

# MEETING OR CONTACT REPORT

Date of Report: June 8, 1959

Organization & Location: The Southern Railway System Washington, D. C.	Date: June 4, 1959
	Reported By: E. G. Law
Project: 7030 Applications	Department: 910
	Follow-up Date:

## PERSONNEL PARTICIPATING:

(Place asterisk next to those on distribution list. Other distribution show at end of report)

- \*Mr. George Durbrow - IBM Atlanta Branch Office
- \*Mr. E. G. Law - IBM Product Planning
- \*Mr. J. P. McDermott - IBM Market Research

The Southern Railway System is presently using a Model II 705 with two TRC's and 16 tape drives. During the first quarter of 1959, this use averaged three plus shifts. The main frame rental during this period equaled approximately \$65,000 per month. The largest part of Southern's present use of the machine is made by the Accounting Department. This department has two main locations, Washington, D. C., and Atlanta, Georgia. The comptroller and his staff are located in Washington, D. C. The freight accounting group which accounts for the largest single use of the 705 is located in Atlanta, Georgia. The machine itself is also located in Atlanta. The Accounting Department's 35 to 40 programmers are about evenly divided between Atlanta and Washington. The account is handled by the Atlanta Branch Office. Mr. Durbrow works out of the Atlanta Office, but is stationed in Washington, D. C., where he works full time with Southern's Washington departments.

The 3.3 shifts of average use during the first quarter of 1959 does not tell the entire story. The Accounting Department has three peak periods during the course of each month. Some excess capacity

is needed to properly handle these peaks. The Accounting Department's use of the machine breaks down approximately as follows:

- 55% for freight accounting
- 35% for payroll processing
- 5% for stockholder accounting, and the remaining
- 5% for miscellaneous

Southern's management regards these applications as very profitable. A comparison of the total operating cost of the Accounting Department at the time the 705 was installed with current total operating costs indicates an annual net saving of over \$1,000,000 in spite of an increased work load. For this comparison, current operating costs include all programming costs as well as the amortized value (over only five years) of all capital expenditures made in connection with the installation. The savings effected in other departments as a direct result of the accounting program are not included in this million dollar figure.

The machine's third shift is assigned to Southern's Operating Department and is used by that department for analysis of freight car distribution and utilization. The aim is to minimize rental paid on freight cars belonging to other roads. The potential savings in this area amount to millions of dollars per year. This department has its own programmers and machine operators. The programmers are located in Washington. The extension of the Operating Department's car accounting application is being held up by difficulties in reporting input. Mr. J. S. Seeley, who heads up the Operating Department's machine effort, was hired three years ago by Mr. D. W. Brosnan, executive vice president and head of Southern's Operating Department, to study and implement a real-time electronic railway operating system. Lack of adequate available equipment has been named by Mr. Seeley as the main reason why more has not been accomplished on this real time system during the past three years. More about this in a moment.

Southern's equipment attitudes are quite flexible. They are not overly cost conscious. They take a long view on equipment investments. In the past, equipment decisions have been made quite informally. In fact, they are proud of not spending large amounts of money on feasibility studies which they feel would have arrived at the same conclusions anyway. The 40% rate on extra shift usage

is not overly important to them. They are not particularly anxious to have the ratio of extra shift to base shift hours as high as possible. In fact, they see advantages in the more powerful machine which would allow them to have a one shift operation even though that one shift would all be at the base rate rather than at the reduced extra shift rate. This would allow them to have excess capacity for handling their peak loads. Although it shouldn't be over estimated, prestige value is certainly important to Southern's management. They pride themselves on being the first railroad in the country to be completely dieselized. They have also made much of the fact that they were the first company in the country to have a Model II 705 with TRC's. They like to be regarded as progressive. They are genuinely convinced that being progressive will yield real profits. They like to be ahead of their competition. Southern is not afraid of a "one of a kind" situation. They are confident of our ability to keep our machines in operation with only reasonable periods of unexpected down time.

The Accounting Department now has in preparation a passenger revenue application which will add approximately 10% to its portion of the total machine load. They have no other major applications currently in preparation. The rate of growth in the Accounting Department's use of the machine is leveling off. They appear to be entering a consolidation phase. However, there are several good indications that the use of the machine by the Accounting Department will continue to grow in the future. First of all, the present applications are largely punched card oriented. They are 705 implementations of previous punched card systems without too much change. Mr. R. B. Currey, the Comptroller, has already used the machine to accomplish certain changes in the Accounting Department. He has stated a desire to reorganize his department around the electronic equipment. He would like to streamline the system and take much more advantage of exceptions type reporting. Since at the same time he must satisfy requirements of the Interstate Commerce Commission and the Association of American Railroads, this effort will undoubtedly lead to increased machine use. In addition to this, the value of statistical reports to other departments has been clearly demonstrated by present applications. There is a stated desire for more of these reports. They will be produced as a by-product of the accounting applications, but will still require additional machine time.

Southern Railway has a Model III 705 on order and scheduled for delivery in June, 1960. The configuration on this Model III totals about \$65,000 per month. They also have a 7070 on order. They have no intention of taking delivery on both machines. Their attitude has shifted within the last six months from the 7070 to the Model III 705, but no definite action is being taken. They are really waiting for the announcement of the 7050. A study of their present applications indicates that they are 60% tape limited and 40% process limited. Based on this they figure that they will get 35% more capacity for their accounting applications with the Model III 705. Most of this will be in the tape area. The Operating Department claims that it is more process limited, but has not taken the same effort that the Accounting Department has to substantiate this. With a desire for internal speed, Mr. Seeley has examined the 7090. At his request, Mr. Durbrow prepared a proposal for a \$55,000 7090 configuration. In the absence of proven abilities to implement the real time operating system, Mr. Seeley felt that he could not justify the 7090 with Operating Department applications only.

Mr. Seeley probably has as one of his long range goals his own machine. In addition to considering the 7090, he likes to talk to our competitors. His own experience in the field began as a UNIVAC programmer. He retains positive recollections of that experience. In his search for equipment which he considers capable of handling the real time operating problem, he has discussed most of the competitive equipment. Mr. Brosnan has for his long range goal for this application the actual operation of the railroad with a giant computer as the nerve center. The machine would be tied in with the railroad's own communication system. Remote real time input would be received from all parts of the system. The computer would have to be available at all times. In its most advanced form the application would probably require a standby machine. There certainly will be quite a number of steps which will be necessary before this final form is reached. But the important point for now is that a machine of considerable ability and capacity is needed to even experiment on any sizeable portion of this application. If that machine could process at the same time all of the current applications which are costing Southern Railway approximately \$65,000 a month, a large portion of its cost would already be paid.

Southern's Accounting Department controls the present machine. Their applications justified its installation. As long as they control the machine, they understandably want to justify any change to more powerful equipment on the basis of their own workload. The 7050 will probably satisfy all anticipated growth in the Accounting Department's applications. But the Operating Department needs a more powerful machine for their applications, particularly the real time system. Because this operating system will be slow to develop, some help in justifying the more powerful machine in the way of going applications is needed in the meantime. Because of the probable outcome the Accounting Department will be somewhat reluctant to see their applications form the basis of justification for the machine needed by the Operating Department. The Operating Department is actually the more powerful of the two in corporate structure. It is expected that they will refuse to commit any major portion of their operating system to a machine not under their control. The eventual size of the real-time operating system is such that the logical control of the machine will fall in the Operating Department. The Accounting Department can hardly be expected to be enthusiastic about the use of a 7030 since the 7050 will be adequate for their applications. Common use of a more powerful system risks eventual loss of control to the Operating Department. On the other hand, management in both departments is sufficiently cost conscious to be receptive to the savings which would result from 7030 use.

Consideration of shared use with another company brings about an interesting reversal in positions. Traditionally, competition in the railway industry has been in the operating end of the business rather than in the Accounting Departments. Regulation by the Interstate Commerce Commission, common accounting practices agreed upon through the Association of American Railroads, and the splitting of freight revenues has created an atmosphere of cooperation in matters of accounting. As a result of this, there would probably be relatively little antagonism in the Accounting Department to the idea of sharing the use of a very large machine with another railroad. On the other hand, the Operating Department would probably be very strongly against it. Questions of availability of equipment whenever needed would be certain to arise. Proprietary security would also be a serious problem in any shared use. The Operating Department might consider use with another type of industry if all of the details of sharing a machine with a real time system could be worked out.

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In a number of ways, Southern Railway has shown itself willing to spend large amounts in order to make significant advances in the business of railroading. Indications are that Mr. Brosnan considers the real time operating system such an advance. The desire to work toward this end built on the base of the accounting applications that Southern already has on large data processing equipment would seem to make the Southern Railway System an excellent long range 7030 prospect.



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