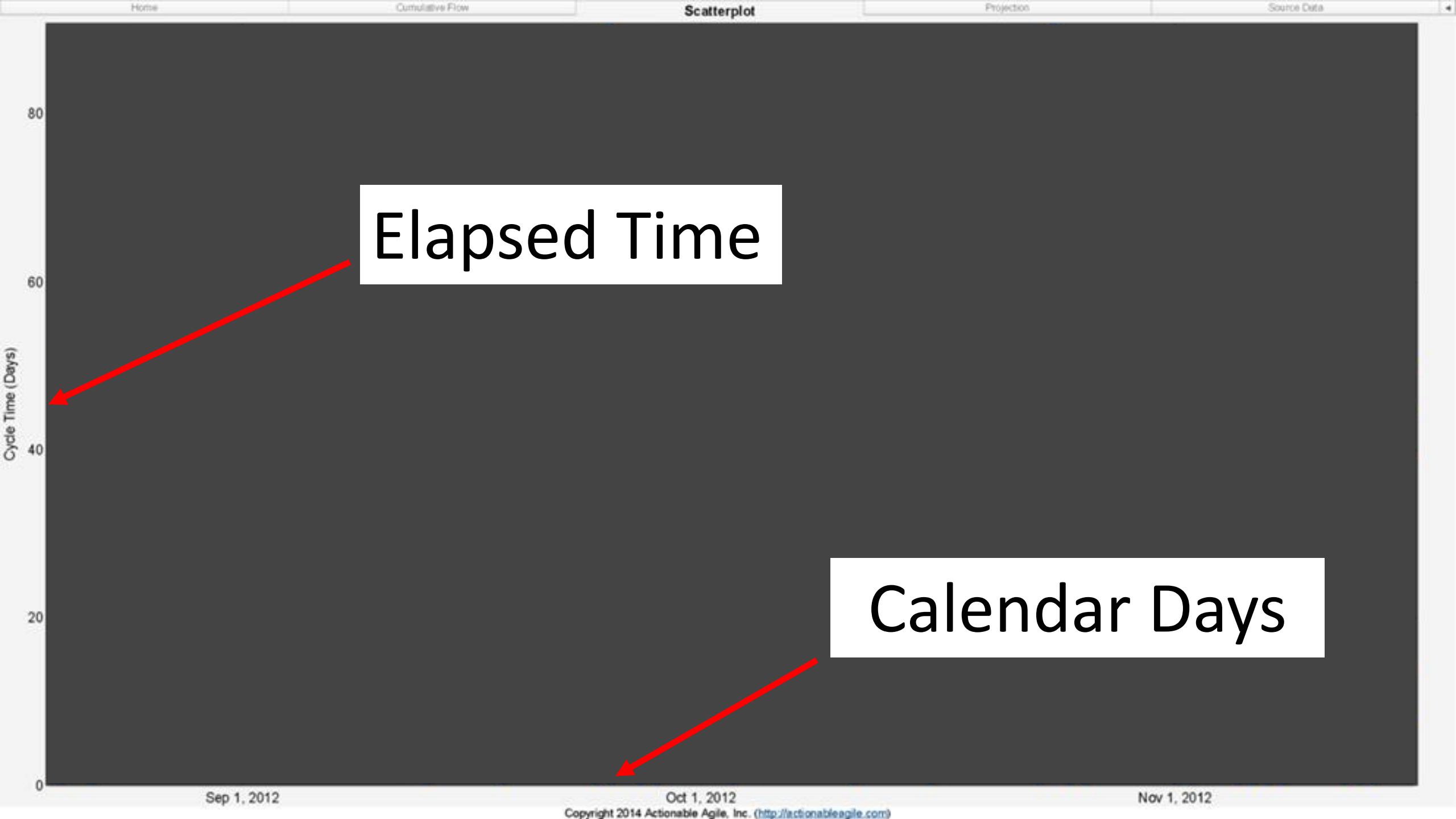
How long does it take you to get to work in the morning?

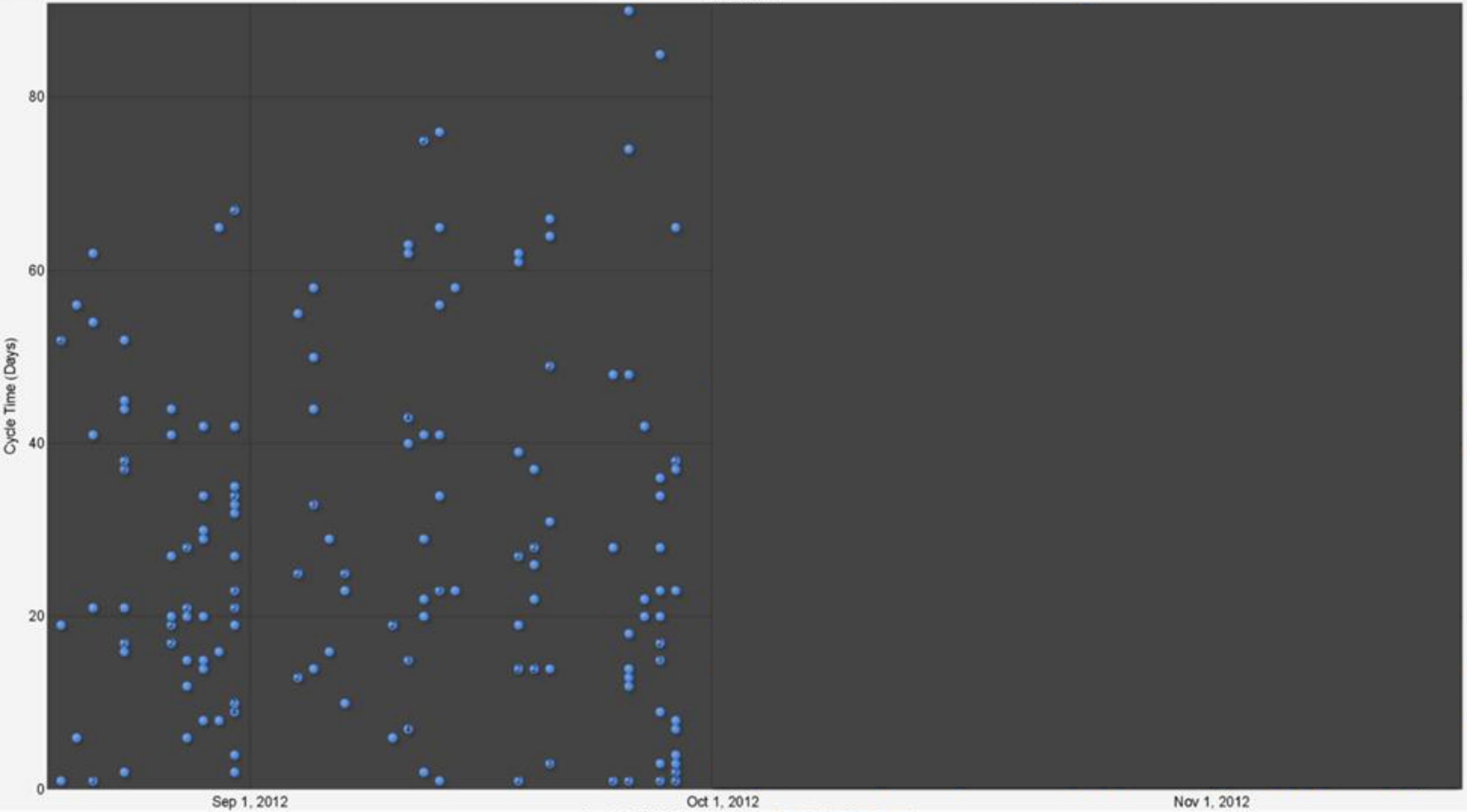
“It depends…”

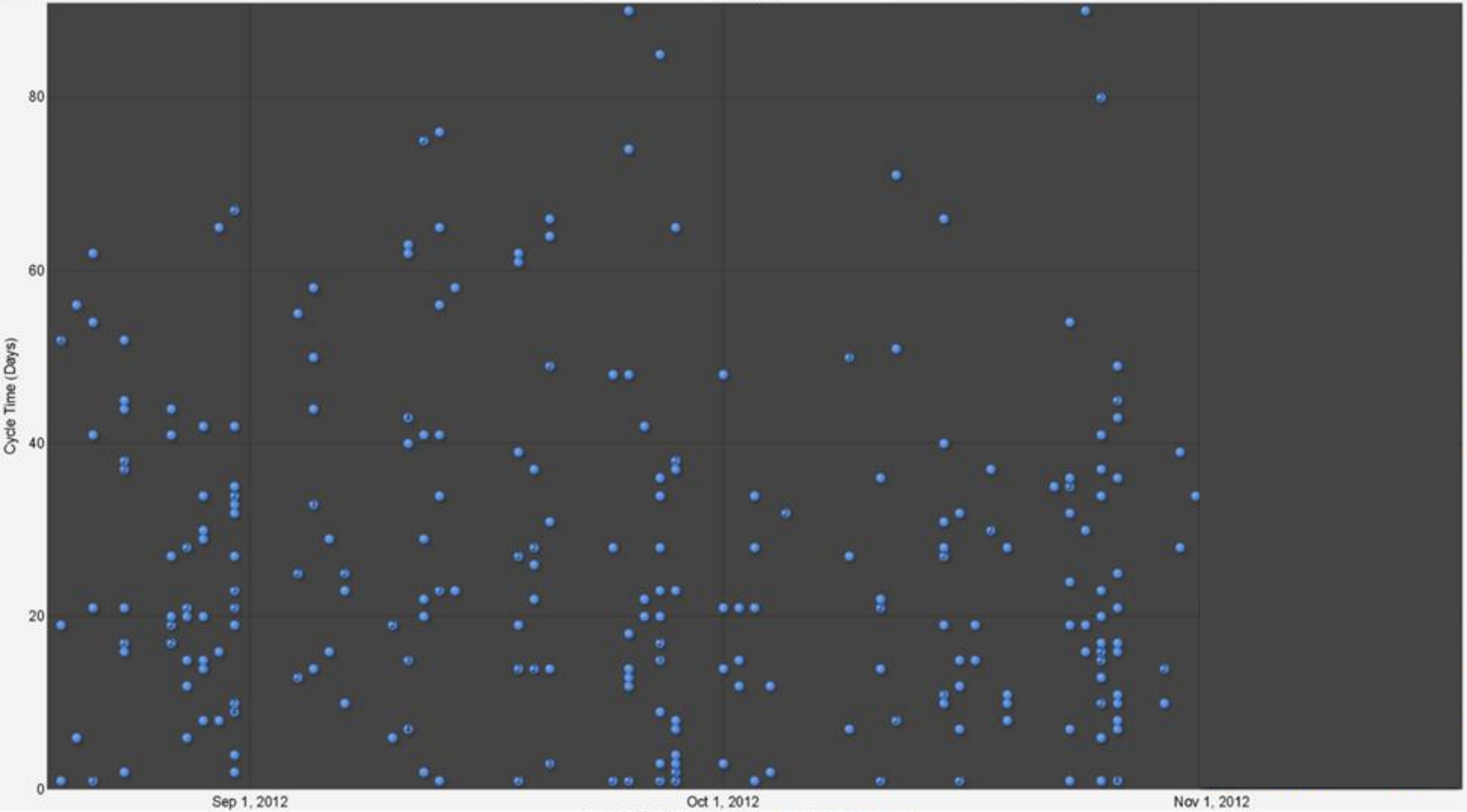

Here’s
a spot!!

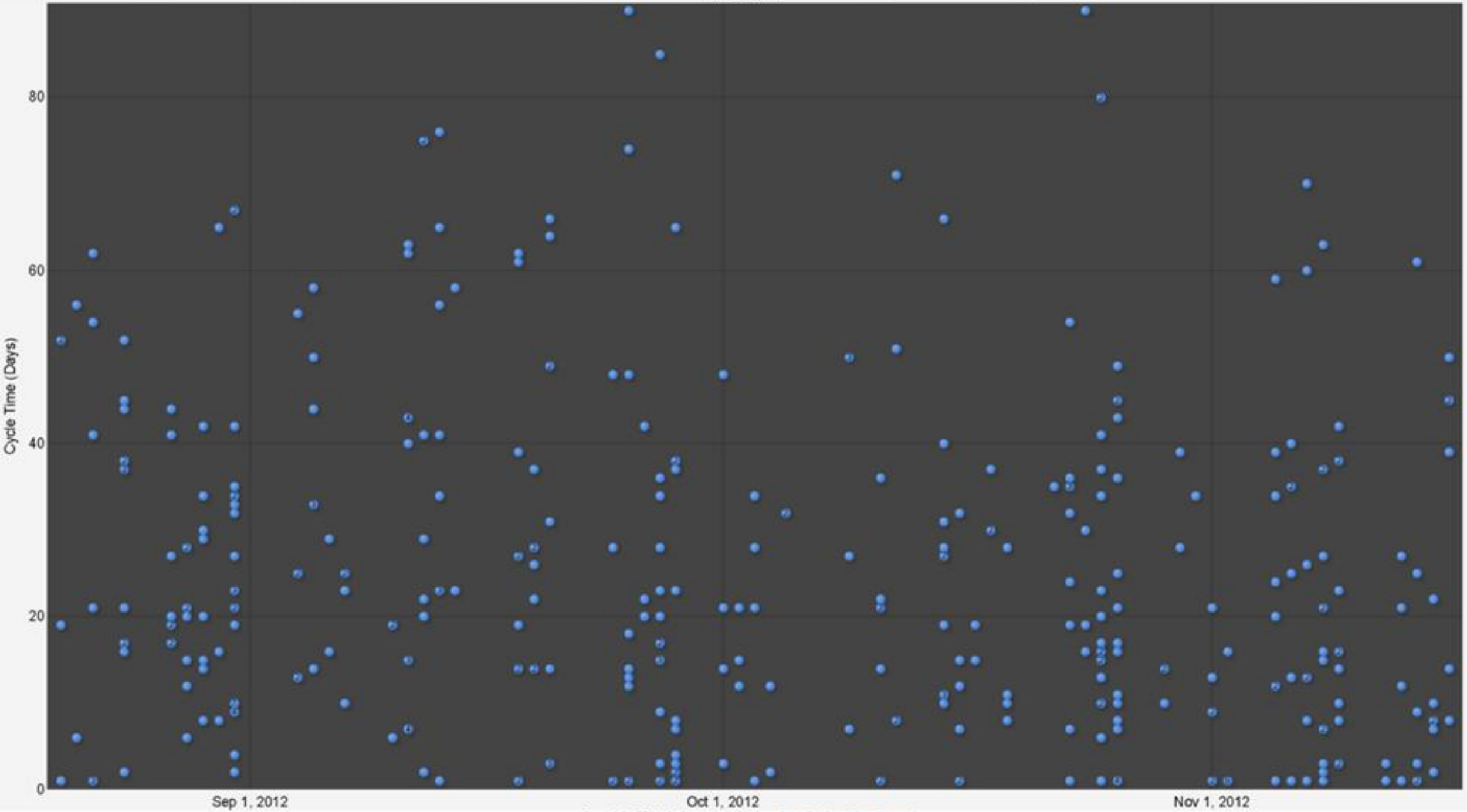

3
4
4
2
Ready
Analysis
Active
Done
Development
Active
Done
Testing
Done
Here's a spot!!

Try an experiment for me…

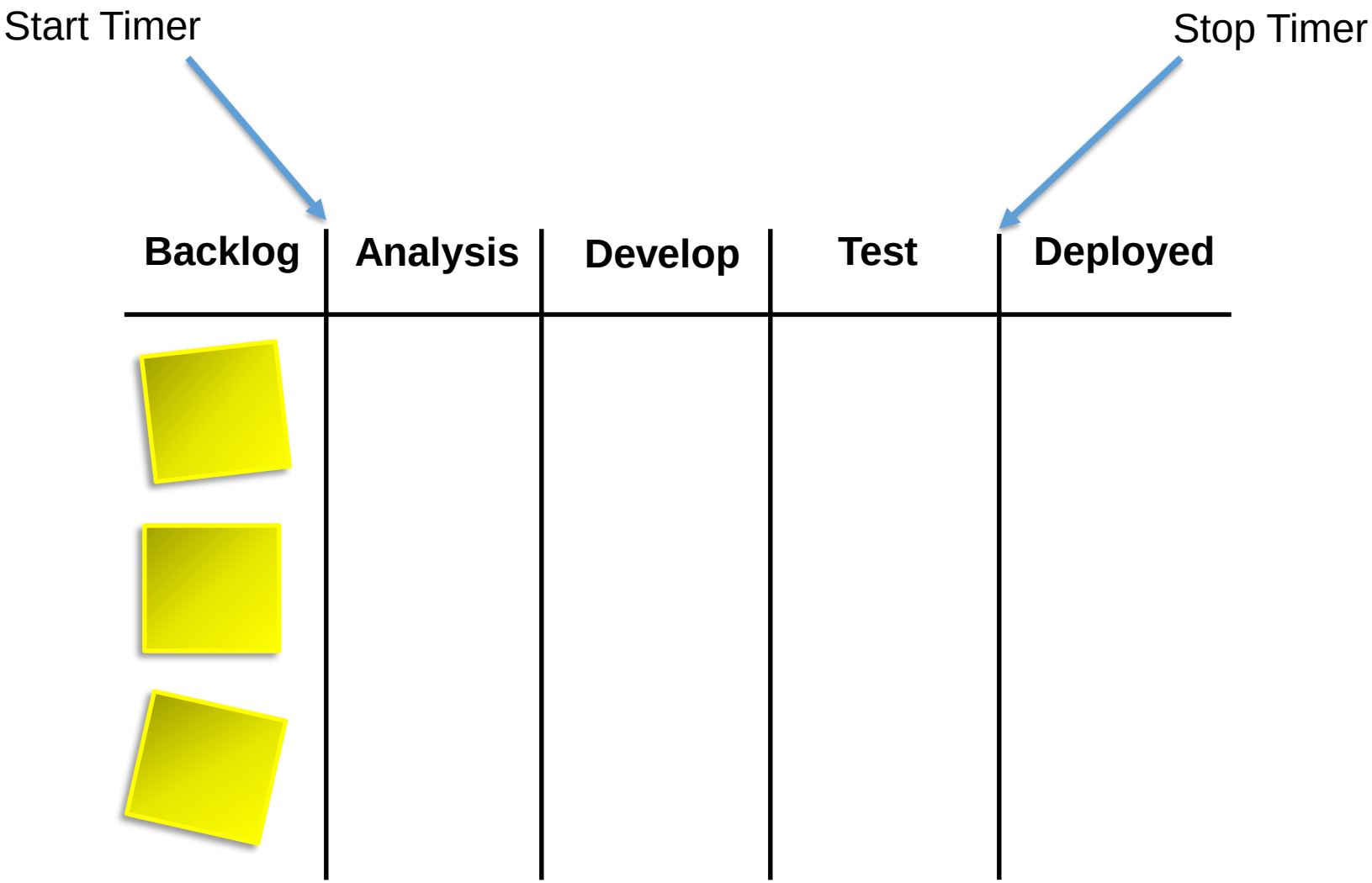

Home
Cumulative Flow
Scatterplot
Projection
Source Data
Elapsed Time
Calendar Days
Cycle Time (Days)
80
60
40
20
0
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
Copyright 2014 Actionable Agile, Inc. (http://actionableagile.com)

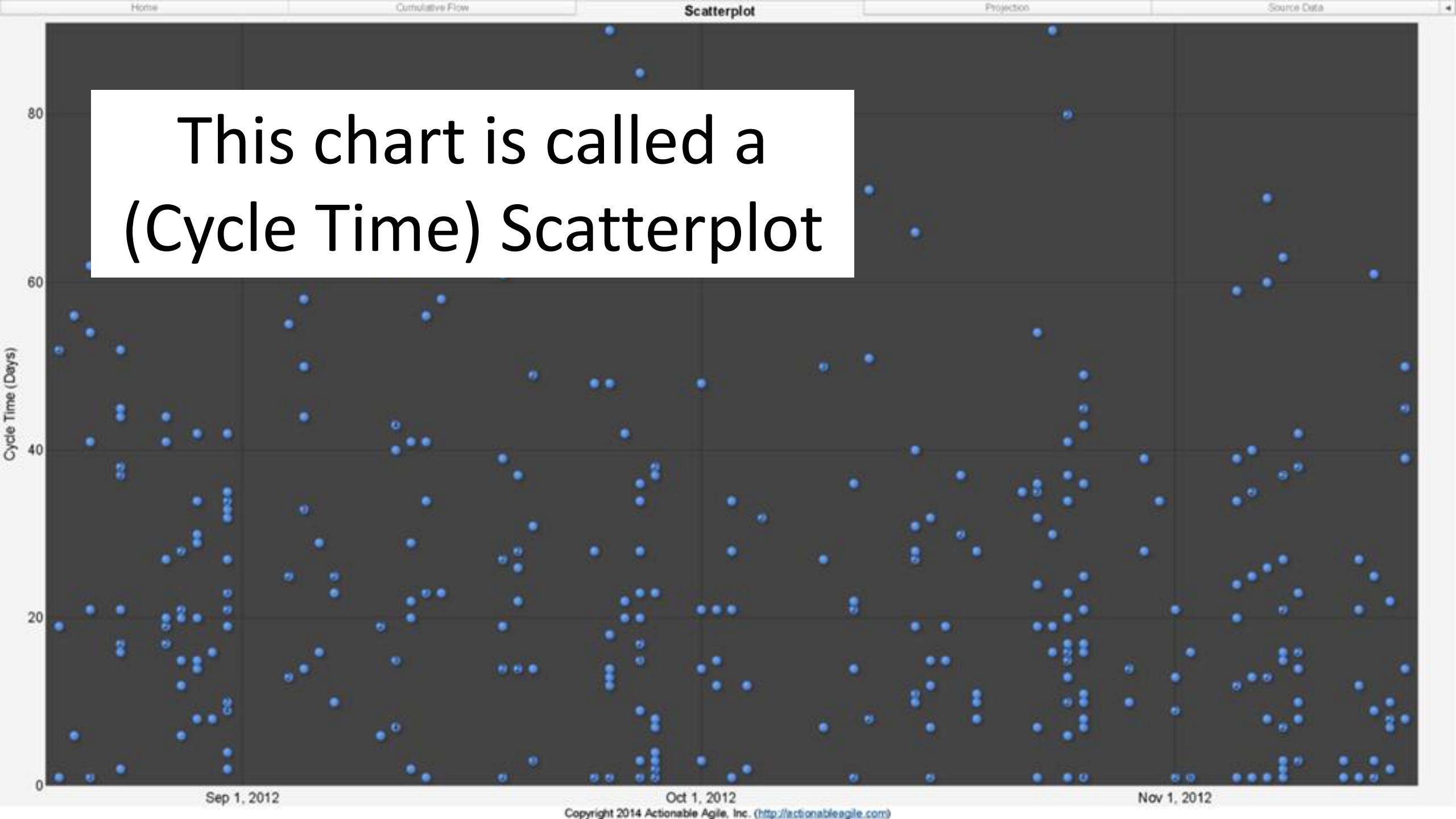






Try the same thing for your process


Start Timer
Stop Timer
Backlog
Analysis
Develop
Test
Deployed


Home
Cumulative Flow
Scatterplot
Projection
Source Data
This chart is called a
(Cycle Time) Scatterplot
Cycle Time (Days)
0
20
40
60
80
Sep 1, 2012
Oct 1, 2012
Nov 1, 2012
Copyright 2014 Actionable Agile, Inc. (http://actionableagile.com)

If you track nothing else*,

track the date that an item starts and the date that an item completes (for all work items)

That will give you a measure of the flow metric of

Cycle Time

Cycle Time

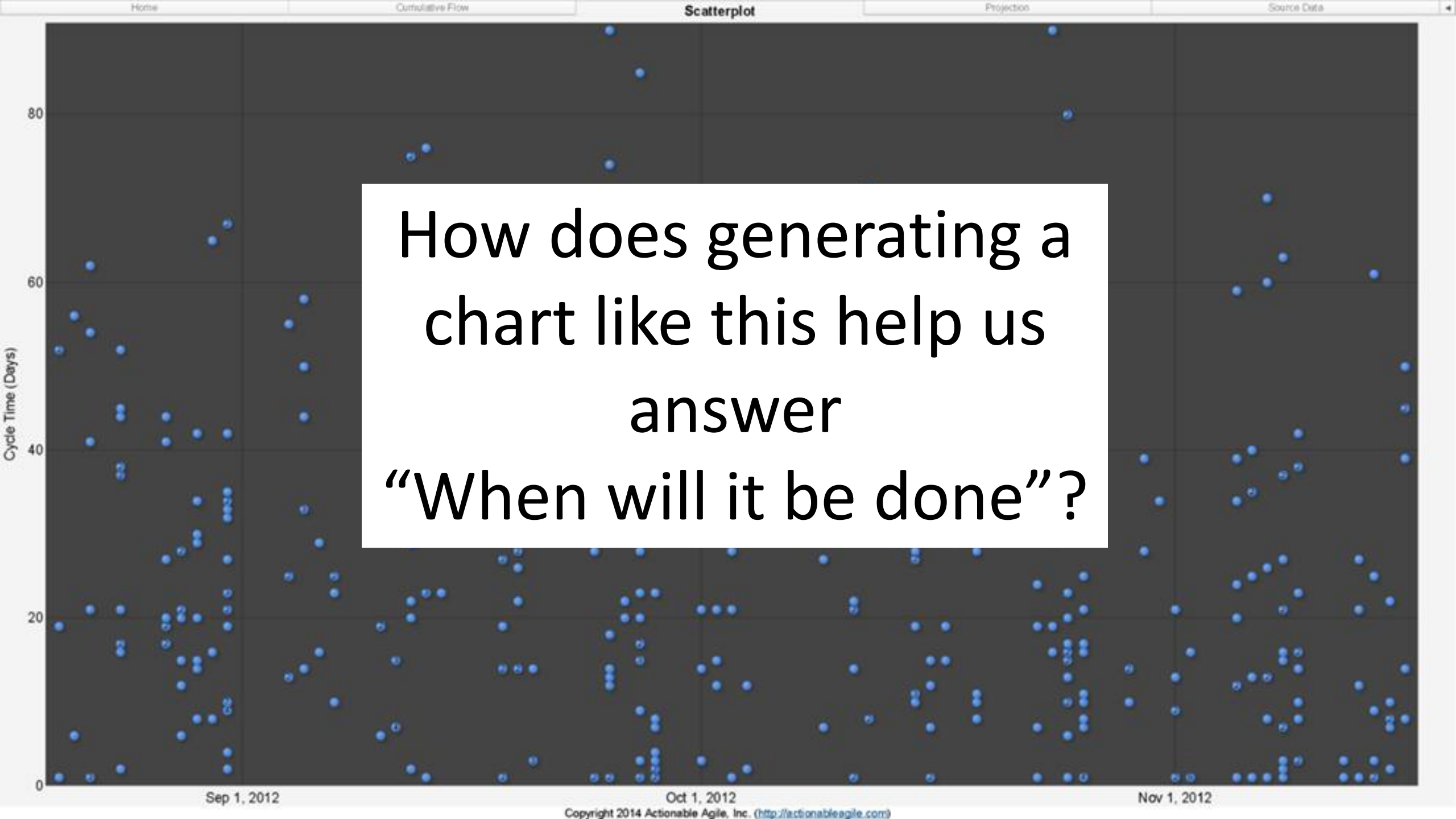
is the amount of

elapsed time

it takes for a given work item to complete

"When will it be done?"
(for a single item)
is best answered by
Cycle Time

“Huh?”



How does generating a chart like this help us answer
"When will it be done"?

How do we make sense of this randomness?

Your process is random.
Therefore, you can't think
deterministically.
You need to think
probabilistically.

What does it mean to think probabilistically?

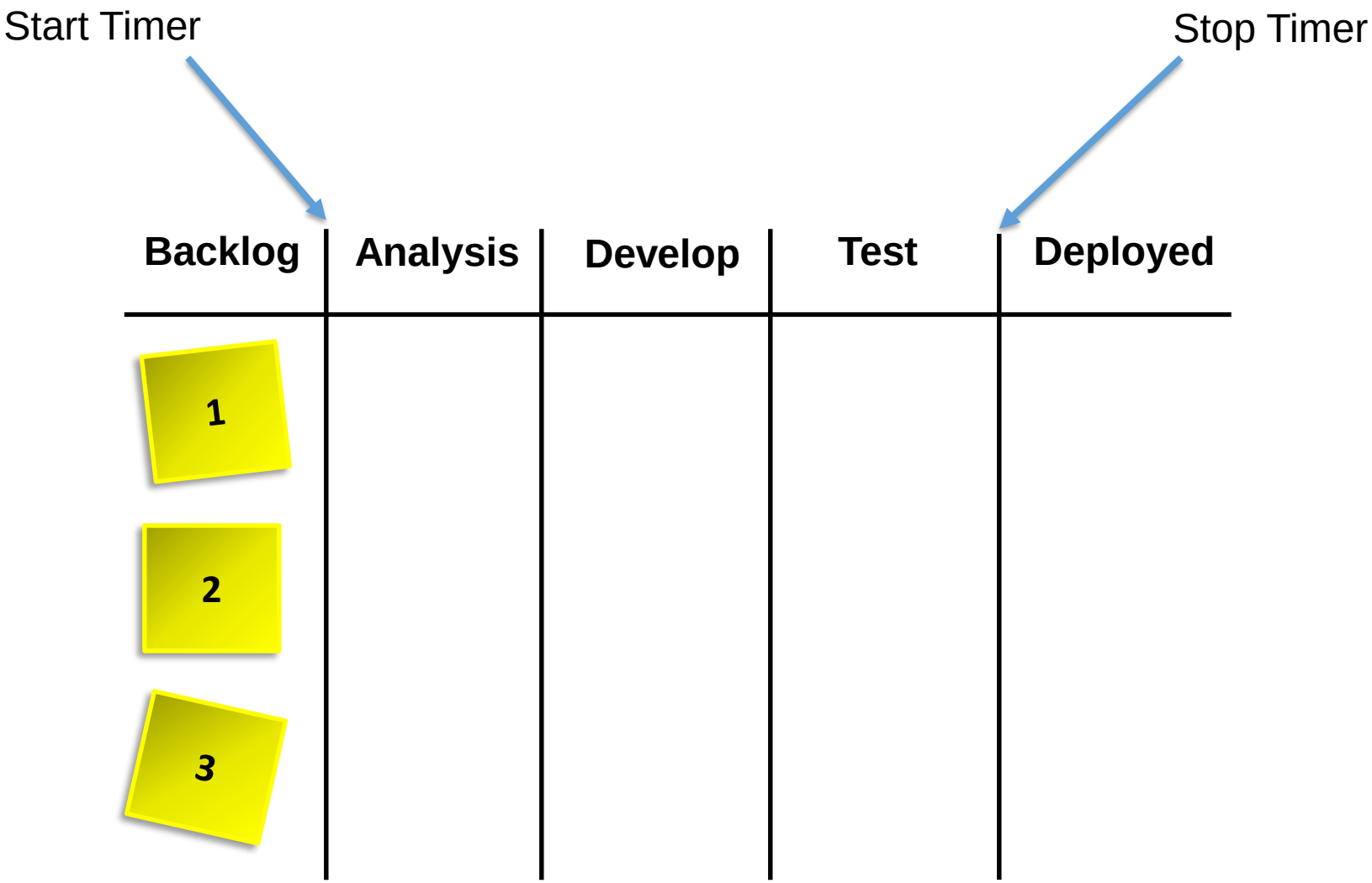
Let’s try another experiment…

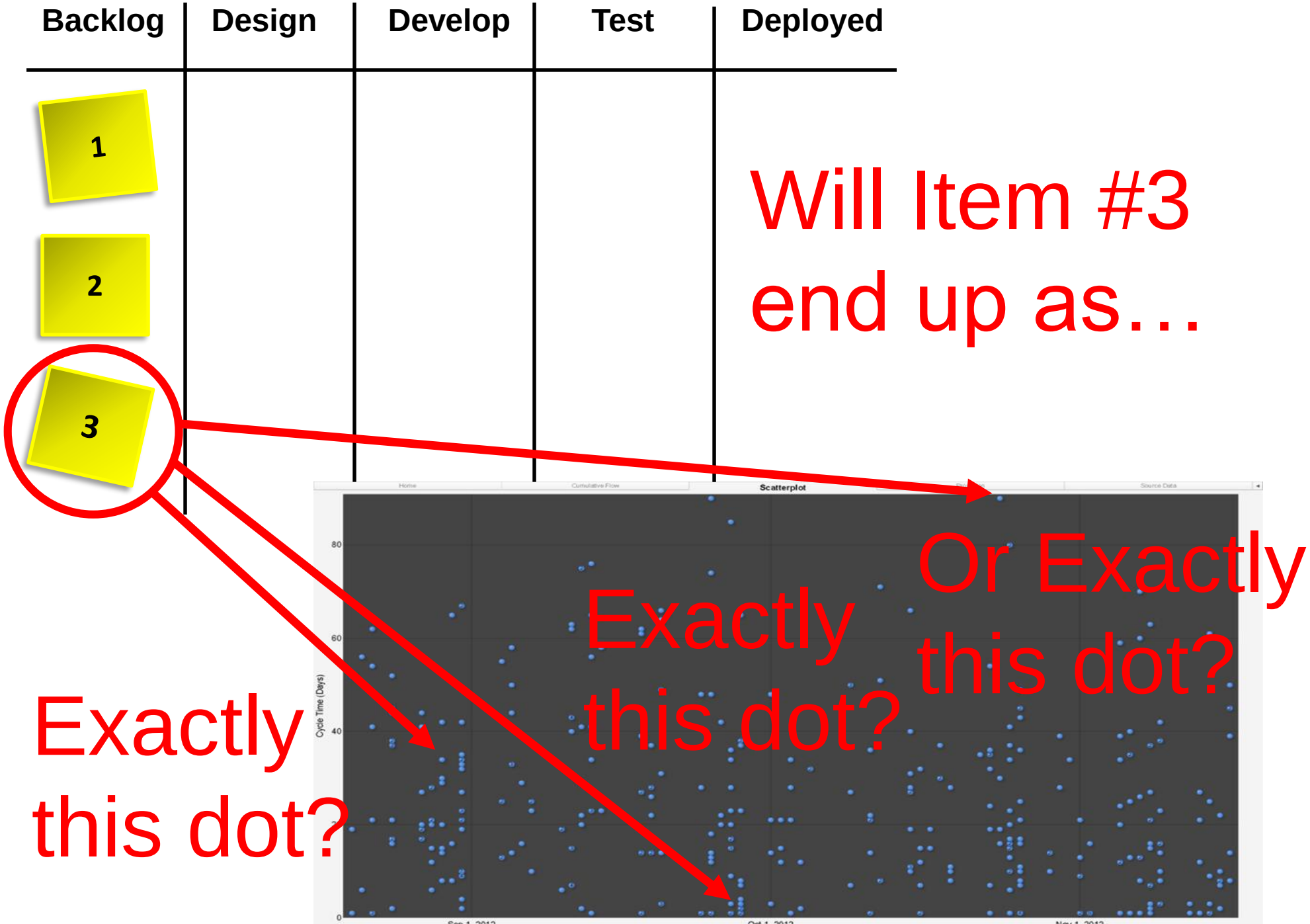
Thinking probabilistically means acknowledging that there is more than one possible future outcome

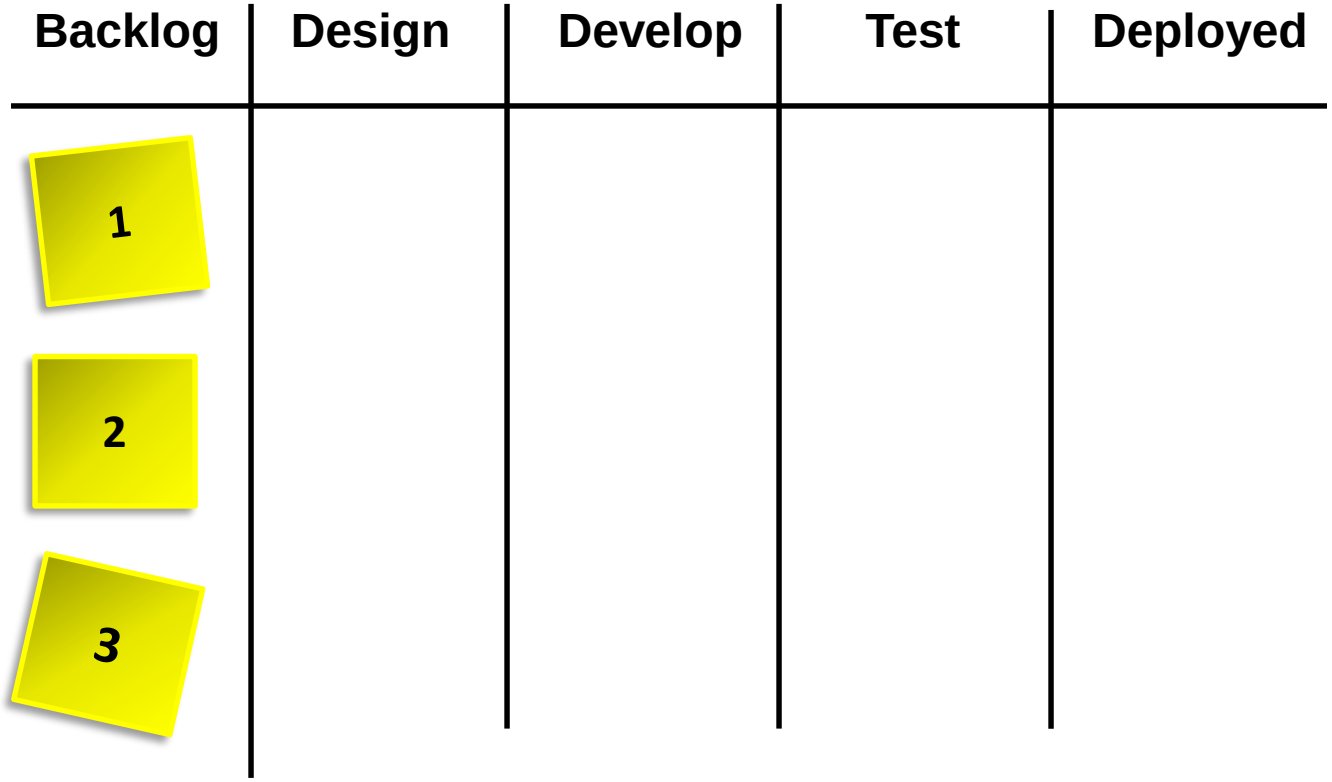
How many people can we “expect” to be standing after 3 flips?

12.5%

Does that mean 12.5% was the only possible outcome?


Start Timer
Stop Timer
Backlog
Analysis
Develop
Test
Deployed
1
2
3

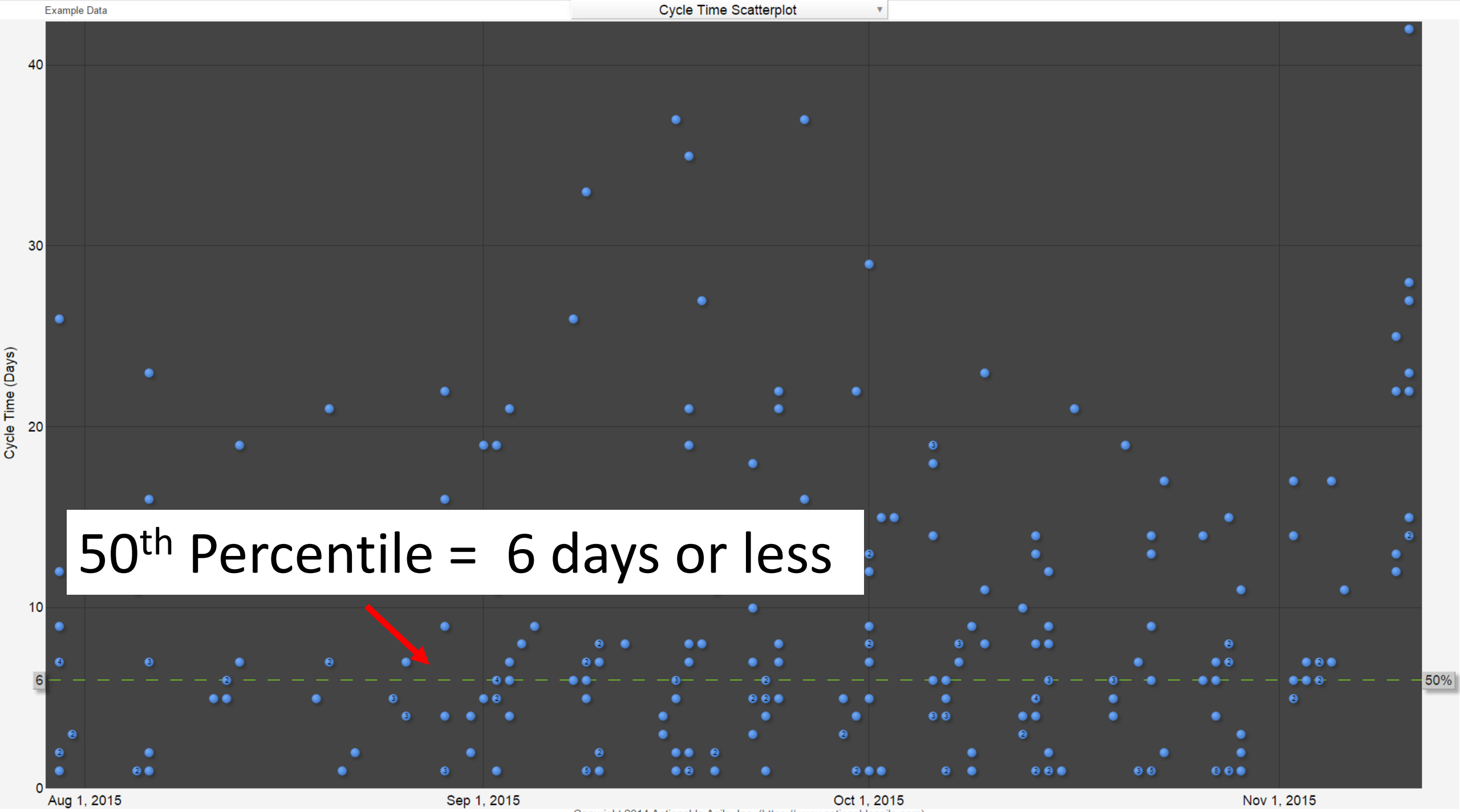

Backlog
Design
Develop
Test
Deployed
1
2
3
Will Item #3 end up as…
Scatterplot
Cycle Time (Days)
80
60
40
0
Exactly this dot?
Exactly this dot?
Or Exactly this dot?

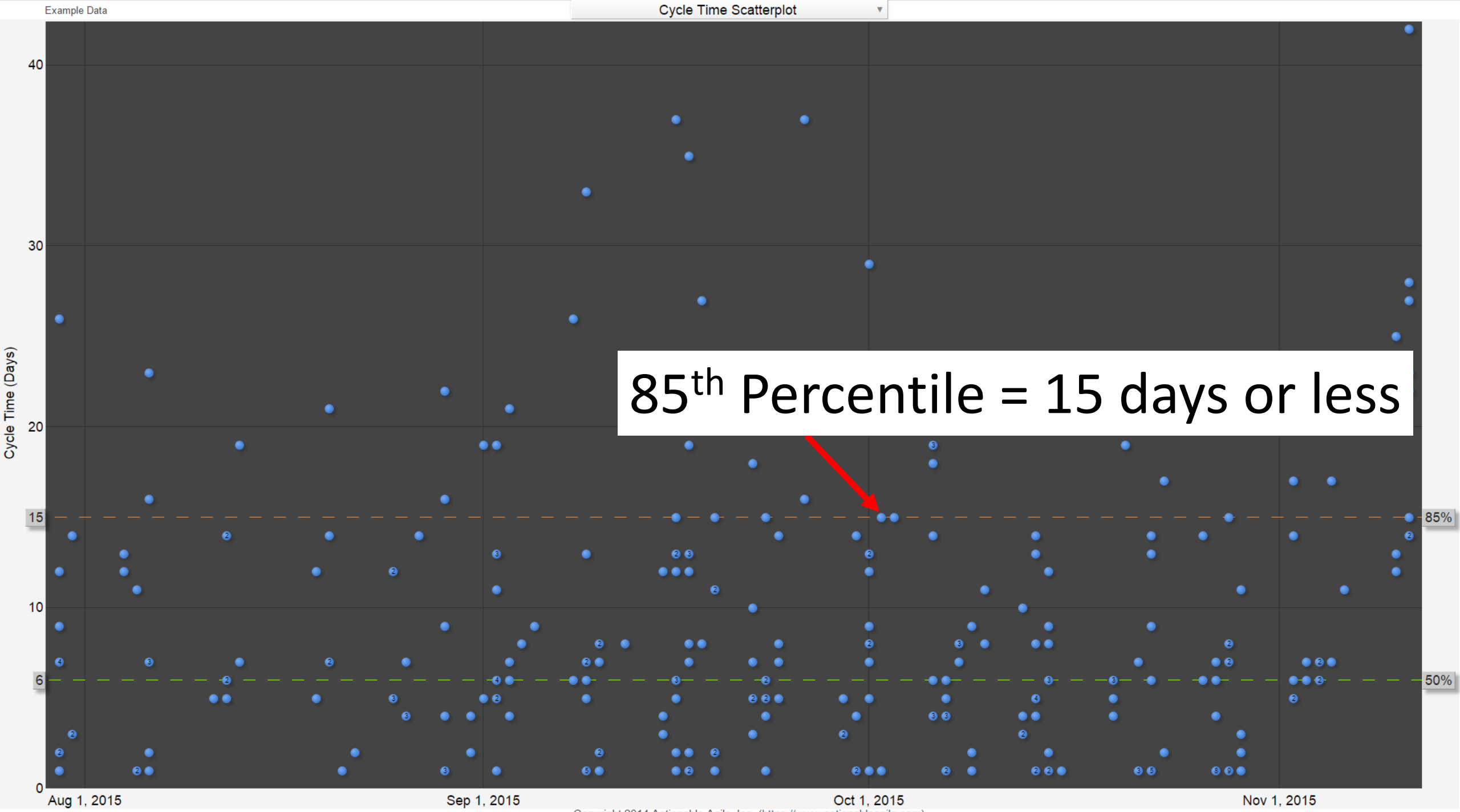


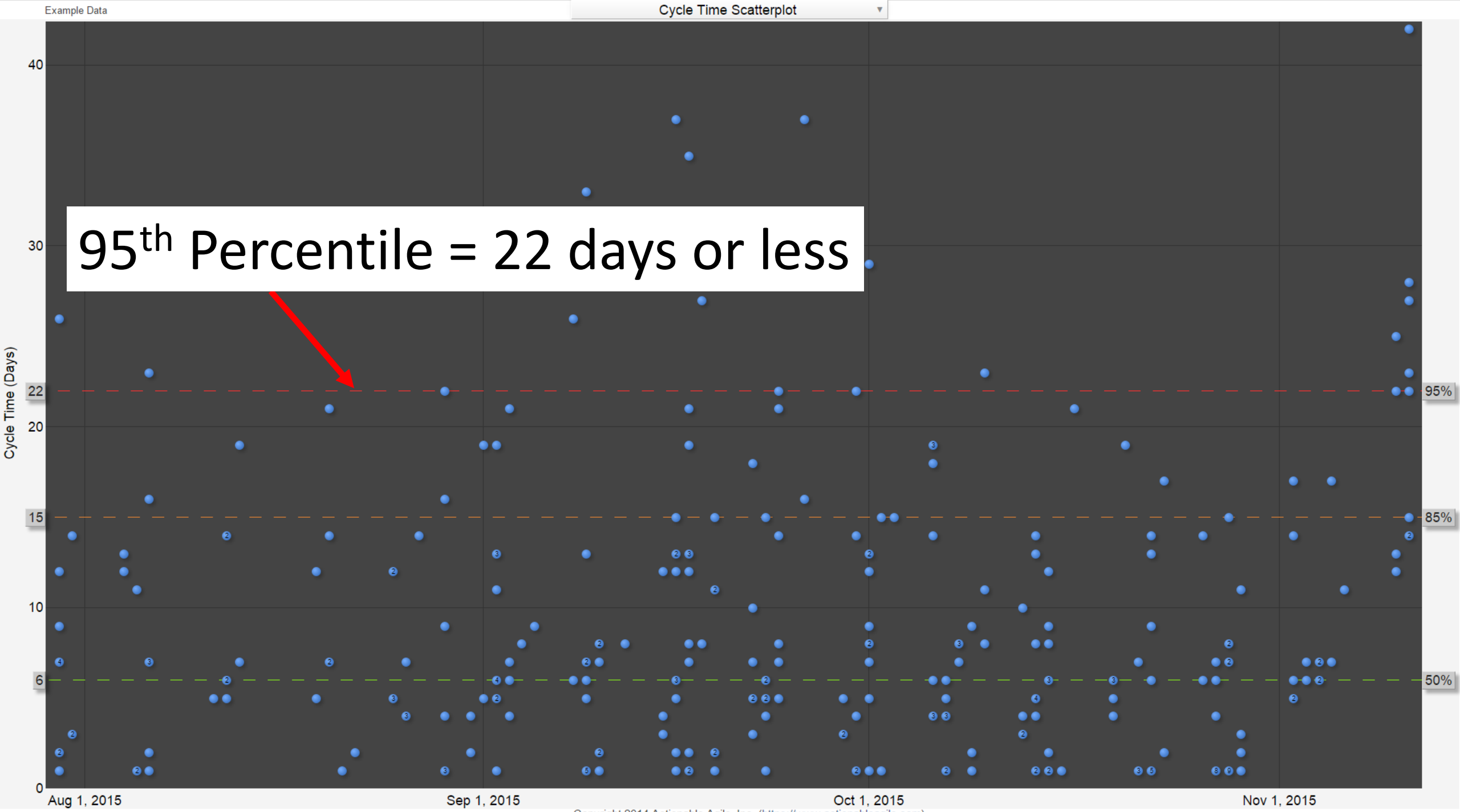
There is more than one possible outcome for Item #3 while it is sitting in the backlog

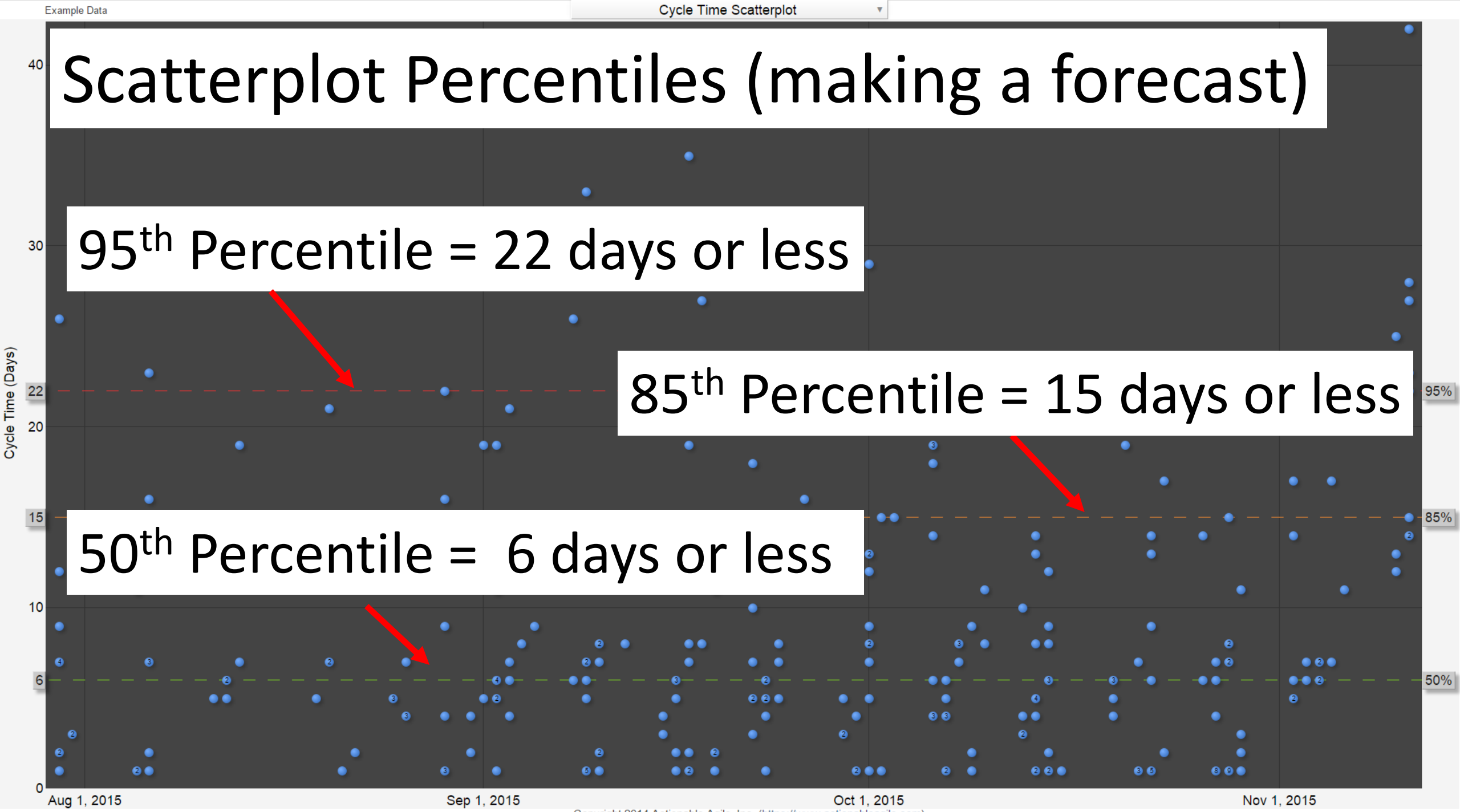
What are the possible outcomes?

How do we make sense of this "randomness"?







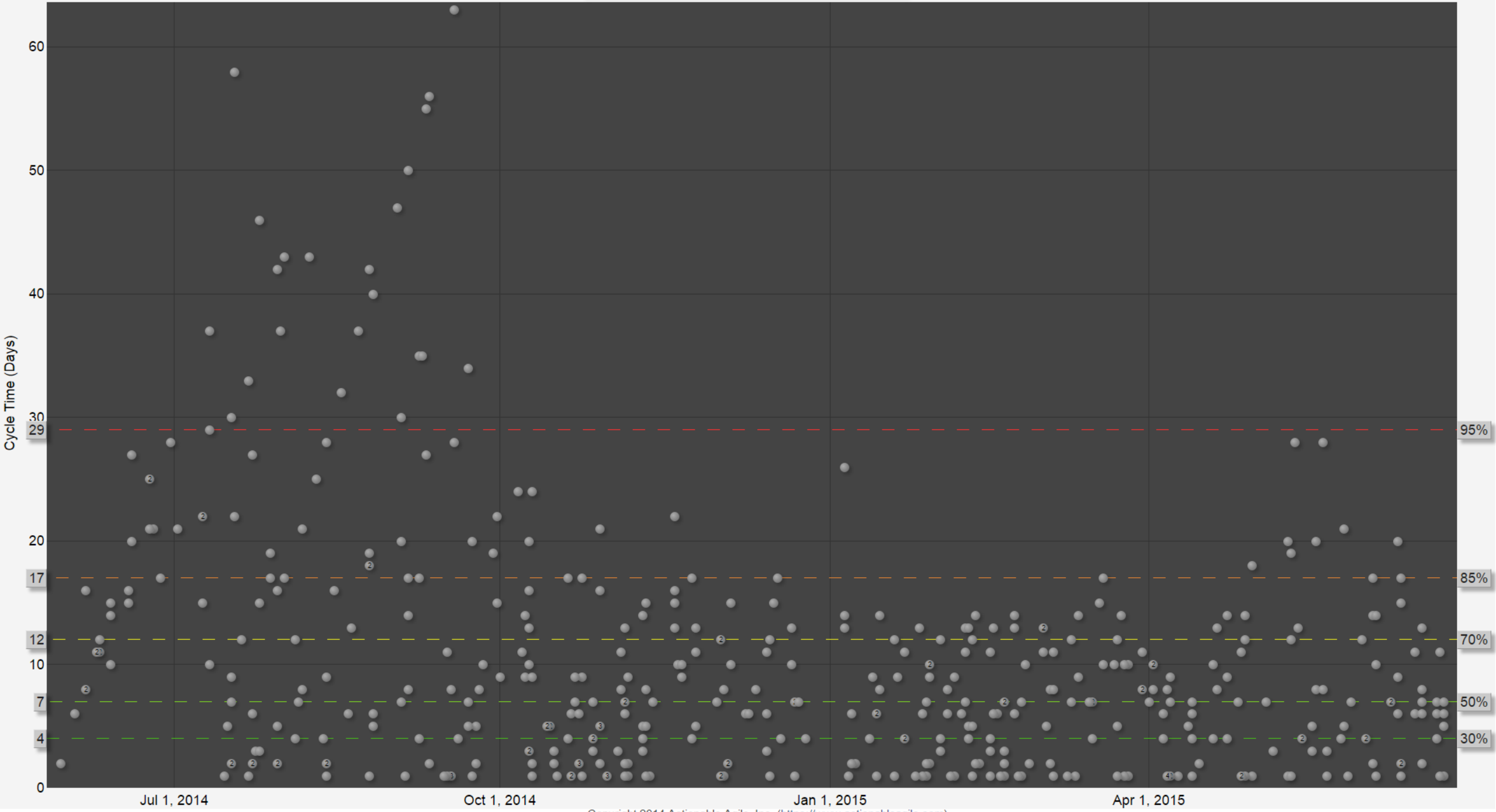


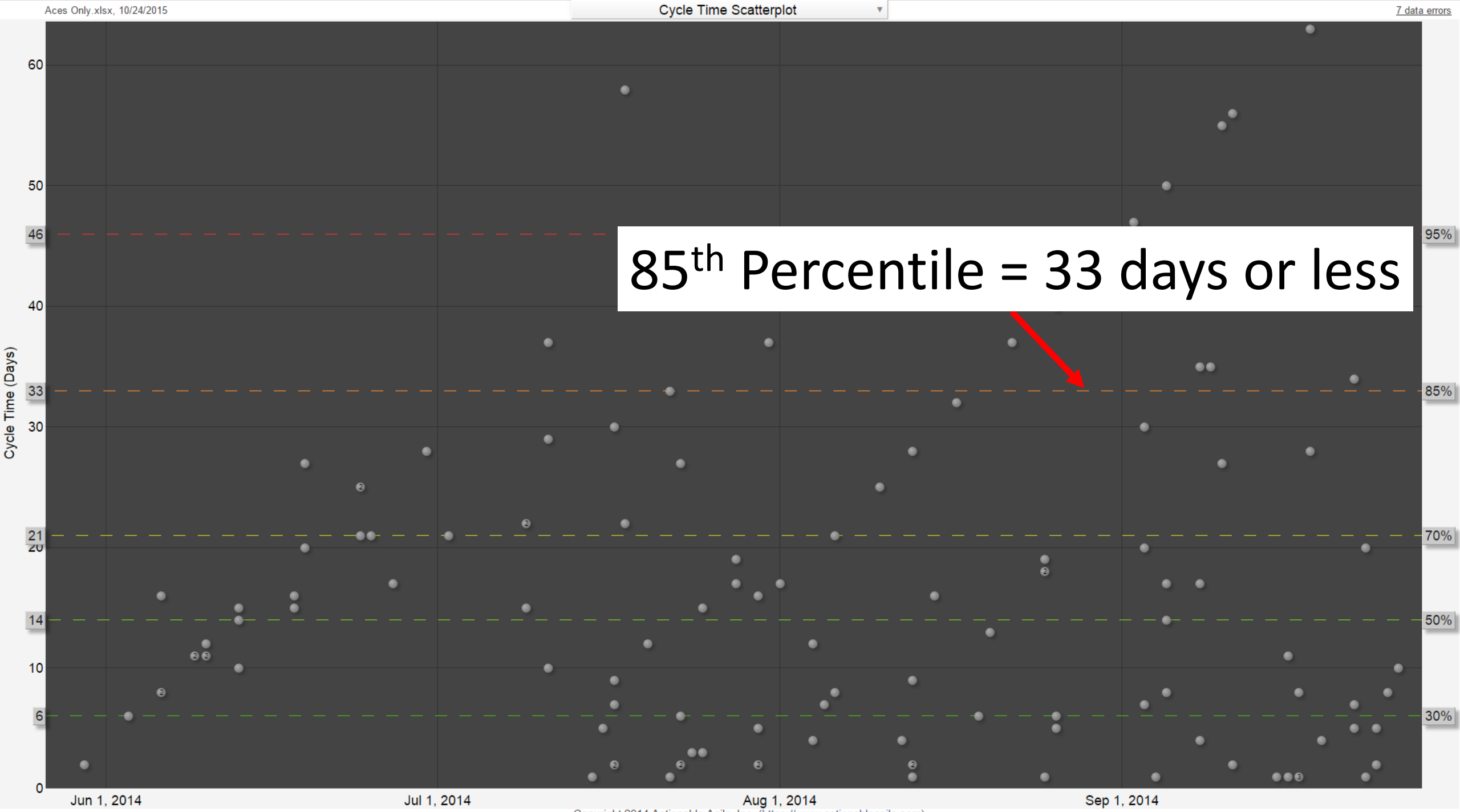
The answer to “When will it be done?” is a percentile and its associated range.

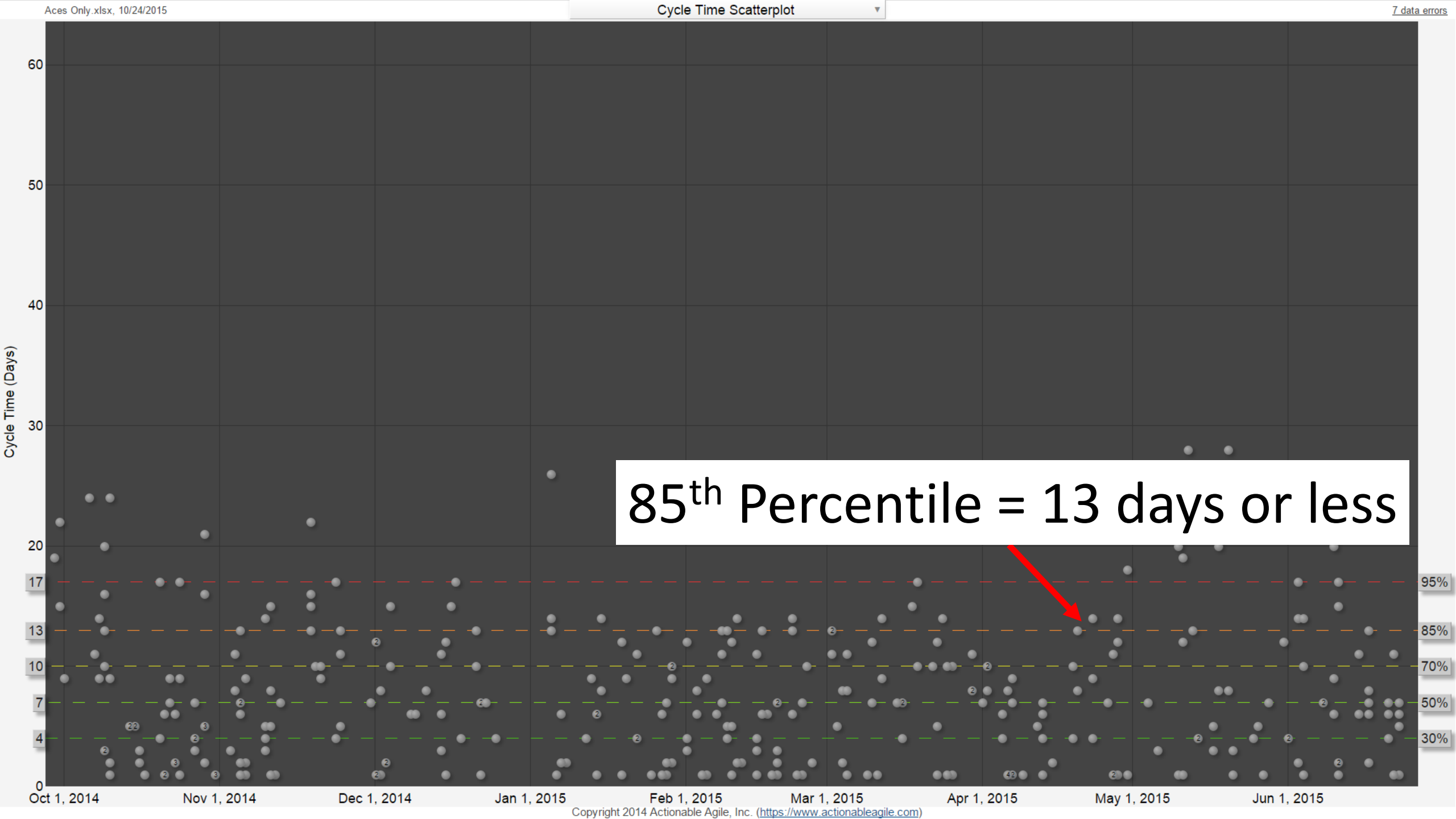
Aces Only.xlsx, 10/24/2015

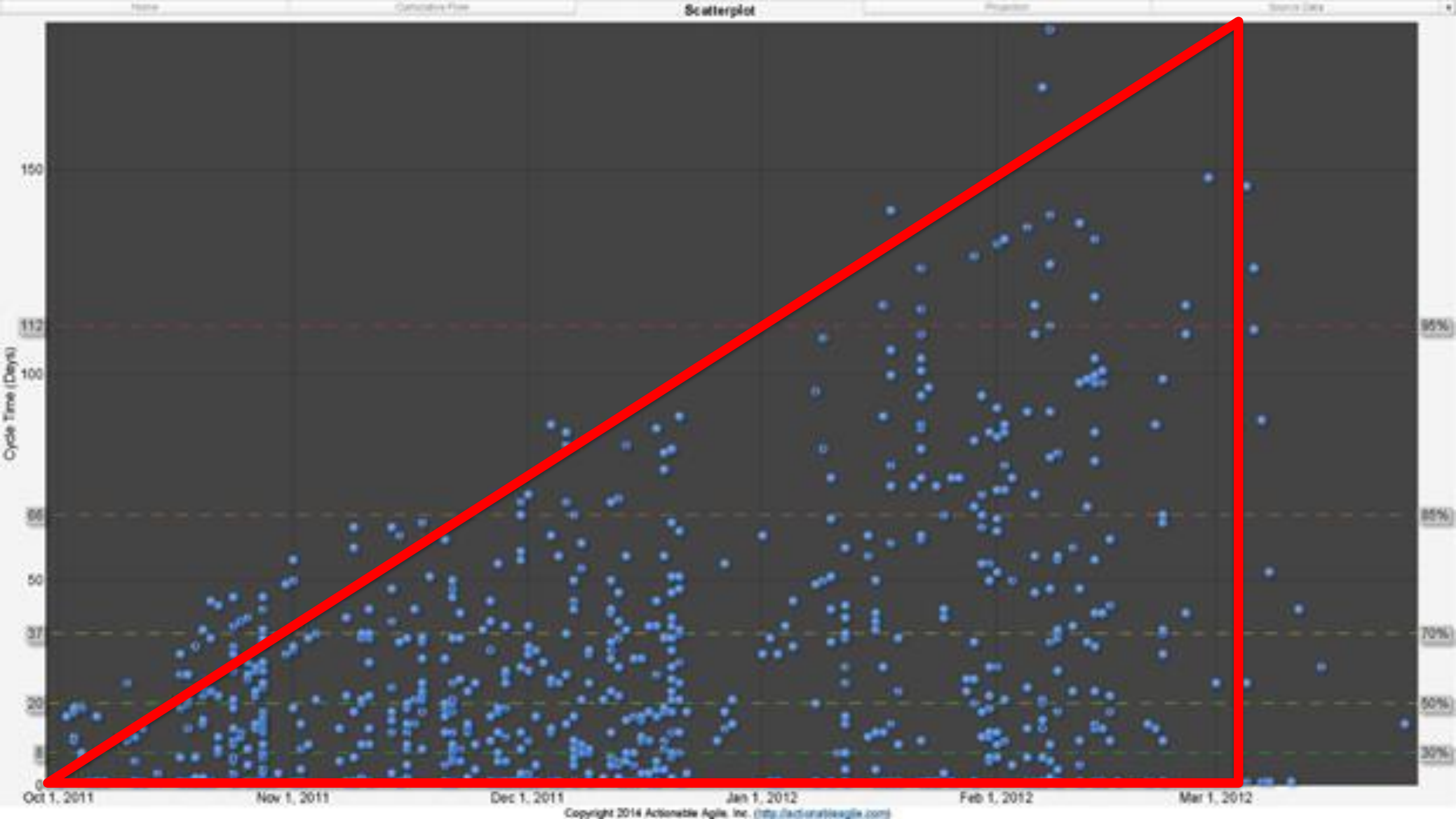
Cycle Time Scatterplot

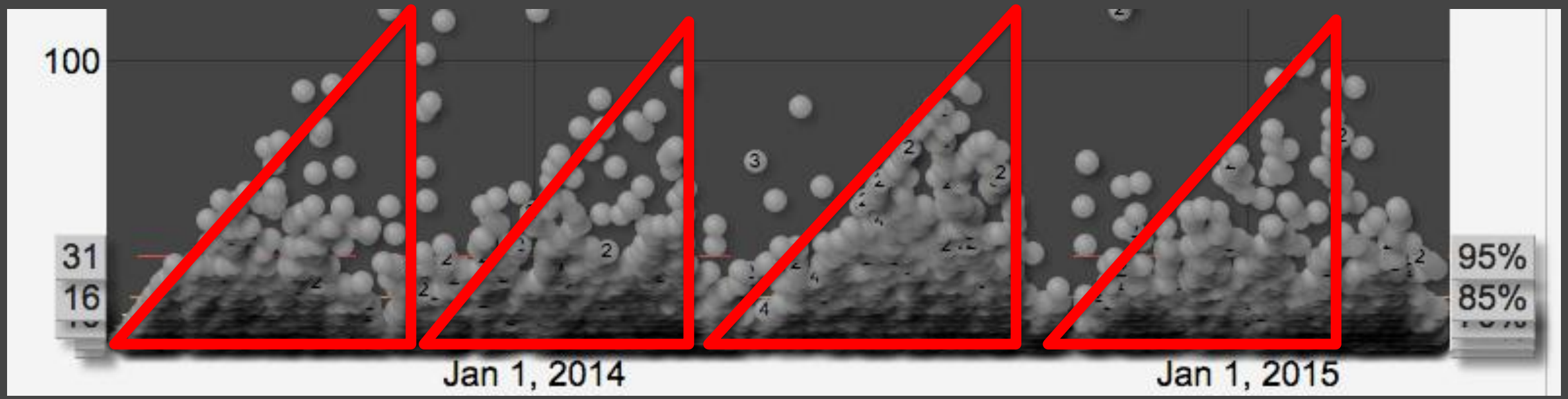
7 data errors

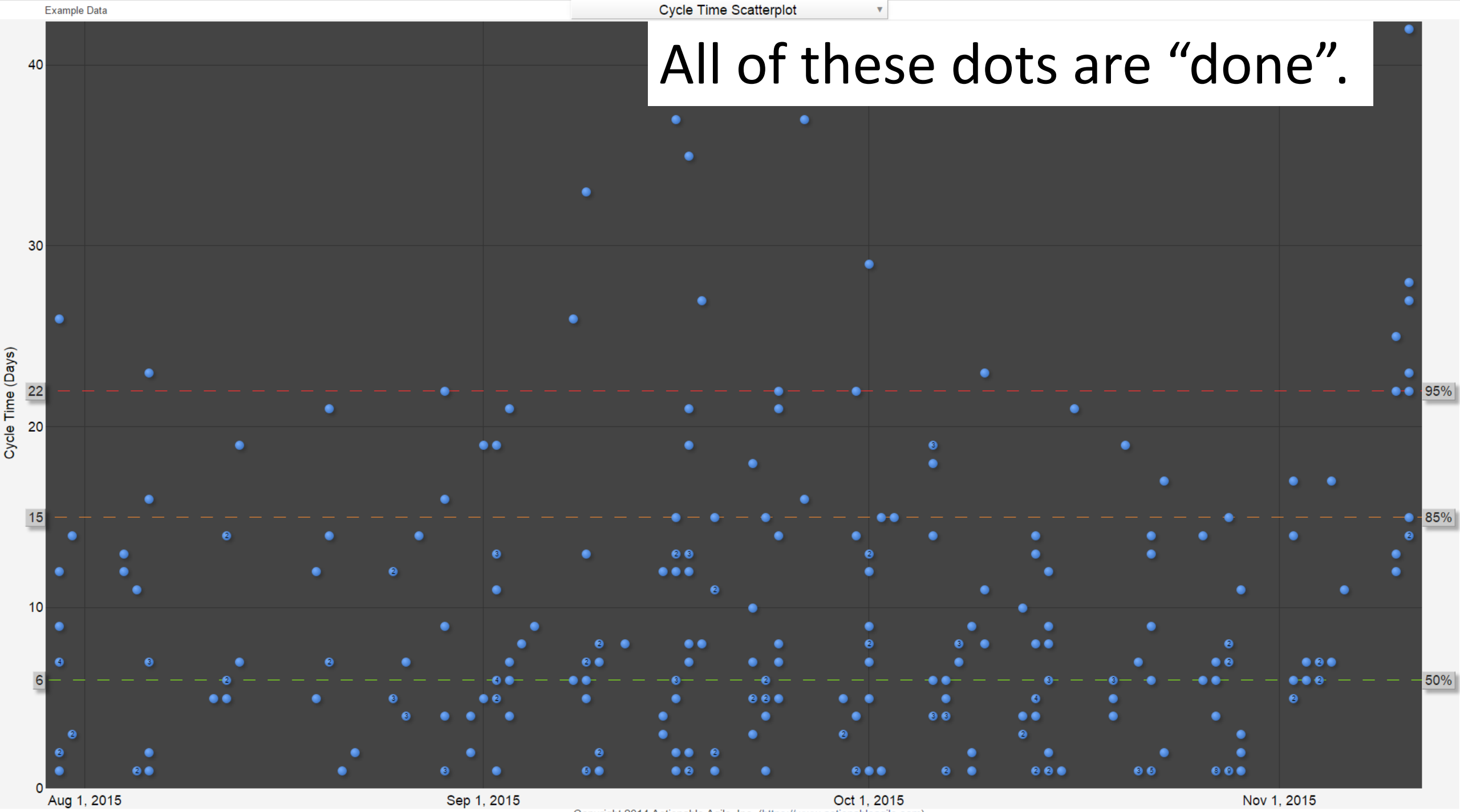



Aces Only.xlsx, 10/24/2015
Cycle Time Scatterplot
7 data errors
85th Percentile = 33 days or less
Cycle Time (Days)
60
50
46
40
33
30
21
20
14
10
6
0
95%
85%
70%
50%
30%
Jun 1, 2014
Jul 1, 2014
Aug 1, 2014
Sep 1, 2014
Copyright 2014 Actionable Agile, Inc. (https://www.actionableagile.com)


Aces Only.xlsx, 10/24/2015
Cycle Time Scatterplot
7 data errors
Cycle Time (Days)
60
50
40
30
20
17
13
10
7
4
0
95%
85%
70%
50%
30%
Oct 1, 2014
Nov 1, 2014
Dec 1, 2014
Jan 1, 2015
Feb 1, 2015
Mar 1, 2015
Apr 1, 2015
May 1, 2015
Jun 1, 2015
85th Percentile = 13 days or less
Copyright 2014 Actionable Agile, Inc. (https://www.actionableagile.com)


Scatterplot
Cycle Time (Days)
150
112
100
66
50
37
20
8
0
95%
85%
70%
50%
30%
Oct 1, 2011
Nov 1, 2011
Dec 1, 2011
Jan 1, 2012
Feb 1, 2012
Mar 1, 2012
Copyright 2014 Actionable Agile, Inc. (http://actionableagile.com)

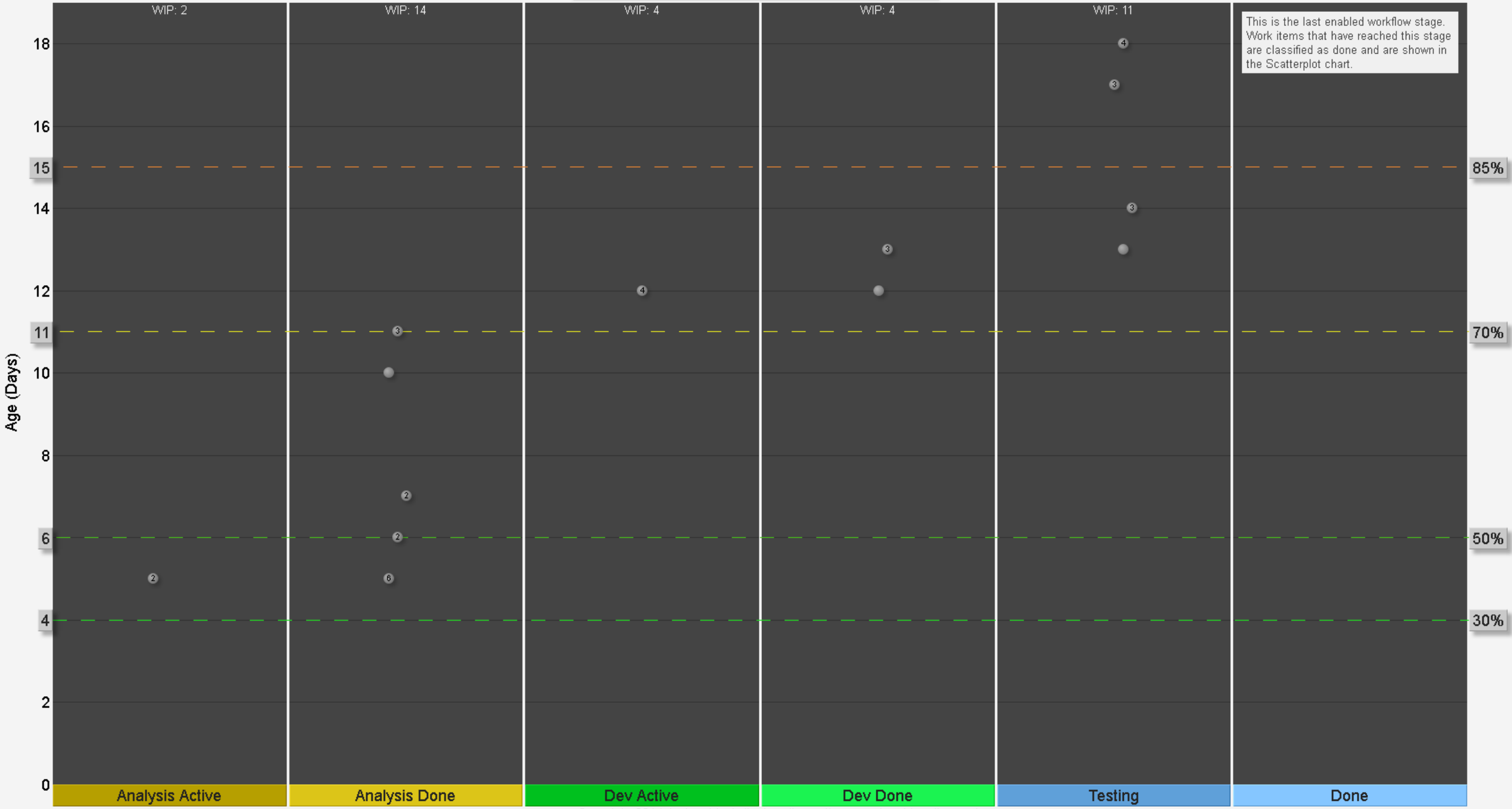

100
31
16
95%
85%
Jan 1, 2014
Jan 1, 2015



The most important chart you've never heard of

Example Data

Aging Work in Progress



To sum up…

Customers care about elapsed time

If you track nothing else, track the date that an item starts and the date that an item completes
(for all work items)

Calculate Cycle Time from start and end date data

Use a

Cycle Time Scatterplot

to get a sense of

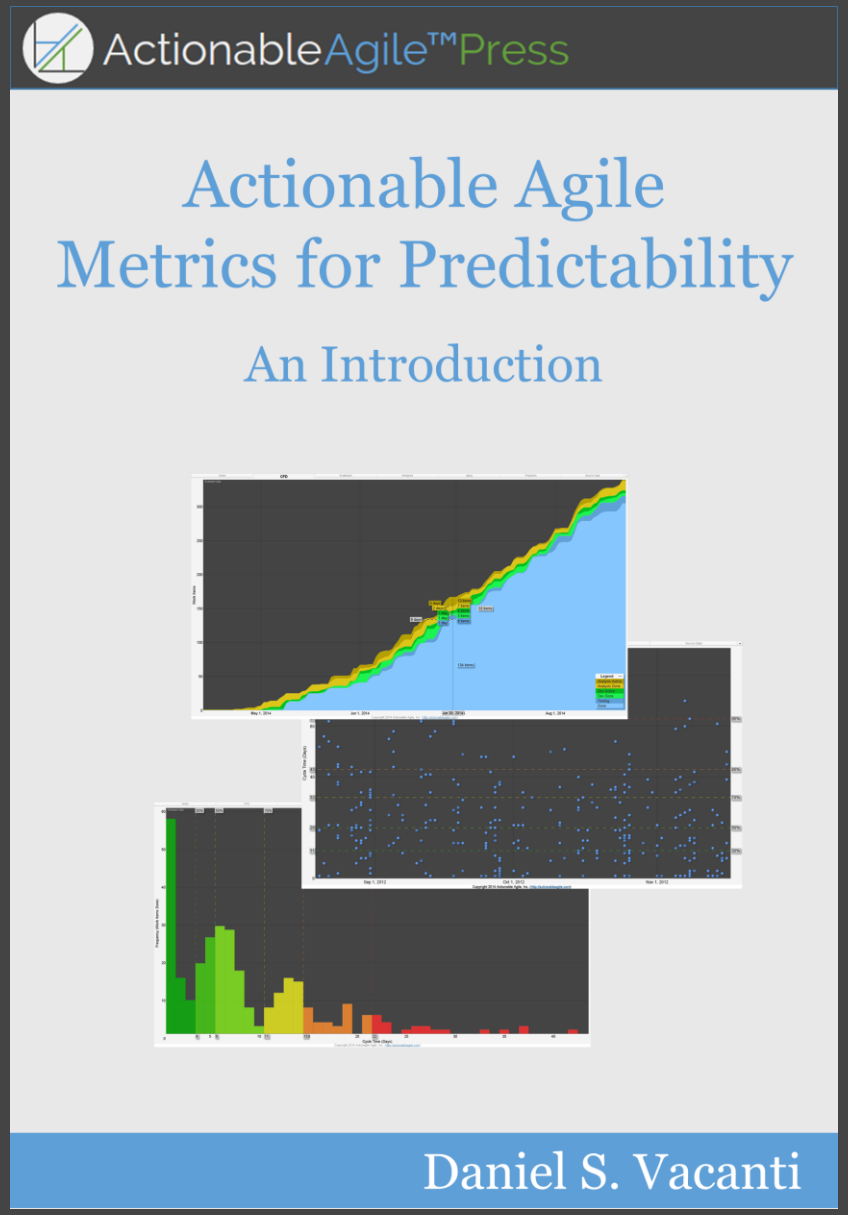
possible outcomes

Use percentile lines on a Scatterplot to help answer "When Will It Be Done?"

Use a WIP Aging chart to be proactive in managing Cycle Time for greater predictability

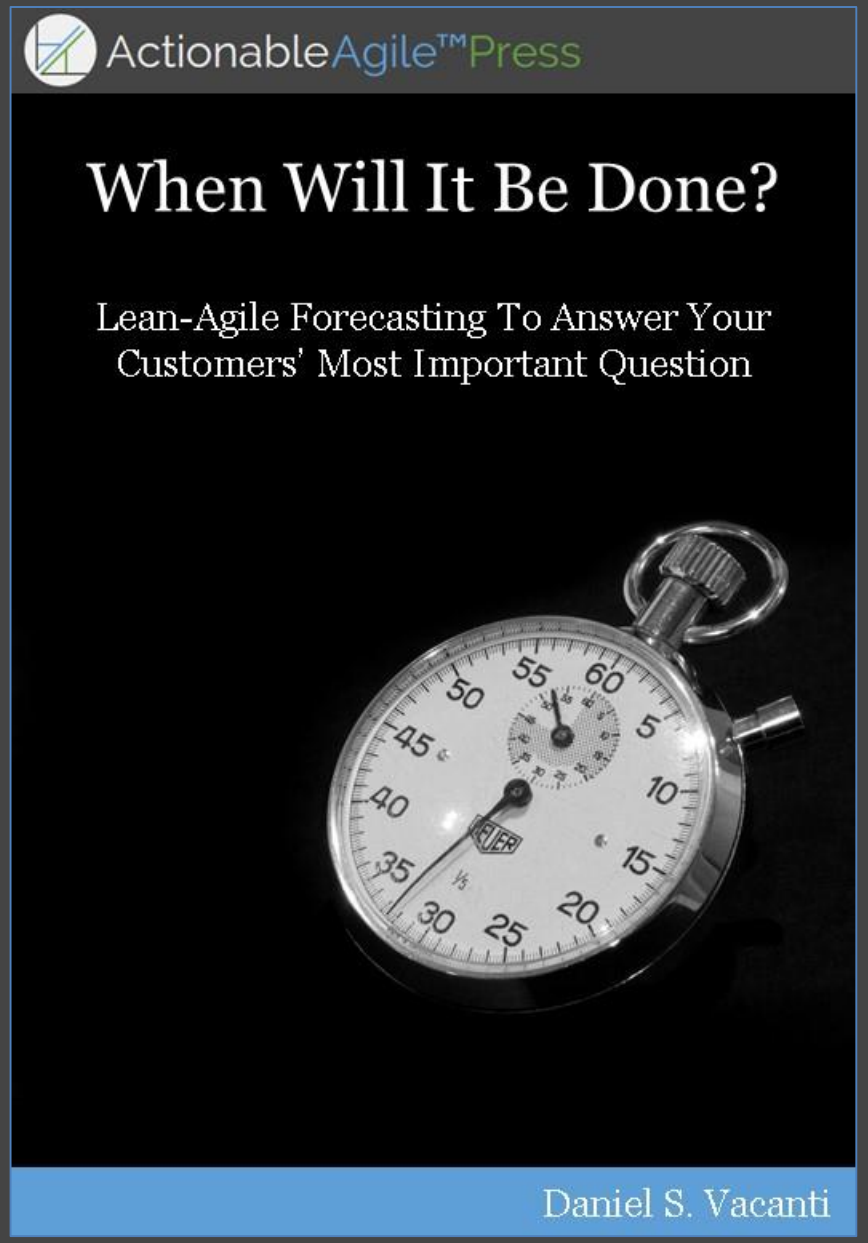
For next time…

What does a 19th century Yorkshire cotton industrialist have to do with the Manhattan Project?



"Actionable Agile Metrics for Predictability"

https://leanpub.com/actionableagilemetrics



Coming Soon….

"When Will It Be Done?"

https://leanpub.com/whenwillitbedone

QUESTIONS?

Daniel S. Vacanti
http://www.actionableagile.com
daniel@actionableagile.com
@danvacanti

Thank-you!

All charts created by:

ActionableAgile
Take Control