# Measuring Success of Planned vs. Actuals
using project Velocity

The first thing we need to do is decide how we want to report velocity. The question "how long does it take to complete a piece of work" suggests another question: "How long does it take as compared to what?"

There are several ways to consider velocity. We can do it based on either tasks or projects. We may want to compare planned hours to actual hours, or we can compare planned duration to actual duration.

In these reports we want to see the duration of a completed project as compared to:
1. How long did we ultimately expect it to take, and
2. How long did we promise it would take.

Adjusted Velocity Status Chart

Export | Hide Values | Details | Summary | Chart
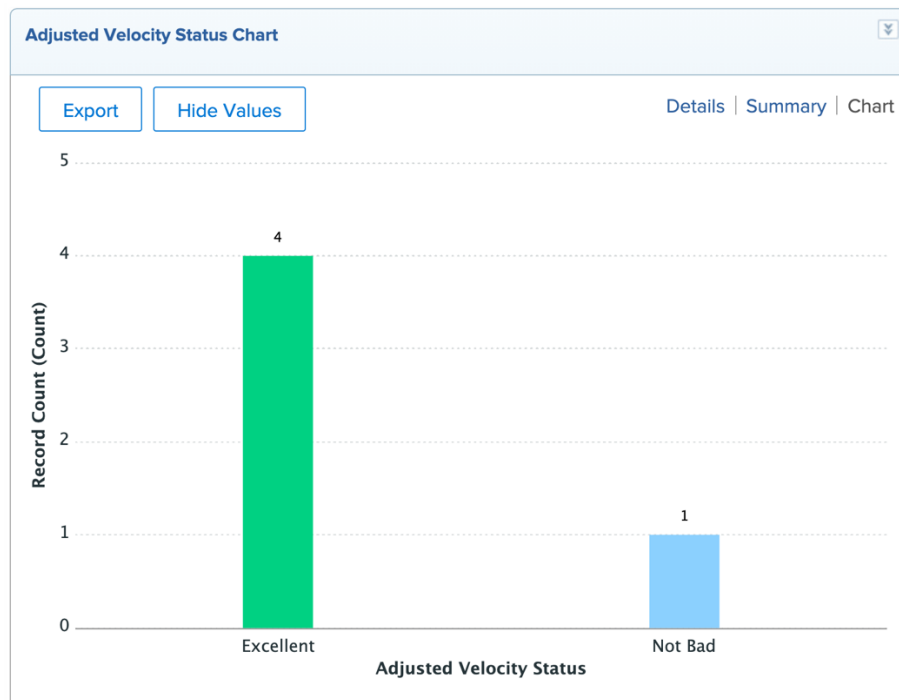
Let's start with the Adjusted Velocity Status Chart. This report shows how we did at completing five projects. We calculated velocity by taking the Actual Duration of the project (which is the length of time in days that it took us to go from start to finish) and divided that by the Planned Duration for that project. The Planned duration is calculated as the number of days from when we started our project to when we "planned" to be completed. Both of these are native fields in Workfront and are calculated automatically.

Now what happens if you're moving along on your project and something doesn't get done as soon as you expected it to? What you should do is re-plan your project. You may need to get approval from certain stakeholders to do this, but you do that and you update the plan. Sometimes when you do this it changes the planned completion date, which changes the planned duration. Still, you did the right thing and now you're moving along with the new plan. This could happen several times in the life of a project, so by the time you're done you ought to be finishing pretty close to your latest updated plan.

That's what happened with these five projects in our report. By the time they were finished the planned duration wasn't too far from the actual duration. So, we have four "Excellent" and one "Not Bad".

This chart tells us that we're getting things done pretty much on schedule after as many re-plans as it may take. That's not too bad, right?

But what does it tell us about how good we're doing at completing projects by the planned completion date we originally promised the customer? Sure, the customer might have approved three or four changes to the planned completion date, but they probably weren't very excited about it. They just had to accept it was going to take longer to get what they wanted.

And what about your capacity to do other things? Every time you extended the planned completion date of one project those resources were not going to be available to work on other projects as soon as you might have hoped.

In fact, that was the case with these five projects. The Work-to-Commit Ratio Status Chart provides us with some additional insights. This chart calculates velocity by using the *first* planned duration and dividing it into the actual duration. This is called our Work-to-Commit ratio.

Work-to-Commit Ratio Status Chart
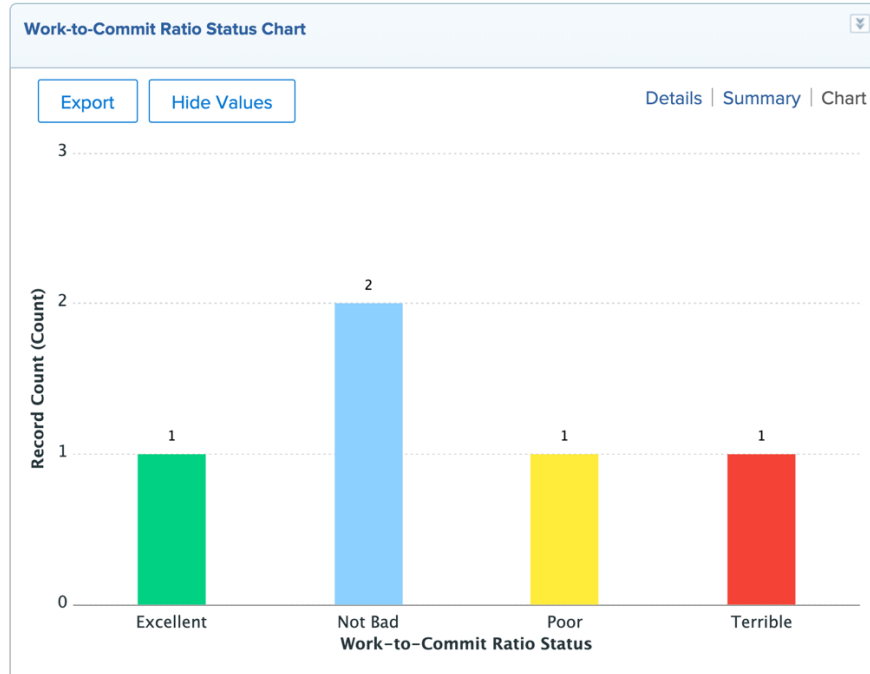
As you can see, we only had one "Excellent" when we measured by these standards. Our first planned duration was quite a bit different than our actual duration in many cases.

So if we want to get better at meeting the expectations of our customers, and at the same time give ourselves the ability to do capacity planning with greater confidence, we need to start measuring how well we're doing at velocity and also measuring how well our attempts to improve are working over time.

So how do we find out what the first promised planned completion date was on a project?

Let me show you…

Setup>Project Preferences>Projects

All you system administrators can go to Setup>Project Preferences>Projects>"Set new project's status to…" and make sure this is set to Planning.

Then go down a few lines and make sure "Create baselines automatically" is checked. This will ensure that the very first time a project status is changed to Current a baseline will be recorded. In that baseline will be a copy of all the project and task fields at that point in time.

These two settings are what Workfront consultants have been recommending for years, and they have been set automatically in jumpstarts. Chances are your settings are already set this way. But if they're not I would recommend you change them to this as soon as you go through your established process to get approval for that.

After setting these there's another thing you need to do. That's make sure you plan your projects in such a way that when you change the status to Current for the first time you realize you're making a promise to a customer. You may not plan that way now, but, again, it's a good practice and has the side benefit of letting you measure based on that date.

Setup>Custom Forms

Ok, now that we those settings right let's see how we can create some custom fields to use in our velocity reports.

We're going to need several calculated custom fields in a project custom form for this. The first one is:

First Commit Date
This is how we're going to capture the date we promised the customer.

Here is the format and calculation:

```
First Commit Date
Format: Date
Calculation:
IF(ISBLANK(First Commit Date),Default Baseline.Planned
Completion Date,First Commit Date)
```

An IF statement has three parts, each separated by a comma. It starts with a condition. If the condition is true it does the second part. If the condition is false it does the third part.

IF(ISBLANK(First Commit Date),Default Baseline.Planned Completion Date,First Commit Date)

The first time this calculation executes the value of First Commit Date will be blank, so it will fill it with the Planned Completion Date of the default baseline. The next time this project is edited or the calculation otherwise recalculates this will find First Commit Date to be NOT blank so it won't replace the value, instead it will just put First Commit Date back in there. The only way to reset this to a new value is to remove the custom form from the project, then add it back again.

A neat thing about the feature that automatically records a baseline when you change the status to Current is that it also sets that baseline to be the default baseline. That

means you can grab this date automatically without anyone having to take manual action. However, if you are applying this custom form to old projects that may have several baselines by now, you'll want to make sure you set the Original baseline to be the default baseline first. You can create a baseline report to make this process easier.

Here is an example of a baseline report. Notice that these baselines are grouped by project. The name of the first baseline created is always "Original". Notice how you can also use in-line edit to change a baseline to be the default if needed.

Ok, now back to our custom form.

First Duration
We're capturing this to use in our "Work-to-Commit Ratio" formula.
This requires a similar formula as First Commit Date.
Here is the format and calculation:

```
First Duration
Format: Text
Calculation:
IF(ISBLANK(First Duration),Default Baseline.Duration,First
Duration)
```

Work-to-Commit Ratio
For these reports I've decided to create a ratio by dividing the Actual Duration by that First Duration that we promised the customer. If the two are equal the answer will be 1, that means we did exactly what we promised. If *actual* is greater the answer will be more than 1. The greater the number the worse we did on meeting our commit date.

In this formula I'm rounding the answer to one decimal.
Here is the format and calculation:

```
Work-to-Commit Ratio
Format:Number
Calculation:
ROUND(DIV(Actual Duration,First Duration),1)
```

Work-to-Commit Ratio Status
I decided to create a status indicator to make it easier to display results in a chart. To do this I'm using a technique called a "nested IF". It's the same IF statement we just looked at, but if the condition is false we're adding another IF. It looks like this:

IF({Work-to-Commit Ratio}>2,"Terrible",IF({Work-to-Commit Ratio}>1.6,"Poor",IF({Work-to-Commit Ratio}>1.2,"Not Bad","Excellent")))

The result of this calculation is:
- 1.1 or below is Excellent
- 1.2 to 1.5 is Not Bad
- 1.6 to 1.9 is Poor
- 2 or greater is Terrible

I chose these statuses based on the range of results I was seeing. Feel free to invent different ranges and status names. The main goal here was to be able to create a chart to give a quick view of how we did.

Here is the format and calculation:

```
Work-to-Commit Ratio Status
Format:Text
Calculation:
IF({Work-to-Commit Ratio}>2,"Terrible",IF({Work-to-Commit
Ratio}>1.6,"Poor",IF({Work-to-Commit Ratio}>1.2,"Not
Bad","Excellent")))
```

Adjusted Velocity
The formula for this is Actual Duration/Planned Duration ("Planned Duration" is stored in the "Duration" field in a project).
Here is the format and calculation:

```
Adjusted Velocity
Format:Number
Calculation:
ROUND(DIV(Actual Duration,Duration),1)
```

Adjusted Velocity Status

This uses the same formula as the Work-to-Commit Ratio Status does, except it references the Adjusted Velocity field.

Here is the format and calculation:

```
Adjusted Velocity Status
Format:Text
Calculation:
IF(Adjusted Velocity>2,"Terrible",IF(Adjusted
Velocity>1.6,"Poor",IF(Adjusted Velocity>1.2,"Not
Bad","Excellent")))
```

The last report is the Velocity Status List Report.

This contains each of the custom fields we just talked about and some dates of interest. It's a good idea to create a report with all the details so you can make sure you got all your calculations right.

Velocity Status List Report

Export ∨

	Name		Planned Start Date	Actual Start Date	Planned Completion Date	First Commit Date	Actual Completion Date	Work-to-Commit Ratio	Work-to-Commit Ratio Status	Adjusted Velocity	Adjusted Velocity Status	Actual Duration	First Duration	Planned Duration	Baseline Duration
☐	Velocity Test Project 1		1/23/21	2/20/21	3/20/21	3/5/21	3/28/21	2.7	Terrible	1.3	Not Bad	27 Days	9 Days	21 Days	14.88 Days
☐	Velocity Test Project 2		1/23/21	2/23/21	3/10/21	3/7/21	3/13/21	1.3	Not Bad	1.1	Excellent	11.72 Days	9 Days	11 Days	9 Days
☐	Velocity Test Project 3		1/23/21	2/23/21	3/15/21	3/9/21	3/15/21	1.2	Excellent	1	Excellent	13.72 Days	11 Days	14 Days	11 Days
☐	Velocity Test Project 4		1/23/21	2/23/21	3/31/21	3/21/21	4/5/21	1.5	Not Bad	1.1	Excellent	28.72 Days	19 Days	26 Days	19 Days
☐	Velocity Test Project 5		1/23/21	2/23/21	4/25/21	4/3/21	5/1/21	1.7	Poor	1.1	Excellent	46.72 Days	28 Days	43 Days	28 Days

Showing all 5 projects

This represents the main concepts for the velocity reports. For additional information please view the entire webinar recording and the answers to the questions from the Q&A portion of the webinar.