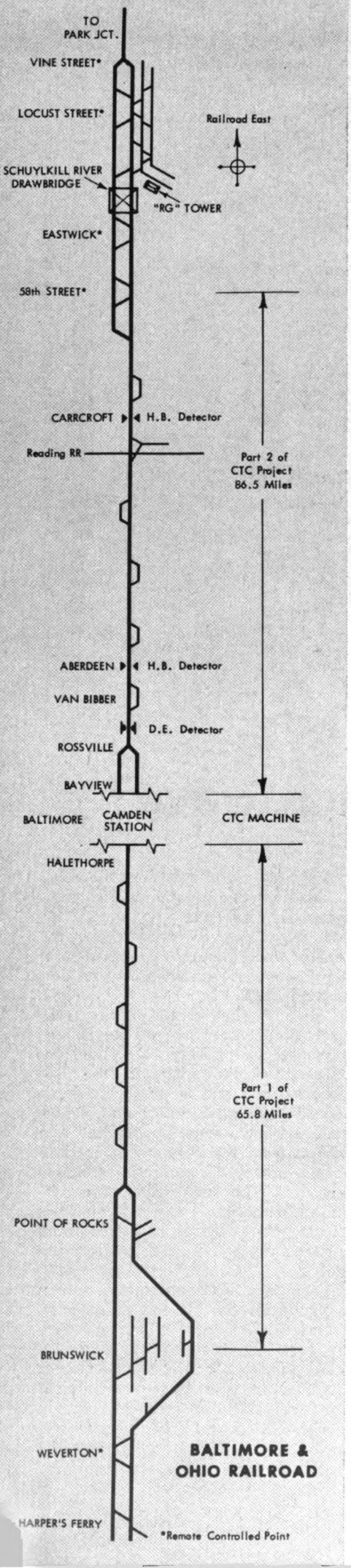

A familiar, money saving story: CTC goes in and track comes up; here, the B&O at Washin

Railroad Will Pay Fo

Baltimore & Ohio has installed CTC on 151.3 miles of mainline between Brunswick, Md., and 58th Street, Philadelphia, via Baltimore. About 116 miles of second main track was removed, the remainder being left in place for sidings which average about two miles in length. The cost of the entire project is $3.2 million, but the salvage value of rail, ties, ballast and signal equipment is estimated at $4 million. Net annual savings in operating expenses are estimated to be $717,600 (see Economic Statement). The major items of signal equipment were furnished by General Railway Signal Co. and paid for under a conditional sale agreement with payments based upon annual savings. The project is expected to pay for itself in five years through reduced operating expenses.

The $3.2 million centralized traffic control project begun two and one-half years ago by the Baltimore & Ohio is nearly complete. The first part of the project was to install CTC between Brunswick and Halethorpe (Baltimore), Md., 65.8 miles. Included was the removal of about 48 miles of second main track, the remainder being left in place for five sidings and 9.5 miles of double track signaled for either direction operation. Traffic density amounts to 21 trains per day on this section.

The next step was to install CTC between Bay View (Baltimore) and 58th Street (Philadelphia), involving 86.5 miles of mainline. This trackage handles 24 trains each day. At the west end, Bay View to Rossville, 4.9 miles of double track was signaled for either direction operation. Of the remaining 81.6 miles between Rossville and 58th Street the B&O was able to remove about 68 miles of second main track, the remaining portion being used for five passing sidings. Trains are now governed by signal indication Rules 261 to 264 from Park Junction, Philadelphia, Pa., to Harpers Ferry, W. Va., a distance of 175 miles.

Included in this project was the building of a new interlocking at "RG" Tower, Philadelphia, and the subsequent remote control of Vine Street, Locust Street, Schuykill River drawbridge, Eastwick and 58th Street from that point.

The control machine for these CTC sections is located in the dispatcher's office at Camden Station in Baltimore. In addition to the conventional levers

CTC machine for 151 mile system is located in Camden station in Baltimore. Trackage controlled includes historic "old main line."

CTC Out of Accrued Savings

and indication lamps, the machine has indication lamps for a dragging equipment detector at Van Bibber, Md., and for hotbox detectors at Aberdeen, Md., and Carrcroft, Del. When the dragging equipment detector is actuated by a westbound train, the westbound home signal at Rossville is automatically set at "Stop" and the letter "E" is illuminated on the approach signal. When the detector is actuated by eastbound trains the dispatcher places eastbound home signal at the west end of Van Bibber at "Stop." When a member of the train crew calls on the wayside telephone, the dispatcher informs him that the train has equipment dragging. Controlled signals at adjacent passing sidings, and on either side of the hotbox detectors, are held at "Stop" until the dispatcher examines the recorder graph and determines there are no overheated journals in a train.

Communications improvements undertaken as part of the same program included: Talk-back and loudspeakers, a car inspectors radio system (Motorola), and the equipping of 15 locomotives with radio (Bendix), all at Philadelphia.

ECONOMIC STATEMENT

Cost of installation	
a. Capital investment	$3,199,400
b. Operating expenses	770,000
c. Total	$3,969,400
Gross saving per year	$729,600
Depreciation at 5%	159,970
Net reduction in annual operating expenses	$717,600
Deduction for interest charges at 4%	127,976
Net savings per year	$589,624
Annual return over 4% interest On capital investment	18%

This CTC project was engineered and installed by signal forces under the jurisdiction of A. L. Jordan, Signal Engineer. Field work was under the jurisdiction of Assistant Engineer of Signals H. B. Henry, direct supervision being from Signal Supervisor Construction J. M. Beavers. All bungalows and housings were shop wired in company shop at Cumberland, Md. Code line is No. 8 Copperweld with neoprene jacket, with dispatcher's communication circuit superimposed on it. ●