Signaling Moderate During 1958

1958—The year of the big economy drive saw signal construction take a small drop, but automatic interlockings topped the previous year. This elimination of levermen may save a railroad as much as $23,500 for each plant every year.

1959—Signal construction should be back to its previous level of 7,000 units. Construction of several modern retarder classification yards is just getting under way, as are extensive centralized traffic control projects.

SIGNAL CONSTRUCTION in 1958 ran at 79 per cent of the 1957 rate, with 5,929 units installed in 1958, as compared to the 7,549 units installed the previous year. The decline was across the board except for automatic interlockings and automatic block signaling, which showed increases. There are good reasons for viewing the coming year optimistically. In addition to the general economic recovery for all business and industry, railroad revenues are showing an upturn. The AAR announced that railroad revenues for October 1958 have exceeded those for any month since October 1956. These signs of greater revenue ahead, plus the economic advantages of signaling systems, should spur signal construction to resume its high rate this year, and for the next few years. Major economic advantages of signal systems are: (1) more efficient utilization of locomotives; (2) increased track capacity; (3) reduced operating expenses; (4) amortize themselves in about five years or less; and (5) annual savings long after they are paid for.

Good Year Ahead

Capital expenditures for signaling will be greater next year compared to last year, according to a survey conducted by Railway Signaling and Communications. Eighteen roads reported they plan to spend $44,812,000 for signal construction during 1959. Of this total, the New York City Transit Authority plans to spend $16,100,000 for signal system modernization. Twenty-two roads compared expenditures planned for 1959 with the previous year. Of these, 45 per cent plan to spend more in 1959, and 23 per cent will spend about the same amount. Major work to be undertaken includes 973 miles of centralized traffic control, three retarder classification yards and many automatic highway crossing protection installations.

Over 1,000 Miles of CTC

Centralized traffic control was installed on over 1,000 miles of road during 1958. Although most roads installed CTC on single track, several roads equipped lengthy sections of double track with CTC. Crossovers are located three to five miles or more apart to provide flexibility in making meets and passes. During 1958 the Santa Fe installed traffic control on 25 miles of double-track main line in Kansas. In the heavy-traffic territory between Detroit and Plymouth, Mich., the Chesapeake & Ohio installed CTC on 17 miles of double-track mainline. The Delaware & Hudson and the Virginian also installed traffic control on 11-mile and 19-mile sections of double track, respectively.

A special combination of single-track and two-track CTC is used by the Southern. They recently converted 150 miles of double-track mainline to alternate sections of single-track and two-track CTC. The two-track sections range from five to seven miles in length, usually with a double crossover at the midpoint. The single-track sections are about the same length. All tracks are signaled for either direction running. There are no passing sidings, so that all meets and passes are made on sections of two-track. In one area, 14 miles of both main tracks were left in place through an industrial area. Double crossovers are spaced at three locations. This arrangement allows an industry switch-run to work either main and leave room for other trains to get through without stopping. It also permits the industry switcher to work without clearing the main for through trains (RS&C, December 1958, page 28).

SIGNAL INSTALLATIONS COMPLETED 1956-1958

	1958	1957	1956
Automatic block signals	493	423	864
Centralized traffic control			
Power switch machines	458	586	819
Lever controlled signals	1,116	1,454	1,948
Intermediate signals	671	1,030	1,453
Classification yards			
Car retarders	44	61	69
Power switch machines	248	383	254
Highway crossing protection			
New installations, gates and flashers	1,380	1,630	1,320
Interlockings			
Signals and switches installed at new and rebuilt plants (excluding automatic plants)	999	1,417	1,303
Signals and switches installed at new and rebuilt automatic plants	259	171	269
Spring Switches			
Spring buffer mechanisms	80	127	147
With facing point locks	52	59	41
Signals at spring switches	129	208	268
Totals	5,929	7,549	8,755

CENTRALIZED TRAFFIC CONTROL INSTALLED IN 1958

Railroad & Location	Miles	Power Switches	Lever Controlled Signals	Automatic Signals	Mfr
AT&SF					
East Shopton-West Shopton, Iowa	2.5 D	--	--	4	Union
Gardner-West Ottawa, Kan	25.8 D	11	11	32	Union
Sealy-Ball, Tex	11.4 S	1	9	6	Union
ACL					
Waycross-Folkston, Ga	34.1 S	8	20	21	Union
North Croom-Vitis, Fla	24.4 S	11	31	25	Union
B&M					
Willows East-Westford, Mass	4.6 S	2	6	2	G R S
Ayer-Willows, Mass	1.9 D	2	2	2	G R S
North Beverly-Newburyport, Mass	14.3 S	2	12	6	G R S
Concord-Westboro, NH	68.8 S	8	36	24	G R S
North Adams, Mass	0.8 S	1	3	1	G R S
CN					
Oakville, Ont	4.8 D	18	16	4	G R S
Winnipeg, Man	1.2 D	12	16	--	G R S
West End, Winnipeg, Man	8.6 S	32	40	3	G R S
	6.5 D				
Pacific Jct, Man	--	4	4	--	G R S
St James Jct, Man	5.8 S	8	15	4	G R S
CP					
Wilkinson-Trenton, Ont	50.3 S	10	34	24	G R S
C&O					
Hinton-Sandstone, W Va	7.8 D	4	6	12	Union
Plymouth-Dearborn, Mich	17.0 D	33	38	12	G R S
CB&Q					
Burlington, Iowa	2.4 D	15	30	--	Union
Lavergne-Congress Park, Ill	4.4 T	12	23	18	G R S
Galesburg, Ill	0.3 S	4	2	--	Union
CMStP&P					
Collins-Madrid, Iowa	27.0 S	6	12	8	Union
D&H					
Starrucca-Carbondale, Pa	15.5 S	8	20	22	G R S
	11.5 D				
D&RGW					
Kobe-Avon, Colo	47.7 S	13	48	20	G R S
DM&IR					
Aurora-Biwabik, Minn	6.9 S	5	22	3	Union
ERIE					
Hubbard-Coles, Ohio	3.4 S	--	--	2	Union
GN					
Des Lacs-Wheelock, ND	85.0 S	25	88	64	G R S
GM&O					
Murphysboro, Ill	1.5 S	1	4	--	G R S
L&N					
Anchorage-Latonia, Ky	91.9 S	14	42	56	G R S
MP					
Osawatomie, Kan	1.3 S	4	4	--	G R S
NYC					
Post Road-Smith Bridge, NY	4.9 S	2	4	2	G R S
Jackson, Mich-Elkhart, Ind	97.3 S	13	37	54	G R S
NYNH&H					
Maybrook-Poughkeepsie, NY	23.4 S	6	15	19	G R S
N&W					
Bonsack-Roanoke, Va	5.8 D	--	--	--	
	2.2 S	40	57	--	Union
Sams Siding-East Norton, Va	95.2 S	17	68	51	Union
Hurricane Jct-Carbo, Va	4.0 S	2	6	2	Union
NP					
Martin-Stampede, Wash	3.0 S	4	9	--	G R S
PRR					
Sunbury-Milton, Pa	18.7 S	14	27	8	Union
P&LE					
Blacks Run-Wampum, Pa	12.2 D	--	--	--	
	6.0 S	--	--	24	Union
QNS&L	--	1	2	1	G R S
SP					
Moor-Valley Pass, Nev	22.2 S	4	22	14	Union
UP					
Menoken-Silver Lake, Kan	6.0 S	4	16	2	Union
Mountain Home, Ida-Huntington, Ore	138.8 S	49	170	88	Union
VGN					
Elmore-Princeton, W Va	15.3 S	--	--	--	
	19.0 D	21	63	17	G R S
WAB					
Berkley-Robertson, Mo	2.5 S	3	10	--	Union
Delphi-Logansport, Ind	19.0 S	4	15	14	Union
Toledo Yard-Walbridge Jct, Ohio	1.6 S	--	1	--	Union
Single track	963.7	458	1,116	671	
Double track	118.4				
Three track	4.4				
Track miles	1,213.7				
Road miles	1,086.5				

A form of modified CTC, with a spring switch at one end of a siding and a power switch at the other, was installed by the Boston & Maine between Concord and Westboro, N.H., 69 miles. This form of traffic control is gaining favor as a means to increase track capacity, reduce operating expenses, and do it at a cost not much more than that for automatic block signaling. Many roads are re-examining their light-traffic lines with the thought that modified CTC would pay for itself and produce annual savings long after the capital investment is amortized (RS&C, August 1958, page 23).

Using either modified or conventional traffic control, several roads have been able to remove mainline trackage when converting to CTC. The Louisville & Nashville (RS&C, March 1958, page 21) and the Maine Central (RS&C, January 1958, page 19) converted double-track mainline to single-track CTC with sidings. The Milwaukee Road recently converted a 27-mile section of two-track CTC to single-track CTC between Collins and Madrid, Iowa, on their Chicago-Omaha mainline (RS&C, February 1958, page 21).

The New York Central has reduced its mainline between Buffalo and Cleveland from four tracks to two with traffic control on the remaining two tracks. They have resumed work on the $5 million project of installing traffic control on 145 miles of road between Buffalo and Syracuse, N.Y. Here again, the four-track mainline will be converted to two-tracks with CTC to provide either-direction running on both main tracks.

Modern automatic retarder classification yards not only reduce the time spent in classifying cars, but pay for themselves in about five years by reducing operating expenses. One western road replaced a flat switching yard with a modern gravity-type retarder yard with automatic switching and automatic retarder controls. They obtained an annual return of 19 per cent on total

POWER CLASSIFICATION YARD PROJECTS COMPLETED IN 1958

Railroad & Location	No. of Retarders	No. of Power Switches	No. of Class Tracks		Mfr
C&O					
Toledo, Ohio	2	9	coal dumping		Union
Clinchfield					
Dante, Va	14	8	coal dumping		Union
L&N					
Boyles, Ala	6	39	40		Union
Orinoco Mining					
Puerto Ordaz, Venezuela	1	--	ore dumping		Union
PRR					
Conway, Pa	1	1	--		Union
P&LE					
Youngstown, Ohio	6	91	35		Union
RF&P					
Alexandria, Va	3	9	10		Union
SP					
Los Angeles, Calif	-	18	--		G R S
StL-SF					
Tulsa, Okla	5	40	40		G R S
StLSW					
Pine Bluff, Ark	5	29	28		Union
US Steel					
Saxonburg, Pa	1	4	ore dumping		Union
Totals	44	248	153		

SPRING SWITCHES INSTALLED IN 1958

Railroads	Spring Switches	Facing-Point Locks	Signals at Spring Switches
AT&SF	5	--	15
B&O	1	--	1
B&M	12	10	21
CP	2	2	6
C&NW	2	8	20
CRI&P	1	1	3
GN	6	4	13
IC	7	--	5
LI	1	1	--
MKT	5	--	5
NYC	2	2	4
N&W	11	7	23
SOU			
NO&NE	6	--	--
SP	4	4	11
T&NO	11	10	--
T&P	1	--	--
TH&B	1	--	--
Virginian	1	--	--
Wabash	1	1	2
WM	--	2	--
Totals	80	52	129

cost. The Boston & Maine estimates that its proposed new retarder yard for Montague, Mass., will cost $18.5 million, but it will provide savings of approximately $4.5 million annually.

New modern automatic yards often replace several old, flat switching yards, and reduce the amount of switching required at other yards. Robert R. Young yard at Elkhart, Ind., on the New York Central, replaced 12 yards and considerably reduced switching at others (RS&C, March 1958, page 28). Cicero yard on the Burlington near Chicago also reduced damage to cars and lading by 85 per cent, will classify cars 3½ hours faster than formerly and will provide savings equal to 10 per cent on the $4 million investment, after taxes (RS&C, July 1958, page 24).

There is also help for older gravity yards, with manual retarder controls. A mobile laboratory has been developed (see article in this issue) that enables engineers to make complete measurements on cars moving into classification tracks. Using these measurements, a computer in the lab truck computes rolling characteristics of the cars. From this data, an engineering study is made for upgrading the yard, such as adding automatic switching, automatic retarder controls or both, and indicating the savings that will result.

New yard construction looks promising for 1959. The B&M expects to begin construction of Montague yard by the end of this year. The Canadian National has begun construction on three new retarder yards—at Moncton, N.B.; at Montreal, Que.; and at Winnipeg, Man. The Missouri Pacific is working on its Neff yard at Kansas City. Several other railroads have yards under construction or ready to go.

INTERLOCKINGS REBUILT IN 1958
(Except Automatic)

Railroad & Location	Home Signals	Power Switches	Mfr
AT&SF			
Emporia, Kan	1	1	Union
Milano, Tex	6	--	G R S
Cameron, Tex	6	--	G R S
Sealy, Tex	5	--	G R S
B&M			
East Somerville, Mass	4	4	Union
Somerville, Mass	2	--	Union
Ayer, Mass	1	1	Union & GRS
Boston, Mass	1	--	Union
CN			
Brantford, Ont	10	6	Union & GRS
St Lambert, Que	2	1	G R S
CP			
Ballantyne, Que	17	15	Union
Caughnawago, Que	25	20	Union
C&NW			
East Clinton, Ill	--	2	G R S
Chicago, Ill	4	2	G R S
CMStP&P			
Hastings, Minn	3	1	Union
Green Island, Iowa	5	1	Union
DL&W			
Buffalo, NY	11	7	Union
Millburn, NJ	--	4	Union
D&RGW			
Tapp, Colo	--	1	G R S
Gilluly, Utah	2	--	G R S
Kyune, Utah	--	1	G R S
Grand Jct, Colo	--	2	G R S
DM&IR			
Taconite Jct, Minn	6	2	Union
EJ&E			
Hobart, Ind	3	2	G R S
GN			
St Paul, Minn	62	36	G R S
GM&O			
Corwith, Ill	4	20	G R S
KCT			
Kansas City, Mo	3	3	Union
LI			
Jamaica, NY	5	4	Union
L&N			
Anchorage, Ky	5	5	G R S
NYC			
Gibson, Ind	5	6	G R S
NYCTA - New York "TS"	54	17	Union
72nd St	24	13	Union
Concourse	1	--	G R S
Jerome Ave	3	1	Union
DeKalb Ave	13	4	G R S
Hudson Terminal	6	4	G R S
NYNH&H			
Branford, Conn	6	6	Union
N&W			
Roanoke, Va	1	--	Union
PRR			
Baden, Pa	7	6	Union
Red Bank, Pa	4	1	Union
Sunbury, Pa	21	11	Union
P&LE			
West Aliquippa, Pa	61	70	Union
Youngstown, Ohio	19	15	Union
Reading			
Mahanoy Tunnel, Pa	4	2	Union
Totals	422	297	

AUTOMATIC BLOCK SIGNALING INSTALLED IN 1958

Railroads	Miles	Signals	Mfr
BRC			
Chicago	1.2 D	2	Union
B&M			
Concord, NH	0.3 D	1	G R S
North Beverly, Mass	1.1 D	1	G R S
Newburyport, Mass	1.2 D	1	G R S
Salem, Mass	0.4 D	2	G R S
Boston, Mass	0.3 D	1	Union
Salem, Mass	0.3 D	1	Union
Everett, Mass	0.2 D	1	Union
Lynn, Mass	0.3 D	1	Union
Mechanicville, NY	Wheel checker	1	--
CP			
Woodman-Portage La Prairie, Man	48.0 D	34	Union
English River, Ont	2.5 D	1	Union
Curle, Sask	2.0 D	1	Union
C&NW			
Rosemere-Manitowoc, Wis	6.0 S	7	G R S
Oshkosh, Wis	10.0 S	14	G R S
Marcy-Clyman, Wis	33.0 S	30	G R S
CTA			
Chicago	0.2 S 12.0 D	97	G R S
DL&W			
Buffalo, NY	1.9 D	4	Union
New Hartford, NY	1.0 S	2	Union
Plymouth, Pa	0.7 D	1	Union
EJ&E			
Waukegan-Rondout, Ill	7.4 S	12	G R S
MEC			
New Gloucester-Winthrop, Me	30.8 S	33	G R S
Wiscasset-Winslows Mills, Me	16.9 S	17	G R S
MTA			
Broadway Sta-Charles Sta-Boston	1.9 D	29	Union
NYCTA			
B'way-7th Ave Line	5.0 D	126	Union
De Kalb Ave	0.4 S	9	G R S
N&W			
Saltville Branch	1.0 S	2	Union
Toms Creek Branch	0.2 S	1	Union
Russell Creek Branch	0.3 S	1	Union
Dumps Creek Branch	4.0 S	2	Union
NP			
Vader-Kalama, Wash	29.0 D	40	G R S
SP&S			
Martindale-Levey, Wash	5.0 S	6	G R S
UP			
Portland-Fir, Ore	5.0 S	12	Union
Single track	121.2	493	
Double track	108.3		
Total track miles	337.8		
Total road miles	229.5		

Automatic Interlockings Gain

In the economy drive of 1958, many roads "found" crossings with others where an automatic interlocking could do the work formerly required of a leverman around the clock. Such a saving for one plant could run over $20,000 annually. This figure is based on the 40-hour week and includes paid holidays, vacation, retirement, insurance, etc. The drive to eliminate attended interlockings at railroad crossings will continue. One road is near completion of a program to provide automatic interlockings at all such railroad crossings.

Automatic control of switches at interlockings is now in service on the Flushing line of the New York City Transit Authority (RS&C, August 1958, page 15). Also included

NEW INTERLOCKINGS INSTALLED IN 1958
(Other Than Automatic)

Railroad & Location	Home Signals	Power Switches	Mfr
ACL			
Ruskin, Fla	2	1	Union
B&O			
Patterson Creek, W Va	19	28	G R S
E Columbus, O	7	5	G R S
BRC			
Chicago, Ill	9	13	Union
B&M			
Salem, Mass	2	1	G R S
CP			
Portage La Prairie, Man	5	3	G R S
CV			
St Albans, Vt	4	2	G R S
C&O			
Raceland Jct., Ky	18	16	Union
Losantville, Ind	5	1	Union
C&NW			
Cedar Rapids, Ia	7	2	G R S
CB&Q			
Downers Grove, Ill	12	8	G R S
CRI&P			
Amarillo, Tex	2	-	Union
West Liberty, Ia	15	5	Union
DL&W			
Slateford, Pa	3	1	Union
ERIE			
Hubbard, Ohio	4	3	Union
Coles, Ohio	3	1	Union
NYC			
Syracuse, NY	3	1	G R S
Sand Cut, Ohio	4	2	G R S
PRR			
Canton, Ohio	7	6	Union
SP			
Texum, Ore	3	1	Union
UP			
Grand Island, Neb	11	6	Union
Cheyenne, Wyo	8	4	Union
Rawlins, Wyo	7	4	Union
WABASH			
Delphi, Ind	4	2	Union
Totals	164	116	

as part of this project is a system of train identification. Although most railroads do not have the traffic density of this rapid transit system, some railroad men are considering automatic control of switches at outlying interlockings or junctions. A local freight or "turn" could be equipped with the inert coil for train identification so that as the train passes a wayside receiver, controls would be initiated to operate the junction switch and clear signals. Thus the local train would automatically line its route onto the branch line. The Erie installed a train identification system in 1952 (RS&C, January 1953, page 54).

The increase in automatic block signaling for 1958 was due to the Chicago Transit Authority constructing a new rapid transit line in the Congress Street Expressway. They installed 97 signals on 12 miles of double track and 0.2 miles of single track. The New York City Transit Authority helped boost ABS figures by installing 126 block signals on five miles of double track on the Broadway-Seventh Avenue line.

Automatic train stop equipment was installed on 222 rapid transit cars by the Chicago Transit Authority during 1958, the only mobile equipment installation reported. They also installed wayside trips and equipment on the 12.2-mile Congress Street Expressway line. Similar installations were made on 1.9 miles of double track by the Metropolitan Transit Authority in Boston, and on five miles of double track and 0.4 miles of single track by the New York City Transit Authority.

The only cab signals reported for 1958 were at Gateway yard on the Pittsburgh & Lake Erie at Youngstown, Ohio. Four hump engines were equipped with four-aspect cab signals.

HIGHWAY-RAILROAD GRADE CROSSING PROTECTION INSTALLED IN 1958

Railroad	Number of Crossings Equipped: Flashing Light Signals	Gates and Flashers	Sources of Funds: Railroad	Public Funds	Joint
AT&SF	46	13	19	6	34
ACL	40	12	12	4	36
B&O	17	6	5	5	13
BAR	5	—	—	—	5
B&LE	—	1	—	—	1
B&M	9	13	16	5	1
CN	85	17	—	2	100
CP	50	18	—	4	64
CG	3	2	—	—	5
CV	—	2	2	—	—
C&O	13	22	8	6	21
C&EI	—	2	—	1	1
C&NW	60	56	78	3	35
C&WI	—	1	1	—	—
BRC	1	1	1	—	1
CB&Q	15	11	3	1	22
CGW	9	—	1	2	6
CMStP&P	24	5	8	2	19
CNS&M	—	3	—	—	3
CRI&P	24	3	4	4	19
CSS&SB	1	2	3	—	—
CTA	—	3	3	—	—
Clinchfield	1	1	1	—	1
D&H	5	18	18	—	5
D&RGW	4	2	3	1	2
DT&I	3	1	—	3	1
DSS&A	2	—	—	—	2
EJ&E	2	2	1	1	2
ERIE	5	8	7	1	5
FEC	3	18	11	10	—
FW&D	2	2	—	3	1
GTW	5	—	—	—	5
GN	12	8	3	5	12
GB&W	1	—	—	—	1
GM&O	4	11	5	3	7
IC	24	4	3	4	21
IT	1	—	—	—	1
JCL	2	2	4	—	—
KCS	6	—	2	—	4
L&NE	1	—	—	—	1
LI	9	17	11	—	15
L&N	3	2	—	1	4
MEC	6	4	7	—	3
M&StL	6	—	2	—	4
MKT	9	—	9	—	—
MP	47	5	22	2	28
Monon	2	5	5	1	1
NYC	66	18	45	7	32
NYC&StL	12	3	3	—	12
NYNH&H	2	5	6	1	—
N&W	6	6	4	—	8
NP	8	5	2	1	10
ON	2	—	—	—	2
PE	14	—	1	11	2
PGE	1	—	—	—	1
PRR	29	20	21	5	23
P-RSL	1	—	1	—	—
QC	1	—	—	—	1
Reading	1	6	7	—	—
StL-SF	27	—	5	1	21
StLSW	5	—	2	—	3
SAL	21	10	5	2	24
SOO	20	4	3	—	21
SOU	14	1	4	1	10
AGS	2	1	2	1	—
CNO&TP	1	1	1	—	1
GS&F	1	—	1	—	—
NO&NE	1	—	1	—	—
SP	82	12	9	26	59
SP&S	2	—	—	—	2
TC	2	—	—	—	2
TRAStL	2	1	1	—	2
T&NO	18	—	3	4	11
T&P	11	3	5	1	8
TP&W	1	—	—	1	—
TH&B	2	—	—	2	—
UP	21	3	1	1	22
Virginian	—	3	—	—	3
Wabash	8	13	8	—	13
WM	4	—	3	1	—
WP	6	1	1	1	5
Totals	961	419	423	147	810

AUTOMATIC INTERLOCKINGS INSTALLED OR REBUILT IN 1958

Railroad & Location	Home Signals	Mfr
AT&SF		
Monica, Ill - R	6	Union
Topeka, Kan - R	5	Union
ACL		
Emporia, Va - N	6	Union
Samoset, Fla - N	4	Union
Palmetto, Fla - N	4	Union
Trilby, Fla - N	6	Union
B&O		
Hammond, Ind - N	8	G R S
CN		
MP 4.8 Govel Subd, Sask - R	4	Union
C&NW		
Marshalltown, Iowa - R	8	G R S
Beverly, Iowa - R	6	G R S
Cedar River Bridge - R	4	G R S
CRI&P		
Carrollton, Tex - N	6	Union
CTA		
Chicago - N	12 8*	G R S
Chicago - N	8 2*	G R S
DL&W		
Plymouth, Pa - R	4	Union
DM&IR		
Virginia, Minn - N	6	Union
ERIE		
Delong, Ind - N	5 1*	Union
MTA - Boston		
Haymarket Sta - R	1*	Union
Park Sta - R	1*	Union
Boston Sta - R	1*	Union
M&StL		
Mason City, Iowa - N	6	Union
MKT		
Moran, Kan - R	4	—
Ft Scott, Kan - R	5	—
Vinita, Okla - R	6	—
Durant, Okla - R	8	—
Sealy, Tex - R	6	—
Waxahachie, Tex - R	4	—
Ft Worth, Tex - R	6	—
MP		
Tioga, La - N	2	G R S
NYC		
East Chatham, NY - N	4	G R S
Mansfield, Ill - R	4	G R S
Losantville, Ind - R	4	G R S
NYC&StL		
Bluffton, Ohio - R	3	Union
Hobart, Ind - R	4 3*	Union
N&W		
Cincinnati, Ohio - N	8	Union
NP		
Durant, Mont - N	3	G R S
PRR		
Kalamazoo, Mich - N	9	Union
Wasepi, Mich - R	8	Union
Altamont, Ill - R	5	Union
StL-SF		
Columbus, Kan - R	6 1*	Union
Sikeston, Mo - R	4	Union
Carrollton, Tex - R	6	Union
StLSW		
Fordyce, Ark - N	5 1*	Union
SAL		
Town Creek, SC - R	4	Union
SOUTHERN		
Greenville, Fla - N	4	—
WABASH		
Cecil, Ohio - N	4	Union
Signals	240	
*Switch machines	19	

N - New R - Rebuilt

Crossing Protection Is Steady

Automatic highway crossing protection installations continued at a good pace during 1958. Of the installations made, 59 per cent were paid for by railroad and public funds, and 30 per cent were paid for by the railroad alone. With the yearly increase in motor vehicles, it is more important than ever to have automatic protection not only to protect vehicular traffic, but to expedite its flow. Modern protection with automatically controlled flashing-light signals and short-arm gates provides uniform and improved protection around the clock. Wages for a crossing watchman, including vacation, insurance, etc., based on the 40-hour week, can run

(*Continued on page 22*)

YARD LOUDSPEAKER SYSTEMS INSTALLED IN 1958

Railroad	Location	Two-Way Speakers	Paging Speakers
AT&SF	Corwith, Ill	36	--
		35	--
B&O	Baltimore, Md	9	17
CN	Toronto, Ont	40	4
		40	6
	Quebec, Que	85	--
	Montreal, Que	20	--
C&O	Toledo, Ohio	18	11
	Russell, Ky	57	42
	Walbridge, Ohio	2	6
C&EI	Wansford, Ind	18	--
C&WI			
BRC	Chicago, Ill	9	--
CB&Q		10	4
CGW	Council Bluffs, Iowa	19	--
CMStP&P	Rondout, Ill	3	--
	Bensenville, Ill	13	4
	Galewood, Ill	30	--
	Chicago, Ill	10	4
	Davis Jct, Ill	--	3
DL&W	Hoboken, NJ	--	6
EJ&E	East Joliet, Ill	12	1
	Gary, Ind	30	9
IC	Memphis, Tenn	--	6
JTCo	Jacksonville, Fla	20	4
L&NE	Bath, Pa	--	1
L&N	Boyles, Ala	34	54
NYC	Syracuse, NY	--	2
	Minoa, NY	--	3
	Toledo, Ohio	6	4
		--	10
P&LE	Youngstown, Ohio	115	40
NP	Seattle, Wash	8	--
	Auburn, Wash	10	1
	Tacoma, Wash	1	1
PRR	Enola, Pa	--	22
	Conway, Pa	12	3
StL-SF	Tulsa, Okla	45	--
		11	--
		--	55
		2	--
StLSW	Pine Bluff, Ark	160	24
SOU	Lynchburg, Va	--	2
	Atlanta, Ga	298	72
CNO&TP	Chattanooga, Tenn	2	8
NO&NE	New Orleans, La	4	4
SP			
T&NO	Ennis, Texas	9	9
	San Antonio, Texas	5	--
UP	Omaha, Neb	2	--
	Salina, Kan	1	--
	Denver, Colo	6	--
	Las Vegas, Nev	2	--
	Los Angeles, Calif	1	--
WP	Oakland, Calif	--	7
	Totals	1,250	449

INTERCOMMUNICATIONS SYSTEMS INSTALLED IN 1958

Railroad	Location	Telephones	Loudspeakers
AT&SF	Corwith, Ill	13	22
CN	Winnipeg, Man	15	--
	Montreal, Que	50	168
	Toronto, Ont	22	--
	Quebec, Que	50	--
CofG	Industry, Ga	--	7
C&O	Toledo, Ohio	13	3
	Russell, Ky	--	12
	Columbus, Ohio	--	6
	Huntington, W Va	--	3
	Peru, Ind	5	--
	Richmond, Va	--	4
CB&Q	Galesburg, Ill	--	6
	Berwyn, Ill	--	40*
CMStP&P	St Paul, Minn	--	6
	Chicago, Ill	6	6
CRI&P	Chicago, Ill	--	6
DL&W	Hoboken, NJ	--	10
D&RGW	Salt Lake City, Utah	--	6
	Denver, Colo	15	--
ERIE	New York, NY	6	14
	Hoboken, NJ	9	10
GN	St Cloud, Minn	--	4
	Grand Forks, ND	--	13
	Minot, ND	--	15
	Superior, Wis	--	9
	St Paul, Minn	--	22
L&N	Latonia, Ky	--	17
	Louisville, Ky	--	6
		--	4
		8	--
MP	Little Rock, Ark	--	25
NYC	New York, NY	--	23
		--	56
	Weehawken, NJ	--	14
	Buffalo, NY	4*	35*
NP	Seattle, Wash	--	3
	Spokane, Wash	--	8
QNS&L	Schefferville, Que	350	25
StL-SF	Tulsa, Okla	--	4
SOU	Lynchburg, Va	--	5
	Columbia, SC	--	28
SP&S	Vancouver, Wash	--	7
UP	Kansas City, Kan	55	25
	Salt Lake City, Utah	29	13
WAB	Chicago, Ill	--	149*
WM	Baltimore, Md	30	2
	Totals	680	841

*Freighthouse

(RS&C, June 1958, page 22). All railroad radio will have to meet the new narrow-band requirements by November 1, 1963.

Intercommunications systems installed in offices, freighthouses and shops topped the previous year. Biggest gains were scored by the Quebec, North Shore & Labrador, which installed 350 railroad telephones. The Wabash opened a new freighthouse in Chicago with 149 loudspeakers such as pagers, talk-backs and portable talk-backs to be carried by freight handlers. The New York Central and the Burlington also installed centralized checking systems in freighthouses during 1958. At the P&LE freighthouse in Pittsburgh, the foreman carries a Dick Tracy radio transmitter, which he can use to "get in" on the paging system (RS&C, February 1958, page 24). Such systems often pay for themselves in less than one year. The Central of Georgia installed centralized checking in freighthouses in Macon and Columbus, Ga. These two installations cost $10,988 and saved $26,067 annually. At this rate, they paid for themselves in five months (RS&C, October 1958, page 32).

Yard loudspeaker systems made a healthy showing in 1958. Major yards so equipped were at Atlanta, Ga., on the Southern; at Youngstown, Ohio, on the Pittsburgh & Lake Erie, and at Pine Bluff, Ark., on the St. Louis Southwestern. Youngstown yard communications are described in an article in this issue. With at least eight retarder classification yards under construction this year, yard loudspeaker system installations should continue at last year's rate.

Communications did well in 1958 and certainly should do as well during 1959. Efficiency and economy, the true test of any capital expenditure, aptly apply to the modern communications systems.

Signaling 1958-59

(*Continued from page 18*)

to $19,000 annually. At this rate, the savings from automatic protection installed to replace watchmen will pay for the new automatic protection within two years, in many instances.

A system of electronic track circuits for highway crossing protection installations has been developed which eliminates the need for insulated joints. The Santa Fe made an extensive test using the audio frequency track circuits (RS&C, November 1958, page 32). Several other railroads have used this audio frequency circuit for the "island" or positive section at highway crossings. These circuits use current in the audio frequency range around 1 kc. It does not interfere with conventional signal track circuits. This new type circuit should be of interest to those railroads using welded rail or electric propulsion.

During 1958, hot box detectors were installed on several railroads (RS&C, September 1958, page 36). The New York Central is continuing its program of installing detectors on all mainlines. They have 32 detectors in service, and plan to install 20 more this year. Savings in inspection time are already apparent on one part of the railroad. The carmen inspect only those journals that have been "spotted" as abnormally hot by the detectors. Other roads follow a similar practice, resulting in less inspection time.

Expect to see more hot box detectors installed during this and following years. Not only do these detectors pinpoint hot boxes that, if not attended to, could cause a wreck, they reduce inspection time in yards and reduce delays to trains. The Reading estimates that by detecting a hot journal before it becomes a hot box, a saving of approximately $300 per axle can be made when no wheel change is required.

Signal construction should resume its high level this year. The Transportation Act of 1958 should encourage capital improvements; and with virtually complete dieselization, the next area for substantial savings to the railroads is modern signal systems.