Ohio Rail Development Commission
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2016-2017 ORDC Safety Projects

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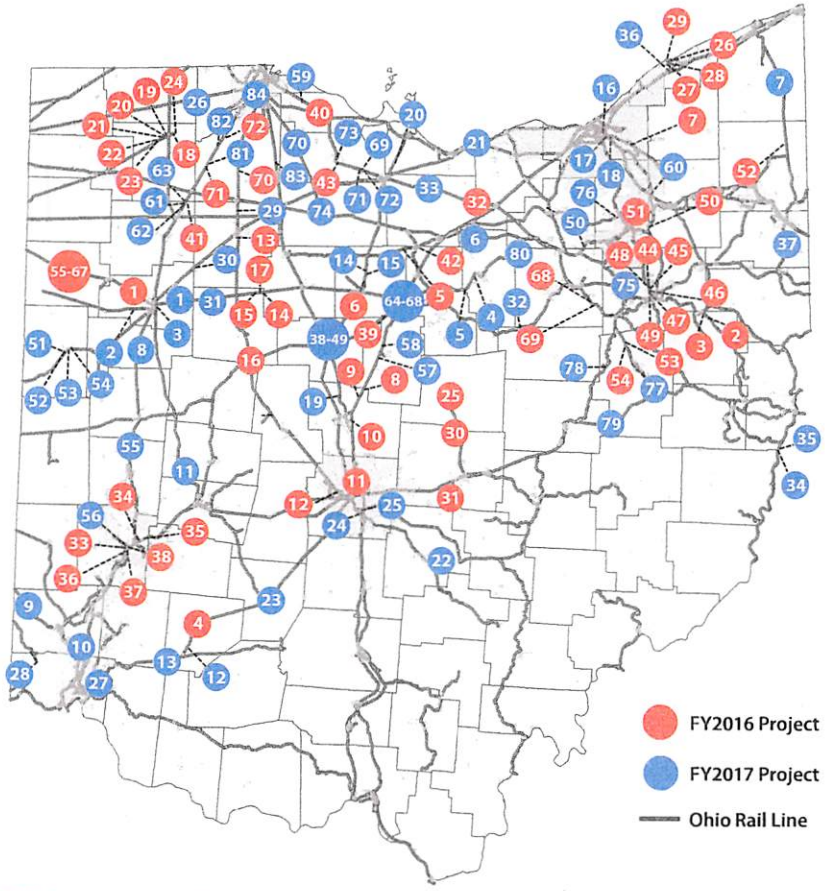

	County	Route	Improvement
1	ALL	CR 77 / Grubb Road	lights & gates
2	CAR	CR 14 / Arbor Road	lights & gates
3	CAR	CR 15 / Arrow Rd	lights & gates
4	CLI	Doan Street	lights & gates, surface
5	CRA	CR 50 / Scott Rd	lights & gates
6	CRA	TR 81 / Quaintance Road	lights & gates
7	CUY	SR 175 / Richmond Rd	lights & gates
8	DEL	SR 229 / High Street	lights & gates
9	DEL	TR 251 / Shoemaker Rd	lights & gates
10	DEL	TR 93 / Glenn Rd	lights & gates
11	FRA	CR 176 / Kinnear Rd	lights & gates, surface
12	FRA	Fisher Road	lights & gates
13	HAN	Lima Avenue	lights & gates
14	HAR	CR 215	lights & gates
15	HAR	Campbell Street	lights & gates
16	HAR	SR 273-4.02	lights & gates
17	HAR	SR 37 / S. Martin Street	lights & gates
18	HEN	CR 8 / Kline Ave	closure
19	HEN	CR 9	closure
20	HEN	CR 5	closure
21	HEN	TR 10	closure
22	HEN	TR 11	closure
23	HEN	US 24 / US 6	closure
24	HEN	W. Maple Street	closure
25	KNO	Columbus Rd	lights & gates
26	LAK	CR 518 / Headlands Rd	lights & gates
27	LAK	SR 283 / Richmond Rd	lights & gates
28	LAK	Stage Avenue	lights & gates
29	LAK	Williams Street	lights & gates
30	LIC	Church Street	lights & gates
31	LIC	SR 79-07.07	surface
32	LOR	CR 34 / Gore Orphange Rd	lights & gates
33	MOT	Albany St.	lights & gates
34	MOT	Findlay St.	lights & gates
35	MOT	Irwin St.	lights & gates
36	MOT	Miami Chapel Rd	lights & gates
37	MOT	Stewart St	lights & gates
38	MOT	Washington St	lights & gates
39	MRW	TR 32 / Keiffer Rd	lights & gates
40	OTT	TR 22 / N. Lickert Harder Rd	lights & gates
41	PUT	SR 65-22.84 / Ridge Street	lights & gates
42	RIC	SR 603-21.46 / Trux Street	lights & gates
43	SAN	State Street	lights & gates
44	STA	3rd Street SW	lights & gates
45	STA	5th Street SW	lights & gates
46	STA	6th Street SW	lights & gates
47	STA	9th Street SW	lights & gates
48	STA	2nd Street SW	closure
49	STA	Seccombe Place SW	closure
50	SUM	SR 532-3.13 / Southeast Ave	lights & gates
51	SUM	Broad Blvd	other
52	TRU	CR 284C / Fisher Corinth Rd	lights & gates
53	TUS	12st St NE	lights & gates
54	TUS	Zeltman Ave NE	lights & gates
55	VAN	Cherry Street	lights & gates
56	VAN	CR 13 / Franklin Street	lights & gates
57	VAN	Market Street	lights & gates
58	VAN	Race Street	lights & gates
59	VAN	Tyler Street	lights & gates
60	VAN	US 127-9.97 / Washington St	lights & gates
61	VAN	Walnut Street	lights & gates
62	VAN	Wayne Street	lights & gates
63	VAN	Anderson Avenue	closure
64	VAN	Chestnut Street	closure
65	VAN	Harrison Street	closure
66	VAN	Pleasant Street	closure
67	VAN	Vine Street	closure
68	WAY	TR 334 / Goudy Road	lights & gates, surface
69	WAY	TR 433 / Moser Road	lights & gates
70	WOO	CR 28 / Mermill Rd	lights & gates
71	WOO	Milton Road	lights & gates
72	WOO	TR 96 / Green Rd	lights & gates

	County	Route	Improvement
1	ALL	TR 232 / N. Rumbaugh Road	lights & gates
2	ALL	TR 146 / S. Copus Road	lights & gates
3	ALL	Sugar St. Interlocking	other
4	ASD	SR 96-3.54	lights & gates
5	ASD	TR 1455	lights & gates
6	ASD	TR 1101	lights & gates
7	ATB	TR 183 / Marrian Road	lights & gates
8	AUG	SR 198 / Willipie Street	lights & gates
9	BUT	E. Chestnut Street	lights & gates
10	BUT	SR 747-2.36 / Princeton-Glendale Rd.	lights & gates
11	CHP	TR 22 / N. Hampton Donnelsville Rd.	lights & gates
12	CLI	CR 8 / Cuba Rd	lights & gates
13	CLI	SR 123-3.55 / S. Broadway Street	lights & gates
14	CRA	TR 28 / Brokensword Road	lights & gates
15	CRA	TR 29 / Lernert Road	lights & gates
16	CUY	Bessemer Avenue	lights & gates
17	CUY	E. 116th Street	other
18	CUY	CR 8 / Lee Road	surface
19	DEL	CR 198 / Radnor Road	lights & gates
20	ERI	TR 38 / Billings Road	lights & gates
21	ERI	Vermilion Road	lights & gates
22	FAI	Quarry Road	lights & gates
23	FAY	Pearl Street	lights & gates
24	FRA	Fairwood Avenue	lights & gates
25	FRA	Lockbourne Road	lights & gates
26	FUL	S. Munson Road	lights & gates
27	HAM	Camargo Road	lights & gates
28	HAM	CR 36 / New Haven Road	lights & gates, surface
29	HAN	SR 613-13.56 / Main Street	lights & gates
30	HAN	TR 15 / County Line Road	lights & gates
31	HAR	TR 55 / Van Atta Road	lights & gates
32	HOL	SR 226-0.87 / Market Street	lights & gates
33	HUR	Corwin Street	lights & gates
34	JEF	CR 2 / Public Road	lights & gates
35	JEF	CR 2 / Public Road	lights & gates
36	LAK	Newell Street	lights & gates
37	MAH	TR 1698 / Maple Avenue	surface
38	MAR	N. State Street	lights & gates
39	MAR	N. State Street	lights & gates
40	MAR	Oak Street	lights & gates
41	MAR	Oak Street	lights & gates
42	MAR	Prospect Street	lights & gates
43	MAR	Prospect Street	lights & gates
44	MAR	Silver Street	lights & gates
45	MAR	SR 309-15.71 / Kenton Avenue	lights & gates
46	MAR	SR 4 -11.92 / Main Street	lights & gates
47	MAR	SR 4-11.86 / Main Street	lights & gates
48	MAR	SR 739-8.79 / Bellefontaine	lights & gates
49	MAR	SR 95-13.73 / Center Street	lights & gates
50	MED	Seville Road	lights & gates
51	MER	CR 145 / Staeger Rd.	lights & gates
52	MER	CR 161 / Riley Road	lights & gates, surface
53	MER	S. Buckeye Street	surface
54	MER	Sugar Street	surface
55	MIA	CR 25A / Piqua Sidney Road	lights & gates
56	MOT	Washington Street	lights & gates
57	MRW	TR 136 / Newcomer Road	lights & gates
58	MRW	TR 75 / Campbell Road	lights & gates
59	OTT	TR 68 / Walbridge E Road	lights & gates
60	POR	TR 157 / Seasons Road	lights & gates
61	PUT	Main Street	lights & gates
62	PUT	Oak Street	lights & gates
63	PUT	Elm Street	closure
64	RIC	Finnegan Rd / TR 176	other
65	RIC	Hook Rd /CR 52	other
66	RIC	Knorr Road	other
67	RIC	Nazor Rd / TR 48	other
68	RIC	Settlement East Rd / CR 170	other
69	SAN	Church Street	lights & gates
70	SAN	CR 85 / Tille Rd.	lights & gates
71	SAN	Nelson Street	lights & gates
72	SAN	Amanda Street	closure
73	SAN	State Street	other
74	SEN	CR 11	lights & gates
75	STA	TR 352 / Fortys Corner Road	lights & gates
76	SUM	Castle Blvd.	lights & gates
77	TUS	SR 211 / S. Tuscarawas Road	lights & gates
78	TUS	SR 39-2.04 / Dover Road	lights & gates
79	TUS	West Street	lights & gates
80	WAY	SR 301-6.19 / Main Street	lights & gates
81	WOO	TR 21 / Portage Road	lights & gates
82	WOO	TR 79 / Long Judson Road	lights & gates
83	WOO	US 6-24.19	lights & gates
84	WOO	SR 65-23.90 / Superior Street	surface

FY2016 Projects: 72
FY2017 Projects: 84
Total: 156

FY2016 Spending: $15,051,372
FY2017 Spending: $18,902,249
Total: $33,953,621

Ohio Rail Development Commission
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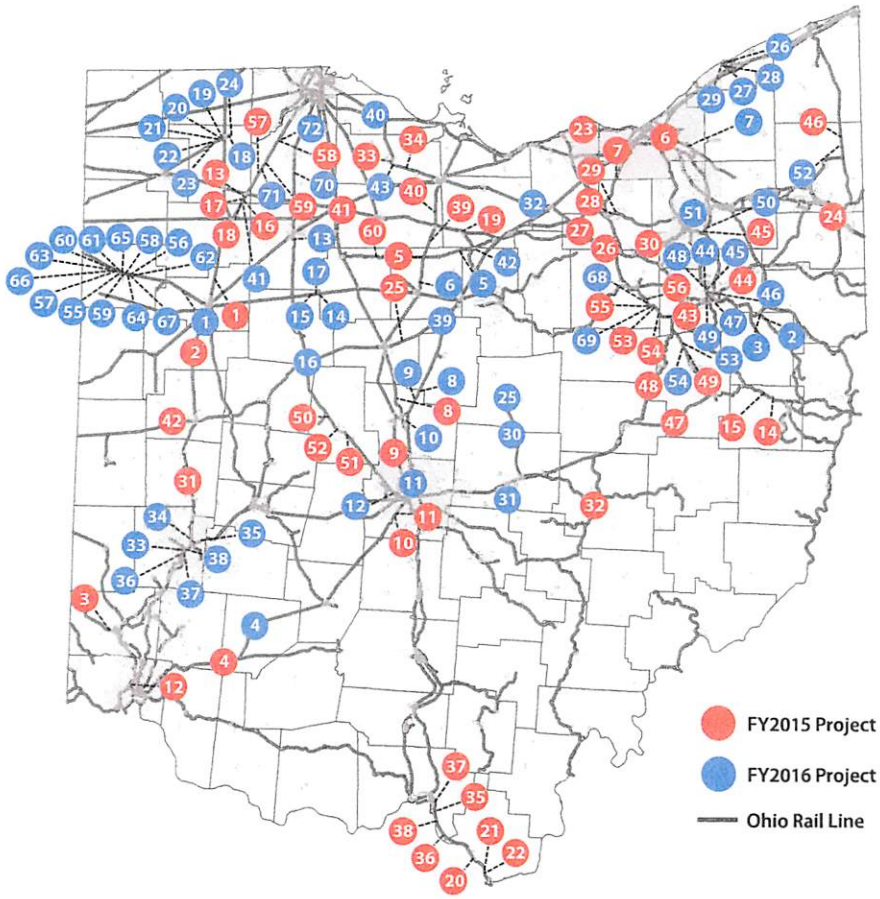
2015-2016 ORDC Safety Projects

Improving rail today for tomorrow's economy



	County	Route	Improvement
1	ALL	TR 180 / Miller Rd	lights & gates
2	AUG	US 33-16.58	closure
3	BUT	Rockford Dr	lights & gates
4	CLI	Church St	lights & gates
5	CRA	Washington St	lights & gates
6	CUY	SR 43-13.74 / Miles Ave	lights & gates, surface
7	CUY	CR 180 / Marks Rd	lights & gates
8	DEL	TR 209 / Troutman Rd	lights & gates
9	DEL	SR 750-2.27 / Olentangy Street	other
10	FRA	Central Ave	lights & gates
11	FRA	First St	lights & gates
12	HAM	66th St	lights & gates
13	HAN	CR C / Hartwell Ave	lights & gates
14	HAS	CR 50 / New Rumley Rd	lights & gates
15	HAS	Eastport St	lights & gates
16	HEN	CR B	lights & gates
17	HEN	TR 3	lights & gates
18	HEN	TR A	lights & gates
19	HUR	3rd St	closure
20	LAW	Riverside St	lights & gates
21	LAW	Road A / River Rd	lights & gates
22	LAW	Road C / River Rd	lights & gates
23	LOR	Miller Rd	lights & gates
24	MAH	Belle Vista Ave	lights & gates
25	MAR	TR 162 / Marion-Williamsport Rd	lights & gates
26	MED	CR 15 / Westfield Rd	lights & gates
27	MED	CR 28 / Pawnee Rd	lights & gates
28	MED	CR 4 / Smith Rd	lights & gates
29	MED	State Rd	lights & gates
30	MED	TR 59 / Silver Creek Rd	lights & gates
31	MIA	Dakota St	lights & gates
32	MUS	Lee St	lights & gates
33	SAN	State St	lights & gates
34	SAN	TR 220 / Flora Rd	lights & gates
35	SCI	CR 257 / Hayport Rd	lights & gates
36	SCI	CR 8 / Haverhill-Ohio Furnace Rd	lights & gates
37	SCI	TR 256 / Center St	lights & gates
38	SCI	TR 515 / Kenyon Rd	lights & gates
39	SEN	CR 8	lights & gates
40	SEN	TR 122	lights & gates
41	SEN	TR 43 / Ward Rd	lights & gates
42	SHE	TR 120 / Stoker Rd	lights & gates
43	STA	TR 314 / Alabama Ave	lights & gates
44	STA	TR 96 / Parks Ave	lights & gates
45	SUM	Munroe Falls Rd	lights & gates
46	TRU	TR 284 / Gardner Barday Rd	lights & gates
47	TUS	Nugent St	lights & gates
48	TUS	TR 656 / Schrock Rd	lights & gates
49	TUS	Oxford St	surface
50	UNI	CR 224 / Shirk Rd	lights & gates
51	UNI	Industrial Pkwy	lights & gates
52	UNI	Raymond Rd	lights & gates
53	WAY	CR 105 / West Lebanon Rd	lights & gates
54	WAY	CR 424 / Elton Rd	lights & gates
55	WAY	CR 97 / Wenger Rd	lights & gates
56	WAY	TR 131 / Arnold Rd	lights & gates
57	WOO	SR 281-2.10 / Main St	lights & gates
58	WOO	TR 212 / Hannah Rd	lights & gates
59	WOO	TR 42 / Weston Rd	lights & gates
60	WYA	TR 31 / Davis Rd	lights & gates

	County	Route	Improvement
1	ALL	CR 77 / Grubb Road	lights & gates
2	CAR	CR 14 / Arbor Road	lights & gates
3	CAR	CR 15 / Arrow Rd	lights & gates
4	CLI	Doan Street	lights & gates, surface
5	CRA	CR 50 / Scott Rd	lights & gates
6	CRA	TR 81 / Quaintance Road	lights & gates
7	CUY	SR 175 / Richmond Rd	lights & gates
8	DEL	SR 229 / High Street	lights & gates
9	DEL	TR 251 / Shoemaker Rd	lights & gates
10	DEL	TR 93 / Glenn Rd	lights & gates
11	FRA	CR 176 / Kinnear Rd	lights & gates, surface
12	FRA	Fisher Road	lights & gates
13	HAN	Lima Avenue	lights & gates
14	HAR	CR 215	lights & gates
15	HAR	Campbell Street	lights & gates
16	HAR	SR 273-4.02	lights & gates
17	HAR	SR 37 / S. Martin Street	lights & gates
18	HEN	CR 8 / Kline Ave	closure
19	HEN	CR 9	closure
20	HEN	CR S	closure
21	HEN	TR 10	closure
22	HEN	TR 11	closure
23	HEN	US 24 / US 6	closure
24	HEN	W. Maple Street	closure
25	KNO	Columbus Rd	lights & gates
26	LAK	CR 518 / Headlands Rd	lights & gates
27	LAK	SR 283 / Richmond Rd	lights & gates
28	LAK	Stage Avenue	lights & gates
29	LAK	Williams Street	lights & gates
30	LIC	Church Street	lights & gates
31	LIC	SR 79-07.07	surface
32	LOR	CR 34 / Gore Orphange Rd	lights & gates
33	MOT	Albany St.	lights & gates
34	MOT	Findlay St.	lights & gates
35	MOT	Irwin St.	lights & gates
36	MOT	Miami Chapel Rd	lights & gates
37	MOT	Stewart St	lights & gates
38	MOT	Washington St	lights & gates
39	MRW	TR 32 / Keiffer Rd	lights & gates
40	OTT	TR 22 / N. Lickert Harder Rd	lights & gates
41	PUT	SR 65-22.84 / Ridge Street	lights & gates
42	RIC	SR 603-21.46 / Trux Street	lights & gates
43	SAN	State Street	lights & gates
44	STA	3rd Street SW	lights & gates
45	STA	5th Street SW	lights & gates
46	STA	6th Street SW	lights & gates
47	STA	9th Street SW	lights & gates
48	STA	2nd Street SW	closure
49	STA	Seccombe Place SW	closure
50	SUM	SR 532-3.13 / Southeast Ave	lights & gates
51	SUM	Broad Blvd	other
52	TRU	CR 284C / Fisher Corinth Rd	lights & gates
53	TUS	12st St NE	lights & gates
54	TUS	Zeltman Ave NE	lights & gates
55	VAN	Cherry Street	lights & gates
56	VAN	CR 13 / Franklin Street	lights & gates
57	VAN	Market Street	lights & gates
58	VAN	Race Street	lights & gates
59	VAN	Tyler Street	lights & gates
60	VAN	US 127-9.97 / Washington St	lights & gates
61	VAN	Walnut Street	lights & gates
62	VAN	Wayne Street	lights & gates
63	VAN	Anderson Avenue	closure
64	VAN	Chestnut Street	closure
65	VAN	Harrison Street	closure
66	VAN	Pleasant Street	closure
67	VAN	Vine Street	closure
68	WAY	TR 334 / Goudy Road	lights & gates, surface
69	WAY	TR 433 / Moser Road	lights & gates
70	WOO	CR 28 / Mermill Rd	lights & gates
71	WOO	Milton Road	lights & gates
72	WOO	TR 96 / Green Rd	lights & gates

FY2015 Projects: 60
FY2016 Projects: 73
Total: 133

FY2015 Spending: $14,406,113
FY2016 Spending: $15,051,372
Total: $29,457,485

OHIO RAIL DEVELOPMENT COMMISSION

2013 - 2014 ORDC SAFETY PROJECTS

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

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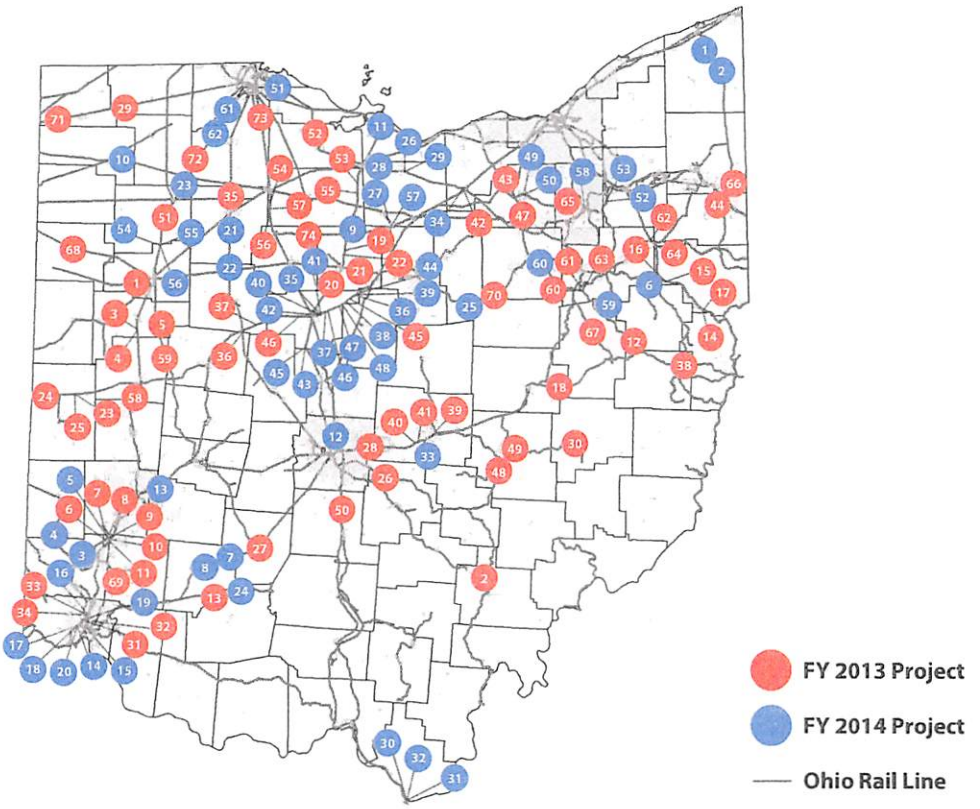


	County	Route	Improvement
1	ALL	TR 91, S. Wapak Rd	lights + gates
2	ATH	SR 13-4.25	lights + gates
3	AUG	TR 110, Freyburg Drive	lights + gates
4	AUG	TR 96, Taylor Rd	lights + gates
5	AUG	TR 130, Weimert School Rd	lights + gates
6	BUT	SR 122-7.57, First Ave	lights + gates
7	BUT	Manchester Ave	lights + gates
8	BUT	Central Ave	lights + gates
9	BUT	Woodlawn Ave	lights + gates
10	BUT	Waneta St	lights + gates
11	BUT	Oxford State Rd	lights + gates
12	CAR	SR 212-4.66, Cumberland Rd	lights + gates
13	CLI	TR 285, Noble Rd (Phillips	lights + gates
14	COL	TR 879, Hazel Run Rd	lights + gates
15	COL	TR 709 Lippincott Rd	lights + gates
16	COL	TR 703, Bayard Rd	lights + gates
17	COL	TR 768, Haiti Rd	lights + gates
18	COS	CR 254	lights + gates
19	CRA	TR 99, Hieber Rd	lights + gates
20	CRA	TR 96, Malcolm Rd	lights + gates
21	CRA	SR 602-2.82, Main St	surface
22	CRA	Carrell Rd/TR 128	lights + gates
23	DAR	TR 159, Shaffer Rd	lights + gates
24	DAR	CR 65, Young Rd	lights + gates
25	DAR	TR 160, Younker Rd	lights + gates
26	FAI	CR 236, Carroll Northern	lights + gates
27	FAY	Millikan Ave	lights + gates
28	FRA	Waggoner Rd	lights + gates
29	FUL	W. Barre St	lights + gates
30	GUE	Woodlawn Ave	lights + gates
31	HAM	Dunn St	lights + gates
32	HAM	Wyoming Ave	lights + gates
33	HAM	E. Kemper Rd	lights + gates
34	HAM	Main St	lights + gates
35	HAN	CR 109, Barners Rd	lights + gates
36	HAR	TR 179	lights + gates
37	HAR	TR 217	lights + gates
38	HAS	TR 171, Sinfield Rd	lights + gates
39	LIC	30th St	lights + gates
40	LIC	CR 135, Union Station Rd	lights + gates
41	LIC	TR 137 Canyon Rd	lights + gates
42	LOR	SR 18, Medina-Norwalk Rd	surface
43	LOR	TR 76, Neff Rd	lights + gates
44	MAH	Hazelwood Ave	lights + gates
45	MAR	TR 197, Emahiser	lights + gates
46	MAR	Campbell Rd	lights + gates
47	MED	TR 72, Buffham Rd	lights + gates
48	MUS	SR 719-0.03	lights + gates
49	MUS	Innovation Way	lights + gates
50	PIC	Griggs St (Station St.)	lights + gates
51	PIC	Griggs St (Station St)	surface
52	PUT	TR L-10	closure
53	SAN	TR 109, Zienta-Horn Rd	lights + gates
54	SEN	TR 136, Best Rd	lights + gates
55	SEN	TR 108, Green Rd	lights + gates
56	SEN	TR 124, Havana-Hensing Rd	lights + gates
57	SEN	TR 56, Arendt Rd	lights + gates
58	SEN	TR 96, St Peter Rd	lights + gates
59	SHE	CR 132, Lockington Rd	lights + gates
60	SHE	TR 57, Meranda Rd	lights + gates
61	STA	Park St.	lights + gates
62	STA	Keystone St	lights + gates
63	STA	Park Ave	closure
64	STA	Tuscarawas St.	lights + gates
65	STA	Mahoning Ave	lights + gates
66	SUM	Fairway Plaza Dr	lights + gates
67	TRU	CR 98, Seifert Lewis Rd	lights + gates
68	TUS	SR 800-21.46, Wooster Ave	lights + gates
69	VAN	Main St	lights + gates
70	WAR	SR 741-2.48	lights + gates
71	WAY	TR 104, Newkirk Rd	lights + gates
72	WIL	TR 6C	closure
73	WOO	WOO TR 37 Roundhead Rd	lights + gates
74	WOO	TR 292, Garling Rd	lights + gates
75	WYA	SR 67-26.56 / SR 231,	lights + gates

	County	Route	Improvement
1	ATB	SR 167, E. Beech St	lights + gates
2	ATB	TR 292, Netcher Rd	lights + gates
3	BUT	CR 157 Morganthaler Rd	lights + gates
4	BUT	CR 180 Hamilton Eaton Rd	lights + gates
5	BUT	Franklin-Madison Rd, TR 4	lights + gates
6	CAR	SR 183-9.61, S. Market St	lights + gates
7	CLI	N College St	lights + gates
8	CLI	CR 23 Stone Rd	lights + gates
9	CRA	TR 41, Schwemly Rd	lights + gates
10	DEF	SR 18 - 28.31	lights + gates
11	ERI	Olds St	lights + gates
12	FRA	Old Cooke Rd	lights + gates
13	FRA	Old Cooke Rd	lights + gates
14	GRE	Dayton Yellow Springs Rd	lights + gates
15	HAM	Beech St	lights + gates
16	HAM	Davis St	lights + gates
17	HAM	Hauck Rd	lights + gates
18	HAM	Maple St	lights + gates
19	HAM	Murray Rd	lights + gates
20	HAM	Smalley Rd	surface
21	HAM	Vine St	lights + gates
22	HAN	TR 168, Yates Rd	lights + gates
23	HAR	US 68	lights + gates
24	HEN	TR E	lights + gates
25	HIG	Underground Rd, CR 69	lights + gates
26	HOL	CR 385	lights + gates
27	HUR	Jefferson St	lights + gates
28	HUR	SR 598-2.07	lights + gates
29	HUR	TR 27, Williams Rd	lights + gates
30	HUR	Woodlawn Ave	lights + gates
31	LAW	Fourth St West	lights + gates
32	LAW	N. Kenova St.	lights + gates
33	LAW	Solida Rd	lights + gates
34	LIC	SR 79 - 07.07	surface
35	LOR	CR 64 Pitts Rd	lights + gates
36	MAR	Bamhart St.	lights + gates
37	MAR	CR 171, Martel Rd.	lights + gates
38	MAR	CR 174, Pole-Lane Rd	lights + gates
39	MAR	CR 195, Linn-Hipsher Rd	lights + gates
40	MAR	CR 26, Marseilles-Galion Rd	lights + gates
41	MAR	Jefferson St	lights + gates
42	MAR	Madison Ave	lights + gates
43	MAR	N. Greenwood St.	lights + gates
44	MAR	N. Greenwood St.	lights + gates
45	MAR	Park St	lights + gates
46	MAR	SR 100-2.05, Iberia-Bucyrus	lights + gates
47	MAR	SR 47-2.91, E. Water St	lights + gates
48	MAR	SR 98, Columbus-Sandusky	lights + gates
49	MAR	TR 177, Nesbitt Rd	lights + gates
50	MAR	Water St	lights + gates
51	MED	State Rd	lights + gates
52	MED	US 42-16.89, S. Court St	surface
53	OTT	Wildacre Rd, CR 72	lights + gates
54	POR	CR 11, Sunny Brook Rd	lights + gates
55	POR	CR 18, Tallmadge Rd	lights + gates
56	PUT	Maple St	closure
57	PUT	Pearl St	lights + gates
58	PUT	BRdway St	lights + gates
59	RIC	Riggs Ave	lights + gates
60	SUM	Summit St	lights + gates
61	TUS	CR 108, CrossRds Rd	lights + gates
62	WAY	TR 500 Schrock Rd	closure
63	WOO	TR 101 Reitz Rd	lights + gates
64	WOO	TR 216, Cross Creek Rd	lights + gates

Number of Projects, FY 2013: 75 **Spending, FY 2013: $14,628,310**

Number of Projects, FY 2014: 64 **Spending, FY 2014: $12,981,290**

Total: 139 **Total: $27,609,600**

Executive Summary

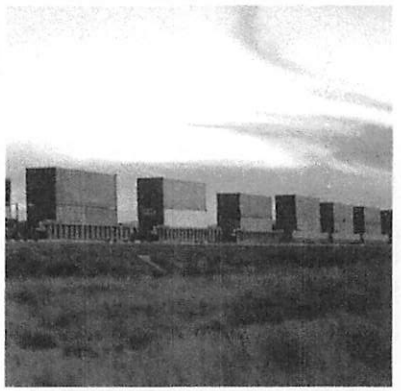
The issue of how much weight and what size of load we can move on our highways is a question almost as old as the automobile. Today, we continue to struggle with that issue trying to find the right balance among commerce, safety and congestion, and the damage we will allow big and heavy loads to inflict on our roads. Beyond defining the legal loads we will allow, we also recognize the need to permit the privilege of moving exceptional loads that cannot be reduced in size or weight. Having decided the above accommodations are necessary, it only remains to determine the appropriate share of the costs that these heavy and large load movements should pay. In their deliberations on three steel coil transport on Ohio's highways, the 127th General Assembly realized there was not sufficient information on the impact of heavy loads on our highway costs. Hence, they called upon the Ohio Department of Transportation to conduct a study to understand "the impact upon any highway under its jurisdiction of granting permits" for overweight vehicles. They also called upon the department to "document the uses and effect of continuing permits for multiple days" and "determine whether permitting regulations impose the least burden and costs to a business and avoid placing entities doing business in this state at a competitive disadvantage relative to businesses located in other states or countries." To help guide this process, ODOT convened a stakeholder group to use as a sounding board for study concepts. The group met three times and was kept abreast of the progress of the study. ODOT thanks the stakeholder group for their participation. In reviewing the literature in order to prepare a response to the General Assembly, two things became apparent. Given the short time allowed for the study a full blown highway cost allocation study would not be possible, however, if we could capture the pavement and bridge cost impacts, we would have a conservative yet substantial indication of permitted load costs. The question of the impact of heavy loads on pavements was answered by the AASHTO road tests in the 1950s. These tests demonstrated that the damage to pavements increases exponentially with an increase in load. For example, increasing a single axle load by 20% or 4,000 lbs, from 20,000 lbs to 24,000 lbs, doubles the damage, a 100% increase. This example illustrates the dramatic impact overweight permitted loads have on pavements. However, the difficulty is in converting this impact to a dollar value. There are many ways to allocate costs of pavements to vehicle classes. There is a sound rational basis for most of them. In this report we used a three tiered approach. The basic cost is shared by all users. Structural costs are shared by all trucks in accordance with their impact and overweight costs are attributed entirely to permitted vehicles. The resulting allocations employing this method results in a $122 million allocation to overweight vehicles annually.

The impact of heavy loads on bridges has not been studied in the detail that pavement impacts have been studied. Rather than quantify the impact in terms of percent of bridge damage the 1997 Federal Highway Cost Allocation Study used the incremental method to quantify the damage directly in dollar terms. This method successively removes vehicles from the bridge and calculates the reduction in bridge costs as a result. These costs are then assigned to the vehicles removed. This accounts for system consumption costs. Bridge preservation costs on the other hand, are assigned to all vehicles equally because environmental factors are a major contributing cause for preservation practices. Together these bridge impact costs total $22 million annually. Combined the bridge and pavement impacts cost total are $144 million annually. Again, this is a conservative estimate that does not include all the direct costs of having large heavy vehicles on the highway system. Some costs not included are geometric costs such as width of pavements, width of shoulders, steepness of grades, smoothness of curves, height of overpasses, etc. Others included safety and congestion issues that are not well researched. From a safety perspective, overweight trucks do not perform as well as other vehicles. They take longer to stop and are more difficult to maneuver when taking avoidance action. Truck congestion impact is measured

by passenger car equivalents (PCE) with PCE values ranging from 1.5 to 15. These PCE numbers indicate congestion cost impacts may be significant, however they are not well quantified in dollar terms. Indirect costs or societal costs are even less well documented than safety and congestion. However we do know that air quality is seriously deteriorated by truck emissions and moving freight by other modes would diminish the impact substantially. Noise pollution, another indirect societal cost, is also not well quantified. When the trucking industry does not pay their full share of highway costs and societal costs, we give them a competitive advantage over other modes of transportation that leads to business decisions that are not in society's best interest. As stated above, ODOT estimates this $144 million cost is the total minimum annual cost of overweight truck impacts on Ohio's highway system. According to the 1997 Federal Highway Cost Allocation Study, overweight vehicles pay about half of these costs, through various taxes and fees. This would represent $72 million in Ohio. Additionally, ODOT estimates the trucking industry will pay $25-30 million in overweight permit fees, resulting in a shortfall of approximately $45 million. The issue of how continuing permits are used, that is, how often and for what trip length, is difficult to answer. That is because prior to this initiative, the data simply was never collected. However, beginning in October 2008, the department began collecting the information. While the data base is admittedly limited (90 days worth) and markedly incomplete, the data when extrapolated generally indicates that 24.8 annual trips of an average length of 98.8 miles will be made on continuing permits. The annual cost of regular overweight permits will be $2000 for a per trip cost of $80. More specifically, for steel coils, 12 trips at an annual cost of $500 were made for a per trip cost of $42. Michigan legal trip projections indicated 44 trips at a maximum cost of $660 for a per trip fee of $15. Even with the limited data available it can be inferred that continuing permits are underpriced. It is important to note that prior to the mid 1990s, no impact fees were allowed for in Ohio law. After the law was passed allowing the assessment of impact fees as a part of the permitting process no impact fees were assessed until the recent change in the permitting rules.

Finally, the issue of putting Ohio businesses at a competitive disadvantage was investigated. When considering this issue it is important to remain mindful that we are comparing apples and oranges. None of the adjoining states regulate permitted vehicles the same. Some states only allow loads up to 100,000 pounds, the transport of only one steel coil, or the transport in a limited area up to 35 or 50 miles. Other than Michigan, it can be argued that Ohio has the most liberal or accommodating permitting practices. Given the flexibility in Ohio permitting it is remarkable that Ohio's permits are the least costly among its neighboring states. And so it can be safely concluded that our permit fees do not put Ohio businesses at a competitive disadvantage. On the contrary, they have a competitive advantage. To improve our knowledge of permitting issues and impacts the following measures are recommended:

- Continue collecting continuing permit data
- Explore the use technology to improve data collection
- Improve enforcement practices for violators
- Determine how to improve accident data collection involving permitted vehicles
- Review fee assessment alternatives to create a better user's fee
- Complete a total highway cost analysis study to fully assess vehicle cost responsibility
- Further engagement of stakeholder to improve customer service



State of Ohio Rail Plan

January 2019

Draft

OHIO RAIL
DEVELOPMENT
COMMISSION

Executive Summary

Purpose of the State of Ohio Rail Plan

This 2018 *State of Ohio Rail Plan* (Rail Plan) is an update of the 2010 *Ohio Statewide Rail Plan* (2010 Rail Plan). The Rail Plan complies with the requirements of the Passenger Rail Investment and Improvement Act, which the U.S. Congress passed in 2008, as well as the subsequent more detailed State Rail Plan Guidance (Guidance) issued by the Federal Railroad Administration (FRA) in 2013. Beyond fulfilling the federal mandate, this Rail Plan helps position Ohio for future federal grant opportunities. The Rail Plan has also provided an opportunity to identify issues, opportunities, and needs associated with the Ohio rail system to inform potential future investments and policies.

Per requirements of the FRA Guidance, the Rail Plan consists of six chapters:

- *Chapter 1 – The Role of Rail in Statewide Transportation* discusses the role of rail in Ohio's multimodal transportation system and how public agencies in the state are organized to support rail.
- *Chapter 2 – Ohio's Existing Rail System* provides an overview of Ohio's rail system and trends that impact the system.
- *Chapter 3 – Proposed Passenger Rail Issues, Opportunities, Improvements and Investments* identifies passenger rail issues, opportunities, and improvements that stakeholders have put forward.
- *Chapter 4 – Proposed Freight Rail Issues, Opportunities, Improvements and Investments* discusses freight rail issues, opportunities, and potential improvements.
- *Chapter 5 – Ohio's Rail Service and Investment Program* describes vision, goals, and objectives for the rail system, rail needs that have been identified to address the vision, goals, and objectives, needs identified by stakeholders, and potential projects to sponsor for federal grant applications.
- *Chapter 6 – Coordination and Review* indicates how stakeholders were involved in the development of this Rail Plan and how the Rail Plan was coordinated with other planning efforts.

The findings of the Rail Plan follow.

Ohio Has an Extensive Rail Network that Is Closely Integrated with the State's Economy.

At 5,187 miles, Ohio's network of active rail lines is the fourth most extensive in the nation, behind that of Texas, Illinois, and California. Because Ohio is geographically much smaller than either Texas or California, its rail network is more concentrated. Rail infrastructure (unlike highway infrastructure) is often sold or abandoned if its use does not justify costs to maintain and operate. If Ohio businesses did not use the rail network, it would not be as extensive. The high mileage of rail lines in Ohio reflects the close integration of rail with

Ohio's economy. Including the impact of employee spending and spending across industries, the freight rail industry contributes $2.8 billion to Ohio's economy annually.

Prominent within Ohio's economy are industries that rely on rail. For example, manufacturing's total share of employment within Ohio is 46 percent higher than in other parts of the country. Within manufacturing, top sectors are 1) steel manufacturing; 2) chemical manufacturing; 3) food and beverage manufacturing; and 4) motor vehicle manufacturing. Each of these sectors is a heavy user of rail. Ohio ranks eighth in the nation for corn production and ninth in the nation for soybean production. Ohio is eleventh in coal production.

The Association of American Railroads ranks states by originating and terminating rail tonnages by commodity. Ohio is ranked among the top 10 states in *originating* tonnage of coal; farm products; crushed stone, sand, and gravel; intermodal; food products; metallic ores; primary metal products; and waste/scrap. Ohio is also ranked among the top 10 in *terminating* tonnage of coal; chemicals; intermodal; crushed stone, sand, and gravel; food products; metallic ores; and waste and scrap.

Rail service in Ohio competes more closely with trucking than in other parts of the country. Nationwide, railroads have focused on markets where economics of railroad transportation are more favorable than that of trucking. Rail transportation costs less than trucks for delivering large shipments and shipping long distances. The average length of rail haul nationwide increased from 843 miles in 2000 to 1,033 miles in 2017.[1] The share of rail shipments with over 60 carloads shipped at once increased from 45 percent in 2000 to 55 percent in 2013.[2] Railroads focus on these high volume, long distance markets while trucks dominate shorter haul, lower volume transportation markets.

However, whereas the average rail shipment distance nationwide is 1,033 miles, the average shipment distance to or from Ohio is estimated to be 619 miles.[3] Less than 25 percent of the ton-miles originating or terminating in Ohio (compared to 55 percent nationwide) are in shipments of over 60 carloads. Because the average length of haul is shorter and the average number of carloads per shipment is fewer, railroads shipping to and from Ohio compete more closely with trucking than elsewhere, all else being equal.

Two freight railroad companies—CSX Transportation and Norfolk Southern Railway—operate 59 percent of the Ohio rail network. Most of the remaining rail network is operated by local and regional freight railroads (railroads with annual revenues less than $447.6 million).[4]

[1] Association of American Railroads, *Railroad Ten-Year Trends*.

[2] AASHTO, *AASHTO Freight Rail Study Support Services*, August 2018.

[3] Because the STB Waybill Sample is a sample of waybills and not rail shipments, it understates average length of haul, since multiple waybills may carry a single rail move. To account for this, an adjustment was applied to increase estimated Ohio average length of haul by the ratio by which the STB Waybill Sample nationally undercounts average lengths of haul.

[4] The federal government and tourist railroads also operate several segments of the Ohio rail network.

Ohio industries depend on rail to serve their customers. Rail transportation's contribution to customer industries' component of the Ohio GDP is $2.6 billion – almost 60 percent higher than the rail industry's direct GDP. Approximately 24,000 employees of other industries can be attributed to railroads' presence in Ohio, resulting in employee earnings of $1.6 billion. If rail service were not available, rail users could switch to other modes of transportation, but these other modes could be costlier. Without sufficient rail access, companies could also choose to relocate to other locations.

Table 2-9 summarizes rail's economic contributions via rail transportation users, and the total contribution of the industry including both rail users and the rail industry itself.

Table 2-9. Economic Contributions of Rail in Ohio

Economic Indicator	Rail Transportation Users	Rail Transportation Industry	Total Contribution
Employment	23,666	23,944	47,610
Earnings ($B)	$1.6	$1.3	$2.9
GDP ($B)	$2.6	$2.8	$5.4

Source: WSP analysis of Bureau of Economic Analysis data

National input-output tables from the BEA are used to derive the amount of rail transportation used by each industry per dollar of each industry's intermediate output. These ratios are then multiplied by Ohio's GDP per industry to calculate the portion of each industry's GDP that can be attributed to the rail industry.

For each industry, ratios of GDP to employment and to earnings are generated using 2015 BEA data on employment, earnings, and GDP by industry in Ohio. These ratios are then applied to the rail-dependent portion of each industry's GDP to calculate the rail-dependent employment and earnings.

Some industries have a particularly high reliance on rail; Table 2-10 shows the nine rail user industries with the highest portion of GDP attributable to the rail transportation industry.

Table 2-10. Top 10 Rail-Dependent Industry Sectors

Industry	Percentage of GDP Attributable to Rail	Value of GDP Attributable to Rail ($M)
Primary metals	8.24%	$166
Non-metallic mineral products	5.23%	$121
Paper products	4.24%	$42
Mining, except oil and gas	3.30%	$72
Wood products	2.76%	$9
Food and beverage and tobacco products	2.25%	$114
Truck transportation	2.24%	$133
Plastics and rubber products	2.20%	$69
Farms	1.79%	$32

Source: WSP analysis of Bureau of Economic Analysis data

Freight Rail Environmental Impacts

Freight rail provides an alternative to truck transportation. As such rail reduces highway maintenance and congestion, and generally produces fewer negative externalities than trucking. One useful exercise to assess the benefits of rail transportation is to consider a scenario whereby rail service deteriorated to such an extent that all traffic that could shift to trucks did shift to truck. Some commodities moving certain distances would be unlikely to ever be transported by truck because the cost of trucking would be excessive. An analysis was performed on the same data that appears in Table 1-2 but the analysis specifically examined rail's modal share relative to trucking instead of rail's share of all modes as in the case

of Table 1-2. It is assumed that if rail's modal share of combined truck and rail tonnage is over 80 percent, this traffic is not truck-competitive. The following meet this criteria:

- Coal over 100 miles
- Grain over 500 miles
- Metallic ore all distances shipped
- Petroleum products over 1,000 miles

The remaining rail traffic that travels to, from, or within Ohio is considered to be truck-competitive. If rail service deteriorates dramatically, trucking would provide a reasonable alternative. The FAF-4 database estimates total ton-miles associated with truck-competitive rail traffic to, from, and within Ohio to be 32.9 billion. This includes mileage both in Ohio and outside of the state. Assuming an average truck payload of 20.7 tons,[9] this corresponds to 1.6 billion truck vehicle-miles travelled (VMT) avoided per year. Railroad routes between two locations are usually more circuitous than highway routes used by trucks. Accounting for the more direct path that trucks travel, the avoided VMT due to rail service is estimated to be 1.3 billion.[10]

Table 2-11 summarizes the annual nationwide fuel consumption, emissions, safety, congestion, and avoided pavement damage benefits of Ohio shippers using rail instead of trucks.

Table 2-11. Benefits to the U.S. of Ohio Shippers and Receivers Using Rail

Benefit Category	Highway Parameter	Rail Parameter	Net Benefit of Using Rail
Reduced Fuel Consumption 1/	147 ton-miles per/gallon	479 ton-miles/gallon	119 million gallons
Reduced Emissions 2/			
CO_2	22 lbs per gallon	22 lbs per gallon	1,191,784 metric tons
NOx	8.098 grams/VMT	114.0 grams/gallon	2,986 metric tons
PM10	0.309 grams/VMT	2.90 grams/gallon	214 metric tons
VOC	0.877 grams/VMT	4.84 grams/gallon	839 metric tons
Reduced Frequency of Crashes 3/			
Fatalities	1.13/billion ton-miles	0.359/billion ton-miles	19 fatalities
Injuries	22.1/billion ton-miles	4.54/billion ton-miles	462 injuries
Property Damage Only (PDO)	77.1/billion ton-miles	1.24/billion ton-miles	2,091 PDO accidents
Reduced Highway Damage and Congestion 4/			
Pavement Damage	$0.15/VMT	N/A	197,402,671 ($2015)
Congestion	$0.05/VMT	N/A	$66,780,335 ($2015)

Source: 1/ For trucking: U.S. Energy Information Administration (EIA) 2018 Annual Energy Outlook; for rail: Association of American Railroads; 2017 fuel consumption values both rail and truck.
2/ CO_2 emission rate from the EIA. For rail: emissions rates from U.S. EPA; for trucking: emissions rates from WSP analysis of EPA MOVES model; 2017 emission rates both rail and truck.
3/ For rail: crash rates from 2015 FRA data; for truck: crash rates from Federal Motor Carrier Safety Administration Large Truck and Bus Crash Facts 2013.
4/ Highway damage and congestion from Federal Highway Administration Addendum to the 1997 Federal Highway Cost Allocation Study, indexed for inflation. Assumes 90 percent rural miles 10 percent urban, 60 percent 80-kip trucks, 40 percent 60-kip trucks.

The emissions savings include reductions in CO_2 which contributes to global warming and several additional pollutants that can harm human health and property. Particulate matter (PM10) can harm lungs and cause

[9] U.S. Federal Highway Administration, *Quick Response Freight Manual II*, September 2007, Table 4.20.

[10] WSP analysis of FAF-3

Transport Topics

Jim Stinson | Staff Reporter

February 13, 2019 1:45 PM, EST

AAR Supports Gas Tax, Vehicle-Miles-Traveled Measure to Fund Infrastructure

Association of American Railroads/Twitter

WASHINGTON — A vehicle-miles-traveled tax would present a good long-term solution for funding the nation's infrastructure, while higher fuel taxes could address more near-term needs, representatives from the Association of American Railroads said.

Officials from AAR made the comments during a Feb. 8 news conference held to update the public on implementation of Positive Train Control as well as railroads' safety and business performance.

To address immediate infrastructure needs, lawmakers could implement an increase in the federal gas tax that would fully cover the current shortfall in the Highway Trust Fund, AAR officials said on the call, noting that American Trucking Associations is among the groups that back an increase in fuel taxes. ATA supports a 20-cent-per-gallon built-in fee on transportation fuels that would be collected at the terminal rack, as part of the group's Build America Fund proposal.

Longer term, however, AAR supports a user-based system that accounts for all highway users' impacts on infrastructure, said AAR spokesperson Jessica Kahanek in an interview with Transport Topics. This could be achieved either through a vehicle-miles-traveled fee or a

Kahanek

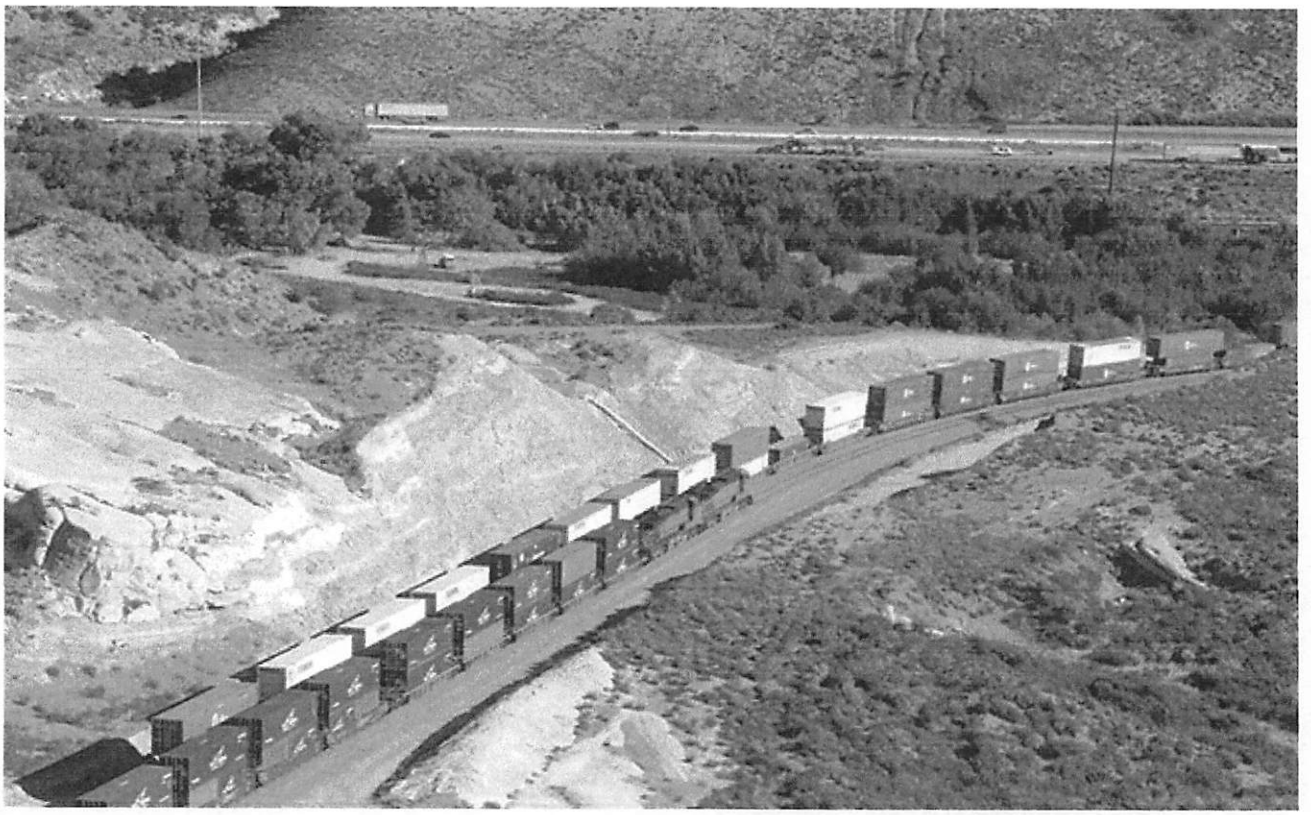
weight-distance fee, she said, referring to fees applied to vehicles at or above a specified weight. At least four states currently implement this type of funding mechanism, she said.

While improving the nation's infrastructure is an issue with bipartisan support, no timetable exists for when a bill will get passed.

Implementation of Positive Train Control, however, is coming up; Congress in 2015 extended the adoption deadline to Dec. 31, 2020 due to the technological challenges, giving railroads less than two years to come into full compliance. PTC systems are designed to automatically stop or slow a train before accidents related to human error occur, according to AAR.

The technology was mandated by the Rail Safety Improvement Act of 2008 and is described on the AAR website as an "unprecedented technological undertaking requiring each railroad to develop ... a system comprised of hundreds of thousands of components that must work across an interconnected network of freight, passenger and commuter railroads."

As of Dec. 31, 100% of locomotives, wayside units and radio towers had installed PTC technology, and 100% of rail employees have been trained on its use, according to AAR. Among Class I railways, more than 83% of route miles are covered by PTC technology, with the rest expected to be ready by the deadline. AAR said its member rail companies will be ready by the deadline.



(Association of American Railroads/Twitter)

Meanwhile, safety is improving. Train accidents were down 23% in 2017, according to Michael Rush, AAR's vice president of safety and operations. That year, 95% of rail fatalities were trespassers or persons crossing railways, he said, with AAR reporting 270 grade-crossing

fatalities and 513 trespass-related fatalities. Eleven rail employees, or 1.3% of all fatalities, were killed by accidents in 2017. Employee casualty rates are down 7% since 2008, to 1.95 deaths per million miles, Rush told reporters.

In terms of business, the year got off to a good start for the rail sector. U.S. railroads moved 1.2 million carloads in January, up 1.7% or 21,054 carloads from the year-ago period, AAR said. U.S. railroads moved 1.3 million containers and trailers last month, up 0.5% or 6,008 units from January 2018. Combined U.S. carload and intermodal originations in January were 2.5 million, up 1.1% or 27,062 carloads and intermodal units from a year earlier, AAR reported.

Driving rail freight's numbers were petroleum and petroleum products, up 23.9%; chemicals, up 2.5%; and primary metal products, up 7.2%.