



Type of signal protection	Plants	Miles of—		Loco- motives
		Road	Track	
Block-signal systems:				
Automatic.....		81,184.0	106,695.4	
Nonautomatic.....		21,956.3	22,356.4	
Total.....		103,140.3	129,051.8	
Corresponding totals, Jan. 1, 1962.....		104,540.8	131,176.7	
Interlocking.....	3,776			
Automatic train-stop, train-control, and cab-signal devices:				
Train-stop.....		9,082.1	13,444.7	4,802
Train-control.....		1,018.0	1,936.9	1,002
Cab-signal.....		4,083.1	8,492.9	3,568
Total.....	3,776	14,183.2	23,874.5	9,392
Corresponding totals, Jan. 1, 1962.....	3,939	14,158.7	24,511.9	9,434

Bureau of Safety inspections made during the year ended June 30, 1963

System	Number of systems inspected	Including inspections of—				
		Signals	Switches	Other appliances	Devices on locomotives	Records of tests
Automatic block-signal.....	699	7,650	6,025	890		18,329
Interlockings.....	1,741	12,970	8,836	10,533		21,929
Traffic-control.....	980	8,437	5,512	6,703		23,707
Automatic train-control.....	40			166	114	481
Automatic train-stop.....	466			2,283	1,805	3,912
Automatic cab-signal.....	319			945	1,718	3,840
Total.....	4,245	29,087	20,373	21,610	3,387	72,196

Accidents at highway grade crossings for the year ended December 31—

Accidents and casualties	1960		1961		1962				
	Number	Number of persons		Number	Number of persons				
		Killed	Injured		Killed	Injured	Killed	Injured	
Accidents at highway grade crossings.....	3,195	1,364	3,424	3,204	1,291	3,514	3,149	1,241	3,192
Accidents at highway grade crossings involving motor vehicles ¹	2,966	1,254	3,277	2,914	1,168	3,288	2,920	1,122	3,075
Derailments of trains at highway grade crossings involving motor vehicles.....	70	48	161	54	25	182	57	36	68
Miscellaneous train accidents as a result of collision between trains and motor vehicles.....	92	77	94	164	96	89	199	106	106
Railroad casualties:									
Passengers.....		14	129		1	154		1	73
Employees on duty.....		11	86		9	133		17	116
Total.....		25	218		10	287		18	189

¹ Passenger automobiles, buses, and trucks.

Train communications (Jan. 1, 1963): line of road (top), yard (below)

Type of installation	Miles of road	Wayside stations	Locomotives	Cabooses and other mobile	Portable pack sets
Radio.....	135,041	1,996	11,016	6,805	6,030
Inductive.....	6,344	226	1,084	316	1
Combination inductive and wire inter-communication.....	86	1		2	
Commercial radio service used in railroad operation.....	254	3	15	20	
Total.....	141,725	2,226	12,115	7,143	6,031

Type of installation	Number of installations	Wayside stations	Locomotives	Cabooses and other mobile	Portable pack sets
Radio.....	989	1,000	3,276	1,070	2,015
Inductive.....	3	3	15		
Commercial leased radio service.....	38	87	359	79	108
Total.....	1,030	1,090	3,650	1,149	2,123

Signal failures showed an increase for the year ended June 30, 1963 as compared to the previous year, according to the recently issued report of the Section of Railroad Safety, Bureau of Safety and Service, ICC. False restrictive failures totaled 27,173 (June 30, 1963), a gain of 126 over the previous year. False proceed failures fell from 72 to 65, according to the Commission's report, but potential false proceed conditions increased from 3 to 14. Details of these figures as applied to the individual railroads is presented on the opposite page.

During the year, 218 applications for approval of modifications of block-signal systems and interlockings were filed by railroads. At the beginning of the year 46 applications were pending. The Bureau acted upon 209 applications and left 55 pending.

Thirty applications were filed during the year in connection with the RS&I prescribed by the ICC's order of June 29, 1950. With six applications pending, the Bureau acted upon 26 applications during the year. Ten applications were pending at the end year. Public hearings were held during the year on three applications for relief from the RS&I.

The 4,245 signal systems inspected represented a decrease of 262 inspected under the previous year. This is partly due to the fact that several inspectors' territories were vacant a month or more during the past year due to illness or retirements. However, a large number of unsatisfactory maintenance conditions on the railroads were corrected during the year because of these inspections.

In the year ended June 30, 1963, 26 complaints were received in connection with alleged violations of the Commission's rules, standards and instructions. At the beginning of the year action was pending on seven complaints previously filed. During the

Name of railroad	Block systems	Inter-locking	ATS-ATC ACS	Other systems	Total	Block systems	Inter-locking	ATS-ATC ACS	Other systems	Total	Block systems	Inter-locking	ATS-ATC ACS	Other systems	Total
Alabama Great Southern	63	66	7	6	142	1				1					
Alton & Southern	6	10			16										
Ann Arbor	1				1										
Arkansas & Memphis Ry. Bridge & Terminal Co.		7			7										
Atchison, Topeka & Santa Fe	343	549	275	15	1,182	3	1	1		5					
Atlanta & West Point	57				57	1				1					
Atlanta Terminal		13			13										
Atlantic Coast Line	331	281	150	29	791	1				1					
Baltimore & Ohio	483	326	60		869	1				1					
Baltimore & Ohio Chicago Terminal	12	73			85		1			1					
Bangor & Aroostook	95			39	134										
Belt Ry. of Chicago		21			21										
Bessemer & Lake Erie	38				38										
Birmingham Terminal		38			38										
Boston & Maine	73	114	7		194	2		2		4					
Boston Terminal		27			27										
Butte, Anaconda & Pacific	33				33										
Canadian National		2			2										
Canadian Pacific	1				1										
Central of Georgia	140	5			145		1			2	2				2
Central R.R. of New Jersey	64	160	1		225	2				2					
Central Vermont	1				1										
Chesapeake & Ohio	246	192	19		457		1			1					
Chicago & Eastern Illinois	113	165	2		280										
Chicago & Illinois Midland	21	8			29										
Chicago & North Western	790	383	227		1,400	2		1		3	1	1			2
Chicago & Western Indiana	8	82			90										
Chicago, Burlington & Quincy	412	20	22		454	6	3			9					
Chicago Great Western	146			1	154										
Chicago, Milwaukee, St. Paul & Pacific	380	68	86		534	1	1			2					
Chicago, North Shore & Milwaukee	13	7			20										
Chicago, Rock Island & Pacific	574	135	11		720	1				1					
Chicago, South Shore & South Bend	58	5			63										
Chicago Union Station		7			7										
Cincinnati, New Orleans & Texas Pacific	42	53	17	4	116										
Cincinnati Union Terminal		124			124										
City of St. Louis Municipal Bridge	5	26			31										
Clinchfield	58				58										
Colorado & Southern	2	1			3										
Dayton Union		61			61										
Delaware & Hudson	80	66			146										
Denver & Rio Grande Western	321	18			339	2				2	1				1
Denver Union Terminal		23			23										
Detroit & Toledo Shore Line	7				7										
Detroit, Toledo & Ironton	1	8		1	10										
Duluth, Missabe & Iron Range	11	4			16										
Elgin, Joliet & Eastern	7	39			46										
Erie-Lackawanna	292	139	113	12	556		1			1					1
Florida East Coast	272				272										
Fort Dodge, Des Moines & Southern		7		1	8										
Fort Worth & Denver	44	4			48										
Georgia	118				118										
Georgia Southern & Florida	68	1	1	5	75										
Grand Trunk Western	120	49			169						1				1
Great Northern	451	39			490						1				1
Green Bay & Western	10	2		2	14										
Gulf, Mobile & Ohio	123	39	8		170	2				2					
Houston Belt & Terminal	9	52			61										
Illinois Central	275	26	85		386	1				1					
Illinois Terminal		15			15										
Indianapolis Union		48			48										
International Ry. Co. of Maine	5				5										
Jacksonville Terminal		121			121	1				1					
Kansas City Southern	189	174			363										
Kansas City Terminal		240			240										
Kentucky & Indiana Terminal		42			42										
Lake Superior & Ishpeming		30			30										
Lehigh & Hudson River	26				26										
Lehigh Valley	98	31			129	1				1					
Long Island	35	97	548		680										
Los Angeles Union Passenger Terminal		16			16										
Louisville & Nashville	887	84	117		1,088	1				1					
Maine Central	52	8			60										
Memphis Union Station		117			117										
Missouri-Kansas-Texas	431	31			462	1	1			2					
Missouri Pacific	686	32			718	1				1	1				1
Monon	110	12			122	1				1					
Monongahela	11				11										
New Jersey & New York		1			1										
New Orleans & Northeastern	17		6		23	1				1					
New Orleans Public Belt	7	3			10										
New Orleans Union Passenger Terminal		14			14										
New York Central	619	714	217		1,550	1	3			4		1			1
New York, Chicago & St. Louis	212	305	23		540		1			1					
New York, New Haven & Hartford	114	163	9		286										
New York, Susquehanna & Western	7	3			10										
Norfolk & Western	131	207			338										
Northern Pacific	911	67			978	2				2	1				1
Pacific Electric	1	27			28										
Pennsylvania	493	839	916	3	2,251	1	1	1		3		1			1
Pennsylvania-Reading Seashore Line	7	8	1		16										
Peoria & Pekin Union	8	12			20										
Pittsburgh & West Virginia	27				27										
Port Authority Trans Hudson	119	114	94	2	329										
Portland Terminal	1				1										
Reading	51	78	6		135										
Richmond, Fredericksburg & Potomac	34	61	11		106										
River Terminal		77			77										
Sacramento Northern	1	2			3										
St. Louis-San Francisco	372	18			390						1				1
St. Louis Southwestern	116				116										
Seaboard Air Line	374	22			396							1			1
Seo Line	220	66			286										
Southern	552	112	100	13	777	2	1			3					
Southern Illinois & Missouri Bridge	3				3										
Southern Pacific	652	53	6		711	1				1					
Spokane, Portland & Seattle	92	4			96										
Terminal R.R. Assn. of St. Louis	3	327			330										
Texas & Pacific	156	11			167										
Toledo, Peoria & Western		21		4	25										
Union	1				1										
Union Pacific	380	11	30		421										
Wabash	191	58			249										
Washington Terminal		267			267		2			2					
Western Maryland	47	16			63	1				1					
Western Pacific	185				185	1				1					
Western Railway of Alabama	73				73										
Youngstown & Northern	4				4										
Total	15,529	8,331	3,175	138	27,173	42	18	5	0	65	10	4	0	0	14

Causes of potential false-proceed conditions, year ended June 30, 1963

Name of railroad	Sand, rust, or other deposit on rails	Failure of relays and similar devices	Circuits open, crossed, or grounded, foreign current, et cetera	Apparatus broken, defective, or out of adjustment	Failure of apparatus due to ice, sleet, snow, wet track, weather, or lightning	Failure of apparatus due to obstruction	Errors in making connections or adjustments	Undetermined	Total
Central of Georgia					2				2
Chicago & North Western					1	1			2
Denver & Rio Grande Western							1		1
Elgin, Joliet & Eastern				1					1
Grand Trunk Western				1					1
Great Northern				1					1
Missouri Pacific		1							1
New York Central						1			1
Northern Pacific					1				1
Pennsylvania		1							1
St. Louis-San Francisco		1							1
Seaboard Air Line				1					1
Total	0	3	0	4	4	2	1	0	14

Causes of false proceed failures, year ended June 30, 1963

Name of railroad	Sand, rust, or other deposit on rails	Failure of relays and similar devices	Circuits open, crossed, or grounded, foreign current, et cetera	Apparatus broken, defective, or out of adjustment	Failure of apparatus due to ice, sleet, snow, wet track, weather, or lightning	Failure of apparatus due to obstruction	Errors in making connections or adjustments	Undetermined	Total
Alabama Great Southern				1					1
Atchison, Topeka & Santa Fe			2	1			2		5
Atlanta & West Point		1							1
Atlantic Coast Line		1							1
Baltimore & Ohio			1						1
Baltimore & Ohio Chicago Terminal							1		1
Boston & Maine					2			2	4
Central of Georgia					1				1
Central RR. of New Jersey	1			1					2
Chesapeake & Ohio	1								1
Chicago & North Western			1				2		3
Chicago, Burlington & Quincy		1	4	1		1		2	9
Chicago, Milwaukee, St. Paul & Pacific				1			1		2
Chicago, Rock Island & Pacific			1						1
Denver & Rio Grande Western							1	1	2
Erie-Lackawanna		1					2		1
Gulf, Mobile & Ohio					1				1
Illinois Central									1
Jacksonville Terminal	1				1				1
Lehigh Valley							1		1
Louisville & Nashville							1		1
Missouri-Kansas-Texas				1	1				2
Missouri Pacific			1						1
Monon				1					1
New Orleans & Northeastern				1					1
New York Central			1	2			1		4
New York, Chicago & St. Louis					1		1		1
Northern Pacific					1			1	2
Pennsylvania				1			1		3
Southern				3					3
Southern Pacific							1		1
Washington Terminal	2								2
Western Maryland							1		1
Western Pacific				1					1
Total	5	4	11	14	8	1	15	7	65

year investigations were completed on 29, and action was pending on four at the end of the year.

According to reports submitted by the carriers, as of January 1, 1963, train communication systems were in service for operation over a total of 141,725 miles of road on the line of 142 railroads. In addition to radio and inductive installations these systems included a combined inductive and wire intercommunication system operating over 86 miles of road. Also included were installations providing service through commercial telephone company radio facilities, operating over 254 miles of road.

Considering only radio and inductive systems used in connection with railroad operation, such systems were in service on 141,385 miles of road on 139 railroads. This compares with radio and inductive communication systems in service on 136,431 miles of road on 132 railroads as of January 1, 1962.

There were 1,030 installations in service in yards and terminals on 138 railroads. This compares with 995 installations in service on 130 railroads as of January 1, 1962.

In a report of an investigation (No. 3344 on the prevention of railroad-highway grade crossing accidents) the ICC has recommended that an organization be created composed of representatives of government, labor and industry and others with a direct interest in improved protection at railroad-highway grade crossings. This group is to evaluate the crossing situation, make specific recommendations to public authorities and others for improved protection at crossings, elimination of grade crossings, etc. Also recommended by the ICC are these three items:

(1) The Congress give serious consideration to the enactment of legislation to provide public funds for the installation and maintenance of signals, lights, gates, or other protective devices intended to prevent accidents at rail-highway grade crossings. Such funds be used to defray the costs of such installations and maintenance under some equitable arrangement between the users of the crossing.

(2) The railroads take prompt action to improve maintenance of railroad rights-of-way at grade crossings to provide safer passage for motor vehicles and remove all sight obstructions so as to provide adequate sight distances for motor vehicle operators and train crews.

(3) The railroads establish adequate, uniform warning time of not less than 20 seconds to operators of motor vehicles of the approach of trains to grade crossings.

RSC