

Utility Impact Rating (UIR) Decision Matrix for Management of Highway Projects

ABSTRACT:

Previous studies and reports of cost savings have been performed and reported by various state DOTs, NCHRP, FHWA, University of Toronto, and Purdue University. The objective of this study was to develop a Subsurface Utility Engineering Manual for PennDOT to assist the department and consultant designers, utility relocation administrators, and others in identifying the appropriate levels of investigation needed to locate and designate existing buried utilities. Ten SUE projects were selected to be part of this study. These projects were selected randomly from a list of projects that utilized SUE. They involved a mixture of state routes in urban, suburban, and rural settings and environments. PennDOT district utility managers and engineers, consultants, utility owners, designers, and project managers were interviewed.

SUE Decision Matrix for Highway Projects

Utility Related Risk Level	80-100	SUE Quality Level C&D					0-20	SUE Benefits Level (Positive)
	60-80	SUE Quality Level B/C	SUE Quality Level C&D				20-40	
	40-60	SUE Quality Level B	SUE Quality Level B/C	SUE Quality Level C&D			40-60	
	20-40	SUE Quality Level A/B	SUE Quality Level B	SUE Quality Level B/C	SUE Quality Level C&D		60-80	
	0-20	SUE Quality Level A	SUE Quality Level A/B	SUE Quality Level B	SUE Quality Level B/C	SUE Quality Level C&D	80-100	
Utility Complexity Level	5	4	3	2	1	Utility Complexity Level		
Utility Related Risk Level	0-20		SUE Quality Level A	SUE Quality Level A/B	SUE Quality Level B	SUE Quality Level B/C	0-20	SUE Benefits Level (Negative)
	0-20			SUE Quality Level A	SUE Quality Level A/B	SUE Quality Level B	20-40	
	0-20				SUE Quality Level A	SUE Quality Level A/B	40-60	
	0-20					SUE Quality Level A	60-80	
	0-20						80-100	

Figure 1: Utility Impact Rating Decision Matrix

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