



Rating & Prioritizing Geohazards in District 12

William L. Beaumariage, P.E.
&
Ryan Medvitz, P.E.

Engineering District 12-0

Current number of slides – 265

Number of Roads Closed – **5***

Number of Lane Closures - **58**

Number of Slides Repaired in 2018 – **52****

Number of Slides Repaired in 2019 – **14 major, 34 mud slides** (to date)

Maintenance spent **\$3,620,000** in 2018

Maintenance spent **\$2,705,000** in 2019 (to date)

*There are 20 slides on these 5 roads

**These were a combination of major slides & smaller mud slides due to the abundance of rain in 2018

District 12-0 Typical Rate

District 12-0 'On-Rate Landslide History

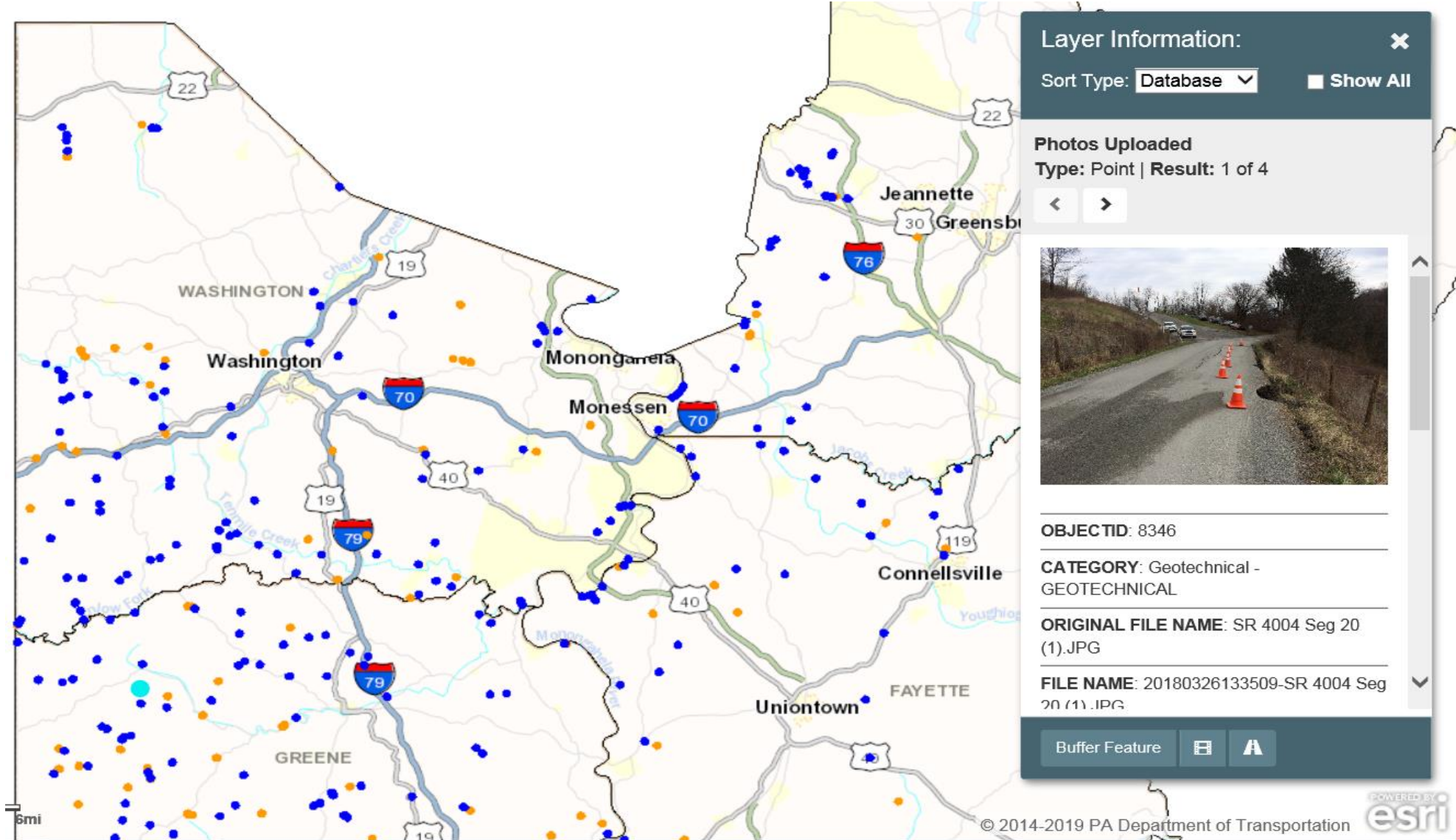
Number of Landslides



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
— Average Number of Slides	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
— Total for Entire Year	33	24	28	28	25	12	6	26	43	23	16	10	25	10	20	103	12

Year

District 12 Maintenance IQ



District 12 Emergency Slides | 2019 Slide Repairs | 2020 Slide Repairs

Emergency Slides →

2019 Emergency Slides

ECMS 112717
SR 993-ESL
Let Date 07/12/2019
Completion Date 11/24/2019
Cost \$3,441,901.52

2019 Emergency Slides-2

ECMS 113232
SR 166-ESL
Let Date 07/12/2019
Completion Date 11/22/2019
Cost \$4,634,725.95

2019 Slide Repairs →

2019 Slide Repairs

ECMS 110090
SR 88-SLD
Let Date 07/02/2019
Completion Date 10/30/2020
Cost \$3,483,394.85

2021 Slide Repairs →

2021 Slide Repairs

Let Date 04/09/2021
Cost \$3,500,000.00

District 12 Slide Database

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	District 12 Slide Database					Maintenance-IQ Map			12-1: 33	12-2: 88	12-4: 102	12-5: 48			
2	Print Date:		August 26, 2019												
3	Sort by Rating		Sort by SR		Sort by ADI										
4	Site Identification														
5		County	SR	Segment	Offset	Local Name	Municipality	Failure Type	Date Identified	Failure Length (ft)	Failure Width (ft)	Failure Depth "Height" (ft)	Approx. Excavation (yd ³)	Rip-Rap Estimate (CY)	Year Repaired
6	1	Fayette	0040	0411	0000	National Pk.	North Union Twp.	Drainage Malfunction		75	15	30	1,250		
7	2	Fayette	0051	0371	2200	Pittsburgh Rd.	Perry Twp.	Mudflow onto Road					0		
8	3	Fayette	0119	0080	2930	Morgantown Rd.	Springhill Twp.	Mudflow onto Road	1/29/2019	100	20	40	2,963		
9	4	Fayette	0119	0540	0375	University Dr.	Dunbar Twp.	Slide - Shallow	2/11/2019	25	3	40	111		
10	5	Fayette	0119	0661	0300	Memorial Blvd.	Connellsville Twp.	Slide		200	20	20	2,963	2,500	
11	6	Fayette	0119	0661	2550	Memorial Blvd.	Connellsville Twp.	Dual Concern		69	16	18	736		2019
12	7	Fayette	0166	0030	2400	New Geneva Rd.	Springhill Twp.	Soil Slope		125	200	10	9,259		
13	8	Fayette	0166	0040	3100	New Geneva Rd.	Springhill Twp.	Slide		350	100	30	38,889	10,000	
14	9	Fayette	0201	0330	0082	Gillespie Hollow Rd.	Washington Twp.	Rockfall	1/29/2019	100	10	50	1,852		
15	10	Fayette	0201	0370	1426	Fayette Ave.	Washington Twp.	Mudflow onto Road	1/29/2019	100	10	30	1,111		
16	11	Fayette	0819	0020	1200	Liberty St.	Dunbar Twp.	Washout		50	10	5	93		
17	12	Fayette	0906	0030	2500	West Side St.	Washington Twp.	Dual Concern		75	100	10	2,778		
18	13	Fayette	1002	0030	1440	Banning Rd.	Perry Twp.	Slide		40	10	5	74		
19	14	Fayette	1031	0110	0700	Broadford Rd.	Upper Tyrone Twp.	Slide - Shallow					0		
20	15	Fayette	1033	0050	0750	Narrows Rd.	Upper Tyrone Twp.	Slide - Shallow		50			0		
21	16	Fayette	1041	0050	1290	School Rd.	Lower Tyrone Twp.	Washout		115	17	5	362		
22	17	Fayette	1059	0010	0950	Dexter Rd.	Lower Tyrone Twp.	Slide - Shallow					0		
23	18	Fayette	2021	0130	1684	Coolspring Jumonville Rd.	North Union Twp.	Stream Erosion					0		
24	19	Fayette	3001	0030	0781	Stewartstown Rd.	Point Marion	Slide - Deep Seated		100	42	30	4,667		
25	20	Fayette	3003	0070	0500	Tom Cat Hollow Rd.	Nicholson Twp.	Slide - Shallow	9/10/2018	150	15	20	1,667	2,000	
26	21	Fayette	3012	0010	0642	Leckrone Highhouse Rd.	German Twp.	Slide - Shallow					0		
27	22	Fayette	3013	0250	0000	Palmer Hollow Rd.	Luzerne Twp.	Slide - Shallow		50		10	0		
28	23	Fayette	4001	0040	2113	Rush Run Rd.	Luzerne Twp.	Washout		30	20	15	333		
29	24	Fayette	4004	0020	0107	Ralph New Salem Rd.	German Twp.	Slide - Deep Seated					0		

District 12 Slide Database

District 12 Slide Database					Road Closures: 22	Lane Closures: 61																																				
Print Date: August 26, 2019																																										
Sort by Rating					Sort by SR																			Sort by ADT																		
Base Point Criteria																																										
County	SR	Segment	Offset	Roadway Classification	Roadway Impact	ADT	Detour Length	ADT Trucks	ADT Bus	ADT Year	Interstate Detour	Potential Property Damage	Landlock Potential	Environmental Concerns	Utilities	DF/Contract	Contract #	Maintenance Contact	Geotech PM	Design Status	Drilling Status																					
1	Fayette	0040	0411	0000	3 - Principal Arterial Other	Right-of-Way Only	5,506	5-15 Miles	476	24	2017	No	None	No					R. Hoone	N/A	N/A																					
2	Fayette	0051	0371	2200	3 - Principal Arterial Other	Right-of-Way Only	7,167	>15 Miles	564	51	2018	Yes	None	No																												
3	Fayette	0119	0080	2930	3 - Principal Arterial Other	Right-of-Way Only	3,320	5-15 Miles	306	18	2017	No	None	No	None				R. Painter																							
4	Fayette	0119	0540	0375	3 - Principal Arterial Other	Right-of-Way Only	10,464	5-15 Miles	959	86	2016	Yes	None	No	None				R. Painter																							
5	Fayette	0119	0661	0300	3 - Principal Arterial Other	Shoulder Only	10,023	<5 Miles	1,012	81	2017	Yes	None	No		Contract	110090		R. Hoone	Complete	Complete																					
6	Fayette	0119	0661	2550	3 - Principal Arterial Other	Right-of-Way Only	10,023	<5 Miles	1,012	81	2017	Yes	None	No		Contract			R. Painter	N/A	Complete																					
7	Fayette	0166	0030	2400	4 - Minor Arterial	Lane Closure (Stop Sign)	1,699	5-15 Miles	86	23	2014	No	None	No		Contract	113232		R. Painter	Submitted																						
8	Fayette	0166	0040	3100	4 - Minor Arterial	Depression	1,699	5-15 Miles	86	23	2014	No	None	No		Contract	113232		R. Hoone	Submitted																						
9	Fayette	0201	0330	0082	4 - Minor Arterial	Right-of-Way Only	4,982	>15 Miles	349	28	2016	Yes	None	No					R. Painter																							
10	Fayette	0201	0370	1426	4 - Minor Arterial	Shoulder Only	7,090	>15 Miles	713	36	2018	Yes	Occupied	No		Contract	2021 Candidate		R. Painter																							
11	Fayette	0819	0020	1200	5 - Major Collector	Shoulder Only	2,265	<5 Miles	131	22	2018	No	None	No					R. Painter	N/A	N/A																					
12	Fayette	0906	0030	2500	4 - Minor Arterial	Road Closure	2,538	5-15 Miles	86	3	2015	No	None	No					J. Zuacha	N/A	N/A																					
13	Fayette	1002	0030	1440	6 - Minor Collector	Depression	329	>15 Miles	30	1	2014	No	None	No					R. Hoone	N/A	N/A																					
14	Fayette	1031	0110	0700	5 - Major Collector	Depression	876	5-15 Miles	26	1	2014	No	None	No					R. Hoone	N/A	N/A																					
15	Fayette	1033	0050	0750	7 - Local Road	Lane Closure (Stop Sign)	376	<5 Miles	34	1	2014	No	None	No																												
16	Fayette	1041	0050	1290	6 - Minor Collector	Right-of-Way Only	518	<5 Miles	35	1	2014	No	None	No					R. Hoone	N/A	N/A																					
17	Fayette	1059	0010	0950	7 - Local Road	Right-of-Way Only	970	No Detour Available	68	7	2014	No	None	No					R. Hoone																							
18	Fayette	2021	0130	1684	5 - Major Collector	Shoulder Only	457	5-15 Miles	41	1	2017	No	None	No					R. Hoone	N/A	N/A																					
19	Fayette	3001	0030	0781	7 - Local Road	Depression	274	No Detour Available	20	11	2014	No	None	No					R. Hoone																							
20	Fayette	3003	0070	0500	6 - Minor Collector	Depression	211	5-15 Miles	11	0	2014	No	None	No					R. Hoone																							
21	Fayette	3012	0010	0642	5 - Major Collector	Right-of-Way Only	1,714	5-15 Miles	137	4	2017	No	None	No																												
22	Fayette	3013	0250	0000	6 - Minor Collector	Shoulder Only	217	5-15 Miles	20	1	2017	No	None	No					R. Hoone																							
23	Fayette	4001	0040	2113	6 - Minor Collector	Lane Closure (Stop Sign)	164	5-15 Miles	21	0	2014	No	None	No					R. Hoone																							
24	Fayette	4004	0020	0107	6 - Minor Collector	Depression	413	5-15 Miles	26	0	2015	No	None	No																												

District 12 Slide Database

District 12 Slide Database																									
Print Date:		August 26, 2019																							
Sort by Rating		Sort by SR		Sort by ADT																					
					Photos				Cost		Rating							Maintenance RF Calculation							
County	SR	Segment	Offset	1	2	3	4	Est. DF Repair (\$1601.2/LF)	Est. Contract Repair (\$1,601.2/LF + 50%)	Roadway Classification	Base Points (BP)				Risk Factor(RF)			Rating	ADT Trucks RF	ADT Bus RF	Interstate Detour RF	Property Damage RF	Landlock Potential		
											Roadway Impact	ADT	Detour Length	TOTAL	Geotech RF	Maintenance RF	Overall RF								
1	Fayette	0040	0411	0000	1	2		\$120,090	\$180,135	63	2	7	6	78	2	2	0.22	17	8	4	0	0	0		
2	Fayette	0051	0371	2200				\$0	\$0	63	2	7	8	80		5	0.26	21	10	6	10	0	0		
3	Fayette	0119	0080	2930	1	2		\$160,120	\$240,180	63	2	6	6	77	4	2	0.32	25	8	4	0	0	0		
4	Fayette	0119	0540	0375	1			\$40,030	\$60,045	63	2	9	6	80	0	6	0.28	22	10	8	10	0	0		
5	Fayette	0119	0661	0300	1	2	3	\$320,240	\$480,360	63	4	9	4	80	2	6	0.38	30	10	8	10	0	0		
6	Fayette	0119	0661	2550	1	2		\$110,483	\$165,724	63	2	9	4	78	0	6	0.28	22	10	8	10	0	0		
7	Fayette	0166	0030	2400	1	2	3	\$200,150	\$300,225	58	8	5	6	77	10	2	0.58	45	4	4	0	0	0		
8	Fayette	0166	0040	3100	1	2		\$560,420	\$840,630	58	6	5	6	75	4	2	0.28	21	4	4	0	0	0		
9	Fayette	0201	0330	0082	1	2	3	\$160,120	\$240,180	58	2	6	8	74	6	4	0.52	38	8	4	10	0	0		
10	Fayette	0201	0370	1426	1	2		\$160,120	\$240,180	58	4	7	8	77	8	7	0.76	59	10	6	10	10	0		
11	Fayette	0819	0020	1200	1	2	3	\$80,060	\$120,090	58	4	5	4	71	4	2	0.30	21	6	4	0	0	0		
12	Fayette	0906	0030	2500	1	2	3	\$120,090	\$180,135	58	12	6	6	82	10	1	0.56	46	4	2	0	0	0		
13	Fayette	1002	0030	1440	1			\$64,048	\$96,072	55	6	2	8	71	2	1	0.14	10	2	2	0	0	0		
14	Fayette	1031	0110	0700	1	2		\$0	\$0	58	6	4	6	74	2	1	0.14	10	2	2	0	0	0		
15	Fayette	1033	0050	0750	1	2		\$80,060	\$120,090	53	8	2	4	67	6	1	0.34	23	2	2	0	0	0		
16	Fayette	1041	0050	1290	1			\$184,138	\$276,207	55	2	3	4	64	4	1	0.24	15	2	2	0	0	0		
17	Fayette	1059	0010	0950	1			\$0	\$0	53	2	4	10	69	4	1	0.26	18	4	2	0	0	0		
18	Fayette	2021	0130	1684	1	2	3	\$0	\$0	58	4	2	6	70	4	1	0.24	17	2	2	0	0	0		
19	Fayette	3001	0030	0781	1	2		\$160,120	\$240,180	53	6	2	10	71	4	1	0.26	18	2	4	0	0	0		
20	Fayette	3003	0070	0500	1	2		\$240,180	\$360,270	55	6	1	6	68	4	0	0.22	15	2	0	0	0	0		
21	Fayette	3012	0010	0642	1	2	3	\$0	\$0	58	2	5	6	71	4	2	0.28	20	6	2	0	0	0		
22	Fayette	3013	0250	0000	1	2		\$80,060	\$120,090	55	4	1	6	66	4	1	0.24	16	2	2	0	0	0		
23	Fayette	4001	0040	2113	1	2	3	\$48,036	\$72,054	55	8	1	6	70	6	0	0.32	22	2	0	0	0	0		
24	Fayette	4004	0030	0107	1			\$0	\$0	55	6	2	6	68	8	0	0.42	28	2	0	0	0	0		

