

An aerial photograph of a mountain valley. A river flows through the center, winding between steep, forested slopes. The trees show autumn colors, with many yellow and orange leaves. A paved road follows the river's course, and a bridge is visible on the left side of the image. The sky is overcast with grey clouds.

# USMP Rating Form - Slope Risk Rating

6/23/2017

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# USMP Rating Form - Slope Risk Rating

Relative Risk Evaluation

SITE INFORMATION										
Management Area								Date		
Road/Trail No.		<input type="radio"/> Trail <input type="radio"/> Road		Road/Trail Class		Rater				
Beginning Mile Marker			Ending Marker		Side		Weather			
Hazard Type	Rockfall Planar   Wedge   Toppling Raveling/Undermining   Rock Avalanche Indeterminate Rock Failures   Diff. Erosion				Landslide Above, Below, or Across Route Translational   Rotational   Debris Flow Shallow slump   Erosional Failure					
Begin Coord.	Lat. Long.	End Coord.	Lat. Long.	Datum		AADT				
Length of Affected Road/Trail			Slope Height (rock) / Axial Length (slide)			Slope Angle				
Sight Distance			Roadway/Trail Width			Speed Limit				
Ditch Width		Ditch Depth		Ditch Slope		Blk Size/Volume				
Annual Rainfall		Sole Access Route <input type="checkbox"/> Yes <input type="checkbox"/> No		Fixes Present <input type="checkbox"/> Yes <input type="checkbox"/> No		Photo # Range				
Comments										
PRELIMINARY RATING										
Category Rating		3		9		27		81		Score
A. Landslide – Roadway Width Affected		0-5 Percent		6-25 Percent		26-50 Percent		51-100 Percent		
B. Landslide – Slide/Erosion Effects		Visible crack or slight deposit of material / minor erosion		1 inch offset, or 6-inch deposit of material / major erosion will affect travel in < 5 yrs		2-inch offset or 12-inch deposit/ mod. erosion impacting travel annually		4-inch offset or 24-inch deposit/ severe erosion impacting travel consistently		
C. Landslide – Roadway Length Affected		25 ft		100 ft		225 ft		400 ft		CALC
D. Rockfall – Ditch Effectiveness (consider launch features)		Good		Moderate		Limited		No Catchment		
E. Rockfall – Rockfall History		Few Falls		Occasional Falls		Many Falls		Constant Falls		
F. Rockfall – Block Size or Volume per Event		1 ft or 3 yd <sup>3</sup>		2 ft or 6 yd <sup>3</sup>		3 ft or 9 yd <sup>3</sup>		4 ft or 12 yd <sup>3</sup>		CALC
G. All - Impact on Use		Full use continues with minor delay		Partial use remains Use modification required, short (3 mi/30 min.) detour available		Use is blocked – long (>30 min) detour available or less than 1 day closure		Use is blocked – no detour available or closure longer than 1 week		
H. All - AADT / Usage / Economic or Recreational Importance (highest rating applies)		50 Rarely Used Insignificant economic / rec. importance		200 Occasionally used Minor economic / rec. importance		450 Frequently used Moderate economic / rec. importance		800 Constantly used Significant economic / rec. importance		CALC FOR AADT ONLY
LANDSLIDES TOTAL (A+B+C+G+H)									CALC	
ROCKFALL TOTAL (D+E+F+G+H)									CALC	
<b>Preliminary Rating</b> Good (15-21 pts)   Fair (22-161 pts)   Poor (>161 pts) Sites rated as Fair or Poor receive detailed evaluation (complete back page)										

SLOPE HAZARD RATING											
Category Rating		3		9		27		81		Score	
I. All - Slope Drainage		Slope appears dry or well drained; surface runoff well controlled		Intermittent water on slope; mod. well drained; or surface runoff moderately controlled		Water usually on slope; poorly drained; or surface runoff poorly controlled		Water always on slope; very poorly drained; or surface water runoff control not present			
J. All - Annual Rainfall		0-10"		10-30"		30-60"		60"+			
K. All - Slope Height / Axial length of slide		25 ft		50 ft		75 ft		100 ft		CALC	
Select One Unstable Slope Type Landslides/ Erosion (add A, B, C)  Rockfalls (add D, E, F)  Geologic Character Case 1 Case 2	L. Thaw Stability (Cold Climates)		Unfrozen/Thaw Stable		Slightly Thaw Unstable		Moderately Thaw Unstable		Highly Thaw Unstable		
	M. Instability-Related Maint. Frequency		Every 10 years		Every 5 years		Every 2 years		Every year		
	N. Movement History		Minor movement or sporadic creep		Up to 1 inch annually or steady annual creep		Up to 3 inches per event, one event per year		>3" per event, >6" annually, more than 1 event per year (includes all debris flows)		
	O. Rockfall-Related Maint. Frequency		Normal, scheduled maintenance		Patrols after every storm events		Routine seasonal patrols		Year-round patrols		
	P. Structural Condition		Discontinuous Favorable		Discontinuous Random		Discontinuous Adverse		Continuous Adverse		
	Q. Rock Friction		Rough/ Irregular		Undulating		Planar		Clay infilled/ Slickensided		
	R. Structural Condition		Few differential erosion features		Occasional differential erosion features		Many differential erosion features		Major differential erosion features		
	S. Diff. in Erosion Rates		Small difference		Moderate difference		Large difference		Extreme difference		
	T. LANDSLIDE HAZARD TOTAL (A+B+C+H+K+L+M+N)										CALC
	U. ROCKFALL HAZARD TOTAL (D+E+F+J+K+O+(greatest of P+Q or R+S))										CALC
RISK RATING											
V. Route Width or Trail Width		36 ft 14 ft		28 ft 10 ft		20 ft 6 ft		12 ft 2 ft		CALC	
W. Human Exposure Factor		12.5% of the time		25% of the time		37.5% of the time		50% of the time		CALC if AADT > 1000	
X. % of Decision Sight Distance (Judge avoidance ability on trails)		Adequate, 100% of low design value		Moderate, 80% of low design value		Limited, 60% of low design value		Very Limited, 40% of low design value		CALC for roads	
Y. Right of Way (R/W) Impacts (If Left Unattended)		No R/W implications		Minor effects beyond R/W		Private property, no structures affected		Structures, roads, RR, utilities, or Parks affected			
Z. Environmental/Cultural Impacts if Left Unattended		None/No Potential to Cause Effects		Likely to Effect/No Hist. Prop. Affected		Likely to adversely Affect/Finding of No Adverse Effect		Current adverse effects/Adverse Effect			
AA. Maintenance Complexity		Routine Effort/In-House		In-house maint./ special project		Specialized equip./ contract		Complex/ dangerous effort /location/contract			
BB. Event Cost		\$0-2k		\$2-25k		\$25-100k		>\$100k			
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)										CALC	
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)										CALC	

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC if AADT avail
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
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CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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 Prepared by: Landslide Technology, WFLHD, USDA FS, BLM, BIA and NPS

Rev 1.04 (July 3, 2015)



# Slope Types

- Risk factors apply to all slope types
- Focuses on:
  - Ability to avoid sudden roadway hazards
  - Traffic volumes
  - Complexity & cost to respond & repair
  - Potential environmental and cultural impacts

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF AADT > 400
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
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BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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# V. Route or Trail Width

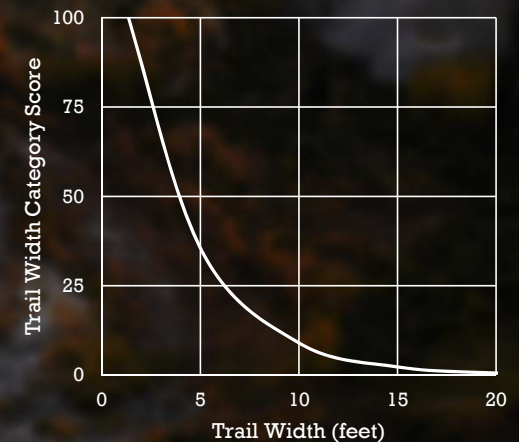
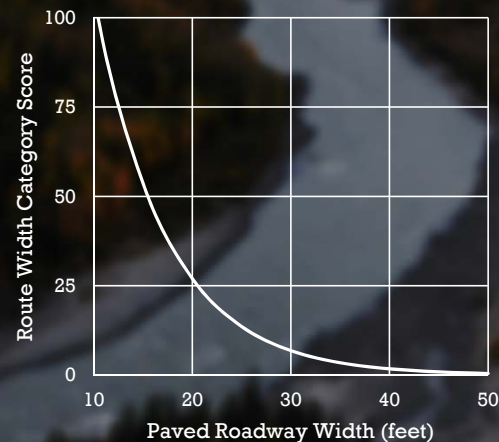
- Width recorded in Site Information
- Focuses width available for hazard avoidance
- Customized for rural, two lane roadways and trails
- Calculated

Points	Roadway	Trail
3 points	36 feet	14 feet
9 points	28 feet	10 feet
27 points	20 feet	6 feet
81 points	12 feet	2 feet

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC if AADT > 400
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
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BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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## V. Route or Trail Width

$$\text{Score} = 3^x \text{ (max100)}$$

$$x = \frac{44 - \text{Road width (ft)}}{8}$$

What is the road width score at right?

$$x = \frac{44 - 25}{8} = \frac{19}{8} = 2.375$$

$$\text{Score} = 3^{2.375} = 14 \text{ pts}$$

What is the road width score for 15'?

$$\text{Score} = 3^{3.75} = 62 \text{ pts}$$





## V. Route or Trail Width

$$\text{Score} = 3^x (\text{max}100)$$

$$x = \frac{18 - \text{Trail width (ft)}}{4}$$

What is the trail width score at right?

$$x = \frac{18 - 3}{4} = \frac{15}{4} = 3.875$$

$$\text{Score} = 3^{3.875} = 70 \text{ pts}$$





## W. Human Exposure Factor

- Uses AADT, speed limit/walking speed, and slope length
- Judgement if data not available
- Focuses no. of people exposed to hazard & exposure duration
- Calculated, if possible

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
Z. Environmental/Cultural Impacts if Left Unattended	None/No Potential to Cause Effects	Likely to Effect/No Hist. Prop. Affected	Likely to adversely Affect/Finding of No Adverse Effect	Current adverse effects/Adverse Effect	
AA. Maintenance Complexity	Routine Effort/In-House	In-house maint./special project	Specialized equip./contract	Complex/ dangerous effort /location/contract	
BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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Points	Human Exposure
3 points	12.5% of the time
9 points	25% of the time
27 points	37.5% of the time
81 points	50% of the time

# W. Human Exposure Factor

$$\text{Score} = 3^x (\text{max}100);$$

$$x = \frac{\left( \frac{\text{AADT}}{24} \times \text{slope length (miles)} \times 100 \right)}{\text{speed limit or walking speed}} \div 12.5$$



What are the human exposure factors?

Road

$$x = \frac{\left( \frac{\text{AADT}}{24} \times \text{slope length (miles)} \times 100 \right)}{\text{speed limit or walking speed}} \div 12.5$$

$$x = \frac{\left( \frac{554}{24} \times \frac{440}{5280} \times 100 \right)}{35} \div 12.5 = \frac{\left( \frac{23.08 \times 0.083 \times 100}{35} \right)}{12.5} = \frac{1.924}{12.5} = 0.15$$

$$\text{Score} = 3^{0.15} = 1$$

Trail

$$x = \frac{\left( \frac{\text{AADT}}{24} \times \text{slope length (miles)} \times 100 \right)}{\text{speed limit or walking speed}} \div 12.5$$

$$x = \frac{\left( \frac{1274}{24} \times \frac{125}{5280} \times 100 \right)}{2.7} \div 12.5 = \frac{\left( \frac{53.08 \times 0.024 \times 100}{2.7} \right)}{12.5} = \frac{47.2}{12.5} = 3.77$$

$$\text{Score} = 3^{3.77} = 75$$



## X. Percent Decision Sight Distance

- Judges the ability to perceive and avoid sudden hazard
- Judgement on trails
- Calculated on roads

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF R/W is 14 ft
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC IF R/W is 14 ft
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
Z. Environmental/Cultural Impacts if Left Unattended	None/No Potential to Cause Effects	Likely to Effect/No Hist. Prop. Affected	Likely to adversely Affect/Finding of No Adverse Effect	Current adverse effects/Adverse Effect	
AA. Maintenance Complexity	Routine Effort/In-House	In-house maint./special project	Specialized equip./contract	Complex/ dangerous effort /location/contract	
BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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Points	Roadways	Trails
3 points	Adequate, 100% of design value	Hazards easily avoided
9 points	Moderate, 80% of design value	Hazards moderately difficult to avoid
27 points	Limited, 60% of design value	Hazards difficult to avoid
81 points	Very Limited, 40% of design value	Hazards very difficult to avoid

# X. Percent Decision Sight Distance

What is the score?



$$x = \frac{120 - \left( \frac{\text{Measured Minimum Sight Distance}}{\text{AASHTO Recommended Decision Sight Distance}} \times 100 \right)}{20}$$

$$x = \frac{120 - \left( \frac{175}{525} \times 100 \right)}{20} = \frac{120 - \left( \frac{175}{525} \times 100 \right)}{20} = \frac{120 - 33.33}{20} = 4.33$$

$$\text{Score} = 3^{4.33} = 116 \text{ pts} = 100 \text{ pts}$$

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Posted Speed Limit (mph)	AASHTO Recommended Minimum Decision Sight Distance (ft)
25	375
30	450
35	525
40	600
45	675
50	750
55	875
60	1,000
65	1,050



# X. Percent Decision Sight Distance - Trails



Points	Trails
3 points	Hazards easily avoided
9 points	Hazards moderately difficult to avoid
27 points	Hazards difficult to avoid
81 points	Hazards very difficult to avoid

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## Y. R/W Impacts

- Judges potential impacts off right-of-way, structures, roads, railroads, etc.
- Obtain maps, if needed

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF AADT > 447
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
Z. Environmental/Cultural Impacts if Left Unattended	None/No Potential to Cause Effects	Likely to Effect/No Hist. Prop. Affected	Likely to adversely Affect/Finding of No Adverse Effect	Current adverse effects/Adverse Effect	
AA. Maintenance Complexity	Routine Effort/In- House	In-house maint./ special project	Specialized equip./ contract	Complex/ dangerous effort /location/contract	
BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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<b>3 points</b>	No ROW implications. Unstable slopes very unlikely to extend beyond agency ROW.
<b>9 points</b>	Minor effects beyond ROW. Retrogressing unstable slopes impacting non-agency ROW, but adjoining landowner indifferent to minor impacts. Minor impacts include overburden slumping, minor drainage changes, or rock slope crest retrogression.
<b>27 points</b>	Private property, no structures affected. Unstable slopes actively retrogressing into private property but not impacting or likely to threaten structures. ROW acquisition of private lands may be a remote option.
<b>81 points</b>	Structures, roads, RR, utilities, or parks affected. Retrogressing unstable slopes actively threatening adjacent structures, transportation systems, or Federal or State Park lands. In this score range, ROW acquisition of private lands may be a viable option. Coordination of mitigation approaches with outside agency landowner(s) will likely be required.





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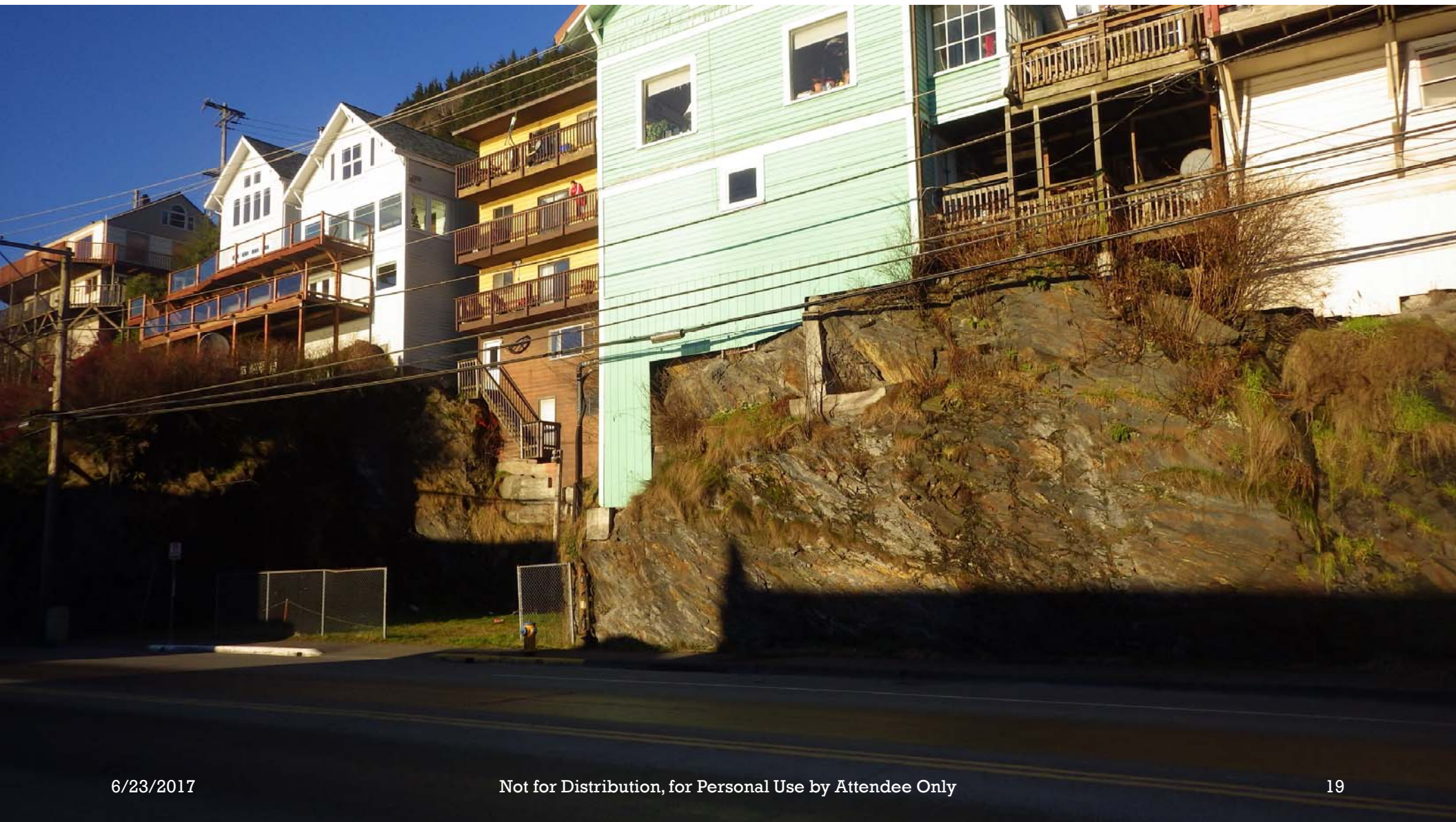


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# Z. Environmental/Cultural Impacts

- Consult environmental/cultural resource personnel.
- Obtain maps, if needed.

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF AADT > 4400
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
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BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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<b>3 points</b>	<u>None/No potential to cause effects.</u> No known sensitive environmental issues are present or anticipated if a <i>probable</i> worst case scenario occurs. Hazard does not have the potential to cause effects on historic properties, assuming such historic properties are present (36 CFR 800.3(a)(1)).
<b>9 points</b>	<u>Likely to affect/No historical property affected.</u> If a probable or historically common failure occurs or the slope retrogresses, minor environmental impacts are anticipated, but adverse impacts are not anticipated. Historic properties are present but the hazard will have no effect upon them (36 CFR 800.4(d)(1)).
<b>27 points</b>	<u>Likely to Adversely Affect/Finding of No Adverse Effect.</u> If a probable or historically common failure occurs or the slope retrogresses adverse impacts are anticipated. Historic properties are present but the hazard will require modification or conditions imposed should the hazard continue untreated (36 CFR 800.5(a)(2)(vii)(b)).
<b>81 points</b>	<u>Current adverse effects/Adverse Effect.</u> Current conditions are causing adverse environmental effects. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property (36 CFR 800.5(a)(1)).



# AA. Maintenance Complexity

- Indicative of both costs and associated hazards, recovery time, etc.

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF AADT > 400
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
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BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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3 points	<u>Routine effort/in-house.</u> Maintenance staff typically deal with unstable slopes with road-going equipment such as a pickup with a blade, particularly effective with rockfall incidences.
9 points	<u>In-house maintenance/special project.</u> Maintenance of the site requires mobilization of specialized equipment such as a backhoe, excavator, paver, guardrail post driver, etc.
27 points	<u>Specialized equipment/contract.</u> Maintenance requires specialized equipment to be mobilized a significant distance or requires assistance from an outside contractor. More involved maintenance may require basic engineering efforts (subgrade design, asphalt mixes, etc.).
81 points	<u>Complex or dangerous effort/location/contract.</u> Specialty contractor is required to perform maintenance activities (i.e. maintaining rockfall attenuator fences); more complex maintenance designs (such as subgrade reinforcement, MSE walls, rockfall mitigation, etc.) requiring geotechnical design efforts; or difficult/dangerous access (rope access, spider hoe, etc.) is required.



## BB. Event Costs

- Estimated or actual costs to maintain, respond, and recover from a probable worst case or historical failure
- \$\$ are approx. contractual ceilings

RISK RATING					
V. Route Width or Trail Width	36 ft 14 ft	28 ft 10 ft	20 ft 6 ft	12 ft 2 ft	CALC
W. Human Exposure Factor	12.5% of the time	25% of the time	37.5% of the time	50% of the time	CALC IF AADT > 400
X. % of Decision Sight Distance (Judge avoidance ability on trails)	Adequate, 100% of low design value	Moderate, 80% of low design value	Limited, 60% of low design value	Very Limited, 40% of low design value	CALC for roads
Y. Right of Way (R/W) Impacts (If Left Unattended)	No R/W implications	Minor effects beyond R/W	Private property, no structures affected	Structures, roads, RR, utilities, or Parks affected	
Z. Environmental/Cultural Impacts if Left Unattended	None/No Potential to Cause Effects	Likely to Effect/No Hist. Prop. Affected	Likely to adversely Affect/Finding of No Adverse Effect	Current adverse effects/Adverse Effect	
AA. Maintenance Complexity	Routine Effort/In-House	In-house maint./special project	Specialized equip./contract	Complex/ dangerous effort /location/contract	
BB. Event Cost	\$0-2k	\$2-25k	\$25-100k	>\$100k	
CC. RISK TOTALS: (G+H+V+W+X+Y+Z+AA+BB)					CALC
TOTAL USMP SCORE: LANDSLIDES (T+CC) OR ROCKFALL (U+CC)					CALC

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3 points	<u>\$0-2k.</u> Maintenance efforts and costs involve only agency maintenance staff using existing equipment. No design work required.
9 points	<u>\$2-25k.</u> Event cost and response is more involved and may include input from agency engineering staff.
27 points	<u>\$25-100k.</u> Costs indicate extensive, multiday efforts and likely input from engineering staff. Costs may include outside contractors and engineering costs.
81 points	<u>\$&gt;100k.</u> Large contract with significant outside contractor and engineering costs.

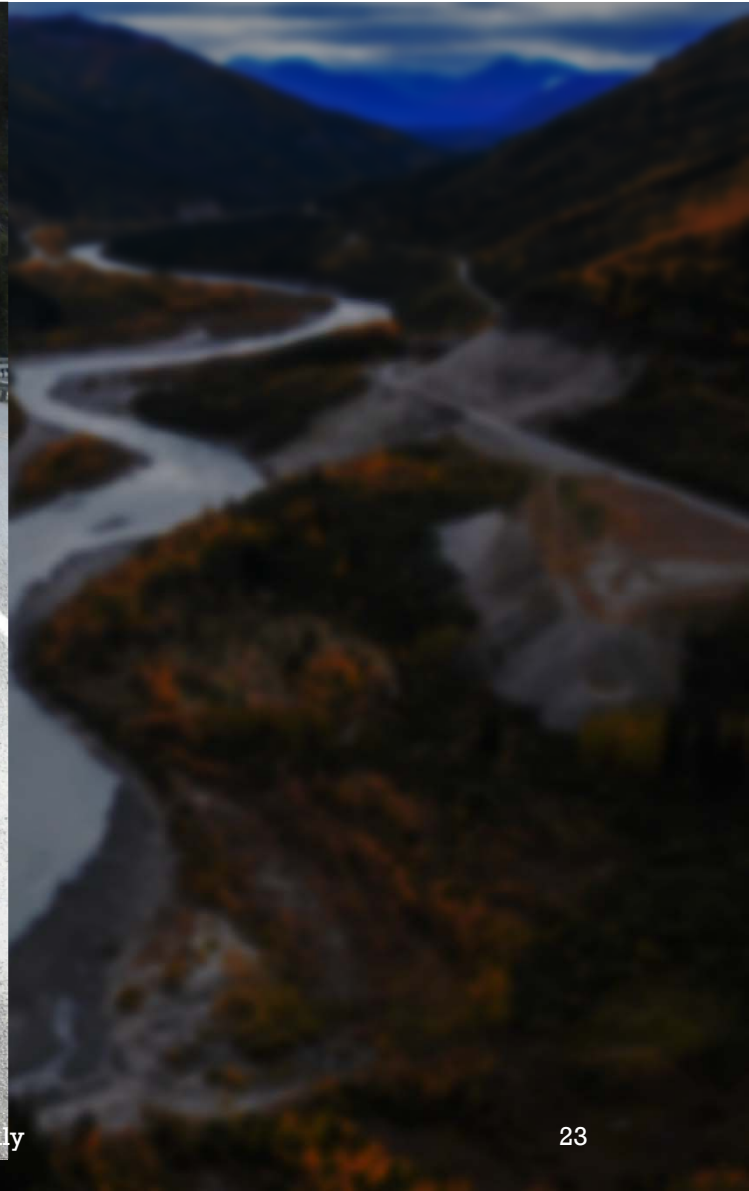




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# Total Risk Scores

- For Risks: add categories G, H, (first page), V, W, X, Y, Z, AA, BB
- Total USMP Scores
  - For Landslides, add categories T + CC
  - For Rockfall, add categories U + CC
- Next step: go the next 250 sites!

RISK RATING					
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