

HEC-17 SPREADSHEET INSTRUCTIONS

Life Cycle Cost Analysis - HEC 17								Discount Rate	Input - A	
								Analysis Period (years)	Input - B	
Repair in-kind Alternative								Initial Project Cost	Input - C	
								Service Life (years)*	Input - D	
Project Description										
								Total		
Event Recurrence Interval (yr)	2	5	10	25	50	100	200	∞	/	
Damage Repair Cost after Event	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E		
Event exceedance probability	0.5	0.2	0.1	0.04	0.02	0.01	0.005	0		
Average Annual Risk	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1		Result - 2
PW Risk - Over the Analysis Period										Result - 3
PW Project Cost over Analysis Period (Adjusted for Remaining Service Life)								Result - 4		
Life Cycle Cost (Total Project Cost over Analysis Period)								Result - 5		
Betterment Alternative								Initial Project Cost	Input - C	
								Service Life (years)*	Input - D	
Project Description										
								Total		
Event Recurrence Interval (yr)	2	5	10	25	50	100	200	∞	/	
Damage Repair Cost after Event	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E	Input - E		
Event exceedance probability	0.5	0.2	0.1	0.04	0.02	0.01	0.005	0		
Average Annual Risk	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1	Result - 1		Result - 2
PW Risk - Over the Analysis Period										Result - 3
PW Project Cost over Analysis Period (Adjusted for Remaining Service Life)								Result - 4		
Life Cycle Cost (Total Project Cost over Analysis Period)								Result - 5		
* Service Life ≥ Analysis Period								Benefit/Cost Ratio	Result - 6	

- Input – A** Discount Rate (enter 2 for 2%)
- Input – B** Analysis Period (Based on AASHTO Classification)
- Input – C** Initial Project Cost (Including NEPA, Engineering, Emergency Repairs)
- Input – D** Service Life of Alternative (must equal or exceed Analysis Period)
- Input – E** Damage Repair Cost after Event (normally damage from 2 to 10-years is not eligible)
- Result – 1** Average Annual Risk of Damage from two adjacent Events
- Result – 2** Annual Risk of damage from all events
- Result – 3** Present Worth of Annual Risk over the Analysis Period
- Result – 4** Present Worth of Project Costs adjusted for remaining service life
- Result – 5** Total Present Worth of Alternative over the Analysis Period
- Result – 6** Benefit - Cost Ratio