

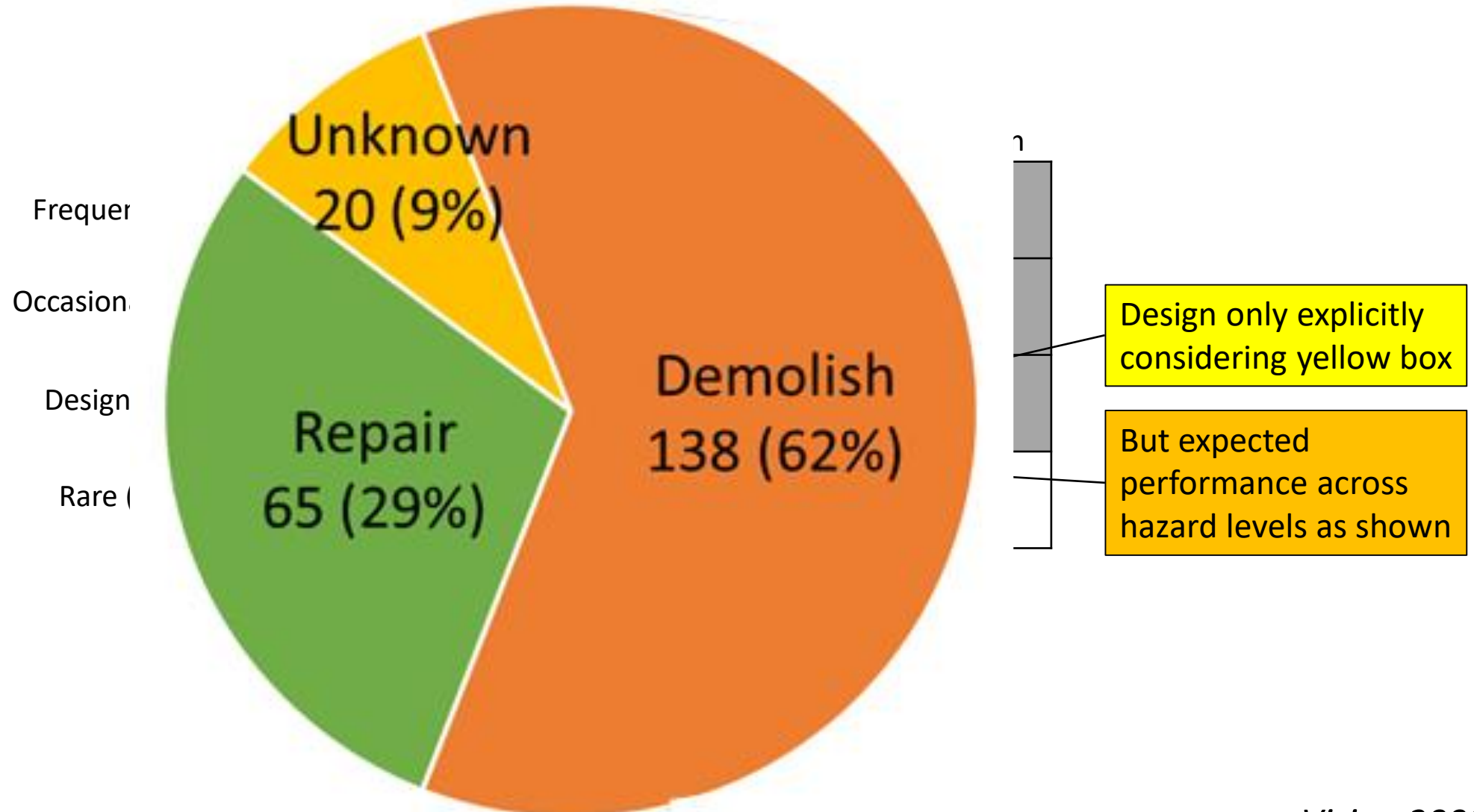


IP1: Functional Recovery with Repairable Multi-Storey Buildings

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Performance objectives



Functional Recovery



- Low damage solutions?

-What damage is repairable or needs to be repaired?
-How long to repair?

	Functionality				Life Safety	Collapse Prevention
	Maintained	Restored				
		Days	Weeks	Months		
Frequent (25 yrs)	95%	4%	1%			
Occasional (75 yrs)	75%	20%	4%	1%		
Design (500 yrs)	10%	20%	30%	35%	4%	1%
Rare (2500 yrs)	1%	10%	15%	30%	35%	5%
Very Rare (? yrs)	0%	1%	4%	10%	50%	30%

NB: Numbers are completely made up!



Explicit Research Questions

1. What *low-damage solutions* provide a high confidence of maintaining functionality for even rare earthquakes?
2. What is the expected performance of a damaged building in subsequent earthquakes (with or without repair) and what level of damage requires repair?
3. What level of damage can be accepted, and how to assess achievable and acceptable *timeframes* for restoration of function considering external constraints and stakeholder requirements?

This Inter-disciplinary programme will provide the underlying science to support the development of the world's first functional recovery-based seismic design standard.