

CIPMM National Workshop 2023

Schedule & Delivery Risk – approaches to evaluation

Drew Schlosser – Principal Consultant / Deputy Services Director, Commerce Decisions

Evan Hammond – Account Manager – North America, Commerce Decisions

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Speakers



Drew Schlosser, Principal Consultant – Deputy PS Director, Commerce Decisions

Drew is a 23-year veteran of the Royal Canadian Navy, where he was responsible for the management of a number of projects, including the Canadian Surface Combatant. Since joining Commerce Decisions in 2019, Drew has provided thought leadership and expert advice to several DND projects, including Future Aircrew Training, Remotely Piloted Aircraft Systems, Logistics Vehicle Modernization, Strategic Tanker Transport Capability. As Deputy Services Director, he is responsible for leading Service Delivery across the globe with our teams in three major hubs (UK, Canada, Australia).



Evan Hammond, Account Manager (North America), Commerce Decisions

Evan Hammond is an Account Manager with Commerce Decisions in Canada. Since joining Commerce Decisions in 2018, Evan has helped secure contracts with the Department of National Defence on some of Canada's most important capital projects including the Future Aircrew Training Program, Strategic Tanker Transport Capability, and Victoria Class In-Service Support 2. As Account Manager, Evan works closely with Commerce Decisions' clients in North America to help ensure the best possible outcome on their strategic sourcing projects.



Background to Materials – Commerce Decisions

“Commerce Decisions is making a difference by helping people around the world benefit from the right procurement decisions being made on important projects”



ABOUT US

Established 2001

150 years combined
evaluation experience



LOCATIONS

UK

Australia

Canada



CREDENTIALS

BSI ISO 9001

BSI ISO 27001

Cyber Essentials Plus

Prince 2

TSPS



Introduction

- Many projects fail to achieve success because the proposed delivery schedule is never achieved. But it doesn't have to be this way!
- We will cover:
 - What is the impact of delivery delays?
 - Why do delivery schedules lack believability?
 - Three scenarios – Deadlines, Good Partners, Honest Promise – and how to measure each
- We give you practical takeaways to implement on your next procurement to achieve your

Best Possible Outcome

- This is a huge subject... we are only really scratching the surface.

When schedules go wrong

Average Canadian infrastructure project runs 39% over budget and behind schedule by 12 months

NEWS PROVIDED BY
[EY \(Ernst & Young\)](#) →
03 Apr, 2017, 09:30 ET

New navy supply ships face more delays and cost increases, federal officials confirm

At one point, the first Joint Supply Ship was supposed to arrive in 2012. That has been changed a number of times.

David Pugliese • Ottawa Citizen

Published Jun 30, 2022 • Last updated Jul 01, 2022

Cyclone maritime helicopters delayed again amid dispute

The Canadian Press · Posted: Feb 11, 2013 12:17 PM EST

Western Stage 2 LRT construction now 17 months behind



[Kate Porter](#) · CBC News · Posted: Nov 01, 2022 2:41 PM EDT

Root causes of schedule delay

According to Bent Flyvbjerg, in his paper *"Over Budget, Over Time, Over and Over Again"*, the root causes from project overruns and delays can be separated into three main categories:

- 1) **Bad luck or error** – sometimes underperformance is blamed on unfortunate circumstances, or just plain old bad luck. While this explanation is used frequently, *it does not hold up to statistical analysis and testing.*
- 2) **Optimism bias** – it has been suggested that project managers fall victim to the planning fallacy, a tendency to be overly optimistic, and as a result, *underestimate costs, time, and potential obstacles.*
- 3) **Strategic misrepresentation** – this explanation focuses on the *strategic manipulation of project information* from decision makers who are incentivized to present the project in a more positive light to secure funding, political support, or personal gain.


From Peter W. G. Morris, Jeffrey K. Pinto, and Jonas Soderlund, 2011, eds., *The Oxford Handbook of Project Management* (Oxford University Press), pp. 321-344.

Impact of schedule delays

Schedule delays in projects can have significant and wide-ranging impacts:

- Increased costs
- Damaged stakeholder relationships
- Project disruption
- Legal implications
- Negative public perception
- Reduced morale

New frigates will cost Canada more than \$306 billion over lifetime, budget watchdog says

 [Murray Brewster](#) · CBC News · Posted: Oct 27, 2022 2:20 PM EDT




Ottawa transit commission chair says public confidence and morale at 'all time low': memo

By [Christopher Whan](#) · Global News
Posted October 29, 2019 2:45 pm · Updated October 30, 2019 6:16 am



'Egregious violations of public trust': LRT rushed into service, commission finds

'Deliberate malfeasance is unacceptable in a public project,' Justice William Hourigan writes in final report

 [Joanne Chianello, Trevor Pritchard](#) · CBC News ·
Posted: Nov 30, 2022 4:00 AM EST | Last Updated: November 30, 2022

Phoenix 'nightmare' still haunting public servants, more than 6 years on

 [Priscilla Ki Sun Hwang](#) · CBC News · Posted: May 24, 2022 4:00 AM EDT



Why do schedules lack believability?

Bidders are incentivized to downplay risks and promise us what we are asking for, confident in their ability to shift blame onto the buyer and avoid accountability

What are the attributes of a believable schedule?

COMPLETE

- Master Project Plan
 - That identifies dependencies
 - And includes all the work in the SOW
- Identifies and Mitigates Risks
- Alignment
 - Schedule is aligned with resourcing / costing
 - Schedule is aligned with technical proposal (WBS)

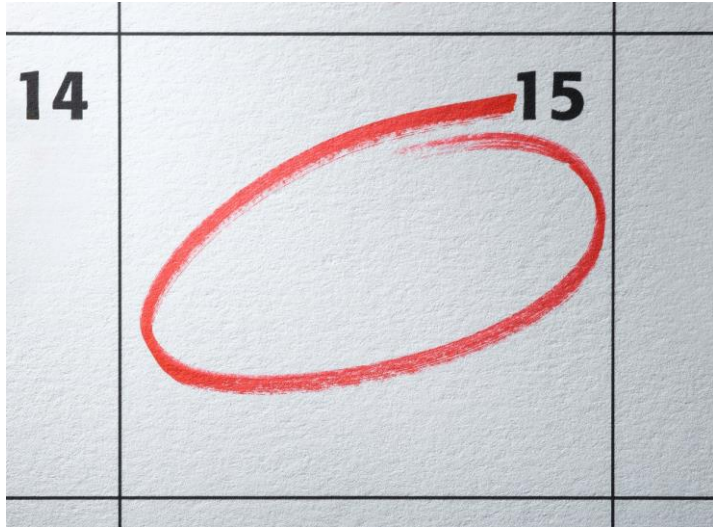
WELL-DESIGNED

- Proven project management methodology
 - Scheduling tool used
 - Organization has a history of using this tool
- Professional schedule techniques
 - Critical path
 - Near-critical path activities identified
 - DMCA 14-point assessment (Logic, Float, constraints, CPLI, High Duration, etc.)
- Tested
 - PERT / Monte Carlo simulation
 - “P80” confidence

RELEVANT and APPROPRIATE

- Provenance provided
 - Of estimates
 - Of risks
 - Of dependencies
- Primary Data Sources
- Subject Matter Expertise
- Relevance defined

Three types of objective



“Deadline”



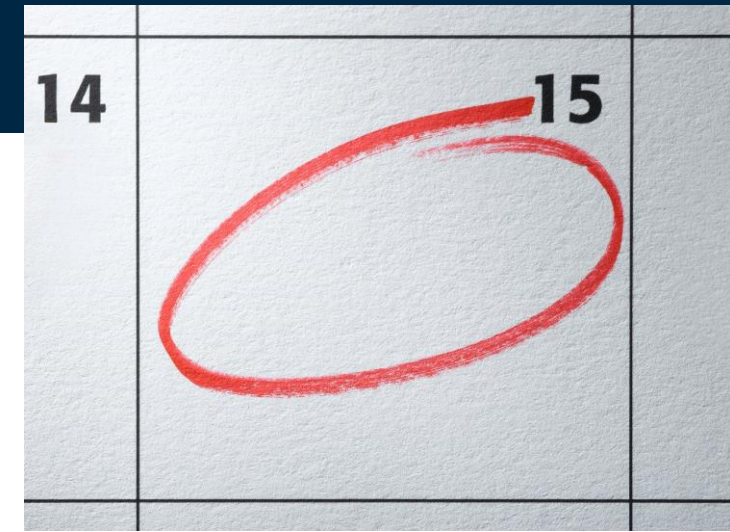
“Good Partner”



“Honest Promise”

Deadline

- **Scenario: We have a defined deadline that can't move**
 - Replacement: new hospital, out of service date, sunseting contract
 - Major event: Olympics, Canada Day, military deployment
- **Approach:**
 - Tell bidders they **HAVE** to meet the deadline
 - They tell you how they plan to achieve it
 - We assess the believability of their plan
- **Scoring:**
 - Confidence or Risk based
 - Consider your compliance bar
- **Contract implications:**
 - Punitive: Liquidated Damages
 - Positive: Performance bonus
- **Getting fancy:**
 - Consider the risks identified in evaluation
 - Include additional mitigations (milestones, insurance, contingency)



Deadline assessment - Evidence

Requested Evidence:

1. Delivery Schedule

- Format as defined by client
- MS Project, Primavera, Acumen, etc.

2. Methodology description

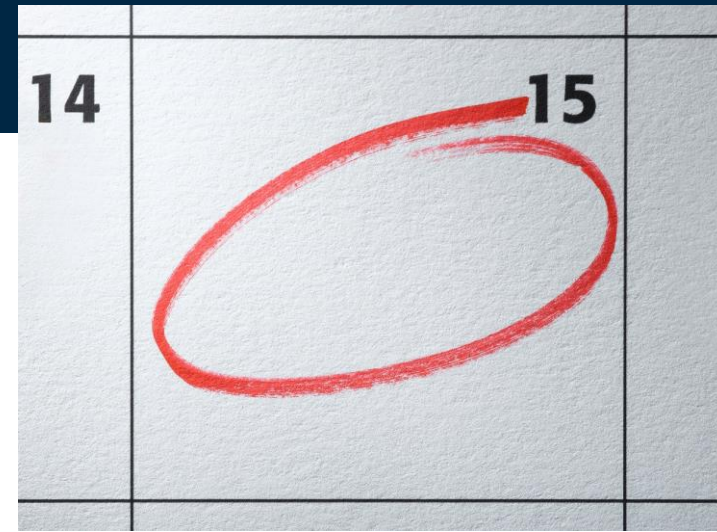
- Provenance of estimates / data sources
- Subject matter experts
- Relevant experience

3. Schedule Justification

- Resourcing against Work Breakdown Structure
- Alignment with costing
- Risks and Mitigations (No risks is a red flag!)

4. Schedule Analysis

- DMCA assessment
- Monte Carlo analysis / P80 (or P90) achievement of milestone date

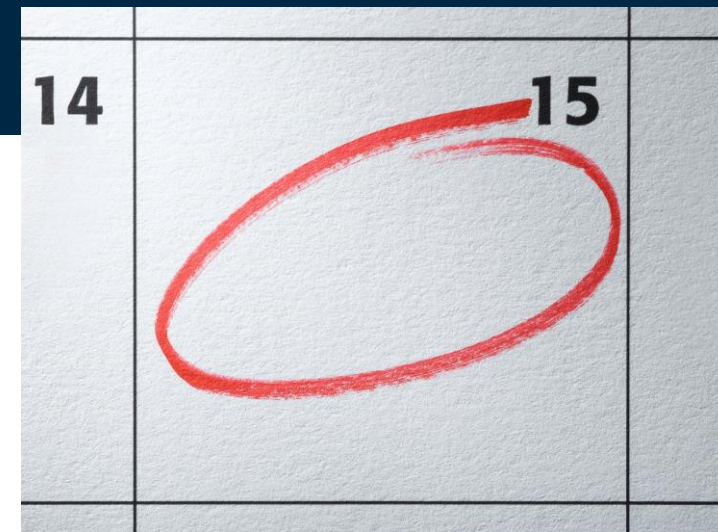


NB: Bidder achievement of [MILESTONE] by [DEADLINE] is contractually binding

Deadline assessment - Evaluation

Evaluation:

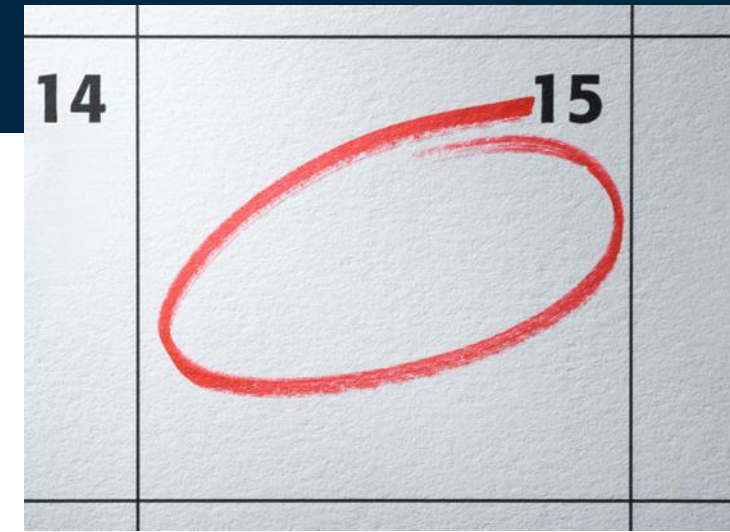
- Qualitative rated evaluation of Confidence bidder will achieve defined Deadline
- Individual evaluators read Bidder's evidence and compare against standard established in "Objective Characteristics"
- Assign one of four possible scores based on overall confidence that the deadline will be met by the bidder, as evidenced in proposal
- Improved objectivity through¹
 - 4-point scoring scale
 - Defined objective characteristics
 - Informed, appropriate Evaluators (with SMEs)
 - Consensus scoring with moderator
- Should the bidder provide insufficient or non-credible evidence, a FAIL option is available.
 - As this acts as a Mandatory criteria, specific failure conditions should be clear



Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

Note 1: Improving Objectivity in Qualitative Evaluation – CIPMM National Workshop 2022

Deadline assessment - Objective Characteristics



DELIVERY SCHEDULE

- The Bidder has provided the stated evidence deliverables in accordance with the structure and formats specified in the RFP.
- The Bidder's **Delivery Schedule** demonstrates achievement of the defined [MILESTONE] on or before the [DEADLINE] at P80 confidence.
- The Bidder's **Delivery Schedule** demonstrates alignment with their wider technical and financial proposals.

METHODOLOGY DESCRIPTION

- The Bidder's **Delivery Schedule** provides a comprehensive coverage of the Statement of Work and adheres to any tolerances, dependencies, and constraints provided from contract award until the achievement of [MILESTONE].
- The Bidder has provided evidence of using a proven project management methodology in developing their **Delivery Schedule** (e.g. PMI / PRINCE2).

SCHEDULE JUSTIFICATION

- The Bidder has provided a comprehensive Initial Risk Register highlighting the areas of highest risk and included appropriate mitigation steps within the **Delivery Schedule**, where appropriate
- The Bidder has provided 3-point estimates of duration for all activities > 15 days, along with a description of their data source and relevance to this project.
- The Bidder has clearly laid out the assumptions on which the **Delivery Schedule** is based and these are assessed as reasonable by our Subject Matter Experts.
- The Bidder's **Delivery Schedule** allows appropriate time and focus to governance and approvals processes within their timescales

SCHEDULE ANALYSIS

- The Bidder's **Delivery Schedule** has a clearly identified critical path and any near-critical paths that may result if High or Moderate risks actualize
- The Bidder has included an appropriate set of risks in their Monte-Carlo analysis and justified any inclusions or omissions and risk quantification assessments.
- The Bidder's 14-point assessment meets published DCMA thresholds, and where thresholds are not met, acceptable explanations for deviations are presented.

Good partner

- **Scenario:** We want a good partner to work with us in figuring out a schedule
 - Developmental programs, Design-then-build
 - In-service support programs
- **Approach:**
 - Tell bidders the nature of the planning challenge
 - They tell you how they plan to conduct planning (and replanning) in the future
 - We assess our confidence in their tools, processes, understanding of the inherent risks/mitigations
- **Scoring:**
 - Qualitative assessment of abilities
 - Proxy evaluation techniques possible, but not recommended
- **Contract implications:**
 - Careful with use of fixed price
- **Getting fancy:**
 - Consider using CRIF basis of payment to reflect gain/pain share
 - Or shift from Cost+ to Fixed pricing under contract



Good Partner assessment - Evidence

Requested Evidence:

1. *Draft Schedule*

- Format as defined by client
- MS Project, Primavera, Acumen, etc.

2. Methodology description

- Provenance of estimates / data sources
- Subject matter experts
- Relevant experience

3. Schedule Justification

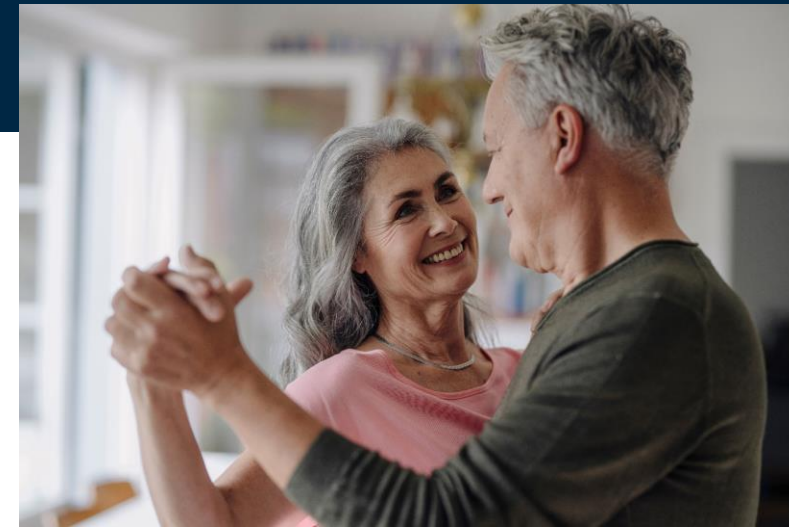
- Resourcing against Work Breakdown Structure
- Clear assumptions around dependencies
- Risks and Mitigations (No risks is a red flag!)

4. *Draft Schedule Analysis*

- DMCA assessment
- Monte Carlo analysis / P80 (or P90) achievement of milestone date

5. Schedule Management Plan

- Description of how the bidder will maintain the schedule under contract
- Baselining, revisions, EVM

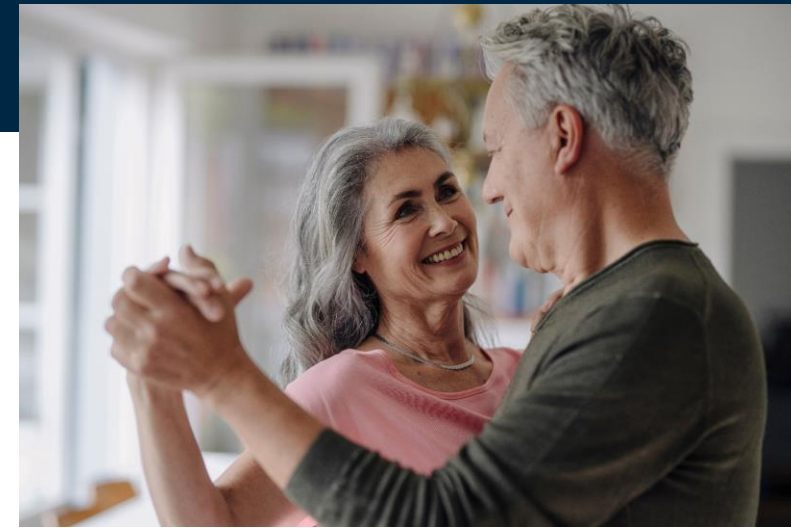


NB: *Draft Schedule and Schedule Analysis* are **not contractual, but meant to serve as evidence of bidder's understanding of the scope of work**

Good Partner assessment - Evaluation

Evaluation:

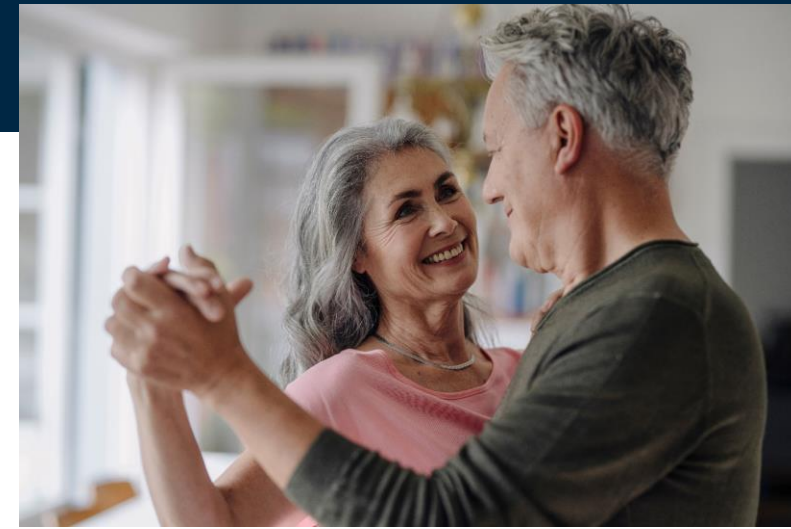
- Qualitative rated evaluation of Confidence bidder will be a quality partner to work together with over the life of the contract
- Individual evaluators read Bidder's evidence and compare against standard established in "Objective Characteristics"
- Assign one of four possible scores based on overall confidence that the deadline will be met by the bidder, as evidenced in proposal
- Improved objectivity through¹
 - 4-point scoring scale
 - Defined objective characteristics
 - Informed, appropriate Evaluators (with SMEs)
 - Consensus scoring with moderator
- Should the bidder provide insufficient or non-credible evidence, a FAIL option is available.
 - As this acts as a Mandatory criteria, specific failure conditions should be clear



Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

Note 1: Improving Objectivity in Qualitative Evaluation – CIPMM National Workshop 2022

Good Partner - Objective Characteristics



DELIVERY SCHEDULE

- The Bidder has provided the stated evidence deliverables in accordance with the structure and formats specified in the RFP.
- The Bidder's **Delivery Schedule** demonstrates achievement of the defined [MILESTONE] on or before the [DEADLINE] at P80 confidence.
- The Bidder's **Delivery Schedule** demonstrates alignment with their wider technical and financial proposals.

METHODOLOGY DESCRIPTION

- The Bidder's **Delivery Schedule** provides a comprehensive coverage of the Statement of Work and adheres to any tolerances, dependencies, and constraints provided from contract award until the achievement of [MILESTONE].
- The Bidder has provided evidence of using a proven project management methodology in developing their **Delivery Schedule** (e.g. PMI / PRINCE2).

SCHEDULE JUSTIFICATION

- The Bidder has provided a comprehensive Initial Risk Register highlighting the areas of highest risk and included appropriate mitigation steps within the **Delivery Schedule**, where appropriate
- The Bidder has provided 3-point estimates of duration for all activities > 15 days, along with a description of their data source and relevance to this project.
- The Bidder has clearly laid out the assumptions on which the **Delivery Schedule** is based and these are assessed as reasonable by our Subject Matter Experts.
- The Bidder's **Delivery Schedule** allows appropriate time and focus to governance and approvals processes within their timescales

SCHEDULE ANALYSIS

- The Bidder's **Delivery Schedule** has a clearly identified critical path and any near-critical paths that may result if High or Moderate risks actualize
- The Bidder has included an appropriate set of risks in their Monte-Carlo analysis and justified any inclusions or omissions and risk quantification assessments.
- The Bidder's 14-point assessment meets published DCMA thresholds, and where thresholds are not met, acceptable explanations for deviations are presented.

SCHEDULE MANAGEMENT PLAN

- The Bidder has provided a credible plan for managing the project schedule alongside the Authority through the life of the contract, including but not limited to governance structure, tools, and processes
- The Bidder has evidenced that it will provision this contract with sufficient and competent resources to manage the scale and scope of this contract

Honest Promise

- Scenario: We value early delivery, but only if it is believable
 - New Capability
 - Replacement of serviceable (but expensive to maintain) legacy equipment
- Approach:
 - Provide bidders with constraints and objective/milestone sought
 - They provide a schedule showing how they plan to achieve it
 - We assess the credibility of their plan
- Scoring:
 - Hybrid
 - Milestone achievement * Confidence assessment
- Contract implications:
 - Punitive: Liquidated Damages
 - Positive: Performance bonus
- Getting fancy:
 - Consider the risks identified in evaluation
 - Include additional mitigations (milestones, insurance, contingency)



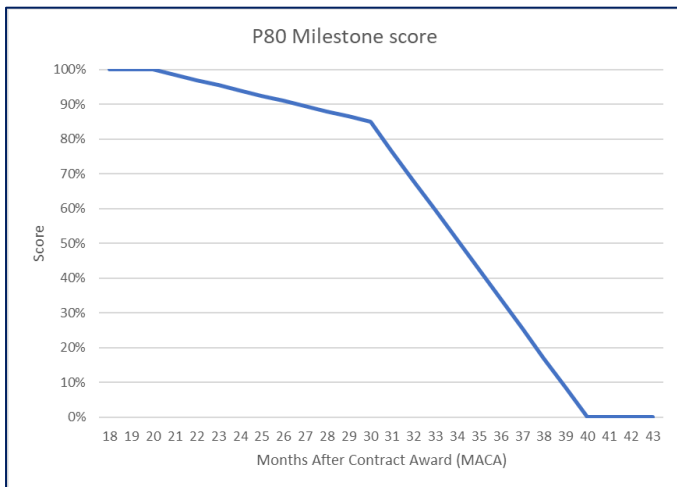
*NB: Bidder's proposed Delivery Schedule becomes contractually binding – even if we assess it as of low credibility.
LD or performance bonuses still apply*

Honest Promise assessment



Evaluation:

- Quantitative rated evaluation of bidder's proposed delivery date
 - Defined scoring scale to compare proposed delivery date against lookup table
 - Normally measured at P80 (if using MCA)
- Qualitative rated evaluation of Confidence bidder will achieve proposed delivery date
 - As per Deadline approach
- Multiply two scores together



Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL



Overall Rated Score

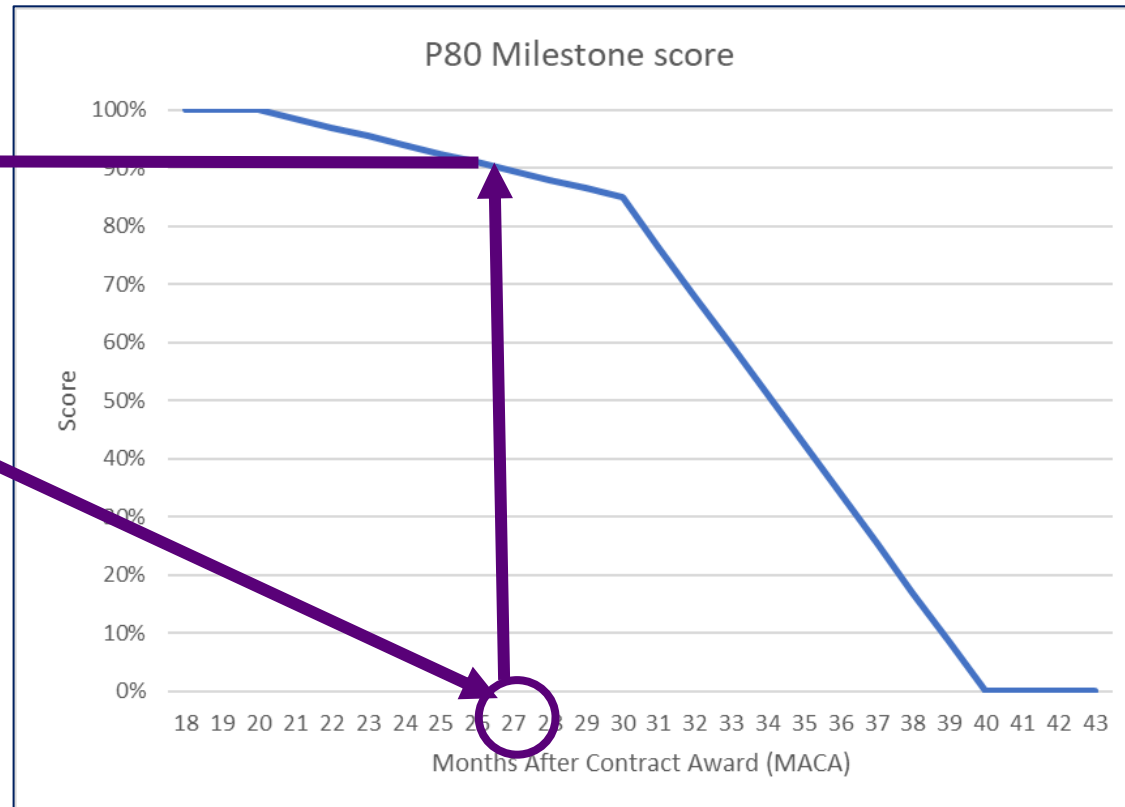
Honest Promise P80 Milestone Score



Use Table (or formula in RFP)

Milestone achievement date (MACA)	P80 Milestone Score
<20	100%
20	100%
21	99%
22	97%
23	96%
24	94%
25	93%
26	91%
27	90%
28	88%
29	87%
30	85%
31	77%
32	68%
33	60%
34	51%
35	43%
36	34%
37	26%
38	17%
39	9%
40	0%
>40	0%

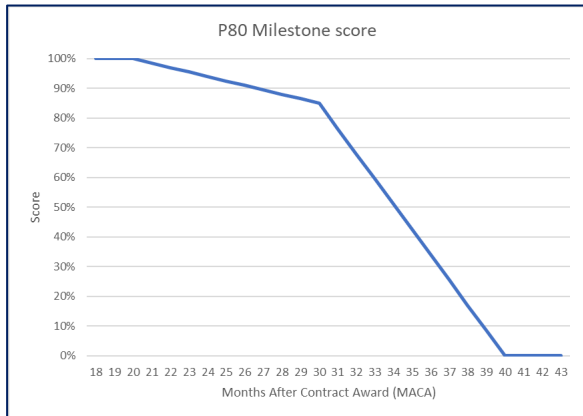
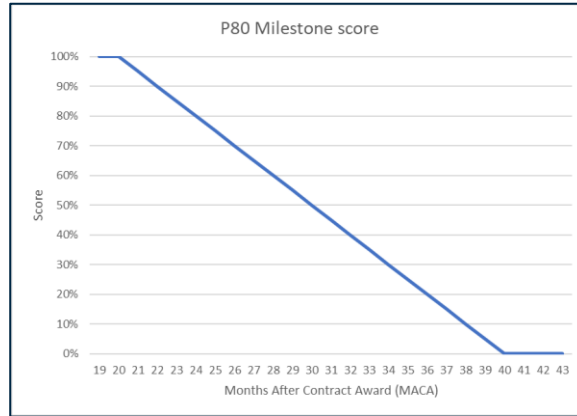
Graph is useful for visualization



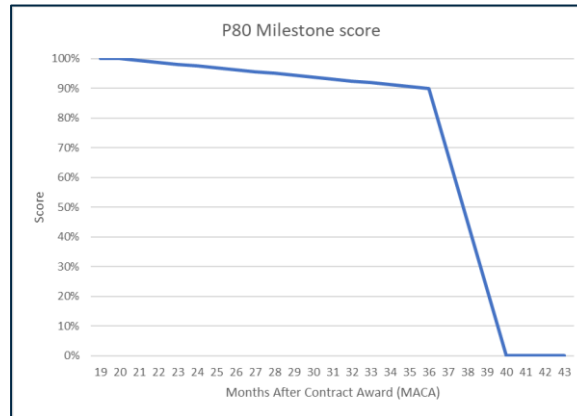
Honest Promise P80 Milestone Score

Scoring “curve” will reward different types of behaviour

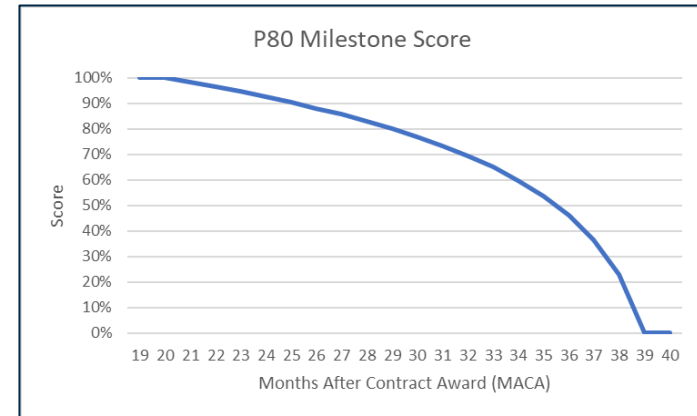
Careful consideration must be made to the objectives sought and how points are assigned, especially in relation to cost and other technical areas



Rewards delivery before “target”;
punishment for later delivery



Harsh punishment for delivery
after “target”



Escalating severity of
punishment for later delivery

Honest Promise - Objective Characteristics



DELIVERY SCHEDULE

- The Bidder has provided the stated evidence deliverables in accordance with the structure and formats specified in the RFP.
- The Bidder's **Delivery Schedule** demonstrates achievement of the defined [MILESTONE] on or before the [PROPOSED DATE] at P80 confidence.
- The Bidder's **Delivery Schedule** demonstrates alignment with their wider technical and financial proposals.

METHODOLOGY DESCRIPTION

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SCHEDULE ANALYSIS

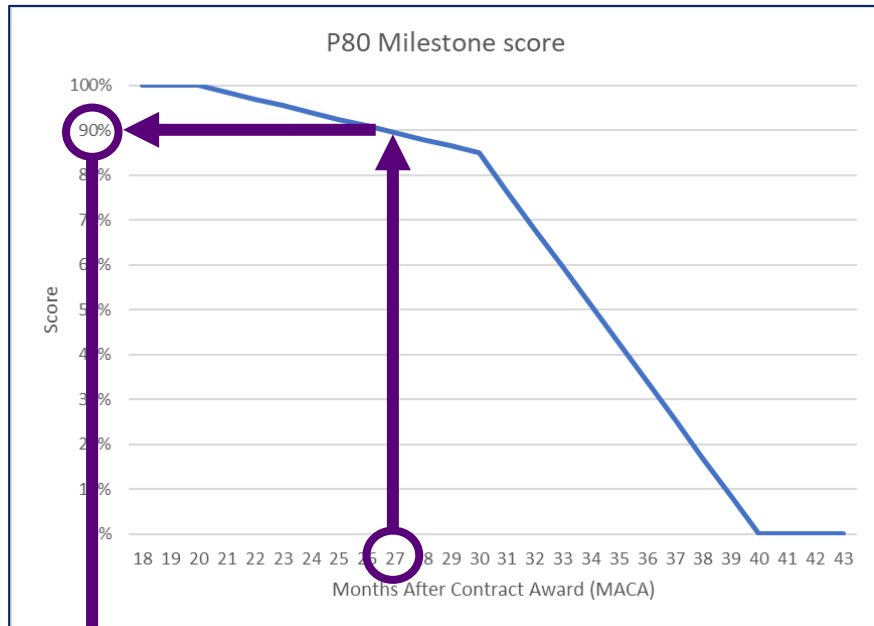
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- The Bidder's 14-point assessment meets published DCMA thresholds, and where thresholds are not met, acceptable explanations for deviations are presented.

Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

Honest Promise Example Calculation

Imagine a bidder who demonstrated:

- Proposed date of 27 MACA
- Assessed confidence of “Minor Concerns”



P80 Milestone Score: 90%

Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

Confidence Score: 30%

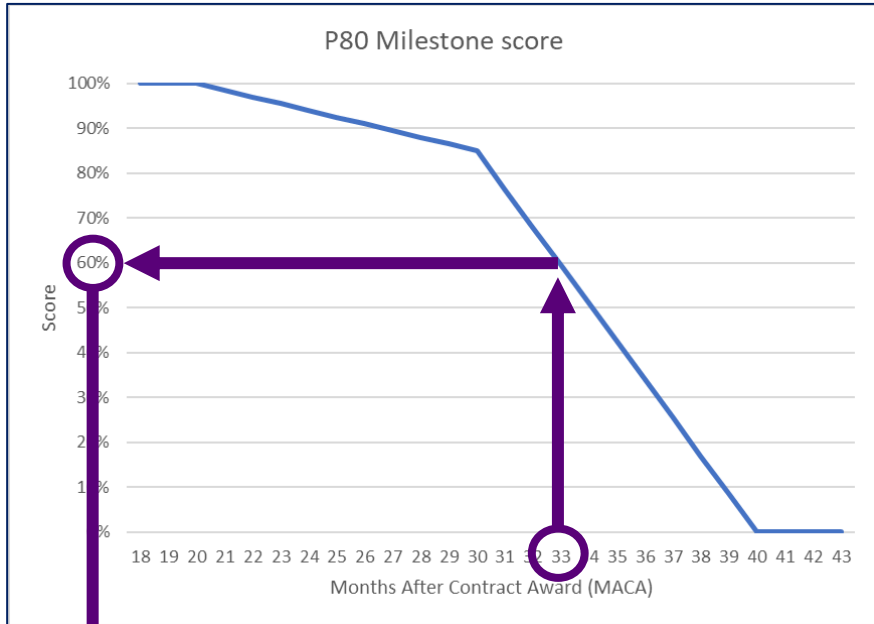
P80 Milestone Score: 90%
X Confidence Score: 30%

Overall Score: 27%



Honest Promise Example Calculation - 2

Imagine a bidder who demonstrated:
Proposed date of 33 MACA
Assessed confidence of "Good"



P80 Milestone Score: 60%

Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

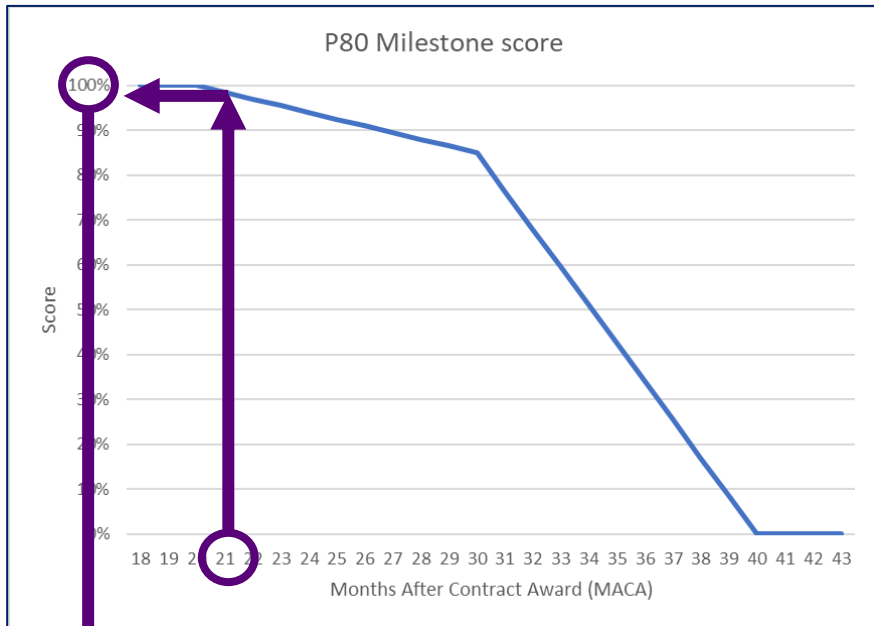
Confidence Score: 70%

P80 Milestone Score: 60%
X Confidence Score: 70%

Overall Score: 42%

Honest Promise Example Calculation - 3

Imagine a bidder who demonstrated:
Proposed date of 20 MACA
Assessed confidence of “Major Concerns”



P80 Milestone Score: 100%

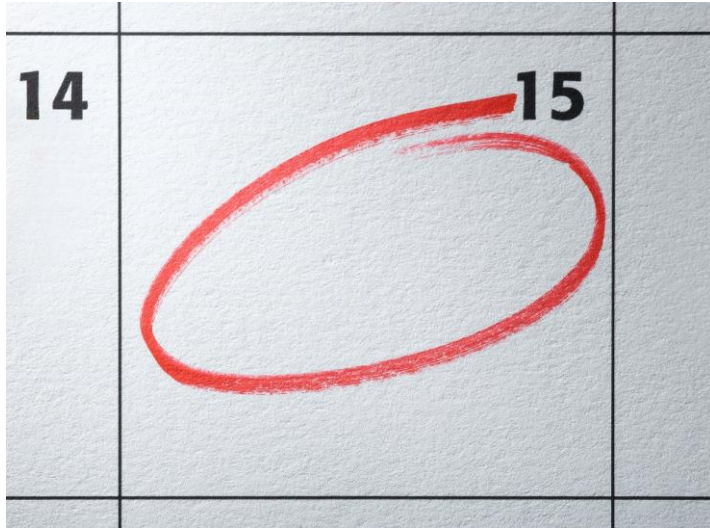
Assessment	Score
High Confidence	100%
Good Confidence	70%
Minor Concerns	30%
Major Concerns	0%
No Confidence	FAIL

Confidence Score: 0%

P80 Milestone Score: 100%
X Confidence Score: 0%

Overall Score: 0%

Summary of methods



“Deadline”

We set deadline and measure confidence in the bidder achieving that date

Deadline is contractual



“Good Partner”

We measure confidence that a bidder can manage a schedule with us under contract



“Honest Promise”

We measure a bidder’s proposed delivery date as well as confidence they can achieve that

Proposed date is contractual

Takeaways

When evaluating schedule:

1. Understand and define your objective
 - Achieve a deadline
 - Pick a good partner
 - Get an honest promise
2. Demand evidence that justifies claims
3. Evaluate using modern qualitative and quantitative methods

Start early, and make the time.

Thank you for your time!

For more information, visit our website:

www.commercedecisions.com

Or get in touch:

ehammond@commercedecisions.com

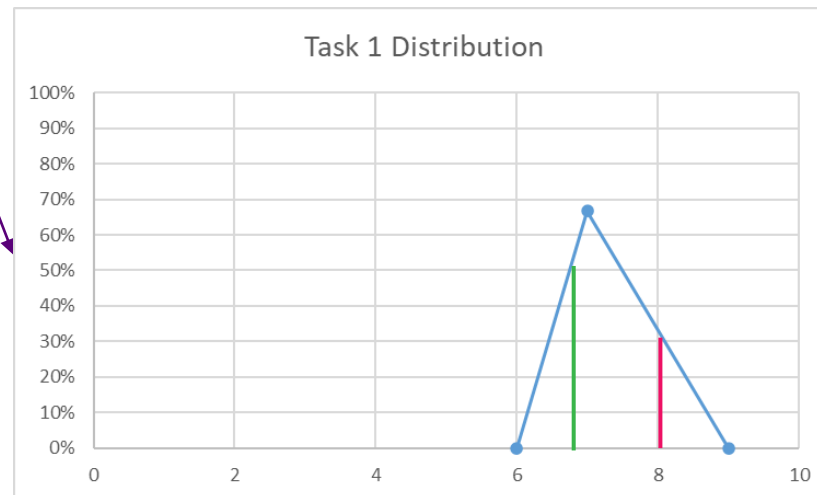
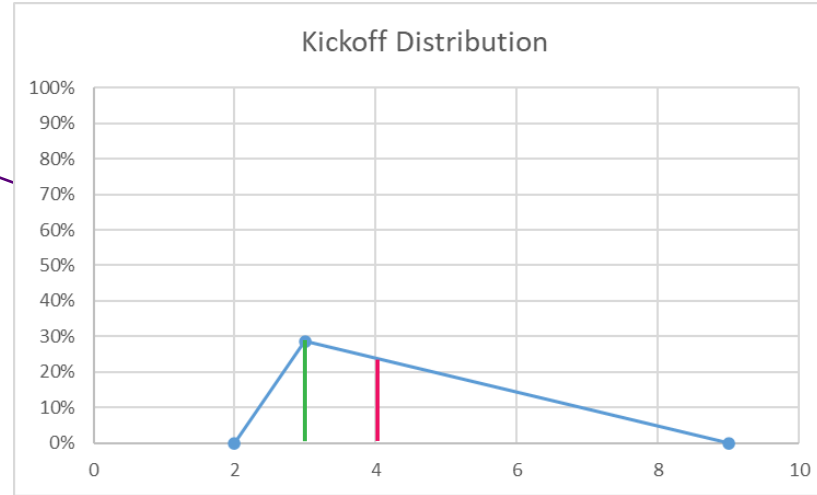
dschlosser@commercedecisions.com



- Sign up for our Principles of Tender Evaluation Masterclass course, scan the QR code to reserve your spot
- Team Training options available

Monte Carlo Analysis

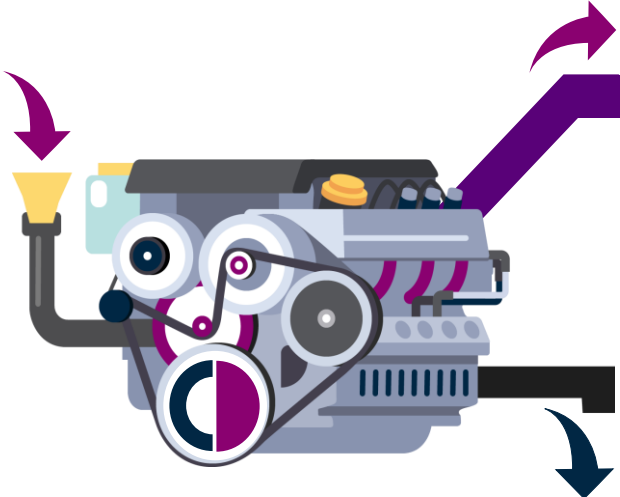
WBS	Optimistic	Most Likely	Pessimistic
Kickoff	2	3	9
Task 1	6	7	9
Task 2	18	22	40
Task 3	3	4	12
Task 4	12	15	35
Task 5	7	9	20
Task 6	9	12	20
Task 7	15	22	40
Task 8	4	5	12
Task 9	12	15	35
Task 10	9	11	22
Task 11	9	11	20
Task 12	4	5	17
Task 13	3	5	12
Closeout	9	12	25
Total	122	158	328



On each iteration, a value is selected from each line based on a defined distribution and then added up.

Monte Carlo Analysis

WBS	Optimistic	Most Likely	Pessimistic
Kickoff	2	3	9
Task 1	6	7	12
Task 2	18	22	40
Task 3	3	4	12
Task 4	12	15	35
Task 5	7	9	20
Task 6	9	12	20
Task 7	15	22	40
Task 8	4	5	12
Task 9	12	15	35
Task 10	9	11	22
Task 11	9	11	20
Task 12	4	5	17
Task 13	3	5	12
Closeout	9	12	25
Total	122	158	331



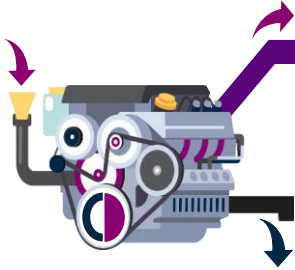
209.7806993	206.5532807	207.3929264	209.7806993
200.9483212	211.3258805	197.1453297	200.9483212
228.5560394	210.1009924	217.0576583	228.5560394
221.0094651	227.3859843	175.156383	221.0094651
184.726699	183.39338	215.1902137	184.726699
188.2615716	202.450236	194.5078914	188.2615716
215.1820048	215.6234039	204.003354	215.1820048
207.0599417	215.1769648	188.5589896	207.0599417
184.248748	241.9386574	200.5401511	184.248748
200.4860909	221.3918087	219.5059346	200.4860909
207.1510134	201.627093	177.7219335	207.1510134
194.4400267	211.4468035	207.004881	194.4400267
194.5045431	213.8841117	190.9978547	194.5045431
200.0068482	214.0802665	196.4751266	200.0068482
204.0562646	200.2945395	193.977042	204.0562646
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187.2629633	195.8107794		187.2629633
216.2799106	233.1873705		216.2799106
214.6444821	234.315	217.52659	214.6444821
198.9489919		219.2101104	198.9489919
215.8649184		214.9595367	215.8649184
217.1531061		209.6395512	217.1531061
193.1115395	251.6096643	201.2980271	193.1115395
215.7413476	198.0737941	195.755922	215.7413476
193.4869213	196.6039409	205.1076365	193.4869213
206.9412761	195.882154	198.6806284	206.9412761
210.0221866	251.340509	213.5078702	210.0221866
210.5136839	216.9570248	184.5365965	210.5136839
205.4032993	220.5947103	187.971019	205.4032993
214.5159828	196.0307556	204.0594436	214.5159828
205.5405471	206.970446	188.6287469	205.5405471
224.0089113	216.1202731	184.5092208	224.0089113
183.9551472	199.6142296	226.2955039	183.9551472
188.1095936	191.2206824	194.313017	188.1095936
200.4451618	202.8437596	208.6226215	200.4451618
200.6541842	211.0834784	219.0708361	200.6541842
222.4565037	196.8708716	204.1136802	222.4565037
209.5748042	214.1675973	195.8829785	209.5748042
195.3964042	198.6136651	200.7267416	195.3964042
	207.6469509	217.4690124	

1000s of iterations.....



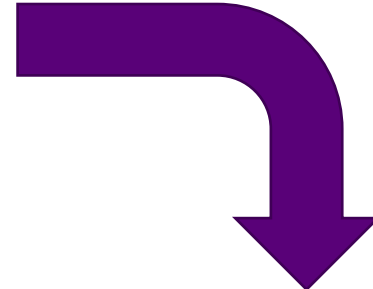
Monte Carlo Analysis

WBS	Optimistic	Most Likely	Pessimistic
Kickoff	2	3	9
Task 1	6	7	12
Task 2	18	22	40
Task 3	3	4	12
Task 4	12	15	35
Task 5	7	9	20
Task 6	9	12	20
Task 7	15	22	40
Task 8	4	5	12
Task 9	12	15	35
Task 10	9	11	22
Task 11	9	11	20
Task 12	4	5	17
Task 13	3	5	12
Closeout	9	12	25
Total	122	158	331



209.7806993	206.5532807	207.3929264	209.7806993
200.9483212	211.3258805	197.1453297	200.9483212
228.5560394	210.1009924	217.0576583	228.5560394
221.0094651	227.3859843	175.156383	221.0094651
184.726699	183.39338	215.1902137	184.726699
188.2615716	202.450236	194.5078914	188.2615716
215.1820048	215.6234039	204.003354	215.1820048
207.0599417	215.1769648	188.5580896	207.0599417
184.248748	241.9386574	200.5401511	184.248748
200.4860909	221.3918087	219.5059346	200.4860909
207.1510134	201.627093	177.7219335	207.1510134
194.4400267	211.4468035	207.004881	194.4400267
194.5045431	213.8841117	190.9978547	194.5045431
200.0068482	214.0802665	196.4751266	200.0068482
204.0562646	200.2945395	193.9770477	204.0562646
209.3387338	178.123218	239	209.3387338
187.2629633	195.8107794	209.3387338	187.2629633
233.1873705	233.1873705	187.2629633	233.1873705
216.2799106	234.3157265	216.2799106	216.2799106
214.6444821	219.2101104	214.6444821	214.6444821
198.9489919	214.9595367	198.9489919	198.9489919
215.8649184	209.639512	215.8649184	215.8649184
217.1531061	201.2980271	217.1531061	217.1531061
193.1115395	195.75922	193.1115395	193.1115395
215.7413476	196.6039409	205.1076365	215.7413476
193.4869213	195.882154	198.6806284	193.4869213
206.9412761	251.340509	213.5078702	206.9412761
210.0221866	216.9570248	184.5369965	210.0221866
210.5136839	220.5947103	187.971019	210.5136839
205.4032993	196.0307556	204.0594436	205.4032993
214.5159828	206.970446	188.6287469	214.5159828
205.5405471	216.1202731	184.5092208	205.5405471
224.0089113	199.6142296	226.2950399	224.0089113
183.9551472	191.2206824	194.313017	183.9551472
188.1095936	202.8437596	208.6226215	188.1095936
200.4451618	211.0834784	219.0708361	200.4451618
200.6541842	196.8708716	204.1136802	200.6541842
222.4565037	214.1675973	195.8829785	222.4565037
209.5748042	198.6136651	200.7267416	209.5748042
195.3964042	207.6469509	217.4690124	195.3964042

1000s of iterations....



Order results and plot histogram

In this example P80 = 214.5

Meaning...

...we are 80% confident that the milestone will be achieved in 214.5 days after contract award or less.

