

The Zero Waste Concept in the California Commercial Construction Industry: A Case Study

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In 2018, the United States generated 600 million tons of construction and demolition waste (CDW) which was more than twice the amount of municipal solid waste produced. Excessive CDW puts a burden on already scarce landfills as well as the environment and the health of its inhabitants. The zero waste concept emerged as an innovative solution to CDW and refers to the elimination of waste throughout construction activity. Fully adopting a zero waste project has since been perceived as highly difficult to initiate and maintain since its inception. This paper has determined the top 5 causes of construction waste and established that the commercial construction industry is prepared to adopt zero waste strategies in the next 5 years in California. The top 3 causes of construction waste were poor site management, lack of coordination between parties, and inadequate planning. The findings were determined through a survey of 38 construction professionals in the commercial construction industry in California.

Causes	Frequency of Responses					RII	Rank
	1	2	3	4	5		
Poor site management and supervision	0	3	11	13	11	0.7684	1
Lack of coordination between parties	0	2	11	16	9	0.7684	2
Inadequate planning and scheduling	0	4	10	14	10	0.7579	3
Changes in material specification and rework	0	6	11	12	9	0.7263	4
Inadequate subcontractors	1	5	10	15	7	0.7158	5
Mistakes and errors in design	3	7	8	13	7	0.6737	6
Lack of experience	1	8	14	10	5	0.6526	7
Slow information flow between parties	3	8	14	10	3	0.6105	8
Frequent design changes	4	9	9	14	2	0.6053	9
Shortage of technical personnel (skilled labour)	2	13	15	7	1	0.5579	10
Equipment availability and failure	7	10	16	5	0	0.5000	11
Effect of weather shortage of site workers	10	12	16	0	0	0.4316	12

Ranked Causes of Construction Waste Found In The Study



100% Stacked Bar Chart Representing Responses From The Study

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