Construction
Leadership
Council

COVID 19 COST ASSESSMENT TOOLKIT

A methodology for assessing and reporting the cost implications of post covid-19 working conditions in the construction industry

Professional Practice Task Group
Covid-19 Cost Planning Working Group

JULY 2020

Construction Leadership Council

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APPENDICES

1.0 INTRODUCTION

This report presents the initial outputs of a subgroup focused on the development of tools for the use in advising on the impact on construction costs of Covid-19 related disruption.

AIM	To enable **better cost forecasting** to assist the industry in making informed **investment decisions** on viability, improving **robustness of pipeline** and the **economic recovery**.	
OBJECTIVES	Develop a **consistent understanding** of the financial impacts of disruption associated with Covid-19.	Support the consistent **assessment and communication** of Covid-19 related cost impacts.
PROCESS	Collection of industry wide **data** to allow comparison of individual projects against an **aggregated** data set.	A suggested methodology to incorporate the **cost impacts of Covid-19** into estimates and provide clarity on **exclusions**.
OUTCOMES	The tools to **measure** and therefore **improve productivity**	Better **forecasting of costs** to inform viability Clarity on project **risks** and tools to assess those risks.

This report does not provide contractual guidance. A separate contractual guide is available from the CLC, COVID-19 Contractual Best Practice Guidance updated 28 May 2020.

The tools set out in this report are as follows:

TOOL 1:
COVID-19 PRODUCTIVITY MEASURES

Simple assessment methodologies designed for use on projects on site using information that can be readily accessed from site records to enable a consistent assessment of impacts on site productivity to be prepared.

TOOL 2:
ESTIMATES ADJUSTMENT METHODOLOGY

Methodology for adjustment to resource-based estimates for new projects, considering productivity changes and market adjustments.

TOOL 3:
QUALIFICATION STATEMENT FOR ESTIMATES

Standard qualification wording for estimates clearly setting out the extent of Covid-19 related uncertainty that is included/excluded in an estimate/cost plan.

TOOL 4:
RISK ASSESSMENT FRAMEWORK FOR ESTIMATES

Standard pro-forma setting out risk allowances included within an estimate/cost plan.

This report is the output of a task group convened by the Construction Leadership Council. The proposals have been developed by experienced construction professionals. As of 1st July 2020, these proposals have not been adopted by the Royal Institution of Chartered Surveyors as Professional Guidance.

2.0 PROBLEM STATEMENT – WHAT ARE THE TOOLS FOR?

Construction clients and contractors rely on accurate cost prediction as the basis of business plans, financial contracts, and commercial control. The unprecedented nature of the Covid-19 pandemic, which will affect the progress and productivity of existing and future contracts means that the norms and benchmarks upon which estimates are prepared no longer apply.

Without an understanding of the impact of Covid-19 disruptions, it is not possible for clients, contractors and their respective commercial advisors to start to estimate their potential impact.

The potential direct effects of Covid-19 disruption on a project are likely to include:

Disruption	Affected Variable
Number of operatives on site per day	*site output per day*.
Operative hours to undertake the task	*task output per day and cost of task*.
Plant utilisation	*overall cost per unit of construction work*.
Management, supervision and support	*total hours of resource per unit of output.*

The overhead costs associated with a construction project may also change, and the professional resource costs associated with delivery may also be affected. These cost drivers are however excluded from the assessment delivered by the assessment tools described in this toolkit.

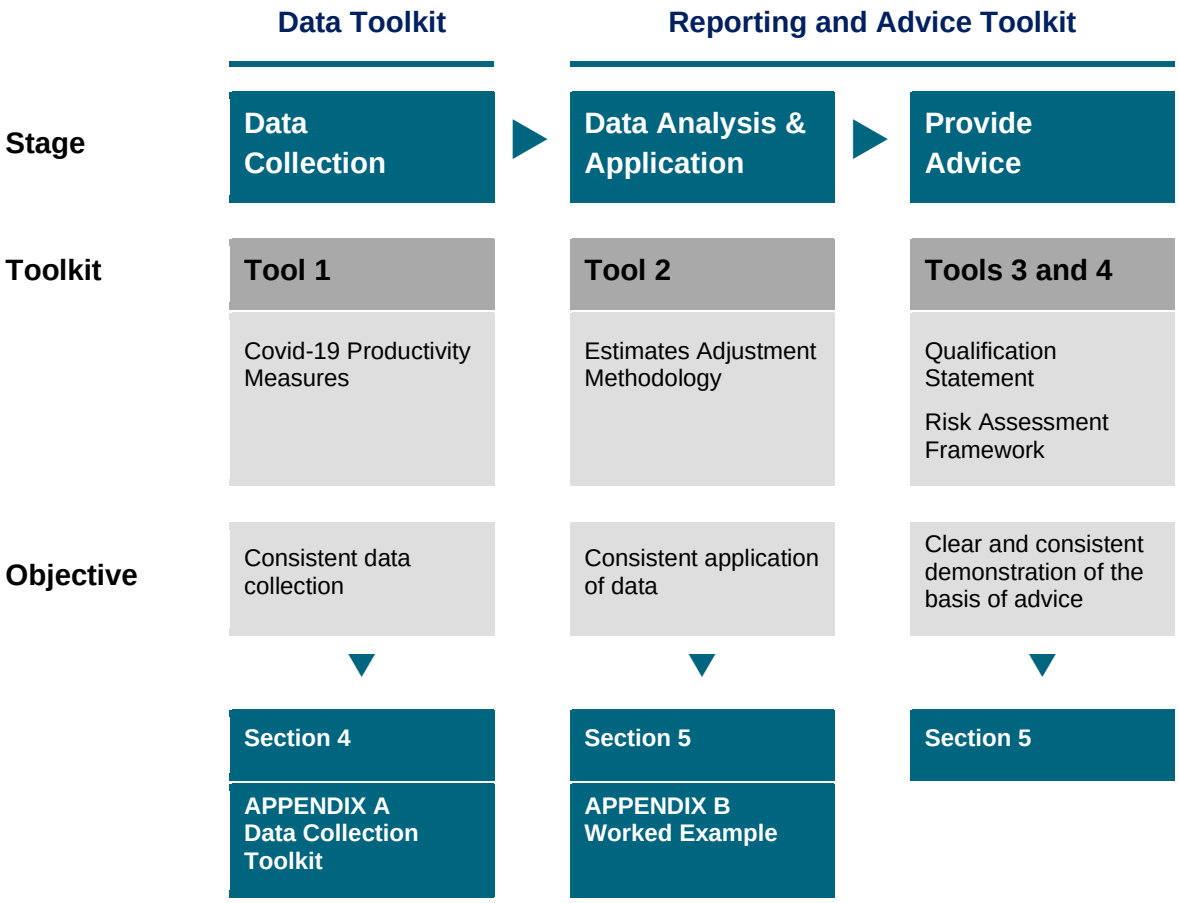
3.0 HOW TO USE THIS TOOLKIT

3.1 GENERAL GUIDANCE

This guidance is intended to be used by experienced construction professionals.

The two toolkits use widely adopted cost prediction practice and suggest adaptations to this practice to take account of the impacts of Covid-19. Use of these tools will assist construction professionals by removing the need to develop bespoke advice. However, it will still be necessary to use professional judgement in the selection, use and explanation of the results of assessments based on these tools.

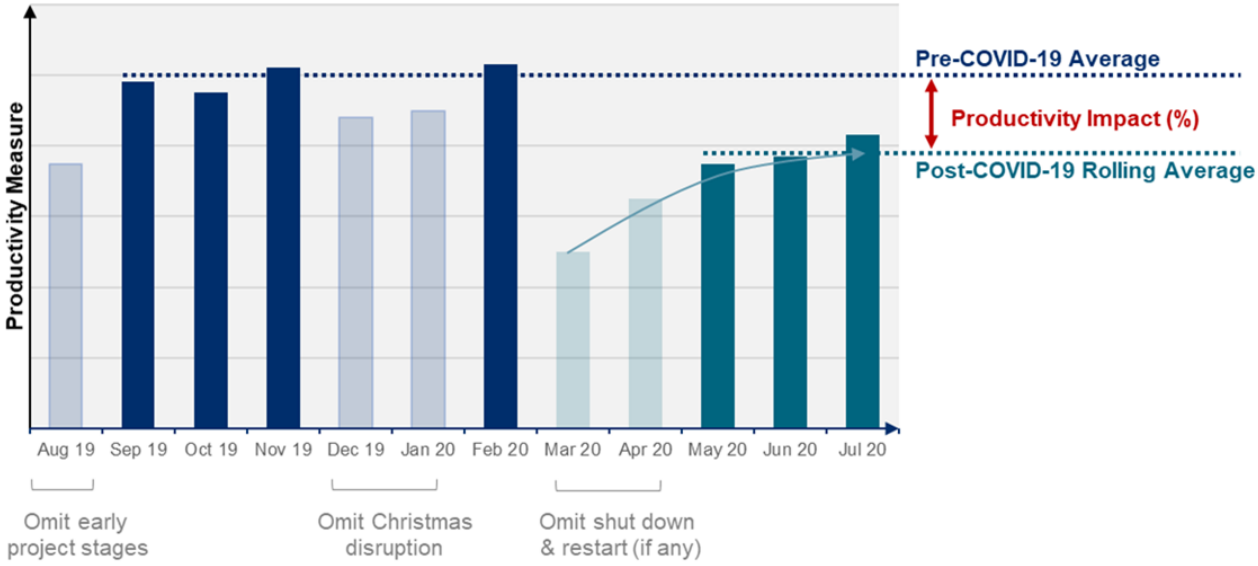
The toolkits are as follows:



3.2 DATA COLLECTION

It is important to appreciate that the data generated by the tools described in this toolkit will provide a high-level indication of the impacts of Covid-19. The task group has deliberately chosen to simplify the data collection process so that the largest number of clients and contractors can apply the assessment on their projects, and so the data can be collected transparently. In the first instance, organisations will be responsible for the collection and analysis of their own data. Organisations that are able to collect data from a larger sample of projects will have greater insight into Covid-19 impacts and greater confidence in the data.

It is recommended that **baseline** and **Covid-19** impacted data be collected as demonstrated:



3.3 COST ESTIMATES

When producing a cost prediction, the tools set out in this report should be applied in accordance with the mandatory requirements of the RICS professional statement on cost prediction.

The Construction Leadership Council accepts no liability with respect to the use of these tools with respect to both parties using the tools to provide advice and also the recipients of the advice.

4.0 DATA COLLECTION TOOLKIT

4.1 TOOL 1: COVID-19 PRODUCTIVITY MEASURES

Refer to Appendix A for the Toolkit.

4.1.1 THE INDICATORS

INDICATOR	MEASUREMENT	FREQUENCY	OUTPUT	USE
Planned v Actual Revenue	Planned Cashflow v Actual Cashflow	Monthly	% impact on Revenue & programme impact	Assessment of potential programme prolongation Adjustment of preliminaries in estimates for future projects where programme is not agreed
Workforce Indicator	Total Number of workers on site / Days in Month	Monthly	Average Number of workers on site per day	Assessment of potential programme prolongation Agree adjustments to rates to account for lost productivity
Output Indicator of Revenue	Total Revenue / Total Number of workers on site	Monthly	Revenue generated per worker per day (£)	Understand changes in GVA per worker (revenue) Agree adjustments to rates to account for lost productivity Adjustment of labour allowances in estimates for future projects
Productivity Indicator	Total Revenue / Total Operative Hours worked	Monthly	Revenue generated per operative hour (£)	Understand impact on productivity related to Covid-19 and Site Operating Procedures Agree adjustments to rates to account for lost productivity Adjustment of labour allowances in estimates for future projects
Preliminaries	Planned % v Actual %	Monthly	% growth in Preliminaries costs	Understand impact on site costs related to Covid-19 & Site Operating Procedures Adjustment of preliminaries allowances in estimates for future projects

4.1.2 ASSESSMENT METHOD FOR PRODUCTIVITY MEASURES

Basis of data collection:

- Data should be collected on projects using the templates set out in Annex A. This will ensure that data is collected consistently.
- Data should be collected on behalf of the client, contractor and project team and agreed as a true record. Data should be retained by all parties to support their requirements for Covid-19 related assessment.
- Data for the measures should be captured from those 'in flight' projects which are within the period between start-on-site plus 3 months and completion minus 3 months. This is so that monthly expenditure levels are as consistent as possible – e.g. not slow start or race to finish.

Timing of data collection:

- To create a pre-Covid-19 baseline, the measures below will be required to be provided for the months of September, October, and November 2019, along with February 2020. This will allow the data to be normalised over this period.
- The first sample of post-Covid-19 data will be for the periods March to June 2020. This will enable the impact of the containment phase and the move into the recovery phase to be tracked and trends to be analysed.
- Moving forwards from the initial data sample, it is intended that the information is captured on a monthly basis.
- It is important that the worked hours per month are measured against the cost of works for the same month, so for example: worked hours in January 2020 should correspond with cost paid out in February – from certified value of works carried out in January 2020.

4.1.3 NOTES ON INCLUSIONS AND EXCLUSIONS

In collecting data, the following inclusions and exclusions should be exercised:

Measurable	Inclusions	Exclusions
Revenue	All costs in the monthly cycle: not forecast but actual gross certified value on the project in that month. This includes: • payments for agreed valued works on-site • payments for agreed valued works off-site • materials on and off-site payments • all staff payments for the project (all considered on site resources) • any other payments made At the end of the project the total sum of all payments should match the agreed final cost	Payments to be excluded are: • advance payments, • PCSA payments, • design payments for Design & Build projects
Worked Hours	Hours to be included: • Project-related staff (whether in a remote office or on-site hours should be calculated as on-site hours) • Trade / sub-contract management staff which are based on the project • Operative hours logged on-site through security system • Preliminaries resources such as Security Staff and Traffic Marshalls (hours worked)	
Preliminaries	For actual preliminaries the following to be included • Additional costs due to prolongation • Subcontractor / Utility Provider additional costs • Logistics additional costs – signage, gates / barriers, parking, social distancing measures, welfare increase etc • Materials additional costs – protection of materials on site, alternatives due to non-availability, alternative delivery methods, small quantity surcharge etc • Site close down / re-establishment costs – CCTV, security, protection, maintenance, removal, deep clean, surveys etc	Costs to be excluded are: • Additional Consultants costs

5.0 REPORTING AND ADVICE TOOLKIT

5.1 TOOL 2: ESTIMATES ADJUSTMENT METHODOLOGY

5.1.1 METHODOLOGY

The impact on construction costs result from both COVID-19 related construction productivity and general market condition adjustments. For the purposes of estimating methodology, it is considered useful to consider both separately because:

- They may have separate inflationary and deflationary impacts
- COVID-19 related risks may change over time, and the impact may need to be reconsidered
- Productivity factors are likely to vary with construction typology and point in the programme

It should be noted that published Tender Price Inflation Indices may include in forecasts (and as data becomes available, actual) the impact of productivity adjustments. Therefore, surveyors and estimators should consider carefully the source of their data to ensure that factors are not compounded.

The purpose of the methodology here is to particularly expand the Covid-19 related productivity risk adjustment.

5.1.2 ASSESSMENT

The following table shows the constituent parts of an estimate, and a methodology for estimating:

- a COVID-19 related Productivity Risk Factor (shown in red);
- a Market Conditions Factor.

	ELEMENT / COMPONENT	RESULTING IMPACT	DESCRIPTION OF IMPACT	METHODOLOGY FOR ADJUSTMENTS TO PRE-COVID-19 ESTIMATE	COVID-19 PRODUCTIVITY RISK FACTOR	MARKET CONDITIONS FACTOR
1	**MEASURED WORKS**					
1.1	Labour	Productivity	Impact of compliance with SOP Offsets resulting from increased pre-manufactured value of adoption of Modern Methods of Construction.	Total measured work x Assessed labour cost (%) x CLC defined / measured **Productivity Indicator** (% pre / post) x Proportion of measured work affected (%)	✓	
		Market Conditions	Reduced cost of labour due to weakening demand	Include in Market Conditions Factor.		✓
1.2	Plant	Productivity	Less productive utilisation resulting from COVID productivity	In many projects this is expected to be negligible impact most significant plant (craneage) likely to be included in Preliminaries	✓	
		Market Conditions	Weakening demand	Include in Market Conditions Factor.		✓
1.3	Materials	Off-site productivity	Increased costs of production due to factory SOP	Include in Market Conditions Factor.		✓
		Market Conditions	Reduced cost due to weakening demand Increased cost of imports / tariffs due to declining UK production Increased cost due to supply side disruption	Include in Market Conditions Factor.		✓

2	**ON COSTS**					
2.1	Preliminaries	Prolongation	Increased duration of project programme.	Assessed prolongation For example: X% loss in productivity **Productivity Indicator** + X% reduction in labour headcount **Workforce Indicator** – Any mitigation = X weeks added @ £X/per week	✓	
		Additional Requirements	Increased cost of supervision for SOP, increased welfare, PPE etc.	**Preliminaries %** (planned vs actual)	✓	
2.2	Overhead & Profit	Productivity	Overhead increases resulting from reduced overall production	Include in Market Conditions Factor.		✓
		Market Conditions	Profit recovery in line with expectations to win work.	Include in Market Conditions Factor.		✓
2.3	Risk & Commercial Adjustments	Risk	Pricing of specific onerous contract conditions, or removal of partial risk by client's proposals.	Estimate	✓	

The **COVID-19 Productivity Risk Adjustment Factor** is the sum of those items shown in Red and can be expressed at a percentage adjustment. The basis of any assumptions should be provided with the estimate and the Qualification Statement used to clarify the basis of estimate.

It should be noted that any risk factor applied contains a high degree of estimating uncertainty and clients should be referred to this practice note for further details on the basis of the adjustment made.

The **Market Conditions Factor** can by assessed by reference to indices; it should however be remembered that productivity impacts may be present in Indices (as noted above) and professionals may need to exercise judgement in compiling a composite estimate encompassing both.

5.2 TOOL 3: QUALIFICATION STATEMENT FOR ESTIMATES

5.2.1 PURPOSE

To provide a consistent qualification that can be used by those providing cost estimates to clients.

5.2.2 THE STATEMENT

Material uncertainties introduced by Covid19 mean that it is not possible to predict with accuracy the time and resources required to complete aspects of the work. As a result, there are elements of this estimate, scheduled below, that have been priced on a pre-Covid19 basis (e.g. conditions current in Q1 2020).

These qualifications are made as a result of the unprecedented disruption to site work and the supply chain, which mean that it is currently not possible to assess, either in estimates or tenders, the cost and programme impact of certain changes to working method and wider market conditions.

Any risk and opportunity assessments are made solely on the basis of the criteria stated.

This statement confirms that a deliberate professional judgement has been taken to exclude specifically stated cost and programme outputs. By accepting the estimate, the client acknowledges that these exclusions have been made.

All assessments are based on current guidance and practice at the date of the cost report.

A Covid19 risk/opportunity allowance [has/has not]* been included. However, it should be noted that this specific risk/opportunity allowance is approximate and cannot be based on a quantitative assessment of the risk due to the lack of available information. The basis of the estimate is stated.

* Delete as appropriate

5.3 TOOL 4: RISK ASSESSMENT FRAMEWORK FOR ESTIMATES

5.3.1 PURPOSE

This template accompanies the Estimate Adjustment Methodology and the Qualification Statement and provides a clear means of communicating the elements of Covid-19 related risk allowance that are included/excluded in an estimate.

5.3.2 THE RISK ASSESSMENT

	Included (tick box)	Excluded (tick box)	Value (£)
Measured works			
Loss of productivity resulting from the adoption of social distancing methodologies on site and by suppliers			
Loss of productivity associated with lack of availability of labour and materials			
On costs			
Additional preliminary and management costs associated with an extended programme			
Additional preliminary and management costs associated with the adoption of social distancing methodologies			
The effect of the client's contract strategy on the allocation and pricing of Covid19 related risks and commercial adjustments			
Market Conditions			
Pricing levels established post-Covid19 considering the timing of the recovery, changed market conditions and input cost volatility (including labour, plant, and materials, together with the impact of commodity prices and exchange rates)			
Further Covid-19 disruption			
Disruption to progress caused by fresh outbreaks of Covid19 or other declared pandemics during the design and construction programme: 1. Programme prolongation 2. Changes to working practice – e.g. additional preliminary costs associated with social 3. Access to materials and other resources			

Basis of the estimate of the Covid-19 specific risk allowance:

[Enter text here describing basis of the assessment]

Potential mitigation measures:

[Text here]

6.0 FURTHER GUIDANCE

6.1 GLOSSARY

CLC	Construction Leadership Council
GVA	Gross Value Added
RICS	Royal Institution of Chartered Surveyors
SOP	Site Operating Procedure published by the CLC

6.2 OTHER PUBLICATIONS

Site Operating Procedures published by the CLC

APPENDIX A
DATA COLLECTION TEMPLATES (TOOL 1)

Please refer to electronic templates.

APPENDIX B:
ESTIMATE METHODOLOGY WORKED EXAMPLE (TOOL 2)

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CLC PRODUCTIVITY RISK FACTOR ESTIMATE
APPENDIX B

	COST HEADING	PRE-COVID ESTIMATE		COVID PRODUCTIVITY FACTOR CALCULATIONS		POST COVID ESTIMATE	% UPLIFT (COVID-19 PRODUCTIVITY RISK FACTOR)
1	**MEASURED WORK**						
1.1	Labour	45.0%	£4,500,000	Productivity Factor (Post/Pre)	95%	£4,725,000	1.7%
				Productivity Loss	5%		
				Applied Factor	105%		
				Proportion of measured work affected	100%		
				Total Applied Factor	105%		
1.2	Plant	5.0%	£500,000	Productivity Factor (Post/Pre)	100%	£500,000	0.0%
				Productivity Loss	0%		
				Applied Factor	100%		
				Proportion of Measured work affected	100%		
				Total Applied Factor	100%		
1.3	Material	50.0%	£5,000,000	No adjustments		£5,000,000	0.0%
	MEASURED WORK TOTAL	**100.0%**	**£10,000,000**			**£10,225,000**	1.7%
2	**PRELIMINARIES**						
2.1	Total Preliminaries	13.0%	£1,300,000	**Additional prelims**		£1,638,000	2.5%
				Prelims Factor	105%		
				Total Including additional	1,365,000		
				Prolongation			
				Pre-covid duration	52 wks		
				Weekly rate (including thickening)	26,250		
				Covid related productivity attained	75%		
				Productivity Loss (time)	25%		
				Mitigation Estimate	5%		
				Applied Factor	20%		
				Adjusted programme	62 wks		
	Sub-total		**£11,300,000**			**£11,863,000**	4.2%
3	**OVERHEADS & PROFIT**	**7.0%**	**£791,000**	**No adjustments**	**7.0%**	**£830,410**	0.3%
4	**RISK**	**5.0%**	**£604,550**	Original Factor	5.0%	£761,605	1.2%
				Additional Covid Productivity Risk	1.0%		
				Total Post Covid	6.0%		
5	**TOTAL**		**£12,695,550**			**£13,455,015**	**5.6%**

TOTAL COVID-19 PRODUCTIVITY FACTOR TO BE APPLIED ▲

+ MARKET CONDITIONS FACTOR = TOTAL ADJUSTMENT TO ESTIMATE

User input cells

User input cells using the CLC toolkit measures on productivity assessment

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