

SOUTHERN CALIFORNIA  
RAPID TRANSIT DISTRICT

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REPORT TO MANAGEMENT  
For The Year Ended June 30, 1992

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SOUTHERN CALIFORNIA  
RAPID TRANSIT DISTRICT

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REPORT TO MANAGEMENT  
For The Year Ended June 30, 1992

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October 6, 1992

To the Board of Directors  
Southern California Rapid Transit District

Dear Board Members:

In planning and performing our audit of the financial statements of the Southern California Rapid Transit District ("District") for the year ended June 30, 1992, we considered the District's internal control structure in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements. Although our audit was not designed to provide assurance on the internal control structure, we noted certain matters involving the internal control structure and its operation, and are submitting for your consideration related recommendations designed to help the District make improvements and achieve operational efficiency. Our comments reflect our desire to be of continuing assistance to the District.

Certain of these matters may be considered reportable conditions, as defined by the American Institute of Certified Public Accountants, which involve matters coming to our attention relating to significant deficiencies in the design or operation of the internal control structure that could adversely affect the organization's ability to record, process, summarize, and report financial data consistent with the assertions of management in the financial statements.

The accompanying comments and recommendations are intended solely for the information and use of the District's board of directors, management, and others within the organization.

Very truly yours,

*Coopers & Lybrand*

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

REPORT TO MANAGEMENT  
For The Year Ended June 30, 1992

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1. Revise Budget On A Timely Basis So That The Expenditure Would No Longer Be Considered An Overrun

During our audit of capital accounts receivable, we noted approximately \$3.5 million of cost overruns related to FTA capital projects which were more than a year old. These costs are designated as overruns because an appropriate budget amendment has not been made.

We recommend an amendment to the budget be submitted to FTA on a semiannual basis, so that the costs would no longer be considered an overrun and amounts could be submitted for collection.

Management's Response:

Where possible, budget recommendations have been submitted to FTA. Amounts that are not reimbursed by FTA become District-funded projects.

2. Ensure That All Work Performed Has Gone Through The Appropriate Bid Solicitation Process

During our purchase cycle transaction testing, we noted that two change orders were approved under an MOS-1 contract; however, the actual work performed by the contractor was unrelated to the contract under which the change orders were approved. In accordance with the client's established policy, the work performed should have gone out for bid.

We recommend that every attempt be made to ensure that all work performed has gone through the appropriate bid solicitation process, so that the District does not violate any oversight responsibilities.

Management's Response:

The District concurs with this recommendation. Staff is proposing procedures to ensure that all change orders are discussed and reviewed by the appropriate contracting personnel before they are approved or implemented.

3. Reduce Delay In Invoicing And Billing Receivables (State Tax Proceeds)

During our audit, we noted that a substantial amount of time (approximately two months subsequent to year-end) had elapsed between the establishment of \$28 million dollars of receivables and the invoicing/billing process. This delay in invoicing results in slowed collections which hinder the District's cash flow position.

We recommend that the District invoice and bill accounts receivable on a timely basis. We suggest that all material receivables be billed monthly.

Management's Response:

The receivables in question were with our local funding agency and required additional work and discussion before preparation of invoices. As of April 1, 1993, the District and the local funding agency merged, which will eliminate this situation in the future.

4. Investigate And Resolve Unreconciled Differences In The Deferred Compensation Plans On A Timely Basis

During our audit of deferred compensation, we noted a net aggregate unreconciled difference of approximately \$23,000 between bank confirmation and general ledger balance.

Due to the sensitivity of these plans, we recommend that any unreconciled differences be investigated and resolved on a timely basis. Immediate investigation will prevent the unreconciled difference from increasing in the future.

Management's Response:

We concur with the auditor's recommendation.

5. Perform Parallel Testing On Section 15 Programs Before Utilization

During our Section 15 testing, we noted that programs were being utilized without performing any detail transaction testing to ensure the program was properly functioning.

We recommend that detailed transaction testing be performed prior to going on-line with a new program.

Management's Response:

The auditor's finding and recommendation are noted. Should the proper resources be provided, the recommendation will be implemented.

6. Reevaluate The Adequacy Of The Daily, Weekly, And Monthly Scheduled Backup Programs For Both On-Line And Production Batch Systems

The ability to recover and continue normal business operations in the event of a processing failure is contingent upon the existence of current and complete copies of backup programs and data. In the area of computer operations, our review indicates that the District experienced a high volume of processing irregularities consisting primarily of PROGRAM I/O or BSAM I/O errors. Both of these types of errors appear to be the result of regularly scheduled backup programs calling production on-line and batch data sets that were in use. When a data set is in use, it cannot be opened, and a return code of S004 or S006 is generated. Additional inquiry disclosed that on-line systems are not brought down in accordance with the daily job schedule for backup processing, and selected data sets that are frequently in use are not captured for regular backup.

For System C in June, the frequency of such irregularities was sixty-three percent (1,986 times out of 11,040 times submitted for program ADRDSSU). These programs represent 18% of the total number of PROGRAM abends for the period.

The District has enlisted an outside consulting firm to determine the impact on operations in the event that the data processing facilities are rendered inoperative. However, the plan must also include the capability to successfully recover the most current version of data programs and applications.

We recommend that the District reevaluate the adequacy of regularly scheduled daily, weekly, and monthly backups to ensure that required data sets will be available during backup execution. On-line systems should be brought down on a regular basis and backup jobs should be scheduled

accordingly to ensure that all steps are completed successfully.

Management's Response:

The District operates around-the-clock, seven days a week. Many essential activities are carried out at night, as well as during the regular business day. Because of the nature of large-scale transit operations, the demand for on-line services is nearly incessant in many respects. We must balance that type of requirement against the need to close out the day with batch processing and backups.

We intend to continue recent streamlining efforts aimed at making more effective use of constrained batch processing windows. Expanding the use of in-line backups further, which would be handled on an application basis, and lessen our reliance on system-wide backups, may be the best approach under the circumstances.

7. Restrict Access To Staging Libraries For Programmers And Development Staff

The testing environment, as defined by the District Data Processing Standards and Procedures, is an area for storing revised, tested, and authorized programs just prior to moving them into production.

Defined by the high-level qualifier, SYS4., these libraries are used by programmers to develop, test, and revise programs prior to implementation. Following review of the RACF profiles for those data sets qualified under SYS4., particularly SYS4.STAGE, it was noted that the UACC (Universal Access Authority) is UPDATE. A UACC of UPDATE will enable all users to read or update the data set, allowing for the possibility that unauthorized changes may be made to programs currently under notification, between the time the changes are approved and authorized and the time the program is moved into production.

We recommend that the District establish a staging library, which is not accessible to programmers or development staff, as a secure holding area pending final review of all program modifications. A modified member would then be copied to this restricted library after the programmer has completed system testing. All user acceptance testing is then performed from this library. The



Operations Analyst would then invoke Librarian to migrate the member to the production system from this secure staging environment.

Management's Response:

We certainly agree that reasonable measures must be taken to prevent unauthorized changes. In response to this concern, we have instituted a procedure which requires screen print of the staging library directory, adding to what was previously required in each implementation package. The affected members are highlighted on the printout. The printout shows "last date/time changed" and "TSO-ID" for each module or member being implemented. Entries in the directory of the staging library are compared with the corresponding members on the listing. If they match, each of the members are moved into production immediately, thus preventing unauthorized changes.

8. Consider Using Librarian Compare Option To Assist In The Final Review Process

There is currently no code review or source code compare performed between programs that are to be migrated into production and the production version. As previously noted, all application and systems programmers have access to the staging libraries for production program development. It is possible that unauthorized changes may be made to the amended program between the time the changes are approved and the time the program is moved into production. Without a comparison review of the source code prior to the final move, there is no assurance that an unauthorized or invalid code has not been added to the program.

We recommend that to adequately protect the integrity of amended programs, consideration should be given to using the Librarian Compare Option when migrating authorized and approved program changes from the staging library to the production environment. Further, the output from this utility should be reviewed by the Systems Development Manager familiar with the program change to assure all coding modifications agree with the approved request.

Management's Response:

The use of the Librarian Compare Option was considered, but several issues arose in the process, including:

- a. While the compare of the new source code in the staging library with the old source code maintained under Librarian will reveal changes, there is no way to determine whether the changes are necessary to modify program logic to meet the needs of the user. To make such a determination, the reviewer would need to have a full and complete understanding of the issues the user is trying to address, expertise in the logic of the programs that were changed and experience modifying the system and programs.
- b. Use of the compare option would not prevent changes to a program between the time the module is moved to the staging library and the compare is made. To prevent changes after final testing and approval of the test results by the user, each programmer is required to submit a printout, as part of the implementation package, showing the date and time of the last change made to the module moved into the staging library for implementation. This printout is subsequently compared to the date and time statistics in the staging library by the Operations Analyst to ensure that no unauthorized changes were made to the module after it was moved to the staging library for implementation.
- c. Due to budget constraints, MIS staff has been reduced and there is not enough time or sufficient personnel to review each coding change to assure agreement with requested modifications. All changes are tested and the results reviewed by the user to validate that the modifications are acceptable.
- d. There is no conventional Quality Assurance unit in MIS to provide additional assistance in the implementation process which might make room for the institution of a recommendation of this type.

9. Reevaluate Naming Conventions

Standard naming conventions for data sets and volumes, programs, terminals and other resources are an important prerequisite for effective program maintenance and security control. Although the major access control products allow the use of different naming conventions, the use of standard MVS/TSO data set naming conventions (i.e., a unique, full, high-level qualifier,

identifying the application, user or group - "USERID.rest.of.data.set.name") provides a grouping mechanism where all resources beginning with the same high-level qualifier can be governed by one or more generic profiles. This reduces the number of profiles required to define access and can reduce the degree of complexity related to security.

The District Policies, Standards, and Procedures Manual for naming conventions is based upon the "generic profiles" approach, as described above. However, the generic profile names for the individual program modules within the SYS3.PGMLIB do not appear to comply with the established naming standards applicable to all in-house-developed programs or vendor-defined module names. Furthermore, the SYS3.PGMLIB containing the majority of the in-house-developed production executable batch programs is not defined to any of the current documentation for SYS3.Production.Libraries (defined as SYS3.LOADLIB).

We recommend that the District reevaluate naming conventions to be consistent with those as defined by the District Policies, Standards, and Procedures Manual.

Management's Response:

We agree that a naming standard should be followed whenever practical. Providing a consistent naming standard for individual modules of SYS3.PGMLIB is possible, but there is need for exceptions. For example, maintaining vendor-developed software when module names are out-of-sync with product naming conventions would be extraordinarily difficult and very costly. Also, there is a need to "grandfather" current module names as renaming all existing modules would be possible, but would require enormous use of scarce resources.

A section of the revised MIS Production Standards and Procedures Manual will be dedicated to Naming Convention Standards as recommended.

DISPOSITION OF PRIOR YEAR'S COMMENTS

<u>COMMENT</u>	<u>DISPOSITION</u>
(1) Revise Budget On A Timely Basis So That The Expenditure Would No Longer Be Considered An Overrun	Comment repeated (No. 1)
(2) Update "Transit System Surveillance Report"	Comment implemented
(3) Coordination Of Summarization Of The Section 15 Filing	Comment implemented
(4) Reevaluate The Adequacy Of The Daily, Weekly, And Monthly Scheduled Backup Programs For Both On-Line And Production Batch Systems	Comment repeated (No. 6)
(5) Formalize Interim Procedures For The Recovery And Storage Of Off-Site Media	Comment implemented
(6) Enhance The RACF Security Environment	Comment addressed in a Special Project
(7) Restrict Access To Staging Libraries For Programmers And Development Staff	Comment repeated (No. 7)
(8) Document Procedures For Performing System Software Activities	Comment implemented
(9) Consider Using Librarian Compare Option To Assist In The Final Review Process	Comment repeated (No. 8)
(10) Reevaluate Naming Conventions	Comment repeated (No. 9)