FINAL RESULTS | July 2021

TO	Accord Steering Group
FROM	Emanuel Kalafatelis, Katrina Magill and Sarah Buchanan, Research New Zealand
SUBJECT	Supply Chain Research – Stage 1 – Final Report

Introduction

This report is based on feedback received from businesses involved in the Construction Sector about issues that are impacting the sector today and are likely to do so in the future.

Feedback was obtained by way of a telephone survey of a random sample of n=539 businesses operating in the Construction Sector and n=65 suppliers. A profile of the survey respondents is included as Appendix A of this report.

The sample of businesses representing the Construction Sector was sourced from ACC via a Memorandum of Understanding that MBIE has with ACC. A sample specification was prepared with the assistance of MBIE, based on ACC's Classification Unit system.

The survey was conducted with construction businesses and suppliers by telephone between 13 May and 1 June 2021. Respondents were defined on the basis that they were an owner or senior manager of the business.

A response rate of 27% was achieved with construction businesses. This response rate reflects the fact that these businesses were contacted on a random (non-notified) basis, although it is actually relatively higher than what is usually achieved for this type of survey. Had potential respondents been pre-notified, the response would have been higher.

This survey will be repeated again, at some time in the immediate future, to establish whether the key issues identified in the survey remain the same or have changed over the course of time.

Key findings

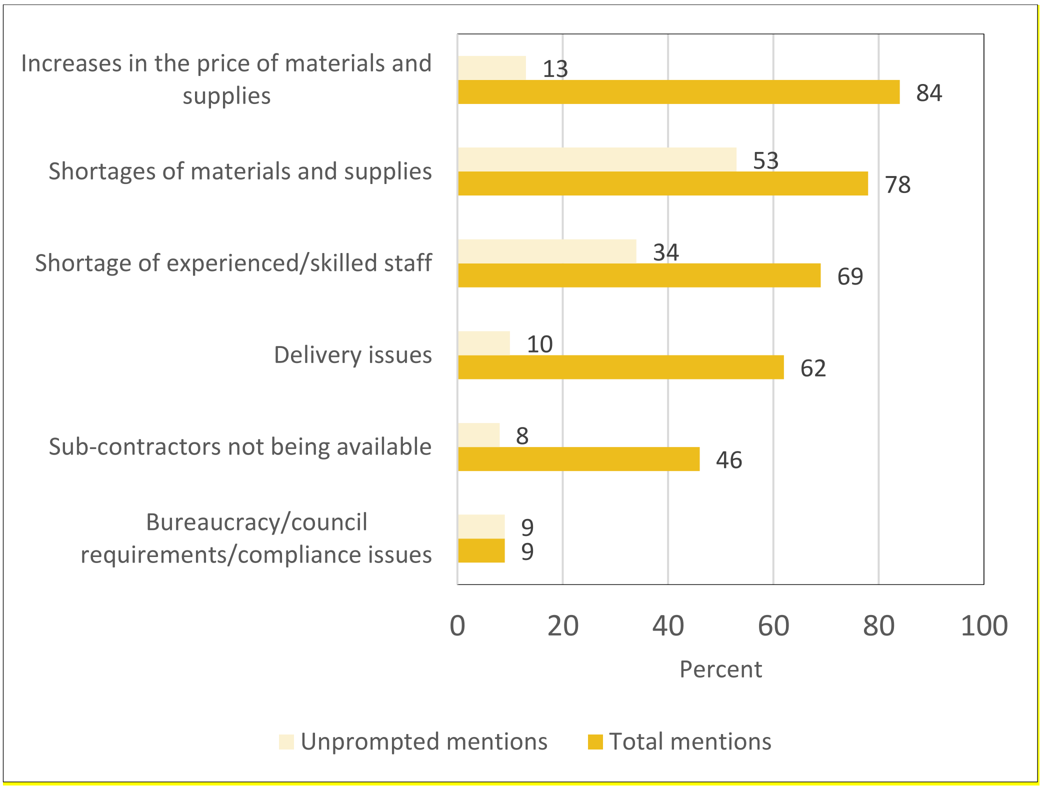
Important note: The following findings are based on the total number of construction businesses interviewed (n=539). Where applicable the results for suppliers (n=65) are also quoted.

Results based on the sub-sample of construction businesses are subject to a maximum margin of error of plus or minus 4.2% (at the 95% confidence level). A higher margin of error applies to suppliers (plus or minus 12.2%). The results have not been weighted.

1. On an unprompted basis, one-half of construction businesses (53%) identified **shortages of materials and supplies** as an issue affecting their ability to 'deliver on time and to budget'. In comparison:

   - 34% mentioned **shortages of experienced/skilled staff**.
   - 13% mentioned **increases in the price** of materials and supplies.

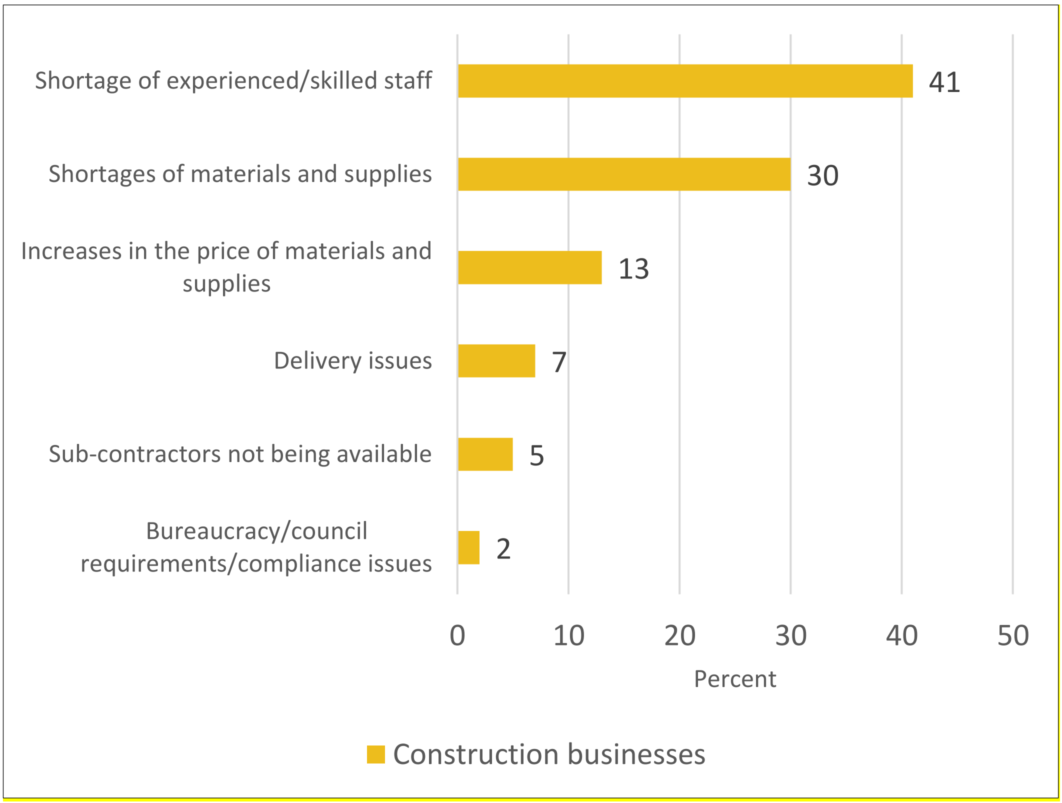
Figure 1: Issues affecting Construction businesses' ability to deliver on time and within budget (unprompted and total mentions)



2. **Shortages of experienced/skilled staff** (41%) and **shortages of materials and supplies** (30%) were the two issues most frequently identified by construction businesses as having the **greatest** impact on their ability to 'deliver on time and to budget'. In comparison, 13% mentioned the price of materials and supplies.

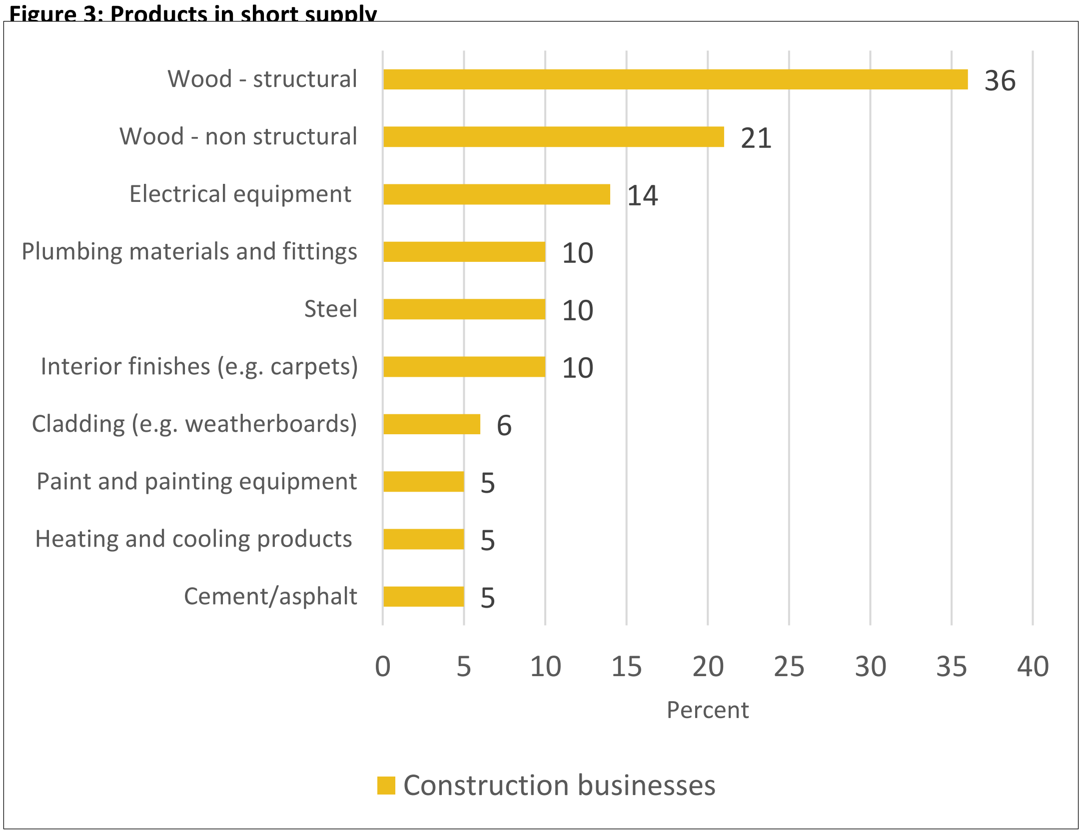
   Eighty-nine percent of the small number of suppliers who responded to the survey confirmed the above by saying they were experiencing 'shortages or delays in receiving or accessing stock or materials for supply'.

Figure 2: Issue having the greatest impact on businesses' ability to deliver on time and within budget



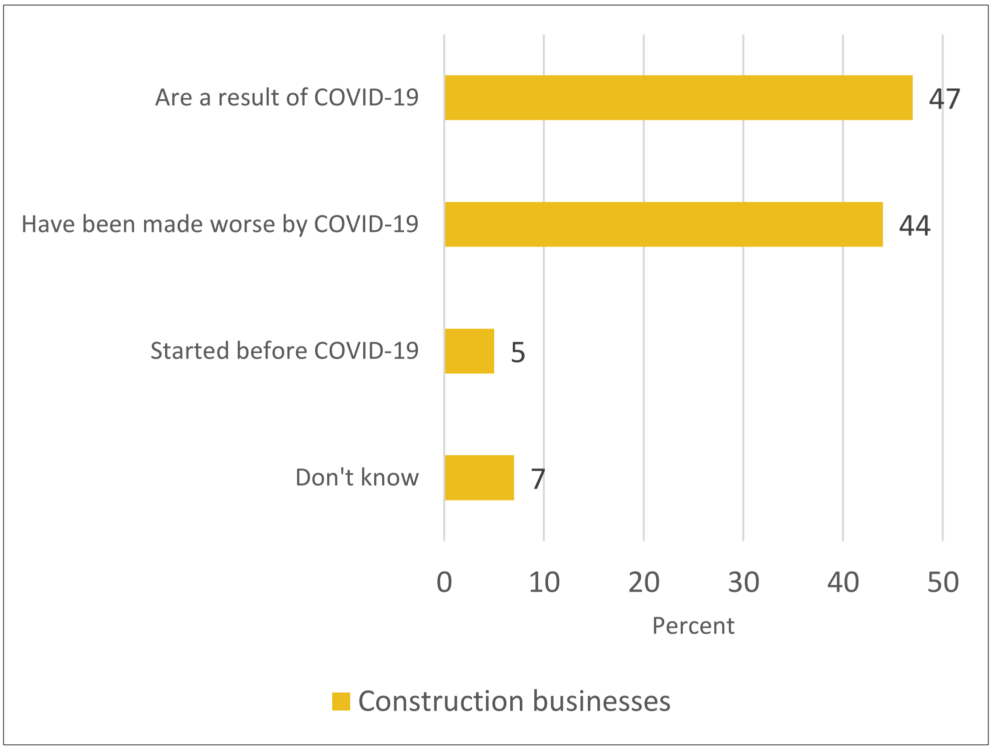
3. Construction businesses most frequently identified **structural wood** (36%) and **non-structural wood** products (21%) as the products in short supply.

Figure 3: Products in short supply



4. Similar percentages of construction businesses attributed the current supply issues faced by the Construction Sector **solely** to COVID-19 (47%) as claimed that COVID-19 made them **worse** (44%).

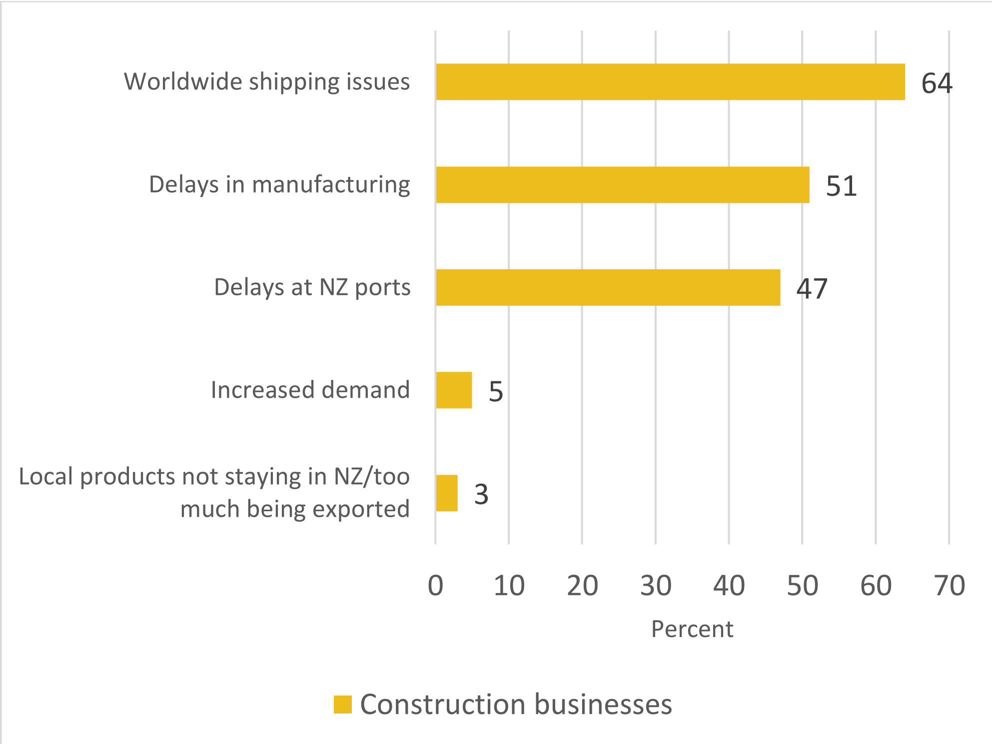
Figure 4: When supply shortages commenced



5. A mix of reasons was provided by construction businesses for the supply shortages, including **worldwide shipping issues** (64%) and **delays in manufacturing** (51%), as well as **delays at New Zealand ports** (47%).

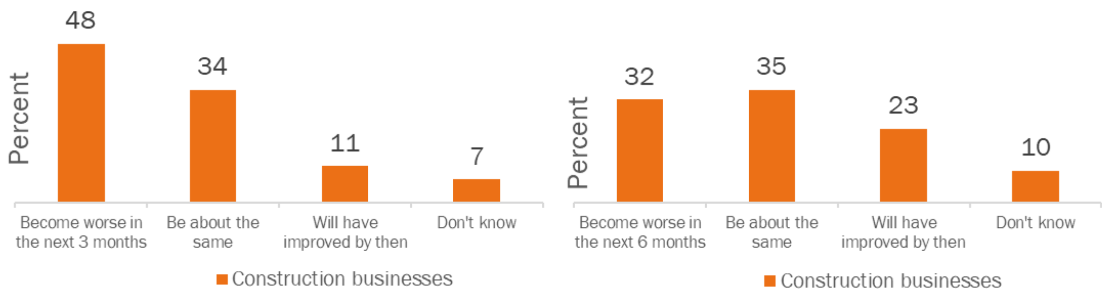
   Suppliers were significantly more likely than construction businesses to highlight worldwide shipping issues (86% compared with 64%) and delays at New Zealand ports (76% compared with 47%) as reasons why the Construction Sector is facing supply shortages.

Figure 5: Beliefs about the reasons for the supply shortages



6. Construction businesses expect that the supply shortages currently being experienced will more likely become **worse** in the next 3 months (48%) or be **about the same** (34%), and that the situation will **not** necessarily improve in the next 6 months. In fact, 32% believe that it will be worse in the next 6 months and 35% much the same.

Figure 6: Beliefs about supply shortage timeframes (next 3 and 6 months)



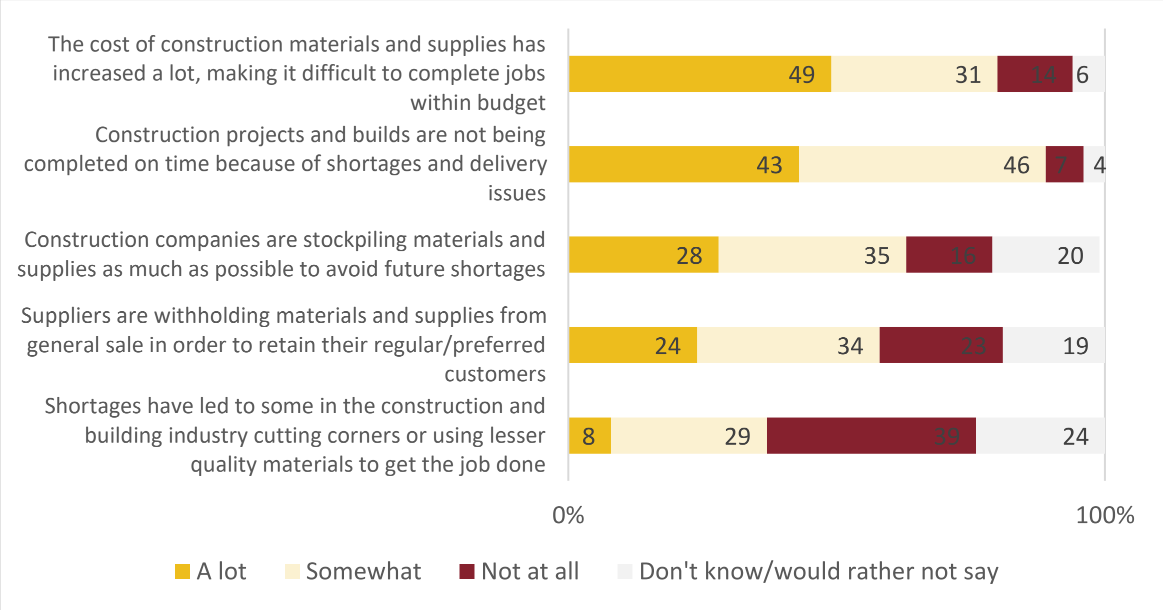
7. When construction businesses were asked about the consequences of the supply shortages in their regions (i.e. whether they were already happening a lot, somewhat, or not at all), the consequences most frequently identified by construction businesses as 'happening a lot already' were:

- An inability to complete projects and builds **on time** (43% of construction businesses identified this as happening 'a lot already' and 46% 'somewhat' – that is, a total of 89%).

- An inability to complete jobs **within budget**, due to the cost of construction materials and supplies having increased (49% of construction businesses identified this as happening 'a lot already' and 31% 'somewhat' – that is, a total of 80%).

Other consequences were mentioned less frequently, although **construction businesses stockpiling** and **suppliers withholding materials** was mentioned as happening 'a lot already/somewhat' by over one-half of construction businesses (63% and 58% respectively).

Figure 7: Beliefs about the impacts of the supply shortages



8. In regard to what construction businesses believe would make the **biggest difference** in overcoming the supply shortages and delivery issues the construction industry is currently facing, the responses were varied. Most frequently mentioned was that **more manufacturing and/or processing** should be happening in New Zealand/less New Zealand product should be exported (18%) and that **New Zealand ports should be managed better** (13%) in order to alleviate the delivery issues and supply shortages.

9. At the end of the survey, respondents were asked if they would be willing to be interviewed in the next survey wave. Positively, 94% provided their contact details so that we can invite them to participate in the next round.

Detailed results

Important note: In this section of the report, tables are provided based on the results to each question. As appropriate, the results are provided separately for construction businesses and suppliers.

Table 1 shows the extent to which construction businesses identified various issues, on an **unprompted** basis and **after prompting**, as affecting their ability to 'deliver on time and within budget'.

On an **unprompted** basis, **shortages of materials and supplies** was most frequently mentioned (53%), followed by **shortages of experienced/skilled staff** (34%). Another 13% mentioned increases in **prices** and 10% identified **delivery** issues as affecting their ability to deliver on time and within budget.

After being prompted, increases in the **price** of materials and supplies (84%) and **shortages of materials and supplies** (78%) were the two issues most frequently identified as affecting the Construction Sector's ability to 'deliver on time and within budget'. These were followed by **shortages of experienced/skilled staff** (69%).

Table 1: Issues affecting Construction businesses ability to deliver on time and within budget (unprompted and total mentions)

	Construction businesses unprompted	Construction businesses Total mentions
Unweighted base =	539*	539*
	%	%
Increases in the price of materials and supplies	13	84
Shortages of materials and supplies	53	78
Shortage of experienced/skilled staff	34	69
Delivery issues	10	62
Sub-contractors not being available	8	46
Bureaucracy/council requirements/compliance issues	9	9
The weather	2	2
High volume of work/increased demand	1	1
Debtors/customers not paying their bills	1	1
General comment about Covid-19	1	1
Timeframes (e.g. uncertainty of project timing)	1	1
Delays due to design/getting information	1	1
Other issues	4	4
No issues or problems	9	9

Total may exceed 100% because of multiple responses.
*Sub-sample based on those respondents who were businesses involved in the Construction Sector (i.e. not Suppliers).

Table 2 shows which one of the identified issues construction businesses believed was having the **greatest impact** on their ability to 'deliver on time and within budget'. Shortages of experienced/skilled staff (41%) and shortages of materials and supplies (30%) were most frequently mentioned. In comparison, 13% mentioned the price of materials and supplies.

Eighty-nine percent of the small number of suppliers who responded to the survey confirmed the above by saying they were experiencing 'shortages or delays in receiving or accessing stock or materials for supply'.

Table 2: Issue having the greatest impact on businesses' ability to deliver on time and within budget

	Construction businesses
Unweighted base =	525*
	%
Shortage of experienced/skilled staff	41
Shortages of materials and supplies	30
Increases in the price of materials and supplies	13
Delivery issues	7
Sub-contractors not being available	5
Bureaucracy/council requirements/compliance issues	2
High volume of work/increased demand	1
Other issues	1

Total may exceed 100% because of multiple responses.
*Sub-sample based on respondents who identified at least one issue.

Table 3 shows the degree to which construction businesses and suppliers believed various products are in short supply. By far the most frequently mentioned were structural wood (35%) and non-structural wood products (21%). Also mentioned with some frequency were electrical equipment (14%), plumbing materials and fittings, steel and interior finishes (all 10% each).

Table 3: Products in short supply

	Total	Construction businesses	Suppliers
Unweighted base =	506*	448	58
	%	%	%
Wood - structural	35	36	22
Wood - non structural	21	21	17
Electrical equipment (e.g. transformers, switch gear)	14	15	3
Plumbing materials and fittings	10	10	5
Steel	10	9	9
Interior finishes (e.g. carpets)	10	8	26
Cladding (e.g. weatherboards)	6	6	2
Paint and painting equipment	6	5	9
Heating and cooling products (e.g. air conditioners, heat pumps)	5	5	0
Cement/asphalt	5	5	3
Timber (unspecified)	5	6	2
James Hardy products	4	5	3
General hardware/raw materials	4	4	5
Imported materials/Anything coming from overseas	4	3	10
Roofing materials	4	3	3
Plant/machinery and parts (e.g. excavators, scissor lifts)	4	4	5
Aluminium products	3	3	0
Doors and Windows	3	3	2
Tools and equipment (e.g. power tools, PPE)	3	2	10
Plywood	3	2	9
Metal (iron, zinc, copper)	3	3	2
Fibre cement products	2	2	5
Pre-cast components	2	1	0
Roofing materials	2	1	2
Pipes, water tanks	2	2	0
Drainage pipe materials	1	0	2
Ready mix concrete	1	1	0
Plaster board	1	0	0
Mechanical plant (e.g. ventilation systems)	1	0	0
Lifts and elevators	1	0	0
Fire safety systems (alarm systems, sprinklers)	1	0	0
Sanitary Ware	1	0	0
Scaffolding	1	1	0
Laminated products	1	1	2
Appliances	1	1	2

(Continued overleaf)

Table 3 (Continued): Products in short supply

	Total	Construction businesses	Suppliers
Unweighted base =	506*	448	58
	%	%	%
Bricks	1	1	0
Landscaping materials	1	1	5
Glass	1	1	0
Plastering materials	1	1	2
Stone, masonry products	1	1	2
Other	6	5	17
Nothing	1	1	0
Don't know	3	2	0

Total may exceed 100% because of multiple responses.
*Sub-sample based on those respondents who mentioned material shortages or delivery issues at Q3, Q4 or Q5.

Table 4 shows that similar percentages of respondents attributed the current supply issues faced by the Construction Sector solely to COVID-19 (49%) as claimed that COVID-19 made them worse (44%).

Table 4: When supply shortages commenced

	Total	Construction businesses	Suppliers
Unweighted base =	506*	448	58
	%	%	%
Started before COVID-19	5	5	3
Are a result of COVID-19	48	47	55
Have been made worse by COVID-19	44	44	40
Don't know	7	7	3
Total	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who mentioned material shortages or delivery issues at Q3, Q4 or Q5.

Table 5 shows that construction businesses provided a mix of reasons as to why they believe the construction industry is facing the supply shortages, including **worldwide shipping issues** (64%), **delays in manufacturing** (51%) and **delays at New Zealand ports** (47%).

Perhaps not surprisingly, suppliers were significantly more likely than construction businesses to highlight worldwide shipping issues (86% compared with 64%) and delays at New Zealand ports (76% compared with 47%) as reasons why the Construction Sector is facing supply shortages.

Table 5: Beliefs about the reasons for the supply shortages

	Total	Construction businesses	Suppliers
Unweighted base =	506*	448	58
	%	%	%
Worldwide shipping issues	67	64	86
Delays in manufacturing	52	51	59
Delays at NZ ports	51	47	76
Increased demand	5	5	2
Local products not staying in NZ/too much being exported	2	3	0
Impacts of Covid-19	1	1	0
Something else	3	3	0
Don't know	5	6	0

Total may exceed 100% because of multiple responses.
*Sub-sample based on those respondents who mentioned material shortages or delivery issues at Q3, Q4 or Q5.

Tables 6 and 7 show construction businesses' expectation that the supply shortages currently being experienced will more likely become **worse** in the next 3 months (4%) or be **about the same** (34%), and that the situation will **not** necessarily improve in the next 6 months. In fact, 32% believe that it will be worse in the next 6 months and 35% much the same.

Interestingly, construction businesses were significantly more likely to believe that the supply shortages they are currently facing will become worse over the next 3 months (48%) than suppliers (33%). In comparison, suppliers felt that the supply shortages would remain about the same as they are now (47% of suppliers vs. 34% of construction businesses). This pattern also held at the 6-month mark.

Table 6: Beliefs about supply shortage timeframes (next 3 months)

	Total	Construction businesses	Suppliers
Unweighted base =	506*	448	58
	%	%	%
Become worse in the next 3 months	46	48	33
Be about the same	36	34	47
Or will have improved by then	12	11	17
Don't know	6	7	3
Total	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who mentioned material shortages or delivery issues at Q3, Q4 or Q5.

Table 7: Beliefs about supply shortage timeframes (next 6 months)

	Total	Construction businesses	Supplier
Unweighted base =	506*	448	58
	%	%	%
Material shortages and/or delivery issues will become worse	30	32	16
Be about the same	36	35	40
Will have improved by then	25	23	36
Don't know	10	10	9
Total	100	100	100

Total may not sum to 100% due to rounding.
*Sub-sample based on those respondents who mentioned material shortages or delivery issues at Q3, Q4 or Q5.

Table 8 shows construction businesses' beliefs about the consequences of the supply shortages in their regions (i.e. whether they were already happening a lot, somewhat, or not at all). This shows the consequences most frequently mentioned as 'happening a lot already' were:

- An inability to complete projects and builds **on time** (43% of construction businesses identified this as happening 'a lot already' and 46% 'somewhat' – that is, a total of 89%).

- An inability to complete jobs **within budget**, due to the cost of construction materials and supplies having increased (49% of construction businesses identified this as happening 'a lot already' and 31% 'somewhat' – that is, a total of 80%).

Other consequences were mentioned less frequently, although **construction businesses stockpiling** and **suppliers withholding materials** was mentioned as happening 'a lot already/somewhat' by over one-half of construction businesses (63% and 58% respectively).

Table 8: Beliefs about the impacts of the supply shortages

	Total	Construction businesses	Supplier
	%	%	%
Unweighted base =	604	539	65
The cost of construction materials and supplies has increased a lot, making it difficult to complete jobs within budget			
A lot	48	49	45
Somewhat	33	31	40
Not at all	13	14	5
Don't know	5	5	8
Would rather not say	1	1	3
Total	100	100	100
Construction projects and builds are not being completed on time because of shortages and delivery issues			
A lot	42	43	35
Somewhat	48	46	58
Not at all	6	7	2
Don't know	4	4	3
Would rather not say	0	0	2
Total	100	100	100
Construction companies are stockpiling materials and supplies as much as possible to avoid future shortages			
A lot	28	28	29
Somewhat	35	35	29
Not at all	16	16	17
Don't know	21	20	22
Would rather not say	0	0	3
Total	100	100	100
Suppliers are withholding materials and supplies from general sale in order to retain their regular/preferred customers			
A lot	23	24	17
Somewhat	34	34	29
Not at all	23	23	32
Don't know	18	18	18
Would rather not say	1	1	3
Total	100	100	100
Shortages have led to some in the construction and building industry cutting corners or using lesser quality materials to get the job done			
A lot	7	8	6
Somewhat	28	29	22
Not at all	38	39	40
Don't know	24	22	26
Would rather not say	2	2	6
Total	100	100	100

Total may not sum to 100% due to rounding.

Table 9 shows what construction businesses believe would make the biggest difference in overcoming the supply shortages and delivery issues the construction industry is currently facing. The responses were varied, but most frequently mentioned was that more manufacturing and/or processing should be happening in New Zealand and that less New Zealand product should be exported (18%). Significantly more construction businesses mentioned this than suppliers (18% compared with 9%).

"I think New Zealand should produce more of the stuff it needs rather than relying on imports."

"To source more material within New Zealand. For example, we have a sawmill in [Place] which has solely made timber to be shipped to Australia prior, but because of the situation they have agreed to keep some timber in New Zealand to help with the situation. So more sources like that need to be used."

"Stop selling our stuff to overseas. We shouldn't be out of timber when we hold most of the timber. Why are we sending it away [just] to get the rubbish stuff back?"

Following closely behind, 13% of construction businesses said that ports should be managed better in order to alleviate the delivery issues and supply shortages. Also mentioned was that shipping in general could be improved; both worldwide and New Zealand based (6%). Significantly more suppliers than construction businesses mentioned better port management (34% compared with 13%) and improved shipping (21% compared with 6%).

"More staff at the docks, so they can clear customs quicker. Open more ports when you are in places in Whangarei or Christchurch."

"More efficient handling of containers at New Zealand wharves; Tauranga and Auckland are just hopeless."

"Speeding up turnover time in New Zealand's ports. Materials are coming from overseas, but it doesn't seem to go through the ports somehow."

'The sea freight issues and the sea freight companies."

"Just a freight problem so, I don't know, build more boats."

"I think shipping is the main thing but the country that its coming from are impacted by their own production."

Other ideas were to for the Government to allow more skilled workers into New Zealand (8% of construction businesses) and getting rid of COVID-19 so that the world can go back to functioning as it was beforehand (6% of construction businesses).

"Open the immigration to get more people to New Zealand to help."

"Open the borders to let more skilled tradesmen in. I have an advert on Seek and Trademe and I can't get the right people and I know there are qualified staff offshore."

"If the world can get COVID under control we'll be back up and running really."

"Maybe every agent in the world being available and going back to before COVID-19."

Table 9: Beliefs about what would make the biggest difference in overcoming the supply shortages

	Total	Construction businesses	Supplier
Unweighted base =	506*	448	58
	%	%	%
Manufacture/process more in NZ/export less product	17	18	9
Better port management (increased processing efficiency, more staff etc.)	15	13	34
Improved shipping/getting products to NZ faster	8	6	21
Allowing more skilled workers into NZ	7	8	2
Getting rid of COVID-19 so the world can go back to normal	6	6	5
Government spending money where it would actually help	5	6	3
More planning/organisation by businesses themselves but also within the industry	3	2	2
General comment about 'more supply'	3	3	0
Ordering in advance/bulk ordering	2	2	2
More staff in general	2	2	5
Reduce manufacturing delays (mainly overseas)	2	1	5
Use air freight more to get supplies to NZ	1	1	2
Need to import more raw materials to manufacture the bigger products in NZ	1	1	3
Clients allowing more flexible contracts	1	0	0
Consideration of alternative sources of materials	0	0	0
Other	6	6	3
Nothing we can do	2	2	2
Don't know	28	30	14

Total may exceed 100% because of multiple responses.

At the end of the survey, respondents were asked if they had anything else they would like to say, particularly about the availability of materials or their supply. The following are a selection of those responses:

"Quoting for jobs right now is difficult as prices keep going up. Meeting all the requirements from councils [and] architects are causing delays. Professional people (engineers and architects) are not having the experience that they might have had in the past, and this has a huge impact on others further down the job."

"Every month I get emails from my supplier saying that materials are going up 2%, 3% ,5%, 8% and the highest I've been warned about is 15%."

"If we don't have the workers, the materials and supplies are not worth having anyway. It's more labour instead of supplies."

"What we are noticing, is some of our suppliers are limiting stock that are released to us and the cost have gone up dramatically and have some products going up 40%."

"General knowledge in construction at the moment is that a large supplier of general building goods is holding materials for their own established customer base."

“Government just need to work on shipping issue and the cost of their materials. We've seen for steel pipes we are getting 16% increases [and] it's extremely difficult as a business to pass that on fully. I think they, the Government, need to start opening up freeing up ports, whether that means more ports, or accept greater shipping. I don't know the answer to top that, I know we've had massive delays, we had ordered items from the United States, and it didn't come into the port. Through air freight it got here quick, but it was sitting in the storage.”

“Just a matter of getting freight ships quicker. Shortage of availability of containers from overseas is the problem.”

“One that I didn't mention was building inspection and the lack of building inspectors is definitely impacting us badly.”

“I suppose I just dislike the shortness of supply. With COVID, instead of everyone taking what they need, the stockpiling is making it harder for other people or builders or contractors.”

“For renovations it is difficult to order in advance … because of the delays in shipping or manufacturing.”

“Well I think the building materials and wood shortages is self-created. The Government should be ensuring that we do not send our logs overseas and they're going out unprocessed by the shipload and then they are going to their destination, and they are adding value to it and then selling back to us in a processed form they have the raw materials.”

“The world is very big, and this is a very big problem which is not going to be solved easily or readily in my view.”

“It's a serious issue and it's causing big scheduling problems. It has created a whole new working environment.”

Appendix A

Table A: Profile of survey respondents

	Construction businesses	Supplier
Unweighted base =	539	65
	%	%
Business size:		
Up to 5	34	23
6 to 9	29	37
10 to 19	21	14
20 to 49	12	20
50 or more	4	5
Would rather not say	0	2
Total	100	100
Region:		
Northland	5	6
Auckland	29	43
Waikato	9	3
Bay of Plenty	7	5
Gisborne	1	0
Hawke's Bay	4	2
Taranaki	3	5
Manawatu-Wanganui	5	5
Wellington-Wairarapa	11	6
Tasman	0	0
Nelson	1	0
Marlborough	1	0
West Coast	0	2
Canterbury	16	20
Otago	7	5
Southland	2	0
Don't know Do not read	0	0
Total	100	100

Total may not sum to 100% due to rounding.

Unweighted base =	Construction business
	538
	%
Business type:	
House construction	26
Electrical services	14
Plumbing services	7
Site preparation services	6
Landscape construction services	5
Telecommunication line construction and maintenance	5
Heavy and civil engineering construction	4
Non-residential building construction	4
Painting and decorating services	4
Concreting services	3
Plastering and ceiling services	3
Residential building construction	3
Air conditioning and heating services	3
Roofing services	2
Building installation services	2
Tiling and carpeting services	2
Bricklaying services	1
Carpentry services	1
Fire Sprinklers - installation	1
Glazing services	1
Road and bridge construction	1
Total	100

Total may not sum to 100% due to rounding.