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ABSTRACT

This manual represents a part of the work performed in the past two years in connection with Trenton's Project -- Building a Comprehensive Planning Capability with EPPBS -- funded through ESEA Title III. The "capability" refers to a set of concepts and procedures that will allow the Trenton Public Schools to raise the level of debate in planning and resource allocation, relate expenditure to educational goals and priorities, and generally enlarge the base of productive communication and cooperation between the schools and interested members of the community. As a blueprint for implementing the System for Trenton's Educational Planning (STEP), this manual is intended for the users of STEP, those persons who must perform the countless tasks (including some sophisticated mathematical and computer procedures) that are part of the annual cycle. Related summary level documents are: ED 056 371-373 and EA 004 489. (Computer printouts in each section may reproduce poorly.) (Author/JH)

STEP

SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING

USER'S MANUAL

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Project Director

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Trenton, New Jersey

July 1972

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Table of Contents

User's Manual

NOTE TO USERS ON RUNNING COMPUTER JOBS

Computer software in STEP, written in FORTRAN IVG, was tested and debugged at the University of Pennsylvania Computer Center (UPCC). Therefore, the JOB cards and Job Control Language (JCL) cards used in the various card decks as shown in this manual reflect the procedures in effect at UPCC for FORTRAN language programs. Accordingly, users are cautioned to familiarize themselves with the IBM JCL Manual for specific JCL details, as required, and with the procedures of the computer facility at which the STEP software is to be run.

I.0 INTRODUCTION AND SUMMARY

The Project

This manual represents a part of the work performed in the past two years in connection with Trenton's Project -- "Building a Comprehensive Planning Capability with EPPBS" -- funded through ESEA Title III. The materials in the manual were developed by the staff of Government Studies and Systems, Inc., consultants to the district's Division of Research Planning, and Evaluation, after extensive discussion and collaboration with representatives of the administrative staff, teachers, supervisors and specialists, and community efforts. The "capability" mentioned in the project title refers to a set of concepts and procedures which will allow the Trenton Public Schools to raise the level of debate in planning and resource allocation, relate expenditures to educational goals and priorities, and generally enlarge the base of productive communication and cooperation between the schools and interested members of the community. This manual may be regarded as a representation of that capability, a blueprint and explanation of how TPS may achieve these broad goals.

This is the first complete version of the System for Trenton's Educational Planning (STEP); preliminary concepts

and procedures have been sketched in earlier reports and working papers, but this is the first version, in one set of covers, of all the automated and manual procedures required to complete the annual planning cycle which is at the heart of STEP. Like all complex systems, however, STEP is still in transition. During the third year of the project, staff of TPS, augmented by consultant services from GSS, will walk through the annual cycle, using as much of the data as is available, with a view to "shaking down" the technical and conceptual problems which remain. An important part of this process will be a kind of apprenticeship for the system's users, in which, working closely with consultants, the details of the system will be taught to those responsible for operating it beyond the term of the consulting contract. As a result of these interactions, improvements and modifications will be added to the system to produce a Version II in 1973.

The staff of GSS has profited immensely from the continuing interest and assistance of countless persons in the Trenton community, particularly the members of the Technical Task Force (the project's advisory group), in which members of the administration, teaching staff, community organizations, government agencies, and interested professionals conducted a series of probing and productive meetings.

Contents of the Manual

As its title suggests, this manual is intended for the users of STEP, the persons who must perform the countless tasks, including some sophisticated mathematical and computer procedures, which are part of the annual cycle. For that reason, much of the material will not be of direct interest to the educator or general reader who is more concerned with concepts than with detailed procedures. Thus, Part II of the manual provides and overview of the system, the concepts on which it is built and the milestone events which occur in the annual cycle. Readers interested at this summary level may further profit from reading STEP: SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING, YEAR 1 FINAL REPORT (VOL. I), ERIC ED 056 371.

For those whose information needs are greater, or who are intrigued to learn more about the procedures outlined in PART II, Part III includes the detailed procedures in each of the system's modules:

- Goal Setting and Indicators
- Enrollment Forecasting
- Cost/Resource Requirments Forecasting
- Revenue Forecasting
- Project Design
- Cost-Utility Evaluation (Project Selection).

While each of these procedures involves computation and quantification, the Enrollment, Cost/Resource, and Revenue Modules are particularly long, because they involve extensive computer operation as well. Those persons in the district charged with operating the computerized procedures will find in these sections the conceptual design, program documentation, input preparation procedures, and output formats associated with those modules.

Part III is followed by two appendices. Appendix A, "The Delphi Technique Applied to Predicting Effectiveness of Educational Projects," describes a procedure which will be useful at several stages of the system in which subjective estimates must be made. Appendix B, "Inventory of STEP Automated Programs and Reports," reviews the computer capabilities of the system.

Using the Manual and the System

The manual describes a complete planning system, broken up into stages and functional modules. While it is envisioned that the entire system will be used, it is possible for any of the procedures described in Part III to be used individually to facilitate district planning and management. This feature is of importance to persons in the district more concerned with parts of the system, rather than all of it,

and also to persons in other school districts who find it feasible to use parts of the system, rather than all of it. In addition, the overall system concept and cycle may be employed with different detailed procedures by TPS or other districts as well. This overall planning approach, developed largely by GSS staff, has proved useful in other school districts, in state education agencies, and in other branches of the public sector, such as planning for health or criminal justice. The current detailed version, however, reflects the particular needs and preferences of the Trenton Public Schools.

In employing this system, or its parts, it should be remembered that procedures in themselves do not guarantee excellent planning. Successful use of STEP, like successful use of almost any educational resource, requires hard work and inventiveness of the people who employ it.

II.0 THE ANNUAL PLANNING CYCLE IN SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING (STEP)

Preliminary Concepts

STEP is a derivative of the planning-programming-budgeting system (PPBS) approach to planning and resource allocation. To apprehend its basic concepts, some familiarity with PPBS is useful. First, however, it is important to establish what PPBS, and therefore STEP, is not.

Even in the short time (about 5-8 years) that PPBS has been discussed and applied by educators, there have emerged numerous confusions between it and other educational innovations. Before we explain the elements of PPBS, we should clarify some things which PPBS is not.

1. PPBS is not <u>one</u> system or approach. It is a set of concepts - an analytical discipline - which can be manifested in thousands of varieties of school planning and decision-making. Indeed, some observers have noted that there is a little PPB in every good budget, even if the budget-developers never heard the term.

2. PPBS is not a computerized approach to planning. There is no activity required in PPBS which could not be done manually by the planners and their staffs. However, thorough PPBS planning requires a great deal

of data and thousands of calculations, so that the computer is an extremely valuable computational and data management aid. (A small school district could, conceivably, do PPBS without computers, but the Trenton Public Schools would find it infeasibly cumbersome.) Further, a school district, if it is choosing its own computer system, should not choose the system primarily on the basis of its PPBS requirements. In those districts where computer needs can be satisfied with a modest computer configuration, it is pointless to install a large configuration to perform PPB computations - most of which take place within about 3-4 weeks of the year, and can be run economically by a computer service company.

3. PPBS is not an information system. An information system, or management information system, is used in PPBS, and the better the district's information handling capability, the easier to do PPBS. Note, however, that PPBS requires only a small portion of the data that a district routinely requires to manage and operate itself.

4. PPBS is not a management system. PPBS, as we will explain below, is a planning concept, not a management approach. PPBS planners are not concerned with the day-to-day operation of programs, or the week-to-week

collection of data. PPBS has a multi-year perspective, and generally abstracts from the minutiae of school operation. Of course, a district's long-range planning has important implications for its short-term management, but, to repeat, PPBS is not a management system.

5. PPBS is not an accounting system. Perhaps the greatest confusion about PPBS has been its association with novel accounting procedures, a confusion that has been somewhat intensified by the participation of several major accounting firms in PPBS projects. Accounting is a management-control function, of only marginal importance to long-range planning. PPBS does employ innovative budget formats and cost analyses, and these are facilitated by having a program accounting system, but the connection is not obligatory. Most districts who claim to use PPBS, in fact, have program accounting systems.

   Closely related to this confusion is the belief that PPBS is merely a new way of presenting the budget - in program accounts, rather than functional accounts. It is true that one of the important components in PPBS is a program-budget, but PPBS is more concerned with the process of developing and evaluating the program budget than with the document itself. Again, many school districts present their budgets in program format, but they do not employ a planning-programming-budgeting

system. It is acceptable to use "program-budgeting" as a synonym for PPBS, provided one is referring to the budgeting process rather than the budget itself.

6. PPBS is not just the use of measurable goals and objectives in educational planning. Although this is usually a requisite for PPBS, a district should not delude itself that having such objectives is more than a part of the program-budgeting process.

7. PPBS is not a system for cost analysis or cost control. Though PPBS planners may employ numerous economic and management science techniques to analyze the cost of past and future programs, or, indeed, apply certain cost-reducing methods to educational programs, these activities are not, in themselves, PPBS. PPBS is concerned with cost-utility analysis, the relating of costs to desired outcomes, not just costs alone.

8. PPBS is not a replacement for existing business and accounting activities. As we will see below, PPBS serves a function different from those of the business and accounting activities of the district. PPBS is relatively useless as a means of seeing that purchases are made correctly and paid for appropriately; nor can it be used to issue payroll checks or perform other business functions. PPBS gives a district a capability it never had before, but does not necessarily replace any existing cluster of activities.

This inventory of confusions and disclaimers leads us logically to ask what PPBS is, how it evolved, and what special needs it serves.

What a PPBS System Is

A planning-programming-budgeting-system (PPBS) is a set of procedures for strategic planning. In a school district, strategic planning is the process of deciding on the multi-year goals and objectives of the district, assigning priorities to the various goals and objectives, evaluating alternative ways of achieving those goals and objectives (each with different costs and probable effects), and selecting that course of action which achieves the objectives in the least costly way. Thus, PPBS relates what is spent to what is accomplished, resource inputs to educational outputs. The PPBS analyst, once he has developed a cost-effective plan, can increase output only by increasing input (money), and he can cut costs only by cutting the expected output of the district. In a sense, PPBS shows the Board and taxpayers what the community is getting for its monies, rather than what it is spending.

The users of STEP will be investors of the public's money, rather than spenders. Each dollar committed will produce some return - in this case, a change on the district's Indicators of Quality. (Those changes of expenditure caused by inflation will, of course, produce no change in return; "inflation" may be defined in this way.) The Board, moreover, will be able to choose among alternative budgets, each with different expected return as well as different costs.

The important theme that unites this description is the relationship between money and educational effectiveness. The most important difference between STEP planning and the many varieties of planning that now exist in TPS is that long-range educational and financial planning will be part of the same process. At present, several factors militate against this unified process:

1. Educational and financial experts are relatively ignorant of each other's disciplines and needs.

2. Except for some Federal projects, there is no multi-year planning.

3. There are no specific goals in the district, and no clear criteria for evaluating the district or its programs. Thus, both educational and financial decisions are "evaluation-proof."

4. The current budgeting format - the "Handbook II Chart of Accounts" is nearly useless in making resource allocation decisions.

This last point cannot be overemphasized. J. Alan Thomas makes the point succinctly when he says:

> "These categories (the Handbook II accounts) are useful for descriptive purposes. However, they do not constitute useful breakdowns for the purpose of decision-making, since there is no way of relating the various inputs included in these categories to either programs or performance objectives. In fact, they may impede decision-making, by engaging boards and administrators in the partially irrelevant exercise of examining the manner in which resources are allocated among these categories.

> From the point of view of the school board member or layman who wishes to use the budget to inform him about the manner in which the system is allocating its resources, the..... categories may appear to be developed for the purpose of concealing rather than revealing information."
>
> (J. Alan Thomas, The Productive School, 1971)

The obscurity of these budget accounts has engendered a peculiar style of budget decision-making in Trenton, and other, public schools. As Hartley puts it:

> "Local school budgets tend to be prepared in the 'incremental style,' which means that the primary basis for next year's budget is this year's budget. The major difference between the two is likely to be only an increase in each of the traditional categories of object of expenditure...little attempt is made to evaluate the various programs, or outputs, which are presumed to be supported by the budget."
>
> (Harry Hartley, Educational Planning-Programming-Budgeting, 1968)

There is almost universal accord that the function-item budget format now used in the Trenton Public Schools is virtually useless as a planning instrument - whatever its merits as a cost-accounting system. Indeed, one of the most innovative aspects of STEP is that the determination of the detailed function-item budget for the next school year (Year 1 in the five-year plan) is done after all the important educational and financial decisions are completed. The operating budget will follow as a necessary consequence of the approved plan, instead of the reverse, which is now often the case.

In order, therefore, to attain a strategic planning capability, TPS will require the following elements associated with Planning-Programming-Budgeting Systems:

First, a system for setting measurable performance goals for the entire district; data about the success of the district in achieving these goals will constitute an evaluation of the district's effectiveness. Decisions about where and how to invest the district's resources will be determined by an explicit statement of the goals and their priorities.

Second, a program structure which divides the district organization into its real functional components - not those described in the current budget accounts. These components will be called programs - and be further divided into subprograms - and each program will be responsible for achieving some part of the district's objectives. Further, for planning purposes, moneys will be aggregated according to those programs, so that costs can be related to output on a program by program basis.

Third, a cost-benefit, or cost-utility model for making decisions, that is, a formal procedure for evaluating alternative plans before they are approved, and determining which gives the desired return at the best price.

In order to employ these elements of the planning system, several technological aids are essential:

- an information system to support planning
- an enrollment forecaster
- a revenue forecaster
- a cost and resource-requirements forecaster
- an output forecaster

Requisite Attitudes

Most descriptions of PPBS devote little space to the problem of attitude. In fact, in order for PPBS to be successful, it is essential that its users agree, as least somewhat, with the following statements:

1. The effects of education are measurable, or, more specifically, anything a school district sets out to do deliberately can be measured.

2. It is possible to separate discussions of educational ends from discussions of educational means.

3. The future, to some degree, can be "made to happen" the way we want it to.

4. The public is entitled to an explanation of the reasons behind decisions by the schools' policy makers, and, when the public believes the reasons are sound, they will support the schools.

5. The fact that there never seems to be enough money for the schools does not mean that the schools cannot be changed or improved.

The Annual Planning Cycle

This section contains a description of the major clusters of activities that will occur during the planning cycle. Note that this description presumes that the developmental work is completed and the system is refined and installed. This description of what the final system includes serves two purposes:

- It explains the benefits that are not immediate, since full utilization of the system is at least two years away.
- It explains the purpose of the various design activities that are now under way.

In this section, and the one which follows it, we will present the overall model in increasingly greater detail; this detailing process will continue during the second year of the project and terminate in Year 2 with detailed operational definitions and user procedures for each aspect of the system.

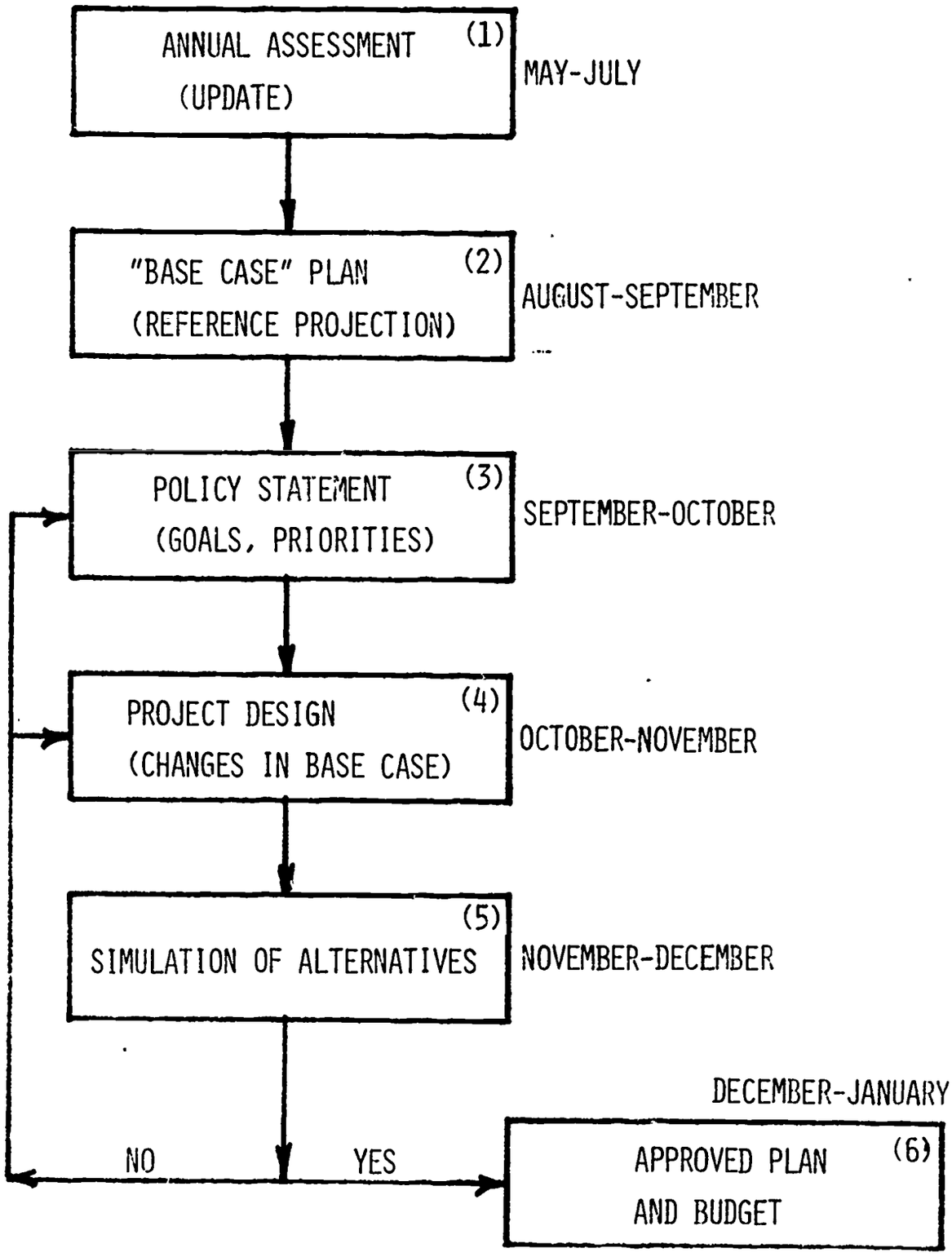
STEP: DETAIL LEVEL I

At the highest level of abstraction the flow of elements in STEP is as follows (See Chart II-1):

Stage 1 - Assessment of current educational costs and benefits, and an updating of all those files necessary for operating the computerized elements in the planning system. The assessment is, thus, a collection of current facts, and also current ratios that will be used to generate forecasts of the future.

CHART II-1

MAJOR ELEMENT IN THE STEP CYCLE



Stage 2 - The generation of the base case. After running assessment data through the system's forecasting procedures, five-year forecast of what the school district's costs and benefits will be, if the previous year's plan is approved without change for the present planning period.

Stage 3 - Policy deliberation. The desired levels of school district effectiveness are reviewed, to set new objectives, priorities, and constraints, or to approve those previously developed; this determination involves a community opinionnaire survey.

Stage 4 - If any changes are required by the policy deliberation, the next stage is the design of projects intended to close the gaps between the expected levels of effectiveness in the base case and the desired levels; community groups participate in the project design activities.

Stage 5 - Various combinations of new projects are run through the forecasting models to generate alternative plans, each with a specified anticipated cost, level of output, and revenue requirements.

Alternative plans are considered, and the most cost-beneficial plan for achieving the district's objectives is recommended for implementation.

Stage 6 - That plan which is approved by the Board of Education becomes the approved plan. (If the policy deliberation required no changes, the base case becomes the final plan.) The detailed budget proposal for Year 1 of the plan is generated at this point.

STEP: DETAIL LEVEL II

These broad activities can be understood only by describing their components in more detail. The paragraphs that follow describe these elements at the conceptual level; operational definitions (and user procedures) will be introduced later in this Volumne, and detailed in the remainder of the project.

Annual Assessment

Strategic planning requires an assessment of the organization's overall behavior and effectiveness. The assessment reports facts which are import to the decision-makers and planners; in effect, the assessment is an up-dating of the planning information files, which are aggregated at broad levels. Assessment at the strategic level cannot be expected to do the job of evaluating specific projects or students. An analogous process is the general health examination, in which a small set of physiological measures are taken as a broad index of soundness, and more detailed and elaborate tests may be required if some of the

broad measures suggest a problem. The analogy also extends to the fact that broad assessments and general physical examinations are most useful when they are periodic and regular; the most important insights to be gleaned from the current assessment are those measures which show a difference - either positive, negative, or neutral - from previous assessments. (See Chart II-2.)

Current Levels of Effectiveness

In the STEP design, effectiveness is measured by a set of 10-15 Indicators of Quality, scales used to describe the product or output of the school district as a whole. Each assessment measures the overall district on those Indicators of Quality. Selection of Indicators is a part of the system development process; refer to Section III.1 for a discussion of current indicators in STEP.

Current Allocation of Resources

Current year approved expenditures are reported by program category, rather than line-item account. Within each program, costs are aggregated by Staff, Non-salary, and Capital Outlay expenditures.

Current Revenue Data

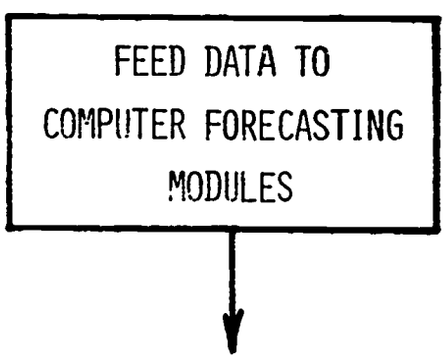
Included also in the assessment is a summary of the revenues currently available to the district, by source, and, where appropriate, by special purpose. The ratio of the various sources to each other is one of the process variables mentioned earlier. The STEP model will forecast Revenues in accord with the state's new "Bateman" subsidy program.

CHART II-2

STEP: ASSESSMENT

UPDATE DATA ON:

- SCHOOL DISTRICT INDICATOR PREFORMANCE
- TAX BASE AND FUNDING SOURCES
- ENROLLMENT AND ENROLLMENT FACTORS
- PROGRAM STAFF CHARACTERISTICS AND SALARIES
- PROGRAM EXPENDITURES



Forecasting Models

The planning "model" is a set of formulas and computer programs which converts one set of data into another. At this stage in STEP, the model receives the data from the assessment phase, and computes several forecasts, namely, enrollment, indicators, process measures, costs, manpower, and revenues. The planning model works on the assumption that certain ratios vary at a fixed rate (salaries), certain ratios stay the same (staff/student), and others are allowed to vary independently (total students).

The Enrollment Forecaster

The Enrollment Forecaster, which projects students by program and ethnic group, is described in III.2.

Indicator Forecaster

Because the current state of educational theory has developed no scientific notion of how educational activities are related to outcomes, the prediction of future levels on the indicators of quality is necessarily subjective, involving a small group (4-5) of experienced educators (the Review Group). (See III.1)

Cost Forecaster

The cost forecaster expands (or contracts) costs as a function of units of service (change in enrollment), or adjusts costs in certain categories as a function of inflation factors. (See III.3)

Manpower Forecaster

Assuming constant staff to student ratios, the manpower forecaster projects the needed numbers of staff members, by type, as a function of enrollment changes or other factors determined by the planners. Manpower requirements analysis is part of the Cost Forecaster (III.3)

Revenue Forecaster

The revenue forecaster projects the effects of enrollment change, subsidy formula, and tax base change on the total revenues available to the district, assuming no change in tax rate. Certain classes of revenues which do not vary according to predictable rules are estimated subjectively, or assumed to be zero (certain non-continuing Federal grants, for instance). (See III.4)

The "Base Case"

The first major planning system report is called the "base case"; the base case is a candidate plan, showing the effects of approving last year's plan, making no changes in policy or program, showing the impact of changes in enrollment, inflation, and projects previously approved for future implementation.

Note that the current status of the district is not the baseline from which to develop plans. Many administrators and educational planners, influenced somewhat by misleading federal proposal guidelines, make the mistake of identifying needs and objectives on the basis of current data.

Actually, if you are developing a five year plan, the baseline is what will happen in the district over the next five years if your programs and policies are unchanged, not only what it is happening now. To illustrate, suppose that your assessment data shows that 10% of the students in your district have fundamental difficulties in speaking the English language; over the next five years, even if you make no change in your existing plans or programs, that percentage may change. If you have recently initiated a special set of courses for these students, the number may go down; if the migration of non-English speaking persons in your community increases during the five years, however, the percentage may go up. If your goal were to eliminate the problem - if your desired level on the Indicator of English-language competence were "100%" - you could not begin to design projects and courses without estimating what the extent of the need will be if no change is made. The desired level, (100%), is derived from the goal. The objective is to close the gap between the desired level and the expected level (if no change is made).

The purpose of the "base case" is to show the multi-year implications of carrying forward the current plan without change; the base case is one possible plan, a reference projection, to which the policy-makers and administrators can react. (See Chart II-3) It is reasonable to expect that even in the "no change" plan, the district will change strikingly each year. Certainly, the district's enrollments will change - in numbers and type of

CHART II-3

"BASE CASE" PLAN

REPORTS:

- ENROLLMENT PROJECTION
- INDICATOR PROJECTION
- PROGRAM EXPENDITURE PROJECTION
- REVENUE PROJECTION
- REVENUE FEASIBILITY PROJECTION

students; the salaries will increase (even if there are no new staff members) and the costs of goods and services will also change; the district's revenues will change, even assuming no change in tax rates; projects that were approved in the past will be implemented, causing changes in the district's costs and levels of service.

The base case answers the question: What would probably happen over the next five years if we make no changes in our current plans? The answer to that question is the basis for determining changes - not the current status report.

Depending on the design of a district's individual system, the base case plan includes the following data:

Enrollments Over Time

The base case includes a print-out of the expected enrollments over time, by program and student type (ethnicity).

Costs/Program Over Time

The base case shows the cost implications of the current plan, as a function of inflation and enrollment change. These costs are aggregated by program and for the total district.

Indicator Measures Over Time

The estimated effects on the Indicators are presented out for the five year period.

Staff Requirements Over Time

The base case indicates the number of positions, both new and existing, that will require filling in the five-year period, as a function of both changes in overall faculty size and turnover rates.

Revenue Feasibility Over Time

The anticipated costs are compared to anticipated revenues, and the needed change in tax rate is indicated.

Gaps

The levels on the Indicators are compared to the desired levels (developed during last year's policy deliberation activities) and the gaps between the anticipated and desired levels are shown.

Policy Deliberations

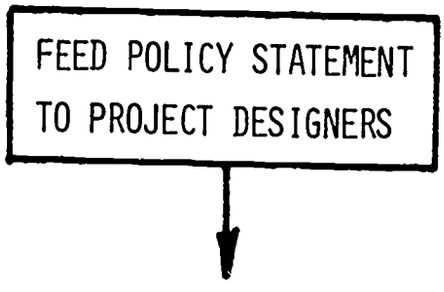
The "policies" deliberated in this phase of the process related only to those affecting planning. The most significant policy decision is to decide what the Indicators of Quality will be, and what desired levels will be pursued by the organization. Other important policies relate to limits on the process relations and parametric ratios, such as class size, salaries, etc.

The annual policy deliberation is, in fact, a review of last year's policy deliberation, to determine what, if any, changes should be adopted in the policy variables. (See Chart II-4.)

CHART II-4

POLICY STATEMENT

- RE-RUNS OF "BASE CASE"
- DISSATIFACTIONS WITH BASE CASE
  - . GOALS
  - . EXPENDITURES
- REVISED GOALS AND ECONOMIC CONSTRAINTS (DESIRED LEVELS OF PERFORMANCE AND EXPENDITURE



Consequently, the planning process, while sustained over a multi-year period, is flexible and responsive to changing environments and new perspectives - as well as changes in the state-of-the-art of instructional practices.

Goals and Objectives

The choice of Indicators is, in itself, a determination of possible goals. The problem of educational goal-setting is not so much a matter of deciding what ends are worthwhile, but, rather, choosing from among the wide range of desirable ends, those that most characterize the administrative philosophy of the district. The goals of the district are simply to improve with respect to the Indicators of Quality; the objectives are to improve some specific amount, in a specific time period.

Chart II-5 is an illustration of the Indicator-Objective relationship, for the Indicator: "Percent of students reading at or above grade level." (The numbers in this illustration are fictitious.)

In STEP, an important element of the goal-setting process is an annual community survey which serves as a significant input to the Board and Administration. (This process is discussed more extensively in STEP, Year 1 Report, Vol. II.)

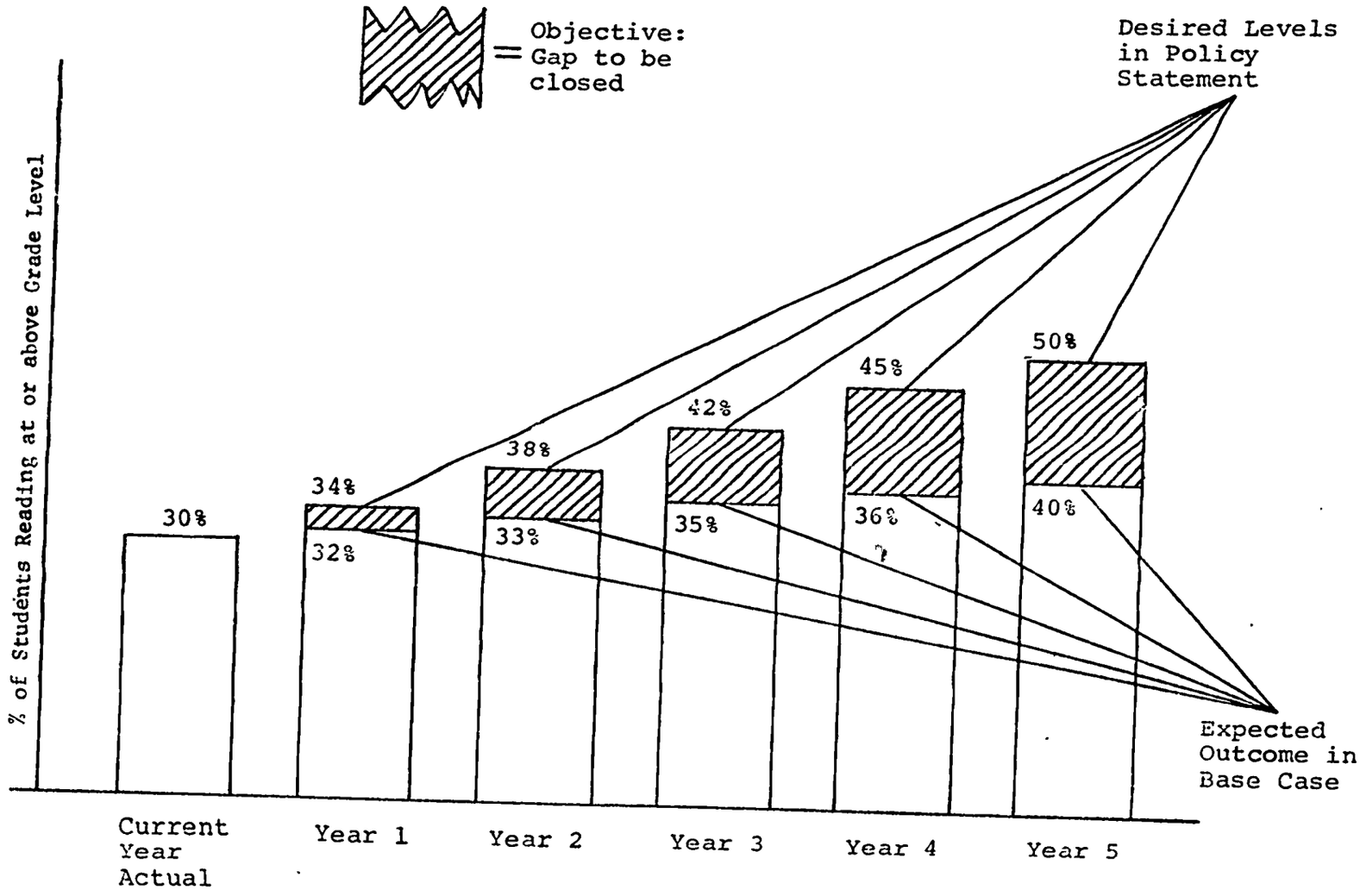


Chart II-5 Example of Indicator-Objective Relationship

Priorities

"Priority" is a measure of relative importance among the several objectives of the district. It can be expressed in at least three ways:

- a rough grouping of all objectives into high-, med-, or low-priority

- a ranking of all objectives from most to least important

- a specific weighting of the relative importance of each objective, or of the units in each scale (e.g. 1% decrease in "Drop-out" is twice as desirable as 1% increase in "Reading at or above grade level").

Statements of priorities should be more than rhetorical. They must be specific and quantified, so that they will influence the subsequent resource allocation decisions.

Constraints

There are two kinds of constraints - formal and informal. Formal constraints are upper or lower bounds on certain process variables, such as tax-rate increase, square feet of construction/yr., etc. Wherever possible these formal constraints should be specified in the policy report, prior to the evaluation of new plans.

Informal constraints are those loosely defined feelings about what is or is not feasible, mainly political limitations on possible courses of action. Planners often discover these constraints after plans have been developed; thus, an inventory of constraints develops over the years.

In general, while it is necessary to work within constraints, it is unwise to presume the infeasibility of certain proposals too readily. Politics is defined sometimes as the "art of the possible," but the effective politician makes his own possibilities, rather than yielding to traditional, unchallenged notions about what can or cannot be done.

Design of Project Alternatives.

Many school districts undertaking strategic planning for the first time believe that the battle is won when goals are agreed upon. In fact, goal-setting is only mid-way through the complete planning process.

One of the essential notions of systems analysis, of which PPB is a special case, is that it is possible to design alternative means to any set of goals and select rationally that alternative most likely to be effective and economical.

In STEP, once objectives (Indicator gaps) are agreed upon, several project design groups are created (or selected from existing groups), most containing staff, community, student memberships, to write proposals for achieving the objectives.

Any proposed change in the operation of the school district is considered a "project;" projects may be additions to the district, deletions from the district (negative projects), or replacements (both a positive and negative proposal).

Project Proposals

STEP includes a project proposal activity, akin to (though less cumbersome than) the process of writing grant proposals. After the Board publicly announces its objectives (gaps that need to be closed), proposal development teams draft project designs. Project designs include the following elements. (See Chart II-6):

- Expected impact on all Indicators
- Proposed activities (including schedule)
- Estimated costs over time
- Rationale (research or investigation which supports the belief than this proposal will produce the desired results in the specified time.

Proposals must cover all costs, activities and outcomes for the five-year period - with "0" entries for years in which the project is not in effect.

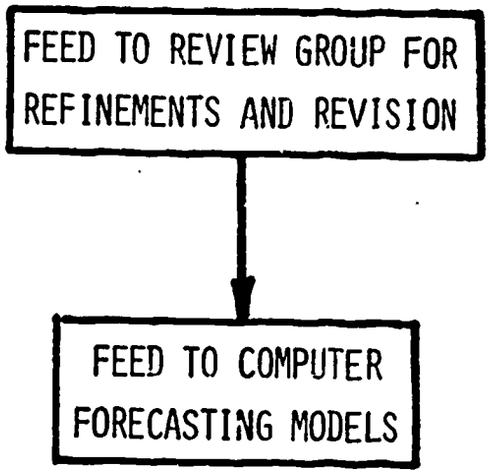
The developing of proposals is an important opportunity for community participation; it is quite important, however, that the project writing teams realize that not all proposals will be approved. For this reason, the project design requirements should be no more arduous than necessary.

CHART II-6

PROJECT DESIGN

ACTIVITY PACKAGES TO CLOSE INDICATOR GAPS

- ACTIVITIES
- REQUIRED RESOURCES
- EXPENDITURES
- "PLANNING FACTORS"
- EXPECTED IMPACT ON INDICATORS
- SUPPORTING ARGUMENTS



Review of Project Proposals

All proposals are submitted to a Review Group. This group, four or five professionals, review the competency of the proposals - but do not act on them. The concern of the review group is to make sure that the cost estimates are accurate and complete, that the estimated effects are reasonable, and that the rationale is credible. The review group may require re-writes of certain proposals.

Again, the group does not approve proposals; merely ensures that the estimates of costs and effects are believable enough for the next stages in the planning process.

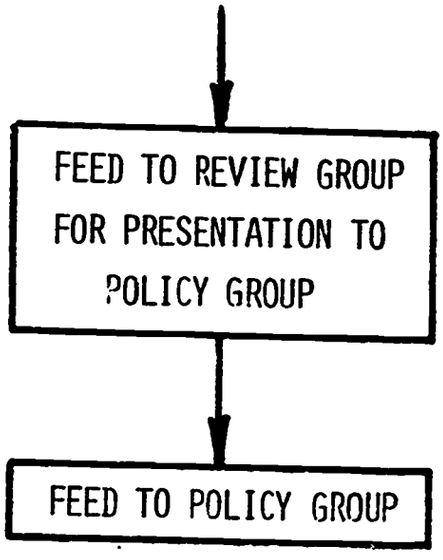
Re-iteration of Planning Model

Depending upon how many proposals are actually submitted, the planners next consider the implications of approving every possible combination of projects, or many possible combinations. Using the same planning models which converted assessment data to the "base case," project combinations are fed into the program and costs and outcomes are "added on" to the base case plan. (See Chart II-7) (In the case of negative projects, costs, and outcomes may be removed from the base case.) This stage of the process is a simulation of the consequences of approving alternative plans of action. Each combination of projects generates a plan with as much detail as the "base case," including gaps that remain to be closed and indications of revenue feasibility. Sometimes this activity is know as the "What if..." stage; it is the essence of planning.

CHART II-7

SIMULATION OF ALTERNATIVES

- "ALTERNATIVE CASE": COMBINATIONS OF PROJECTS
- IMPACT ON INDICATORS
- IMPACT ON EXPENDITURES
- IMPACT ON REVENUE REQUIREMENTS



Selection of "Best Case"

The task of the planners is, now, to judge which of the possible alternatives (including the "base case") is the "best" course of action.

STEP allows this selection to be based on quantified criteria of desirability - in terms of both costs and desired outcomes.

Cost-Utility Comparisons

Each alternative plan is characterized by a unique estimated cost and unique estimated set of outcomes. These outcomes are aggregated as a function of the priorities and size of remaining gaps associated with each alternate, so that each plan can be described as having a single utility and single cost. (This process can be done informally, or formally, through any of several benefit estimating procedures, depending upon the willingness of the planners to make specific statements of personal value and utility. (See Part III.6.)

Feasibility Evaluation

The best case, or recommended plan, is finally subject to feasibility review. This is a final check on a number of assumptions made earlier in the cycle. If, for some political, financial, or other reason the plan is unacceptable, the planners may return to their alternative cases and submit the "second best case" and so forth.

In practice it may be necessary to reiterate parts of the process, by running new project combinations through the planning model, or by writing new designs and adding them to the alternative possibilities. (See Chart II-8.) As a last recourse, if no feasible plan is found, the decision-makers may consider a revision of policies, that is, a lowering of expectations or a loosening of process requirements.

In STEP, each economic saving is associated with an identifiable loss of effectiveness of quality. Thus, costs are related to outcomes, a relationship which does not occur in typical school budget evaluations.

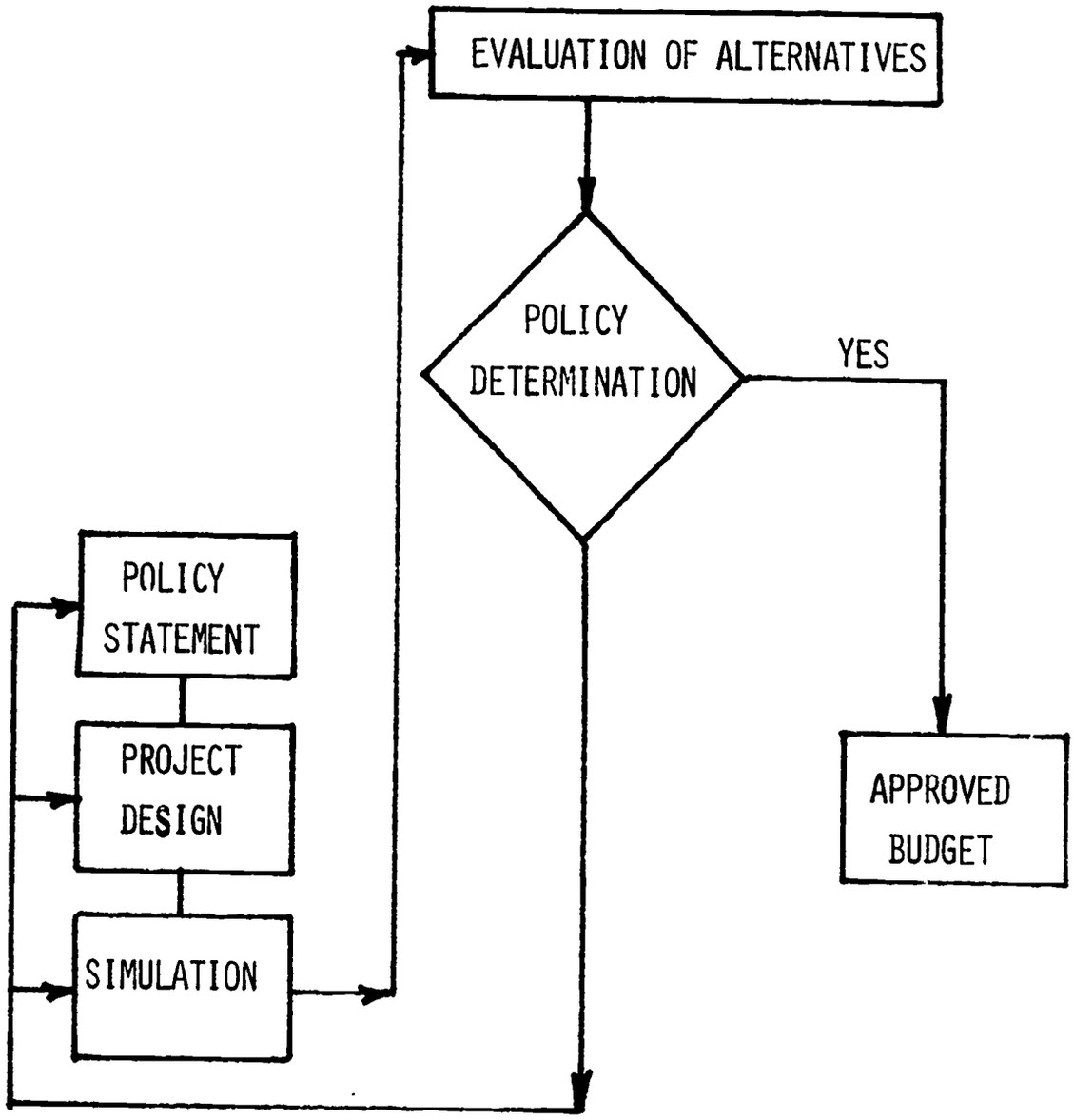
Generating Year 1 Budget

Approval of the multi-year plan, is, in effect, an approval of the operating budget proposal for the next year - even though the detailed budget has not yet been written. In strategic planning, the decision point is moved back to the pre-preparation stage, and the actual budget preparation flows almost automatically from the approved plan.

After a group of preferred projects has been selected for implementation, the entire results of the planning process must be translated into an operating budget for the next year. There are three general methods of doing this. In Method 1, the planning data are used intuitively by the budget makers to produce the next year's budget. This budget is then recross-walked into the program categories. The result of this budget cross-walk and the plan are compared. There may be differences,

CHART II-8

DECISION AND RE-ITERATION



since the budget preparation may have misinterpreted some of the planning implications. Adjustments are made to either the plan or the budget until the plan and budget are in agreement. The budget is then prepared. This method was first used with EPPBS.

Method 2, the one now recommended for use with EPPBS, depends upon the assumption than new projects can be planned at the level of detail of expenditure accounts. The procedure is to first prepare a one-year budget under the assumption that no new decisions are made, that is, no-change or continuation budget. The no-change budget is then cross-walked to estimate the first year's costs. Planning then proceeds as usual - producing the new projects, which are described at a detailed cost level. The project data for the first year can then be added to the no-change budget to obtain the total year one budget.

It is possible, with Method 3, to convert directly from a plan to a budget. However, this method requires some special data which are not handled by EPPBS. In order to accomplish this process, it would be necessary to carry the expenditure account data within each program and project category and within each budget category. If this is done, then the translation from the plan to the budget can be made directly. Since the data system required is complex, it will be some time before school districts can implement such a data system for the purpose of utilizing this method.

Whatever method is employed, it is imperative that all persons in a position to approve or reject the proposed operating budget have already seen and accepted the program-budget in the multi-year plan.

Evaluation - Monitoring

In addition to the district-wide assessment, the projects added onto the educational programs are evaluated and monitored in some detail, to see that activities occur as planned, and whether expected outcomes do occur.

Project Control

Projects are more easily managed and controlled then the general programs. Unlike the broad programs, projects are not guaranteed perpetual life in the district; they can be scrutinized, modified, or even eliminated much more easily than the basic programs.

The purpose of project evaluation and monitoring is to assist the district in achieving its objectives, not merely to find fault.

Changes in Management Control

Over several years of planning, a larger and larger proportion of the activities of the district will be in these carefully designed and monitored projects, and, consequently, the management control of the district will be enhanced. Projects generally have project directors, who, in turn, have management plans. Thus, the successes and failures of the

district can be more accurately associated with specific staff members. This change will enhance the accountability of TPS to the community and enable the Board and Executives of the schools to better evaluate themselves and produce change and improvement.

And, further, the more projects are designed, installed, monitored, and evaluated, the better the planners and project design groups will become at devising and evaluating alternatives.

The Role of the Computer

Hopefully, by now, schoolmen are no longer apprehensive about electronic data processing. Most districts of any size already use computers for accounting, scheduling, or even guidance and instructional purposes.

The role of the computer in formal planning is simply that of a computational aid. The points at which computers enter the process are those when several thousand calculations need to be done. In theory, all the planning could be done manually - even the most complicated forecast - but it would make the process more expensive, time - consuming, and error-prone.

One thing must be made quite clear. STEP is not a computer system; the computer makes no decisions. Do not be misled by the use of the term "systems analysis" in connection with strategic planning. Systems analysis is a way of thinking

about the design and improvement of systems. It is independent of computer applications, even though systems analysis is used to design computer systems and procedures, as well as other systems.

The Role of the Community

There is nothing, to prevent one man from doing all of a school district's strategic planning all alone, in complete privacy and secrecy. Except that he would be missing an opportunity to exploit one of the principal benefits of strategic planning in education - namely, involving the educational and general community in the planning process, thereby improving everyone's understanding of the decisions and broadening the base of public support. The program-budget format itself enhances the communication between the district and the local government and community. The single greatest complaint of rebelling taxpayers is that they do not see what they are getting for their money, and the program budget address this problem head-on.

We cannot say, with any scientific certainty that STEP will quell taxpayers' resistance or increase the chances for success in financial elections. In part, we are limited in knowing this result because most of the districts embarked on other planning system projects have only begun, and have not yet developed the full planning or communication value of the approach. Even so, several educators have written that PPBS has helped them to get budgets approved, and many more are confident that it will.

Logically, a formal plan, showing the taxpayer what he gets for his money, and why that particular level of spending was chosen, ought to satisfy the taxpayer's requirements. Of course, he may still vote "no" but for better reasons than before. Unless a community does not value the goals pursued by its school district, there is no reason why program-budgets would not increase a voter's willingness to vote "yes."

Activities and Responsibilities in the Annual Cycle

In this section, the major clusters of activities describe above are disaggregated into more detail. The activities are arranged in linear sequence rather than a precedence network. For each activity, the appropriate procedures from Part III of this manual are cited, the persons or groups responsible are indicated, and the approximate time of year is indicated. Note that these times assume a cycle which runs from May, Current Year - 1 (CY-1), through January of Current Year (CY), the time at which budget proposals for Year 1 (Y1) are ordinarily transmitted for approval. This schedule is the expected timing, once the users of the system have become familiar which it and solved first-time data problems; in the first year or two, the cycle will probably require closer to a full year.

Responsibilities for the operation of STEP are assigned to the following persons and units in the public schools:

1. Planning Director - the manager of the STEP systems, and supervisor of all planning activities.

2. Analysts - technical support personnel, responsible for data management and processing.

3. Policy Group - a group comprised of a few senior administrators and the Board of Education.

4. Management Group - building administrators, project and program directors, middle-level administration, etc.

5. Review Group - a panel of 3-5 senior educators, responsible for performance estimates and review of project designs.

6. Educational Community - the entire professional staff of the Trenton Public Schools, represented by a small group of elected persons.

7. Advisory Group - a panel of community and educational agency representatives, previously knew as the Technical Task Force.

8. General Public - the community at large, represented through surveys or the Superintendent's Citizens Advisory Group; includes Secondary students.

9. Project Design Teams - groups formed of members of the educational and general communities, to author project proposals.

TASK AND RESPONSIBILITIES

	Task	Procedures ID	Responsibility	Time
1.	Collect Enrollment Forecast Input Data	III.2	Analysts, Management Group	May, CY-1
2.	Prepare Enrollment Data for program, and run Enrollment Report	III.2	Analysts	June, CY-1
3.	Collect Enrollment output for census report	III.2	Analysts	June, CY-1
4.	Collect Census Data	III.2	Analysts	June, CY-1
5.	Prepare Census Data, and run multi-year enrollment forecast	III.2	Analysts	June-July CY
6.	Collect Planning Unit Data	III.3	Director, Analysts, Management Group, Educational Community	June-July CY
7.	Collect District Factor Data (inflation, fringes, turnover)	III.3	Director, Analysts, Management Group, Educational Community	June-July CY
8.	Prepare Planning Unit Data and District Factor Data, and run Cost/Resource Requirements Forecast	III.3	Analysts	July-Aug. CY
9.	Collect Tax Base Data	III.4	Director, Analysts	July, CY
10.	Prepare Tax Base Data, run tax base forecast	III.4	Analysts	July, CY

TASK AND RESPONSIBILITIES (cont'd)

	Task	Procedures ID	Responsibilty	Time
11.	Collect Revenue Source Data	III.4	Director, Analysts, Management group	July-Aug. CY
12.	Prepare Cost Output, Tax Base Forecast, and Revenue Source Data, run multi-year Revenue Forecast	III.4	Analysts	August, CY
13.	Collect CY-1 Indicator Data	III.1, III.6	Director, Analysts, Management Group	April-July CY
14.	Prepare Indicator Forecast	III.1, App. A	Director, Review Group	September, CY
15.	Assemble Base Case Plan	-----	Director	September, CY
16.	Review Base Case	III.1	Director, Policy Group, Analysts	September, CY
17.	Re-run Base Case, as needed	-----	Analysts	Sept.-Oct. CY
18.	Review Base Case	II.1	Director Policy Group Educational Community, General Community	Sept.-Oct. CY
19.	Issue and Disseminate Policy Memo	III.1, III.5	Policy Group, Management Group	October CY
20.	Form Project Design Teams	III.5	All groups, Director	Oct.-Nov. CY
21.	Develop Project Designs	III.5	Project Design Teams	November, CY
22.	Review, Revise Designs	III.5	Director, Review Group, Project Design Teams	Nov-Dec. CY

TASK AND RESPONSIBILITIES (cont'd)

	Task	Procedures ID	Responsibility	Time
23.	Specify Alternative Sets	III.6	Director, Policy Group	December, CY
24.	Prepare alternative data for simulation runs, run simulations	III.6	Analysts	December, CY
25.	Transmit Alternative Plans to Policy Group	-----	Director, Analysts	December, CY
26.	Use cost-utility model to evaluate alternatives	III.6	Policy Group, Director, Analysts	Dec.-Jan. CY
27.	Select Approved Plan	III.6	Policy Group	Dec.-Jan. CY
28.	Generate Y1 Budget	-----	Policy Group, Director, Management Group, Analysts	Dec.-Jan. CY
29.	Re-iterate Steps 20-28, if needed to find acceptable plan/budget	III.6	Policy Group, Director, Analysts, Design Teams	Jan.-Feb. CY

III.1 GOAL-SETTING PROCEDURES

GOAL SETTING MODEL

Introduction

Goals, objectives, and priorities are at the heart of any strategic planning system. It may be said that, in the absence of comprehensible statements of purpose, there can be no effective planning, resource allocation, or program evaluation. In STEP, goal-setting and reporting is a manual procedure -- that is, it does not employ computer technology directly, even though some of the data used in forming goals is generated by the several computer programs in the system.

A major effort during the development of STEP has been the formation of the first set of goals, or, more correctly, the Indicators that will be used to express the first set of goals. A description of the procedure used follows below.

Definitions

While almost every school district in America has some district-wide goals, virtually no district has goals which are appropriate for rational planning and decision-making; this problem is in part attributable to confusing definitions of the terms "goal" and "objective". There is little agreement on the meaning of these terms, and management scientists and educational theorists often contradict each other on whether it is "goals" or "objectives" that are supposed to be measurable.

In STEP, both goals and objectives are measurable. A goal is defined as a statement of intention to change some variable in a specific direction to a desired level; an objective is defined as the specific magnitude of change that is required to close the gap between the anticipated level and desired level. To illustrate, suppose that the planners estimate that by 1975, 55% of Trenton's High School graduates will be accepted to college; the policy makers might set as a goal raising the desired level to 65%, and thus, the district's objective is to close the gap between 55% and 65% by 1975.

The reason for this kind of specificity is that goals and objectives will be used to make resource allocation decisions. If, for example, it was decided to enhance or modify those programs that affect college placement rate, it would be extremely important to know whether the objective (the gap to be closed) were 5% or 10%. It is unreasonable to expect the same application of resources to produce both ends, and it would be almost as unreasonable to develop programs that would exceed the desired level when money is scarce (as it always is) and when other objectives need to be met.

Thus, the policy-makers in a district which uses PPBS will be required to state goals and objectives in measurable, specific terms, to state desired levels and deadlines. They will also - as will be described later - be obliged to state priorities in equally specific terms.

To facilitate the stating (or revising) of goals and objectives, the STEP system employs Indicators of Quality. Indicators are scales - averages, ratios, proportions - that measure the success or failure of the district in achieving its goals. The set of approved Indicators is the barometer of educational effectiveness; it is used to assess current levels of effectiveness, forecast future levels of effectiveness, state desired levels (goals), or objectives (gaps between anticipated and desired levels). In strategic planning, Indicators describe the product or output of the organization; in computing the cost-benefit of a given plan, the sum of weighted changes on Indicator scales equals the expected benefit of the plan.

The problem, therefore, of estimating goals and objectives for the first time is a two-phase problem:

Phase I - Selecting the Indicators of Quality that will be used in the district

Phase II - Setting desired levels (goals) on those Indicators.

Goal-Setting Model

The Phase I objective - to develop the Indicator list that will be used - has been a major concern of Year 1 of the project. There are, of course, no "right" or "wrong" Indicators; it is within the policy-makers' power to choose them (and thereby exclude all others); nor is there a shortage of candidate

Indicators, because hundreds could be generated easily. The research activity in Year 1 has generated data which will inform the Board of those Indicators that seem to matter most to the Trenton general community - and special sectors of it - so that the choice of Indicators (a policy prerogative) will be influenced by detailed data about community opinion.

The logic of this process is explained in the attached conceptualization of the goal-setting process (Chart III.1-1.) The steps in the process are described below:

1) Establish School-Community Advisory Group

A group comprised of representatives of Trenton Community Agencies, Trenton Educators, and professional planning scientists was formed (the project's Technical Task Force); the mission of this group was to evaluate alternative technical approaches - including the goal-setting procedure - and communicate its judgements to the consultant contractor.

2) Generate Extended List of School Descriptors

A sub-committee of the Technical Task Force generated a list of approximately fifty descriptors of the school district's program, that is, aspects of the schools that the parents and general community would probably have opinions about. This list was revised and refined into 36 descriptors, which would serve as the basis of the community opinion study.

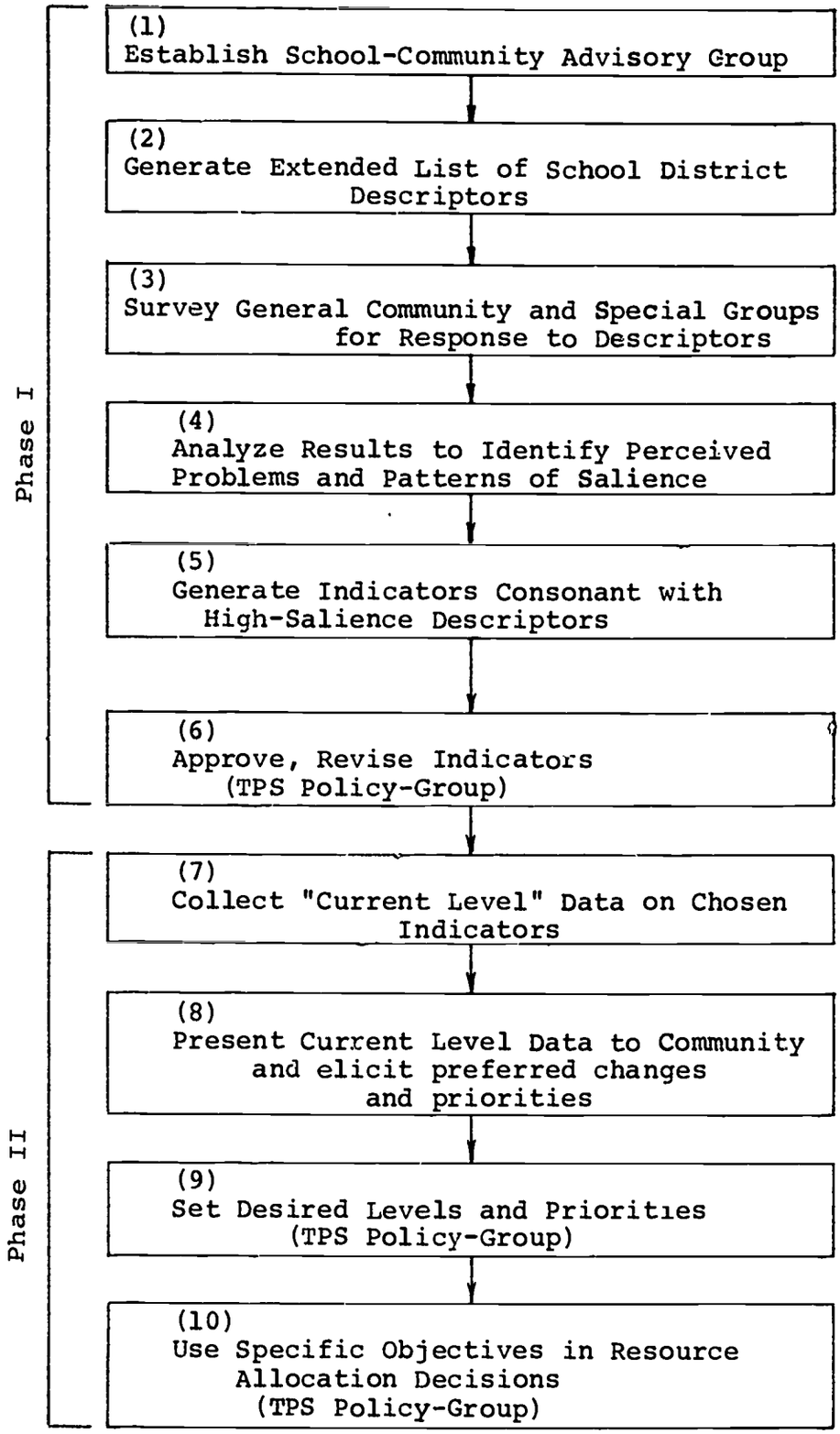


FIGURE III.1-1

Conceptualization of STEP Goal-Setting Model

3) Survey General Community and Special Groups, etc.

The consultant contractor, working with members of the task force, developed a community opinionnaire form; two committee members, United Progress, Inc., and Trenton Model Cities, translated and distributed a Spanish-language version of the form. The form was printed in Trenton's two daily newspapers, and a copy was sent home with every school child. The teaching staff of Trenton was also given an opportunity to respond.

4) Analyze Results, etc.

Government Studies and Systems then computed the results and analyzed the data; the focus of the analysis was on those descriptors which elicited the strongest positive and negative opinions from the respondents, and those which elicited the highest percentage of any response at all. Analyses were performed for the entire population and for many socio-economic sub-populations within the sample.

5) Generate Indicators, etc.

From the analysis of the data, candidate Indicators are extracted and forwarded to Trenton Public Schools' Policy-Makers.

6) Approve, Revise Indicators, etc.

In the beginning of Year 2, the Board and Executive administrators revise, modify, or approve the candidate Indicators.

7) Collect "Current Level" Data, etc.

Given the approved set of Indicators, the Trenton Office of Planning, Research, and Evaluation collects "current level" data, thereby profiling the existing quality of the district in terms of those measures judged most meaningful to the community, staff, and Board of Education.

8) Present Current Level Data to Community, etc.

The profile data will be disseminated in a second community opinion survey (or other opinion-collecting process) and respondents will indicate the desired magnitude of change on the various Indicators and on the priorities.

9) Set Desired Levels, etc.

Given this report on current levels and community preferences, the Trenton Policy-Making group will issue a Policy Memorandum expressing the desired levels which will serve as district-wide goals, the time deadlines, and the priority weightings of the various goals.

10) Use Specific Objectives, etc.

This policy memorandum will be used to generate project designs and develop alternative plans in the STEP System.

ANNUAL REVISIONS

The proposed goal-setting model, it should be noted, is the model for first-time goals; this two-year program of research will not need to be repeated once the first policy memorandum is issued.

Each year, the Policy-Makers will issue a new policy memorandum - but only changes in the previously approved plan's objectives will be repeated. How shall these changes be decided?

The two important influences on the annual goal-setting process are, first, the "base case" forecast, in which the multi-year implications of the currently approved plan are projected, and, second, the annual community input, which, ideally, should take the form of a scientifically designed survey, but can also be done less formally.

Thus, while the STEP system requires multi-year objectives, it allows for annual revision of goals and plans, thereby enhancing its responsiveness and flexibility.

The process of annual goal revision is conceptualized in Chart III.1-2. Note that this process occurs in the on-going system, and the Policy-Makers will already have a strategic plan from the previous year. If the forecasts developed in the earlier plan have proved accurate, and the desired levels have not changed, the Policy-Makers may elect to re-approve last year's plan, which means that a new "fifth year" will be added to it.

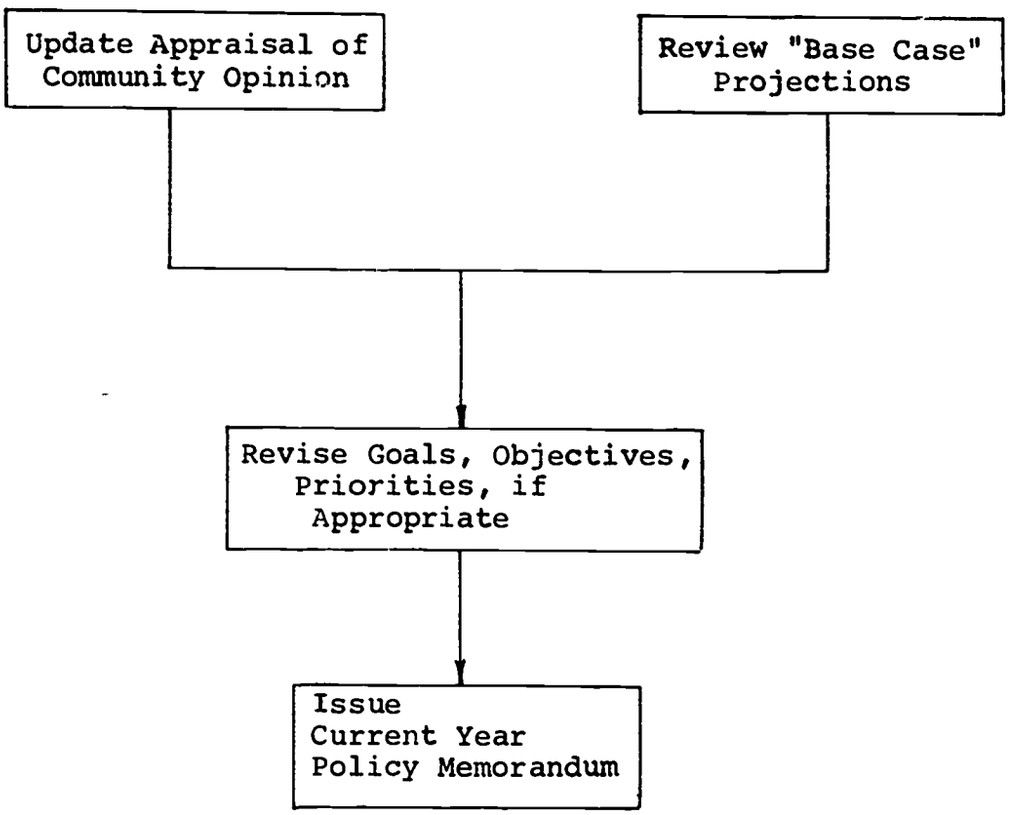


CHART III.1-2

REVISING GOALS

Priorities

"Priorities" is an overworked term in administrative discourse, but in STEP it has a limited and significant meaning.

Priority-judgments are reflected in the specific weighting of the several school district objectives. These judgments are expressed quantitatively in one of two forms:

a. Weak form - the various objectives of the district (gaps to be closed) are ranked from most important to least important, and are roughly divided into High, Middle, and Low Priority.

b. Strong form - the units of change on the various Indicators, or the total gap in the objective, are given specific relative weightings; for instance, the policy makers decide how many units of value - "utiles" - will be associated with a "1% decrease in drop-out rate;" or a "1% increase in the number of students reading above grade level" (if those are two of the Indicators), or two of the objectives, such as "5% decrease in drop-out rate" or "10% increase in students reading above grade level" are assigned relative importance.

The mathematical weights associated with the strong form (a form that will eventually be realized in STEP) are used to adjust the effect predictions of the various plans, so that a single estimate of expected benefit can be assigned to each alternative plan that is being considered.

Thus, "priority" becomes more than a word in discussing plans; it becomes a formal expression of the values and philosophy of the policy-makers (influenced by outside opinions), which, in turn, becomes mathematically binding upon plan selection and resource allocation decisions.

The proposed goal-setting model in no way abridges the policy prerogatives of the Board and executive administrators; it does, in contrast, provide a framework for expressing the prevailing educational philosophy and values of TPS decision-makers in a specific, workable format, so that discussions of goals will be less rhetorical and more action-oriented; it also provides a rational framework for making the "go/no-go" decisions that are necessary in the scarce economy of the district.

The proposed approach also ensures community participation in the goal-setting process, and thus enhances the community's stake in the district's plans. The Policy-Makers should be cautioned, however, that failure to incorporate the preferences of the persons consulted may have a negative effect on school-community relations.

This approach addresses both responsiveness and effectiveness. The full range of advantages cannot be appreciated until the people who will use these procedures have "hands-on" experience in framing policy memoranda.

CURRENT STEP INDICATORS

Introduction

Using the procedure described above, the Trenton Public Schools Administration, on the basis of community survey data, in consultation with the Board of Education, has developed a first list of Indicators, most of which may be regarded clearly as "outputs," others as interesting process characteristics. The Indicator Scales, in their current form are grouped into the following categories:

Student Performance

Student Characteristics

School-Community Interface

District Characteristics

The Indicators are discussed below. For each Indicator there is an identification and comments on its measurement and meaning.

Indicators: 1972 Version

Student Performance

1. Distance from Grade on Standardized Test of Reading/Language Arts Competence.

This Indicator reflects the difference between the mean grade equivalent score for the entire student body, or subset of the student body, and the appropriate grade equivalence.

Current estimates indicate that the 1-6 student population is about 1.25 years below grade, and the 7-12 population is at least 2 years below expected levels. This data, at present, is highly problematical; currently, reading performance is assessed with a wide variety of instruments, many of which are of suspect reliability for the population tested; many students are over-tested, causing interference in the accuracy of their scores. GSS recommends that the district develop an integrated, properly administered reading test program, and that it consider development of a TPS battery based on emerging curriculum objectives (that is, criterion-referenced).

2. Distance from Grade on Standardized Test of Math/Science Competence

Comments made on Indicator 1, apply to Indicator 2 as well.

3. Percentage of Students Entering First Grade with Acceptable Reading Readiness

This Indicator focuses on the Early Childhood instructional program, unlike most other Indicators which refer to overall district characteristics. Current estimates indicate that about 75% of the student satisfy the criterion, but this data should be augmented with a more systematic testing program, administered at the beginning of first grade, rather than at the end of pre-school. (The test may be used at other times for diagnostic or other uses, but as a source of Indicator data it should be administered in the first grade.)

4. Drop-Out Rate

Current estimates of drop-out for the 10-12 population vary from 15 - 20%. Also, current data does not reflect many students who "disappear" between 9th and 10th grade, as well as counting two or three times students who go in and out of high school. To collect drop-out data, as well as data on all other student-related indicators the TPS should implement as quickly as possible a student numbering system which will allow the district's research and evaluation staff to monitor the progress of students through the grades, and calculate each year the number of students retained, transferred, dropping out, or returning to the district.

5. Percentage of Students Graduating with Salable Vocational Skill

Each student about to graduate from TPS should be interviewed or tested to ascertain whether, if he were to pursue no further education, he is competent to find work within a few months of graduation; the fact that a student has completed a commercial or occupational program does not in itself mean that he has a salable skill. The student's post high school aspirations should also be recorded at that time, after he or she has consulted with a guidance counselor.

6. Percentages of Graduates Fulfilling Post High School Aspirations

TPS should implement a regular follow-up of graduates, at one, three, and five-year intervals to assess performance after high school. Current high school follow-up procedures

employed in New Jersey - the "postcard" approach -- are inadequate for obvious reasons. The district need not survey all graduates, but may sample a portion of them -- according to a representative sampling plan -- and relate data to the Post High School Aspirations record before graduation. A student may be said to have met, failed to meet, or exceeded those aspirations. Indicator 6 records the percentage that have met or exceeded expectations.

Student Body Characteristics

7. Average Daily Attendance

The average daily attendance for each year will be computed from existing data resources. Some care must be taken, however, to improve the reliability of absence reporting in the High School, where attendance analysis is more complex.

8. Percentage of Students in Sub-standard or Deteriorating Facilities

Sub-standard facilities may refer to the technical classification scheme used by the State Department of Education, or a local set of standards for acceptable facilities may be developed. Annually the district must assess the proportion of its students who attend school in classrooms or buildings which are unsafe, unhealthy, esthetically offensive, or inadequate for proper instruction.

9. Disruption Index

The disruption index is an aggregate of data on discipline referrals, suspensions, and expulsions. The index is calculated

by computing the mean incidence per month of each type of occurrence; the discipline referral number is multiplied by 1, the suspensions by 2, and the expulsions by 3. The total is the disruption index.

[Mean Disc. Referrals/mo. + (2) Mean Suspensions/mo. + (3) Expulsions/mo. = DI]

10. Incidence/Month of Disruptions Involving Students of Different Races

To collect this data, all TPS employees will be required to note such instances and report them monthly. For Indicator purposes, student names and description of the incident is unnecessary.

11. Incidence/Month of Harm or Damage Done to Students Due to Delinquent Or Criminal Behavior

Cases of assault, theft, etc., in which a local or state law is violated.

12. Percentage of Time Spent by Typical Student in School-supervised Physical Education or Recreation

This data should be assessed by a periodic sampling of student time utilization, for an appropriately designed sample of students. The result should be a "profile" of time utilization for students as a whole and selected subsets of the whole.

School-Community Interface

13. Percentage of Eligible Citizens in Trenton participating in Adult and Continuing Education

Every three-five years an assessment is made of the number

of persons eligible for the various educational activities for drop outs and adults; the percentage of that total enrolled in any year, is the Indicator value for that year.

14. Percentage of Citizens in Trenton Knowing Certain Facts About the TPS

Each year, the Office of Research, Planning, and Evaluation will develop a questionnaire including questions that adults in the community should be expected to answer. A small, appropriately designed sample will be used to determine the extent of community knowledge in Trenton.

15. Percentage of Positions in TPS Held by Community Members

The ratio of TPS jobs held by members of the community to total positions in the school district.

District Characteristics

16. Ratio of Classroom Teachers in Service to Average Daily Attendance

Teachers on leave or sabbatical are not counted, but substitutes are; average attendance is a more meaningful base than enrollment.

17. Books per Student in Library Holdings

18. Percentage of Teachers in Service with Less than Full Certification

This percentage should include full-time substitutes, and part-time substitutes equated to full time equivalents (unless the substitutes are certified).

19. Percentage of Teachers in Service with M.A. or Better

The district may use 30 Graduate Hours as equivalent to the MA.

20. Expenditure per Student

For total unweighted enrollment; for weighted enrollment; for each instructional program (7).

FUNCTIONS OF INDICATORS

Assessing District Performance

The most direct use of the Indicator scales (those described or others which may be added) is to develop a profile of the school district on those dimensions most interesting to the community and staff. Indicators are the basis for the performance profile, the index of school district output, whereas reports from the other modules of the system may be regarded as demand forecasts (enrollment), resource requirements forecast, and revenue feasibility forecasts.

Several current administrative functions are supported by the Indicator data, including reports to the community, assessment data for the state, and "needs" analysis for developing proposals.

Needs Analysis

In STEP, "need" is a condition in which the current or expected level of performance on an Indicator is different from the desired or acceptable level. A goal is a desired level on an Indicator, and a need is any condition other than achieving the desired level. The importance or gravity of a "need" is function of, a) the size of the gap between expected and desired levels, and b) the priority or weight of the units on that scale.

Base Case Projection

Indicator scales are the basis of the Performance forecast in the "base case" plan. Starting with current year performance data (actually CY-1 data), the Review Group estimates the Year 1 - Year 5 performance of the district, assuming no change in policies or programs. This forecast is performed using any group dynamic consensus technique judged appropriate. The Delphi Technique, as it may be applied to this process, in described in the Appendix of this manual.

Alternative Case Projections

Starting with the performance forecast in the base case, the Review Group adds (or subtracts) estimated changes in performance as a function of project designs. Each design includes an estimate of the project's impact on the district's Indicators. The Review Group first confirms or revises these estimates, and then identifies the aggregate effects of various project combinations. That is, the Review Group judges whether the combined effects of two or more projects should be simply added, or whether some other estimate is more reasonable; again, Delphi may be used for this purpose.

INDICATOR REPORTS

Annual Performance Profile

Each year the planning staff develops a profile report on district Indicator performance, based on May-June assessment data from CY-1. The information, at the discretion of the users, must be presented for at least the district as a whole, but also may be aggregated on a Program or Site basis.

Indicator Reference Projection

The five year performance forecast on the Indicators, assuming no change in district policies or plans, is developed by the Review Group and incorporated into the Base Case Report.

Annual Policy Memo

The senior policy makers in the district develop the annual policy memo from the Base Case plan. In it are shown the expected levels on Indicators, the desired levels in each of the five years, the gaps to be closed, and the priorities among the various gaps.

Alternative Case Indicator Projections

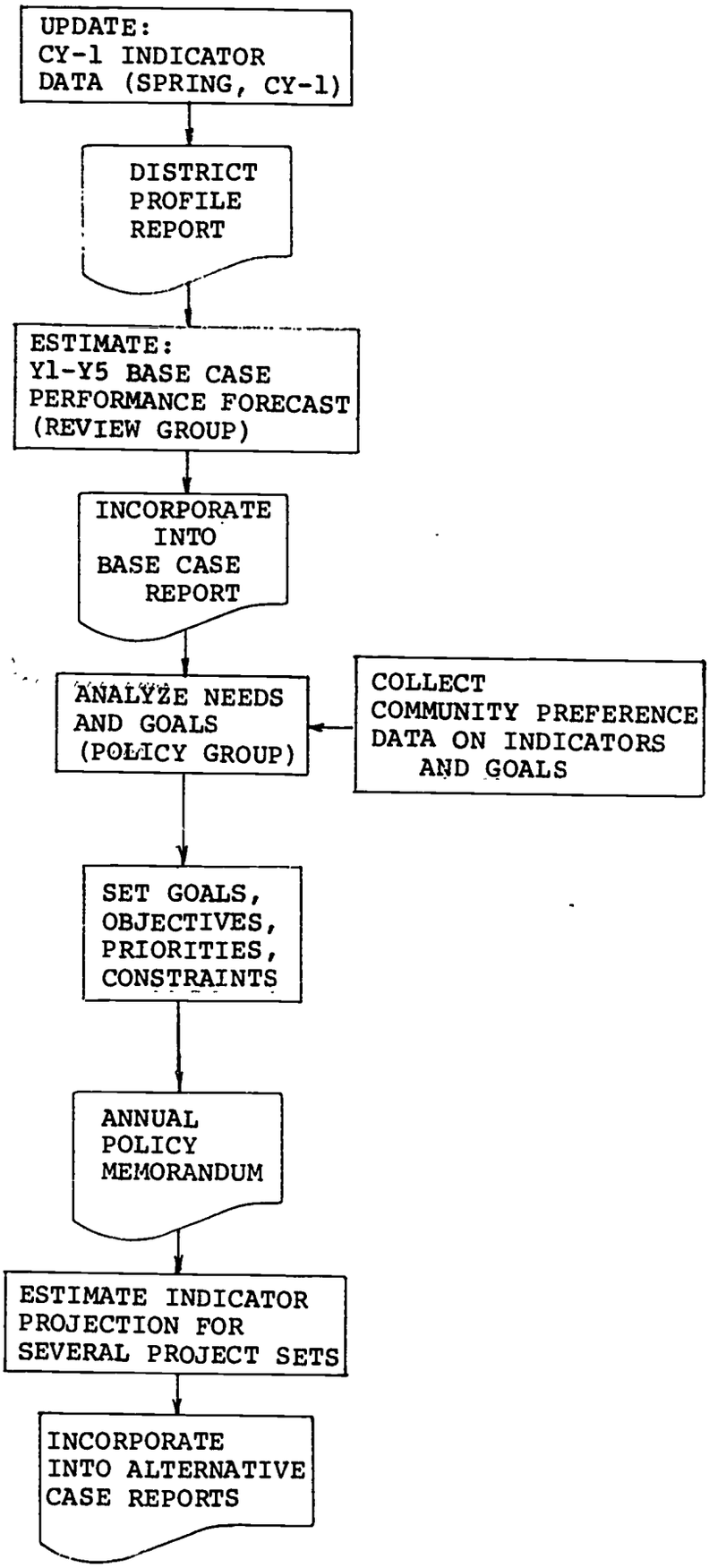
For each set of projects defined as an alternative plan, the Review Group estimates an alternative Indicator forecast. This analysis is incorporated into the Alternative Case Plan.

Flow of Indicator Information

Chart III.1-3 shows the flow of data collection, analysis, and reports associated with the school district's Indicators.

CHART III.1-3

FLOW OF INDICATOR INFORMATION



III.2 ENROLLMENT FORECASTING MODULE

INTRODUCTION AND CONCEPTUAL DESIGN

FUNCTIONS OF THE MODULE

In STEP, the environmental demands upon the school district are analyzed in the enrollment forecasting procedure. The output of the procedure is a five year projection of annual school enrollment, by ethnic group, by school, by grade level, and by instructional program. This data, in itself, is useful to program planners and managers, since it provides information traditionally required to anticipate staff and facilities needs. Because, however, total enrollment in the district is not likely to change dramatically in the next several years, the model produces more detailed information about the ethnic groupings of students, which are frequently related to curriculum planning, particularly where Spanish-American students are concerned.

In addition to these intrinsic uses of the enrollment forecaster, the information is also necessary to drive the cost/resource requirements forecaster of the system. That is, many of the costs and other resources in the system vary as a function of numbers and types of students. In addition, the current state revenue calculation

is built on enrollment estimates, so that multi-year enrollment projects are useful in generating multi-year revenue forecasts as well. This procedure also projects AFDC population in the district, which is also related to subsidies and several grant programs.

Design

The enrollment calculation procedure is based on the relationship between community population and public school population, rather than on retention ratios typically used in enrollment forecasts. In Trenton, the most sensitive enrollment-influencing variables are patterns of in and out-migration, as well as a high rate of mobility within the community itself. Population changes in Trenton are not as much a function of housing development as they would be in suburban or expanding communities; there are not simple growth rates for the number of dwellings or new housing starts. Instead, historical data shows slight increases in school age population associated with a stable or slightly diminishing number of housing units. Moreover, as a characteristic of older communities, there is an appreciable shift in the distribution of students from the lower to higher grades, causing problematical demands on existing school resources. For these reasons, and others, GSS

believes that the approach employed will be generally applicable to urban communities in New Jersey and elsewhere.

Enrollments, thus, are calculated as a function of aggregate population, ethnic population mixes, and location of the population in the census tracts of the community. The first routine in the program is the forecasting of the white, non-white, and total populations of the community, using time-trending ratios derived from historical census data in the community; to this is input an estimate of the current Spanish surnamed population, based on information provided from community and government organizations.

After this aggregate, a five-year population forecast, by ethnicity, by census tract is completed, then the total current enrollment of the district is calculated, across schools, grades, and ethnic groups, on the basis of current actual data. The ratio between public school enrollment and general population in the current year is used as a planning factor for developing the five-ye. public school population, by grade, by ethnic group, by census tract. Data from census tracts is automatically "crosswalked" by a computer program

into school service boundaries, and the appropriate proportion of school children from each tract is assigned to the opposite school and program. (This feature of the model also allows, therefore, simulation of the effects of alternative school service boundaries.)

At present, the forecaster provides detailed enrollment projects for each sub-program in the Early Childhood, Primary, Elementary, and Intermediate instructional programs; at the Secondary level, however, it currently provides a distribution of students in Vocational and Non-Vocational program areas, based on an extrapolation of current parametric relationships; similarly, the enrollment in Adult and Continuing Education, and Special Education, are forecast by extrapolating the current ratio of enrollments in those programs to community population, and extrapolating based on changes in overall population.

It should be understood by users of the enrollment forecasting procedure that it does not necessarily provide highly precise projections; it is not a "crystal ball," and will not entirely replace expert, experienced judgment on enrollment matters. Its function is to define an accurate estimate, based on a number of explicit assumptions by the users. Indeed, alternate enrollment projects can be generated

by changing those assumptions. In addition, it is expected that users will, from time to time, override the output of the forecast when other information, not represented in the model, becomes available. Users should note that the enrollment forecast is the extrapolation of existing trends and that these trends may change. In fact, a main use of the forecaster will be the analysis of changing trends which will dictate different assumptions to the users.

Milestones in Using the Procedure

Developing multi-year enrollment projections requires the user to go through several stages of preparation and execution. These are summarized below:

Study of the General Model and Approach - Users should study the manual, to become familiar with the logic of the model, the assumptions on which it is based, the options available to the user, and the reports that are produced.

Study of the Data Requirements - users should know the requisite "inputs" to the model, know which facts must be gathered, what sources of information and judgment to consult, and what decision options may be employed in organizing or stipulating the inputs.

Data Preparation - All required inputs should be known, sources and forms of data required, completion of forms in appropriate formats, etc.

Keypunching - Conversion of input preparation forms to punched cards, according to instructions in the manual.

Arrangement of Card Deck - preparing JCL cards (job control language), arranging the Enrollment Module card deck in the correct order, and running the job at a computer facility.

Review of Output Reports - Analysis of reports by planning analysts and other users to interpret outcomes, identify problems, and, if necessary, prepare data and cards for re-runs.

Final Approval and Override - determination of planning analyst of disposition of output, including manual overrides if judged appropriate; extraction of data which will be used as input to other modules in the system.

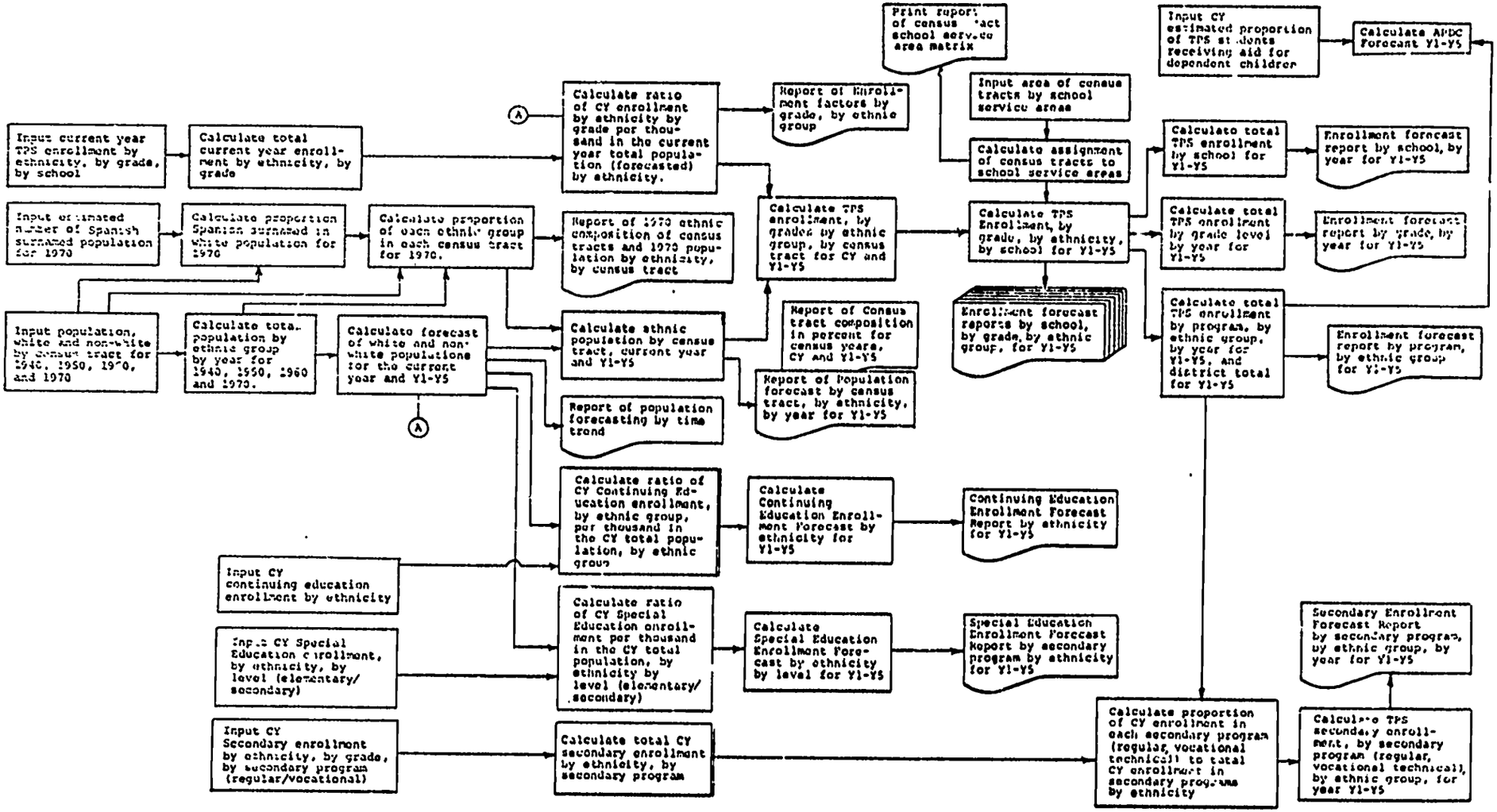
These major activities must be executed in the order above; failure to complete any of them will either prevent the procedure from operating, or reduce the quality of the resulting reports. In general, each of the automated procedures in this manual requires this sequence of activities of the users.

Conceptual Model

Chart III.2-1 shows, at a summary level, the flow of information and computation in the enrollment forecasting procedure. A more detailed definition of the inputs and output reports, as well as a listing of the computer program, follow in this section.

Chart III.2-1

Conceptual Flow, STEP Enrollment Module



ENROLLMENT MODULE USER PROCEDURES

DATA REQUIREMENTS

1. Data elements input to the Enrollment Module computer program can be grouped into two classes: data variables and computer program permanent data requirements. In the former category are current year and historical population and enrollment data. These data are collected from existing data sources, such as U.S. Census reports and school records.

   The second category includes data used both to control some aspect of internal computer processing and to format output reports. Examples which fall into this latter group are run control data, such as the number of census tracts, the number of schools in the public school system, etc., school titles, year and grade titles, etc. Run control data requires that the analyst be knowledgeable about the school district and the city. Table III.2-a lists the data requirements for the Enrollment Module.

TABLE III.2-a ENROLLMENT MODULE DATA REQUIREMENTS

Computer Program Permanent Data Requirements

Run control data (see RUN CONTROL card format).

School name and school code for each school in the public school system.

Ethnic group title and code for each ethnic group for which enrollments are forecast.

Year title for each census year, current year, and each forecast year.

Grade title for each grade taught (PK-12) in the public school system.

Instructional program title for each instructional program defined by the program structure.

Program title for remaining programs for which enrollments are forecasted.

Initial Conditions

Ethnic group population by census tract for census years - 1940, 1950, 1960, and 1970.

Current year public enrollment by ethnic group by grade within school

Current year public enrollment in Special Education by ethnic group by grade within school.

Current year public enrollment by ethnic group for Continuing Education.

Current year public enrollment by ethnic group by grade within secondary program.

Current year grade group occurrence by school.

Current year assignment of school service areas by census tract.

Area of each 1970 census tract.

DESCRIPTION OF ENROLLMENT MODULE RUNS

1. The initial ENROLLMENT MODULE run requires the preparation and input of 16 different input card types. Enrollment forecasts by school are generated based upon a five year population based forecast calculated by the computer program.

   For second and subsequent runs of the ENROLLMENT MODULE computer program, the user can chose to exercise one or both override options, in which case additional input card types are required. One option feature permits the user to bypass the computer based population forecast calculation and to input directly the Y1-Y5 population estimates by ethnic group. The second option feature allows the user to override forecasted school enrollments and input for a specific forecast year estimates by ethnic group X by grade within school. These options may be exercised together or individually. All output reports generated with the override in effect are so noted with an English language descriptor displayed on the printout.

2. The overall order of data input cards for initial and subsequent runs of the ENROLLMENT MODULE are given in Table III.2-b. In most instances, several cards of the same type are required as input. For example, a SCHOOL TITLE card must be prepared for each school in the district, while only one RUN CONTROL card is required.

TABLE III.2-b OVERALL ORDER OF ENROLLMENT MODULE COMPUTER PROGRAM DATA INPUT CARDS

- Run control card
- Set of school title cards
- Set of ethnic title cards
- Set of year title cards
- Set of grade title cards
- Set of grade group title cards
- Set of program title cards
- Set of census tract area cards
- Set of population data cards
- Spanish population data card
- Population forecast override data card for Initial Run or a Set of population forecast override data cards for subsequent runs.
- Set of school enrollment data cards
- Set of school service area assignment cards
- Set of grade group occurrence cards
- Enrollment forecast option flag card only for Initial Run or a set of enrollment forecast override data cards for subsequent runs
- Set of Secondary enrollment data cards
- Set of Special Education enrollment cards
- Continuing Education enrollment card

GENERAL INSTRUCTIONS FOR RECORDING INPUT DATA

1. Record input data on either IBM Form X20-8030-03 UM/025, General Purpose Card Punching Form, IBM Form GX28-7327-6 U/M050, FORTRAN Coding Form, or specific forms discussed below.

2. On each coding form completed, enter the program title "Enrollment Module" or "ENR", the name of the person completing the input forms, and the preparation date in the space provided. Retain actual sources of data and/or name of data source for future reference.

3. A data card consists of a number of fields. Each field is a consecutive set of columns on an 80 column card. There are two types of fields: numeric and alpha-numeric. The general form of data specifications or formats are the numeric forms nIw and nFw.d, and the alpha-numeric form nAw. The field format notation has the following meaning.

Specification	Type of Field
Iw	integer (numeric)
Fw.d	real number (without an exponent) - (numeric)
Aw	alpha-numeric

a. w is the width of the whole field (total number of columns in the field including a decimal point, if the specification is F)

b. d is the number of digits to the right of the decimal point

c. the decimal point is annotated in a card column, and is included in the width specification

d. where successive input or output fields are identical in format, an unsigned integer constant preceding one format specification, indicates the number of times that specification is repeated (F6.2, F6.2 is equivalent to 2F6.2)

e. Spacing is indicated by the general form nX, which causes n spaces or blanks to be inputted

f. Several examples will illustrate how data is to be recorded based on the card format specifications using the above definitions. Numeric fields are to contain numbers which are either numeric codes such as card

format types or numeric quantities such as enrollment data, population data, etc. For every integer type numeric field a decimal point is not written in the field and the numbers should be right justified. For example, the number 1,789 written for field specified as 18 would look like this: | | | | | 1 | 7 | 8 | 9 |.

For a real number type numeric field, a decimal point is written in the card column preceding the number of places to the right of the decimal point. The number should also be right-justified. For example, the percent 50.8 (%) written for a field specified as F5.3 would look like this: | | . | 5 | 0 | 8 | , and 202837.00 written for a field specified as F10.0 would look like: | | | 2 | 2 | 8 | 3 | 7 | . |

Alpha-numeric fields are to contain titles, e.g., titles of the ethnic groups, schools, program, etc. Titles consist of alphabetic and numeric characters and blank spaces. Since what is written in the field is printed "as is" on output reports, titles should be left justified to improve the appearance and clarity of reports. If the format of an alpha-numeric field is 6A4 (24 columns) and the title kindergarten is to be recorded, it should look like this:

K	I	N	D	E	R	G	A	R	T	E	N												

If the format specified for an input card is 3F10.0, and the numbers to be recorded are 178,671, 328,765, and 487,651.25, the data would be written as:

			1	7	8	6	7	1	.			3	2	8	7	6	5	.			4	8	7	6	5	1	.

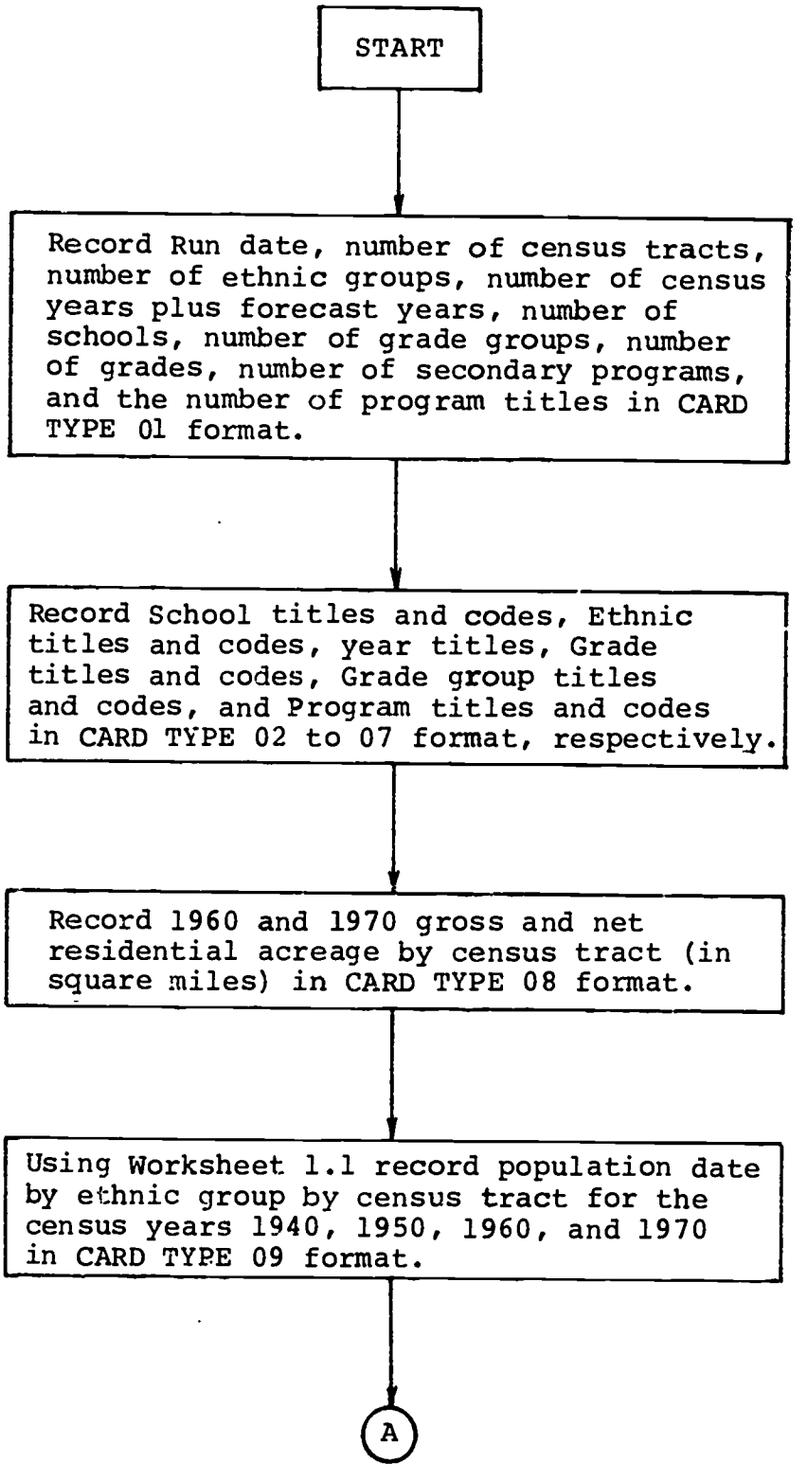
Note that for the last number the decimals were dropped.

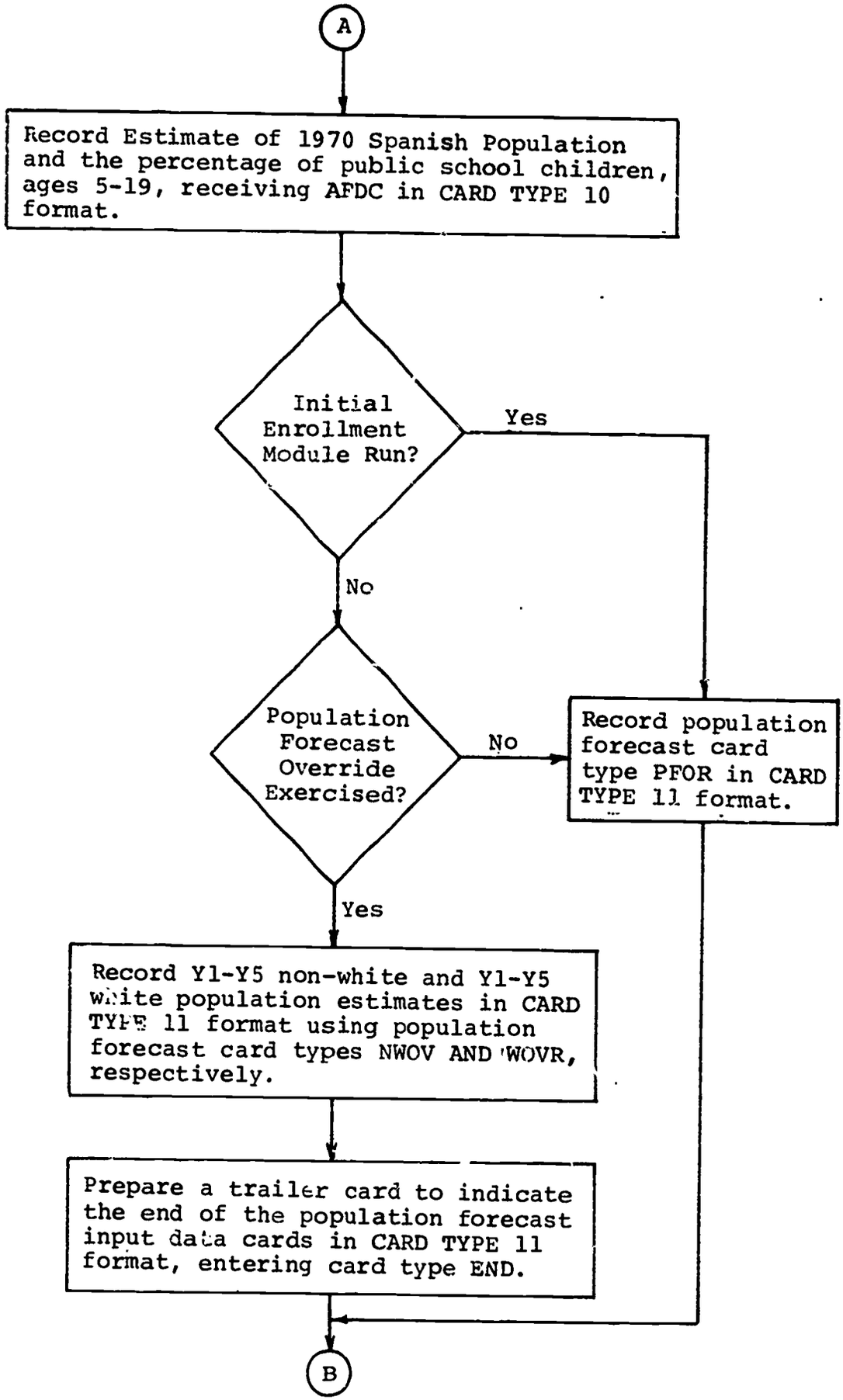
4. Chart III.2-2 presents in flowchart format the steps to be followed in completing the data cards for the ENROLLMENT MODULE.

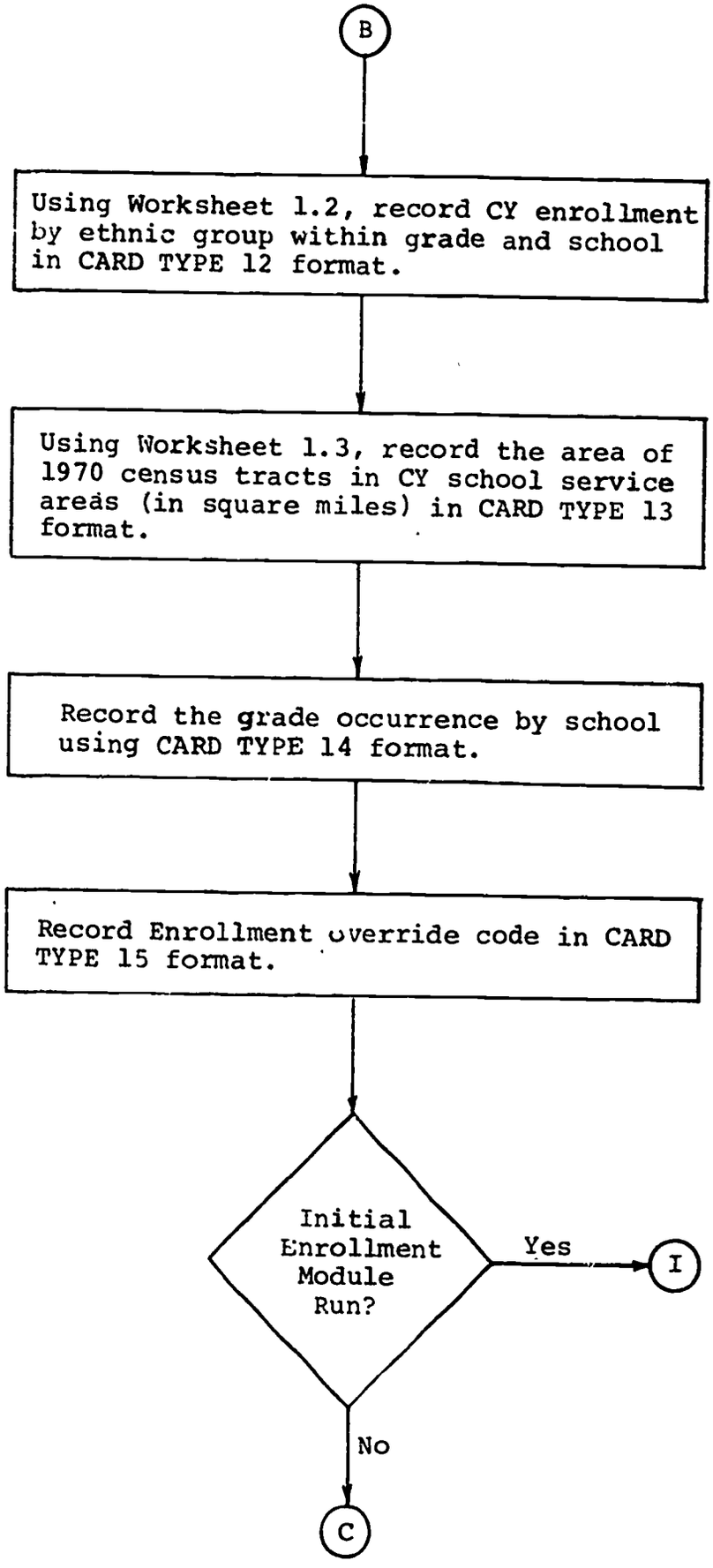
5. Collect completed forms and keypunch directly from the coded forms.

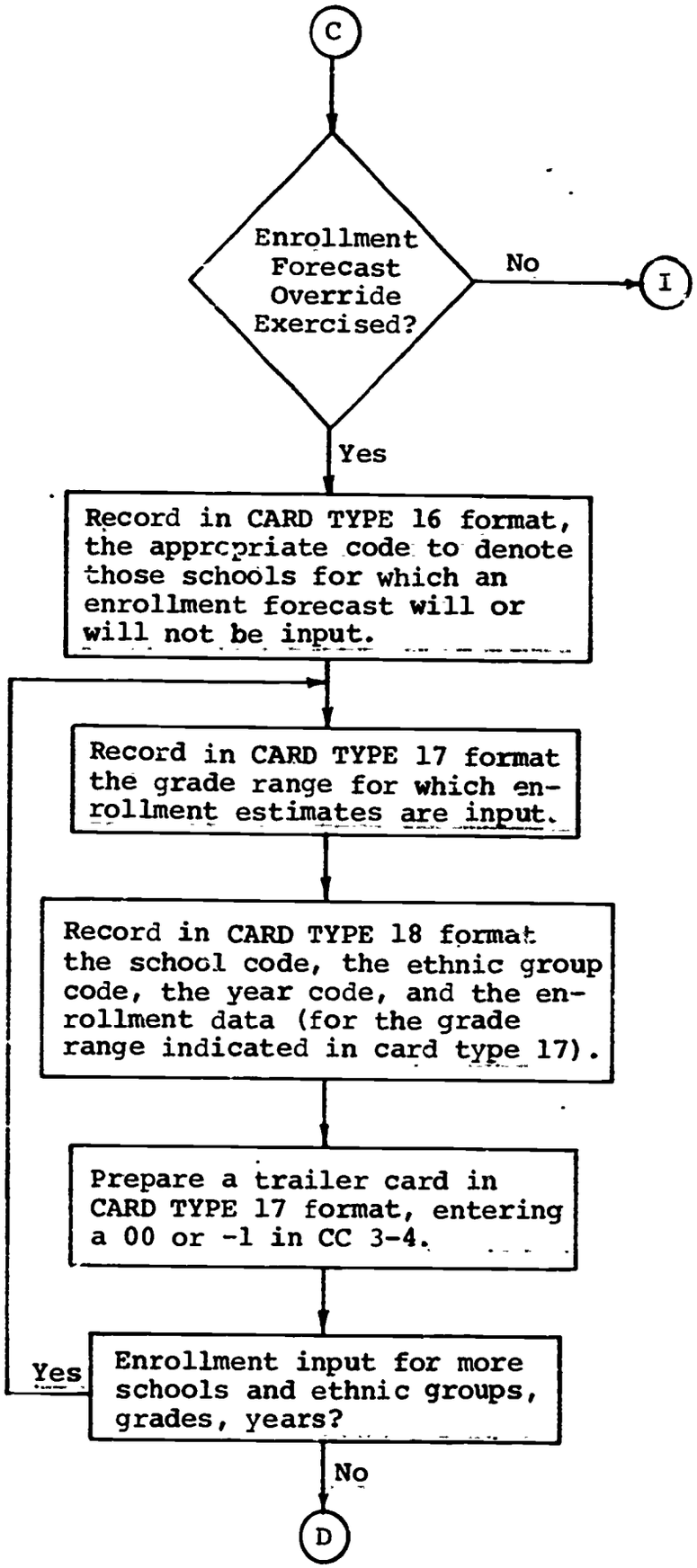
CHART III.2-2

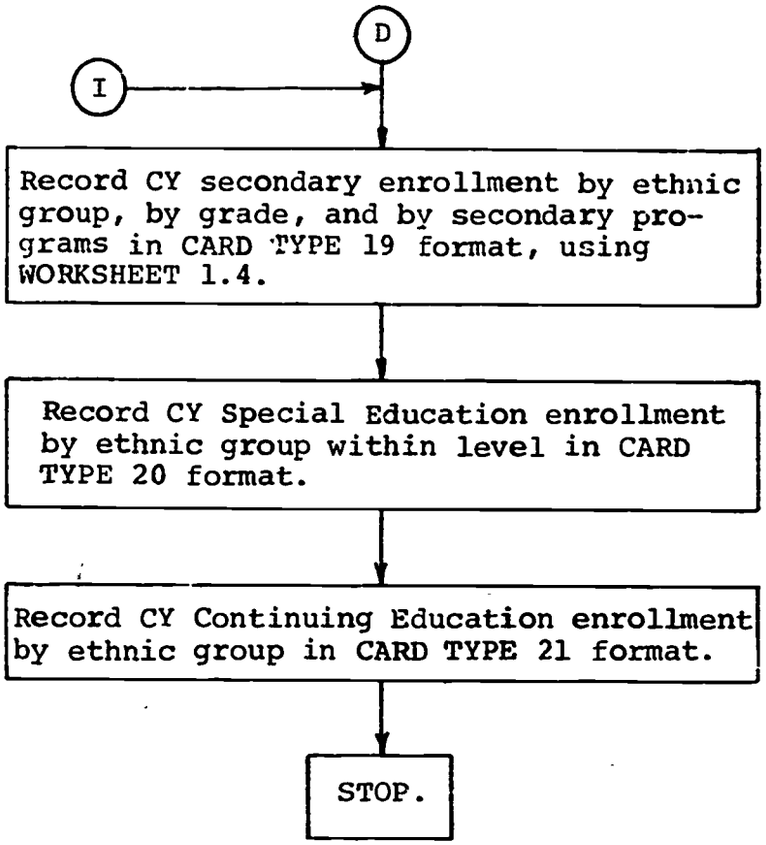
FLOWCHART OF STEPS FOR RECORDING DATA CARDS
FOR
ENROLLMENT MODULE COMPUTER PROGRAM




A
Record Estimate of 1970 Spanish Population and the percentage of public school children, ages 5-19, receiving AFDC in CARD TYPE 10 format.
Initial Enrollment Module Run?
Yes
No
Population Forecast Override Exercised?
No
Record population forecast card type PFOR in CARD TYPE 11 format.
Yes
Record Y1-Y5 non-white and Y1-Y5 white population estimates in CARD TYPE 11 format using population forecast card types NWOV AND WOVR, respectively.
Prepare a trailer card to indicate the end of the population forecast input data cards in CARD TYPE 11 format, entering card type END.
B


B
Using Worksheet 1.2, record CY enrollment by ethnic group within grade and school in CARD TYPE 12 format.
Using Worksheet 1.3, record the area of 1970 census tracts in CY school service areas (in square miles) in CARD TYPE 13 format.
Record the grade occurrence by school using CARD TYPE 14 format.
Record Enrollment override code in CARD TYPE 15 format.
Initial Enrollment Module Run?
Yes
I
No
C


C
Enrollment Forecast Override Exercised?
No
I
Yes
Record in CARD TYPE 16 format, the appropriate code to denote those schools for which an enrollment forecast will or will not be input.
Record in CARD TYPE 17 format the grade range for which enrollment estimates are input.
Record in CARD TYPE 18 format the school code, the ethnic group code, the year code, and the enrollment data (for the grade range indicated in card type 17).
Prepare a trailer card in CARD TYPE 17 format, entering a 00 or -1 in CC 3-4.
Enrollment input for more schools and ethnic groups, grades, years?
Yes
No
D


D
I
Record CY secondary enrollment by ethnic group, by grade, and by secondary programs in CARD TYPE 19 format, using WORKSHEET 1.4.
Record CY Special Education enrollment by ethnic group within level in CARD TYPE 20 format.
Record CY Continuing Education enrollment by ethnic group in CARD TYPE 21 format.
STOP.

INPUT CARDS - PURPOSES, FORMATS, AND

DATA ESTIMATION

1. Run Control Card

a. PURPOSE. The RUN CONTROL card inputs the date of the computer run and the values of variables used as DO-parameters during computer processing. The run date is also used to label all output reports.

b. Prepare a RUN CONTROL card in CARD TYPE 01 format as follows:

(1) Number of census tracts equals number of census tracts + 1, or 23. Twenty-three is accounted for by 22 populated census tracts plus additional storage to save totals across all census tracts. Although the City of Trenton is divided into 24 census tract, census tracts 23 and 24 are not included, since these represent a State mental hospital and a State prison, respectively.

(2) The number of ethnic groups for which enrollment estimates are to be made is equal to the number of ethnic groups + 1, or four. Table III.2-c below lists the ethnic groups for which enrollment forecasts are generated plus storage for storing totals across ethnic group.

Table III.2-c Ethnic Groups and Codes for the Enrollment Module

ETHNIC GROUP	CODE
BLACK	01 or 1
SPANISH	02 or 2
OTHER	03 or 3
TOTAL	04 or 4

(3) The variable NOYRS equals 10, and is the sum of the following:

Number of census years on which population forecast is based (4 years for 1940, 1950, 1960, and 1970) + the current year (1) + the number of years for which enrollments are forecasted (usually five).

(4) The total number of schools in the district for which enrollments are forecasted equals 24. Table III.2-d lists the codes and the school names.

(5) The number of instructional programs or grade groups equals five. Table III.2-e lists the instructional program titles, the grade group titles corresponding to the program name, and the instructional program or grade group code.

Table III.2-d School Names and Codes, 1972.

Level	School	Code	Grade Occurrence
Elementary	Cadwalader	01	K-5
	Columbus	02	K-6
	Cook	03	K-5
	Franklin	04	K-6
	Grant	05	K-6
	Gregory	06	K-6
	Harrison	07	K-6
	Jefferson	08	K-6
	Junior 2 Elementary	09	K-6
	Junior 3 Elementary	10	K-6
	Junior 5 Elementary	11	K-6
	Monument	12	K-6
	Mott	13	K-6
	Parker	14	K-6
	Robbins	15	K-6
	Stokes	16	K-6
	Washington	17	K-6
	Wilson	18	K-6
Secondary	Junior High 1	19	7-9
	Junior High 2	20	7-9
	Junior High 3	21	7-9
	Junior High 4	22	7-9
	Junior High 5	23	7-9
	Trenton Senior High	24	10-12

Table III.2-e Instruction Program Titles and Codes

Program Title	Grade Group Title	Grade Group Code
Early Childhood	PK-K	01
Primary	1-3	02
Elementary	4-6	03
Intermediate	7-9	04
Secondary	10-12	05

(6) The number of unique grades taught in the district is fourteen, pre-kindergarten to grade 12. Refer to Table III.2-f for the grade titles and grade codes.

Table III.2-f Grade Title List and Codes

Grade Title	Code
PK	01
K	02
1st	03
2nd	04
3rd	05
4th	06
5th	07
6th	08
7th	09
8th	10
9th	11
10th	12
11th	13
12th	14
TOTAL	15

(7) The number of secondary level instructional programs equals 2, Vocational-Technical and Regular.

(8) The number of program names used to format output reports equals 19. Refer to Table III.2-g for the current list of program identifiers.

TABLE III.2-g - PROGRAM TITLES AND CODES

PROGRAM TITLE	PROGRAM TITLE CODE
Early Childhood	01
Primary (1-3)	02
Elementary (4-6)	03
Intermediate (7-9)	04
Secondary (10-12)	05
Regular	06
Vocational-Technical	07
Job Preparatory (Non-VT)	08
General and Unclassified	09
Ethnic Subtotal	10
Kindergarten	11
Grades 1 to 6	12
Grades 7 to 9	13
Grades 10 to 12 - Regular	14
Grades 10 to 12 - Voc. Tech.	15
Continuing Education	16
Special Classes	17
AFDC Estimate for TPS	18
Total Enrollment	19

CARD TYPE 01 - RUN CONTROL CARD (Format 3A4,I4,2I3,I4,I3,3I2,4X)

Card Columns	Data To Be Entered
CC1-12	Run date.
CC13-16	Number of census tracts in the school district.
CC17-19	Number of ethnic groups for which enrollment is estimated.
CC20-22	Number of years of census data input plus number of years for which enrollments are forecasted.
CC23-26	Number of schools in the district.
CC27-29	Number of instructional programs defined by STEP.
CC30-31	Number of grades in the instructional program.
CC32-33	Number of secondary level instructional programs.
CC34-35	Number of output report titles to be input.
CC40-41	CARD TYPE 01
CC42-43	Run number.

2. School Title Card

a. Purpose. The SCHOOL TITLE card is used to input the names of the schools in the school system. The school names are used to label output reports of school enrollment forecasts.

A SCHOOL TITLE card is prepared for each school in the district. The number of SCHOOL TITLE cards in the set must be equal to the number of schools cited in cc23-26 of the RUN CONTROL card.

Refer to Table III.2-d for the names and codes of schools in the district.

b. Prepare a SCHOOL TITLE card in CARD TYPE 02 format.

c. The overall order of the set of SCHOOL TITLE cards must be in ascending order of the school codes as follows:

(1) Elementary schools in order from code 01 to code 18

(2) Junior high schools in order from code 19 to code 23

(3) and the Senior high school.

CARD TYPE 02 - SCHOOL TITLE CARD (Format - 5A4, 23X)

Card Columns	Data To Be Entered
CC1-20	Name of the school.
CC23-25	School code.
CC40-41	CARD TYPE 02.

3. Ethnic Title Card

a. Purpose. The ETHNIC TITLE card is used to input the names of the ethnic groups for which enrollments are forecasted. The ethnic titles are used to label data fields on various output reports.

The number of ETHNIC TITLE cards in a set must be equal to the total number of ethnic groups cited in CC 17-19 of the RUN CONTROL card. Refer to Table III.2-c for the list of ethnic groups and ethnic group codes being used in the enrollment module. The label TOTAL signifies totals across ethnic groups, and is designated as an ethnic title in order to use the label readily on output reports.

b. Prepare an ETHNIC TITLE card for each ethnic group listed in Table III.2-c in CARD TYPE 03 format.

c. The overall order of the set of ETHNIC TITLE cards must be in ascending ethnic group code order.

CARD TYPE 03 - ETHNIC TITLE CARD (Format -2A4, 35X)

CC 1-8	Ethnic group title.
CC 40-41	CARD TYPE 03 .
CC 42-43	Number of the ethnic group in order of its appearance in the set of ETHNIC TITLE cards.

4. Year Title Card

a. Purpose. The YEAR TITLE card is used to input the year identifiers for the following years:

(1) The four census years 1940, 1950, 1960, and 1970, for which population data is input to the enrollment module.

(2) The current year, i.e. year when model is run.

(3) The forecast years (usually a five year period) for which the enrollment estimations are required.

The year identifiers are also used as labels on practically all output reports.

The number of YEAR TITLE cards in a set must be equal to the number of years cited in CC 20-22 of the RUN CONTROL card.

b. Prepare a YEAR TITLE card for each of the years as explained in paragraph 4a above in CARD TYPE 04 format.

(1) The overall order of the set of YEAR TITLE cards must be in ascending order.

CARD TYPE 04 - YEAR TITLE CARD (Format - I4, 39X)

CC 1-4	Year.
CC 40-41	CARD TYPE 04.
CC 42-43	Number of the YEAR TITLE card in order of its appearance in the set of YEAR TITLE cards.

5. Grade Title Card

a. Purpose. The GRADE TITLE card is used to input the grade identifiers for the school district. The grade titles are used to label data fields on output reports.

The number of GRADE TITLE cards in a set must be equal to the number of grades cited in CC 30-31 of the RUN CONTROL card plus one. The addition of one is used to input the TOTAL label so that it may be used as a row title in formatting output reports.

b. Prepare a GRADE TITLE card for each grade title listed in Table III.2-f in CARD TYPE 05 format.

(1) The overall order of a GRADE TITLE card within the set of GRADE TITLE cards must be in ascending grade code order.

CARD TYPE 05 GRADE TITLE CARD (Format - 2A4, 35X)

CC 1-8	Grade title.
CC 40-41	CARD TYPE 05.
CC 42-43	Number of the GRADE TITLE card in order of its appearance in the set of GRADE TITLE cards.

6. Grade Group Title Card

a. Purpose. The GRADE GROUP TITLE card is used to input the grade group titles corresponding to the instructional program names used in STEP. Table III.2-e lists the grade group and program titles. The grade group titles are used to label data fields on output reports.

The number of GRADE GROUP TITLE cards in a set must be equal to the number of instructional programs cited in CC 27-29 of the RUN CONTROL card.

b. Prepare a GRADE GROUP TITLE card for each grade group title listed in Table III.2-e in accordance with CARD TYPE 06 format.

(1) The overall order of a GRADE GROUP TITLE card within the set of GRADE GROUP TITLE cards must be in ascending grade group code order.

CARD TYPE 06 - GRADE GROUP TITLE CARD (Format - 2A4, 35X)

CC 1-8	Grade group title.
CC 40-41	CARD TYPE 06.
CC 42-43	Number of the GRADE GROUP TITLE card in order of its appearance in the set of GRADE GROUP TITLE cards.

7. Program Title Card

a. Purpose. The PROGRAM TITLE card is used to input the program names used in STEP. The program names are used to label data fields on output reports. Refer to Table III.2-g for a list of program titles currently in use in the Enrollment Module. Program titles 1-5 correspond to the instructional programs used in STEP. Program titles 6-9 refer to the names of secondary programs, however, only the Regular and Vocational-Technical Secondary programs are used in VERSION I of the Enrollment Module.

The number of PROGRAM TITLE cards in a set must be equal to the total number of program names cited in CC 34-35 of the RUN CONTROL cards.

b. Prepare a PROGRAM TITLE card for each title listed in Table III.2-g in CARD TYPE 07.

(1) The overall order of a PROGRAM TITLE card within the set of PROGRAM TITLE cards must be in ascending program title code order.

CARD TYPE 07 - PROGRAM TITLE CARDS (Format - 6A4, 19X)

CC 1-24	Program title.
CC 40-41	CARD TYPE 07.
CC 42-43	Number of the PROGRAM TITLE Card in order of its appearance in the set of PROGRAM TITLE cards.

8. Census Tract Area Card

a. Purpose. The CENSUS TRACT AREA card is used to input the area in acres of each census tract in the school district, and of the school district as a whole. Net residential acreage by census tract is entered for the year 1960, and gross acreage by census tract for 1960 and 1970.

The acreage of each census tract is used to calculate population density be census tract, for each forecast year based upon both 1960 residential area and 1970 gross area.

The number of CENSUS TRACT AREA cards in a set must be equal to the number cited in CC 13-16 of the RUN CONTROL card.

b. Prepare a CENSUS TRACT AREA card for each census tract (1 to 22) and for the school district as a whole (C=23) in CARD TYPE 08 format.

(1) Table III.2-h lists the net residential acreage by census tract for 1960 and the gross acreage by census tract for 1970. Data concerning land use and census tract acreage can be obtained from the City Department of Planning and Development.

(2) The overall order of a CENSUS TRACT AREA card in a set of such cards is in ascending census tract code order.

TABLE III.2-h - NET RESIDENTIAL ACREAGE AND GROSS ACREAGE BY CENSUS TRACT FOR THE CITY OF TRENTON FOR 1960 AND 1970, RESPECTIVELY

CENSUS TRACT	NET RESIDENTIAL ACRES (1960)	GROSS ACRES (1970)
01	41	293
02	56	120
03	87	146
04	82	132
05	70	107
06	84	137
07	43	85
08	33	124
09	97	377
10	46	265
11	91	334
12	132	395
13	152	383
14	148	301
15	69	168
16	24	74
17	84	231
18	72	286
19	39	160
20	42	162
21	108	234
22	112	264
*23	0	151
*24	0	17
25 (TOTAL)	1,712	4,948

* AREAS FOR CENSUS TRACTS 23 and 24 ARE NOT INPUT.

CARD TYPE 08 - CENSUS TRACT AREA CARD (Format - 2X, F5.0, 3X, F6.0, 19X

CC 1-2	Census tract number (also the number of the CENSUS TRACT AREA card in order of its appearance in the set of CENSUS TRACT AREA cards).
CC 3-7	Census tract net residential acreage for 1960.
CC 11-15	Census tract gross acreage for 1960.
CC 19-24	Census tract gross acreage for 1970.
CC 40-41	CARD TYPE 08.

9. Population Data Card

a. Purpose. The POPULATION DATA card is used to input population data by race within census tract for the census years 1940, 1950, 1960, and and 1970.

b. Use of data in enrollment model calculations

The population data is used to project total population by ethnic group for the forecast years, and to calculate population density by census tract for 1960, 1970, and the forecast years.

c. Prepare a POPULATION DATA card for each census tract and census year (1940, 1950, 1960, and 1970) in CARD TYPE 09 format using U. S. census data.

(1) Use WORKSHEET 1.1 to record census data as follows:

(a) Fill in the appropriate year in the blank provided in the title line.

(b) Record the name of the analyst, the date, the data source, and the applicable program (ENROLLMENT MODULE) in the spaces provided.

(c) Census data required as data input to the Enrollment Module may be obtained from the Census for the respective census years. If an ethnic group is not represented in a census tract enter zero.

CARD TYPE 09 - POPULATION DATA CARD (Format - 16X, F7.0, 4X, F7.0, 4X, F7.0)

Card Columns	Data To Be Entered
CC1-2	Census tract number (also the number of the input card in order of its appearance in the set of POPULATION DATA cards).
CC3-6	Census year to which the population data is applicable.
CC9-10	CARD TYPE 09.
CC17-23	Non-white (Black) population for the census tract noted in CC1-2 for census year indicated in CC3-6.
CC28-34	Spanish population for the census tract and the census year noted in CC1-2 and CC3-6, respectively.
CC39-45	All Other population for the census tract and the census year noted in CC1-2 and CC3-6, respectively.

Worksheet 1.1 Census Data by Race Within Census Tract for Census Year ________

Name	Date	Data Source	Program

Record data in the blocks provided (Card Type 09 Format). Keypunch population data input cards directly from Worksheet 1.1.

Census Tract Code	Census Year	Do Not Use	Card Type	Do Not Use	Black Population	Do Not Use	Spanish Population	Do Not Use	Other Population	

10. Spanish Population Data Card

a. Purpose. The Spanish POPULATION DATA card is used to input an estimate of 1970 Total Spanish speaking population, and the percentage of public school children (ages 5-19) in TPS receiving Aid For Dependent Children for the current year.

b. Use of data in enrollment model calculations

The Spanish population is used to calculate the ratio of total Spanish to total Non-white population. The Spanish population by census tract for 1970 is then calculated as the product of the aforementioned ratio time non-white population by census tract for 1970.

c. Prepare a Spanish Population Data card in CARD TYPE 10 format.

CARD TYPE 10 - SPANISH POPULATION DATA CARD (Format - 20X, F7.0, 8X, F6.2)

Card Columns	Data To Be Entered
CC1-2	CARD TYPE 10.
CC3-20	Enter descriptor 1970 EST SPAN POP.
CC21-27	Estimate of total Spanish population for 1970.
CC28-35	Enter PCT AFDC.
CC36-41	Current year estimate of the percentage of children, ages 5-19 in TPS, receiving Aid for Dependent Children (AFDC).

11. Population Override Data Card

a. Purpose. The POPULATION OVERRIDE data card is used to input the method selected for forecasting population, and also the Y1-Y5 population estimates by ethnic group when the population override option is exercised.

b. Population Forecast Selection Options. Two population forecast options are available: calculation of the ethnic group population forecast calculated in using time trending or the direct input by the user of the Y1-Y5 population forecast as estimated by district planners. For the initial ENROLLMENT MODULE run, it is recommended that the forecast be calculated by the program, and that the override option be exercised only on subsequent runs. The override option should be exercised when such action is deemed appropriate based upon careful review and analysis of the calculated forecast. When the population override is used, the planner must input estimates for each ethnic group, non-white and white. Acceptable population estimates calculated by the first ENROLLMENT MODULE run can also be read as input in subsequent computer runs when the override is used. Procedures for exercising the population forecast options are as follows:

(1) Computer program calculation of population forecast:

(a) Prepare one input card in CARD TYPE 11 format, entering PFOR in CC1-4 (the balance of the input card is blank).

(2) Input of population forecast: Override option exercised:

(a) Prepare the following set of three cards in CARD TYPE 11 format:

1) CARD 1. Enter NWOV in CC1-4 and the CY, and Y1-Y5 non-white population estimates in CC7-66, respectively.

2) CARD 2. Enter WOVR in CC1-4 and the CY, and Y1-Y5 white population estimates in CC7-66, respectively.

3) CARD 3. Enter END in CC1-3 (leave the balance of the input card blank). This card signals the end of population forecast input cards to the computer program. Accordingly, the END card is mandatory when exercising the input option and immediately follows the last population forecast input card.

CARD TYPE 11 - POPULATION FORECAST OVERRIDE DATA CARD (Format - A4, 2X, 6F10.0)

Card Columns	Data To Be Entered
CC1-4	Card type identifier.
CC5-6	Ethnic group code (Non-white = 01, White = 02).
CC7-16	CY population estimate for the ethnic group cited in CC5-6.
CC17-26	Y1 population estimate for the ethnic group cited in CC5-6.
CC27-36	Y2 population estimate for the ethnic group cited in CC5-6.
CC37-46	Y3 population estimate for the ethnic group cited in CC5-6.
CC47-56	Y4 population estimate for the ethnic group cited in CC5-6.
CC57-66	Y5 population estimate for the ethnic group cited in CC5-6.

NOTE: CC 7-16 are blank if the Card type identifier is PFOR or END.

12. Enrollment Data Card

a. PURPOSE. The ENROLLMENT DATA Card is used to input current year enrollment data (as of September 30) by ethnic group within grade and school.

b. Use of data in enrollment model calculations

The enrollment data is aggregated across all schools to obtain current year enrollment totals by ethnic group within grade. The current year enrollment total is then used to calculate an enrollment factor by race within grade, i.e., the proportion of students enrolled by ethnic group by grade per 1000 of the current year (forecasted or actual) total population by ethnic group. The product of the enrollment factor by ethnic group within grade times forecasted population by ethnic group within census tract gives an enrollment forecast by grade within race within census tract.

c. Prepare an ENROLLMENT DATA Card for each school in CARD TYPE 12 format.

(1) Complete WORKSHEET 1.2 for each school in the district to record school enrollment as of September 30 for the current year as follows:

(a) Fill in the month, day, and year in the title line.

(b) Complete the school name and level (elementary or secondary), the school code and the starting

and ending grade in the school. The grade range information will be used to prepare the GRADE GROUP OCCURRENCE card.

(c) Circle Y or N, as appropriate, to indicate if Special Education classes are conducted at the school.

(d) Sign your name, date, and the program name in the appropriate blocks.

(e) Enter the required codes and data in the numbered blocks in strict compliance with CARD TYPE 12 format as the ENROLLMENT DATA card will be keypunched directly from WORK-SHEET 1.2. Table III.2-c and Table III.2-d list the titles and codes for ethnic groups and schools, respectively.

(f) If a grade is not taught at the school, e.g., grades 7-12 are not taught at an elementary school, enter zeros for each grade by ethnic group.

d. Keypunch ENROLLMENT DATA Cards directly from WORKSHEET 1.2 in the card columns indicated on the form as follows:

(1) One ENROLLMENT DATA Card (by school by ethnic group) for each column of ethnic group data. The grade, grade code and total columns are <u>not</u> to be keypunched.

e. The input order of ENROLLMENT DATA Cards within the set are as follows:

- For school 01

  Ethnic group 01 enrollment, grades Pk-12

  Ethnic group 02 enrollment, grades Pk-12

  Ethnic group 03 enrollment, grades PK-12

- For school 02

  Ethnic Group 01 enrollment, grades PK-12

  Ethnic Group 02 enrollment, grades PK-12

  Ethnic Group 03 enrollment, grades PK-12

- For school 03

  etc.

CARD TYPE 12 - ENROLLMENT DATA CARD (Format I2,I1,1X,14F4.0)

CC1-2	School code.
CC3	Ethnic group code.
CC5-8	Pre-kindergarten enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC9-12	Kindergarten enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC13-16	1st grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC17-20	2nd grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC21-24	3rd grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC25-28	4th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC29-32	5th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC33-36	6th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC37-40	7th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC41-44	8th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC45-48	9th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.

CARD TYPE 12 - ENROLLMENT DATA CARD (Format I2,I1,1X,14F4.0) (continued)

CC49-52	10th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC53-56	11th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.
CC57-60	12th grade enrollment for ethnic group and school coded in CC3 and CC1-2, respectively.

WORKSHEET 1.2 CURRENT YEAR ENROLLMENT AS OF _____

School Name and Level	School Code	Grade To
Name	Date	Program

Grade	Grade Code	For Official Use	ETHNIC GROUP			
			Black (1 2 3 / 1 2)	Spanish (1 2 3 / 2)	Other (1 2 3 / 3)	Total
PK	01		5 8	5 8	5 8	
K	02		9 12	9 12	9 12	
1	03		13 16	13 16	13 16	
2	04		17 20	17 20	17 20	
3	05		21 24	21 24	21 24	
4	06		25 28	25 28	25 28	
5	07		29 32	29 32	29 32	
6	08		33 36	33 36	33 36	
7	09		37 40	37 40	37 40	
8	10		41 44	41 44	41 44	
9	11		45 48	45 48	45 48	
10	12		49 52	49 52	49 52	
11	13		53 56	53 56	53 56	
12	14		57 60	57 60	57 60	
Total						

13. School Service Area Assignment Card

a. PURPOSE. The SCHOOL SERVICE AREA ASSIGNMENT Card is used to input the area of a census tract (in square miles) that is assigned to a school service area.

b. Use of data in enrollment model calculations

The census tract area by school service area is used to calculate the percentage of a school service area contained in a census tract. This latter percentage is the ratio of the area of a census tract in a school service area divided by the total area of the census tract.

The school service area assignment percent times the enrollment forecast by grade and race within census tract produces the Y1-Y5 enrollment forecast by ethnic group by grade within school.

c. An annual review of school service area assignments by census tract is required as follows:

(1) Conduct a review of school service boundaries for elementary and junior high schools separately.

(2) Superimpose an elementary school service area map and a junior high school service area map respectively, on a 1970 census tract map of the City of Trenton. Large scale maps of the City of Trenton can be obtained from the City Department of Planning and Development, Division of Planning.

(a) Use a planimeter to measure census tract area by school service area.

(b) Record the areas on WORKSHEET 1.3 in accordance with CARD TYPE 13 format as follows:

1) Print the school name in the spaces provided (CC1-8), proceeding in ascending school code order.

2) Enter the school code in CC10-11.

3) Census tracts are shown across the page. Enter the census tract numbers in CC13-15, starting with census tract 01.

4) Enter the school service area by census tract in CC18-23 of the appropriate census tract column, e.g., since Franklin School service area includes parts of census tracts 2, 3, 4, and 5, FRANKLIN is entered in CC1-8, 04 in CC10-11, and the areas in each of the respective census tracts are entered in CC18-23 for census tract columns 2, 3, 4, and 5, respectively.

d. Keypunch a set of SCHOOL SERVICE AREA ASSIGNMENT Cards directly from WORKSHEET 1.3 in the card columns indicated, by proceeding column by column and preparing one card per census tract entry containing school name and code, census tract number, and area.

CARD TYPE 13 - SCHOOL SERVICE AREA ASSIGNMENT CARD (Format 9X, I2,1X,I3,2X,F6.3)

CC1-8	School name.
CC10-11	School code.
CC13-15	Census tract.
CC18-23	Area (square miles) of the census tract cited in CC1-8 that is in the school service area of the school indicated in CC1-8.

WORKSHEET 1.3

SCHOOL SERVICE [illegible]REA BY CENSUS TRACT

Name | Date

School Name	School Code	Census Tract							
		13 15	13 15	13 15	13 15	13 15	13 15	13 15	13 15
1 8	10 11	18 23	18 23	18 23	18 23	18 23	18 23	18 23	18 23

14. Grade Group Occurrence Card

a. PURPOSE. The GRADE GROUP OCCURRENCE Card is used to input grade occurrence for a school.

b. Use of data in enrollment model

The GRADE GROUP OCCURRENCE code is used as a flag to determine if enrollment is to be calculated for a grade at a school, i.e., if the flag is "on," enrollment for the grade is computed, and if the flag is "off," enrollment for the grade is not calculated.

c. Prepare a GRADE GROUP OCCURRENCE Card for each school in the school system in CARD TYPE 14 format, entering a 1 if the grade is taught at the school or a zero if it is not.

CARD TYPE 14 - GRADE GROUP OCCURRENCE CARD (Format 2X,14I1)

CC1-2	School code.
CC3	Pre-kindergarten occurrence at the school cited in CC1-2.
CC4	1st grade occurrence at the school cited in CC1-2.
CC5	2nd grade occurrence at the school cited in CC1-2.
CC6	3rd grade occurrence at the school cited in CC1-2.
CC7	4th grade occurrence at the school cited in CC1-2.
CC8	5th grade occurrence at the school cited in CC1-2.
CC9	6th grade occurrence at the school cited in CC1-2.
CC10	7th grade occurrence at the school cited in CC1-2.
CC11	8th grade occurrence at the school cited in CC1-2.
CC12	9th grade occurrence at the school cited in CC1-2.
CC13	10th grade occurrence at the school cited in CC1-2.
CC14	11th grade occurrence at the school cited in CC1-2.
CC15	12th grade occurrence at the school cited in CC1-2.

15. School Enrollment Forecast Override Procedures

a. Purpose. Several input cards are required to override the calculate school enrollment forecast, and input enrollment estimates directly. The following ordered series of input cards are required:

(1) ENROLLMENT OVERRIDE card is used to set the option flag which indicates if the enrollment override option is in effect. If the override is not exercised, the remaining cards are not required.

(2) SCHOOL OVERRIDE card is used to input the identification of schools for which enrollment is a direct estimate.

(3) GRADE RANGE card is used to input the lower grade and upper grade, i.e., the grade range for which enrollment estimates are entered.

(4) ENROLLMENT DATA card is used to input the school and ethnic group codes, the year, and the revised enrollment data.

Thus, enrollment data is input for one ethnic group during one school year, at one school for a grade or range of grades. The ENROLLMENT OVERRIDE card and the SCHOOL OVERRIDE card

are the first two cards in the set of school enrollment override input cards. These two cards are required once. Thereafter, a set of cards consisting of the GRADE RANGE card and an ENROLLMENT DATA card is required to input enrollment by grade for an ethnic group in a specific school for a particular year.

b. Enrollment Forecast Selection Options. An enrollment forecast by ethnic group and grade within school for each of five years is calculated by the computer program or the forecast calculation can be bypassed and input. Enrollment estimates are input by ethnic group, school, and year for a range of grades.

For the initial ENROLLMENT MODULE run, it is suggested that the enrollment forecast be calculated by the computer program. It is recommended that the override option be exercised on subsequent runs only after the calculated forecast has been analyzed carefully by system planners and individual school principals to determine the acceptability of the computed forecasts.

Enrollment forecast override procedures are as follows:

(1) Initially, run the ENROLLMENT MODULE without exercising any enrollment forecast override.

(a) Prepare an ENROLLMENT FORECAST OVERRIDE INPUT card in Card Type 15 fromat entering a 00 in CC 5-6, which causes the computer program enrollment override procedures to be bypassed.

(2) Distribute to school principals the Y1-Y5 enrollment forecast reports generated by the initial ENROLLMENT MODULE run.

(a) Principals are to review the calculated Y1-Y5 enrollment forecast reports based upon his or her best judgment of forces at work in the immediate school community which will influence his school's enrollments over the next five years.

(b) The aforementioned review should be conducted while taking into consideration some of the following:

1) Review of the September 30 enrollment by ethnic group by grade for several past years to determine any trends.

2) Changes in the housing stock in the school service area, i.e., new construction of single family or multi-family housing units, renovation of

existing housing, demolitions, plans for urban renewal, etc. The City Department of Planning and Development, the Public Housing Authority, and the State Department of Labor and Industry can provide data about housing trends in Trenton.

3) Changes in the ethnic composition of the population in the school service area, including migration in or out.

4) Economic forces at work in the community, e.g., influx or loss of business, changes in tuition for non-public schools, etc.

(3) If after review of the school enrollment forecast report, adjustments are required to the calculated forecast, the principal should indicate changes on the forecast report as follows:

(a) Make changes on the output report in red pencil.

(b) Cross out the estimate to be changed.

(c) Annotate the estimate to be input next to the figure it replaces.

(d) Sign your name and date on the output report.

(e) Prepare a memorandum in which you cite the reasons for each enrollment change, and attach it to the output report.

(4) If no changes are required, sign your name and the date.

(5) Return all reviewed output reports to the Director, Department of Planning, Research, and Evaluation.

(6) The principal planner will receive and review all output reports from the principals, and prepare the necessary input cards to enter the approved enrollment changes:

(a) Prepare <u>one</u> ENROLLMENT FORECAST OVERRIDE INPUT card in Card Type 15 format, entering 01 in CC 5-6. This signals the computer program that the user is exercising the enrollment forecast override option.

(b) Prepare <u>one</u> SCHOOL OVERRIDE OPTION card in Card Type 16 format, entering a 0 or a 1 in a card column to represent no enrollment override, respectively. Each card column, starting in CC 5 and ending in CC 28, represents a specific school, being arranged in ascending school code order (e.g., CC 5 is school code 1, CC 6 is school code 2, CC 7 is school code 3, and so on to CC 28 which represents school code 24). Therefore,

be sure to enter 0 or 1, as appropriate, in the correct card column. Table III.2-d provides a list of school names and school codes.

(c) Prepare a GRADE RANGE card and an ENROLLMENT DATA card in Card Type 17 and 18 format, respectively, for each ethnic group within school and year for which enrollments are to be input.

(d) Prepare a card in Card Type 19 format which signals the end of enrollment input.

Enrollment Forecast Override Input Cards

CARD TYPE 15 - ENROLLMENT FORECAST OPTION FLAG Card - (Format 4X, I2)

Card Columns	Data To Be Entered
CC 1-2	Enter CARD TYPE 15.
CC 3-4	Enter OR.
CC 5-6	Enter 00 if no enrollment override, or 01 if the enrollment override is to be exercised.

CARD COLUMN 16 - SCHOOL OVERRIDE OPTION FLAG (Format 4X, 24I1)

Card Type	Data To Be Entered
CC 1-2	Enter.CARD TYPE 16.
CC 3-4	Enter SØ.

Each card column from CC 5 to CC 28 represents a school in the Trenton Public School System, starting with school code 1 (Cadwalder) and continuing in ascending order to school code 24 (Trenton Senior High). Enter a 1 in the appropriate card column if enrollment estimates are to be input for the school represented by the card column, or enter 0 if estimates are calculated for the school represented by the card column.

CARD TYPE 17 - GRADE RANGE CARD (Format 2X, I2,I2)

Card Columns	Data To Be Entered
CC 1-2	Enter CARD TYPE 17.
CC 3-4	Enter grade code of the lowest grade in the school for which enrollment data is to be input for the school, ethnic group, and year specified in CARD TYPE 18.
CC 5-6	Enter grade code of the highest grade in the school for which enrollment data is to be input for the school, ethnic group and year specified in CARD TYPE 18.

Note: If the lower grade code equals 01 and the higher grade code equals 08, enrollment is input for grades PK through 6th. If the lower code is 03 and the higher code is 03, enrollment is input for 1st grade only.

CARD TYPE 18 - ENROLLMENT DATA (Format 8X,3I2,8F4.0)

Card Columns	Data To Be Entered
CC 1-2	Enter CARD TYPE 18.
CC 3-7	Enter ENOVR.
CC 8-9	Enter the school code of the school for which enrollment is input.
CC 10-11	Enter the ethnic group code of the ethnic group for which enrollment is input.
CC 12-13	Enter the year for which enrollment is input. Y=2 is Y1, Y=3 is Y2, and so on.
CC 15-18	Enrollment data for the lowest grad cited in CARD TYPE 17.
CC 19-20	Enter enrollment data for the next higher grade.
CC 23-26	Enter enrollment data for the next higher grade.
CC 27-30	Enter enrollment data for the next higher grade.
CC 31-34	Enter enrollment data for the next higher grade.
CC 35-38	Enter enrollment data for the next higher grade.
CC 39-42	Enter enrollment data for the next higher grade.
CC 43-46	Enter enrollment data for the n higher grade.

CARD TYPE 19 - TRAILER CARD (Format 2X,I2)

Card Columns	Data To Be Entered
CC 1-2	Enter CARD TYPE 19.
CC 3-4	Enter a 00 or -1.

16. Secondary Enrollment Data Card

a. PURPOSE. The SECONDARY ENROLLMENT DATA Card is used to input current year secondary enrollment data by race within grade within secondary program.

b. Prepare a SECONDARY ENROLLMENT DATA Card for each secondary program in CARD TYPE 20 format.

(1) Record CY secondary enrollment as of September 30 on WORKSHEET 1.4, entering the data in the appropriate card columns as specified by CARD TYPE 20 format. Refer to Table III.2-i for a list of secondary program titles and codes. The information to be entered on the header lines is self-explanatory.

(2) Record enrollment data for each secondary program in groups by ethnic group in ascending ethnic group code order. See Table III.2-c for the ethnic group codes.

c. Keypunch one card per line as recorded on WORKSHEET 1.4.

Table III.2-i SECONDARY PROGRAM TITLES AND CODES

Program	Alphabetic Code	Numeric Code*
College Preparatory (All Secondary Program Other Than Vocational Technical)	CP	1
Vocational Technical	VT	2

* The numeric code denotes the order, within ethnic group, in which secondary enrollment data cards are input, i.e. College preparatory-Black, Vocational-Technical-Black, College Preparatory-Spanish, etc., are input in the order indicated.

CARD TYPE 20 - SECONDARY ENROLLMENT DATA CARD (Format 3X,3F5.0)

CC1-2	Secondary program code.
CC3	Ethnic group code.
CC4-8	10th grade enrollment in the secondary program cited in CC1-2 for the ethnic group in CC3.
CC9-13	11th grade enrollment in the secondary program cited in CC1-2 for the ethnic group in CC3.
CC14-18	12th grade enrollment in the secondary program cited in CC1-2 for the ethnic group in CC3.

WORKSHEET 1.4 SECONDARY ENROLLMENT BY SECONDARY PROGRAM FOR _____ YEAR

Name	Date	Step Module
Comments		

Secondary Program Code	Ethnic Group Code	ENROLLMENTS			
		10th CC4-8	11th CC9-13	12th CC14-18	Total
1 2	3	4 8	9 13	14 18	

17. Special Education Enrollment Card

a. Purpose. The SPECIAL EDUCATION ENROLLMENT card is used to input current year Special Education enrollment by ethnic group within level, i.e. elementary and secondary (in that order).

b. Use WORKSHEET 1.5 to record, collect, and tabulate Special Education enrollment by school site. The information required for the header lines on the form are self-explanatory.

(1) Group WORKSHEET 1.5 by level, and tabulate total Special Education enrollment by level, (Secondary level includes the junior highs and the senior high).

c. Record total Special Education enrollment by level on WORKSHEET 1.6 in accordance with CARD TYPE 21 format.

d. Keypunch one card per line as recorded on WORKSHEET 1.6.

CARD TYPE 21 - SPECIAL EDUCATION ENROLLMENT DATA CARD
(Format - 8X, 3F8.0)

Card Columns	Data To Be Entered
CC1-2	CARD TYPE 21.
CC3-8	Enter 'SPEDEL' as card identifier to denote Special Education Elementary level enrollment or SPEDSC as card identifier to denote Special Education Secondary level enrollment.
CC9-16	Special Education enrollment for the level cited in CC3-8 for ethnic group 1.
CC17-24	Special Education enrollment for the level cited in CC3-8 for ethnic group 2.
CC25-32	Special Education enrollment for the level cited in CC3-8 for ethnic group 3.

WORKSHEET 1.5 SPECIAL EDUCATION ENROLLMENT AS OF _____

School Name	Level	Grades From To	
Name	Date	STEP Program	
COMMENT:			

Grade	Grade Code		Ethnic Group			TOTAL
			Black	Spanish	Other	
PK						
K						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
TOTAL						

WORKSHEET 1.6 SPECIAL AND CONTINUING EDUCATION ENROLLMENT

FOR _____
School Year

Name	Date	STEP Program
COMMENT:		

Card Type	Alphabetical Identifier	Enrollment			
		Black (CC9-16)	Spanish (17-24)	Other (25-32)	
1 2	3 8	9 16	17 24	25 32	

18. Continuing Education Enrollment Card

a. Purpose. The CONTINUING EDUCATION ENROLLMENT card is used to input current year Continuing Education enrollment by ethnic group.

b. Use WORKSHEET 1.7 to record and collect enrollment by ethnic group for each continuing education program.

c. Tabulate the sum by ethnic group, and record total Continuing Education enrollment by ethnic group on WORKSHEET 1.6 in accordance with CARD TYPE 22 format.

d. Keypunch the total line as recorded on WORKSHEET 1.6.

CARD TYPE 22 - CONTINUING EDUCATION ENROLLMENT DATA Card (Format 8X,3F8.0)

Card Columns	Data To Be Entered
CC 1-2	CARD TYPE 22.
CC 3-8	Enter 'CEDBSO' as card identifier to denote Continuing Education - Black, Spanish, Other.
CC 9-16	Continuing Education enrollment for ethnic group 1.
CC 17-24	Continuing Education enrollment for ethnic group 2.
CC 25-32	Continuing Education enrollment for ethnic group 3.

WORKSHEET 1.7 CONTINUING EDUCATION ENROLLMENT AS OF _____
Date

Name	Date	STEP Program

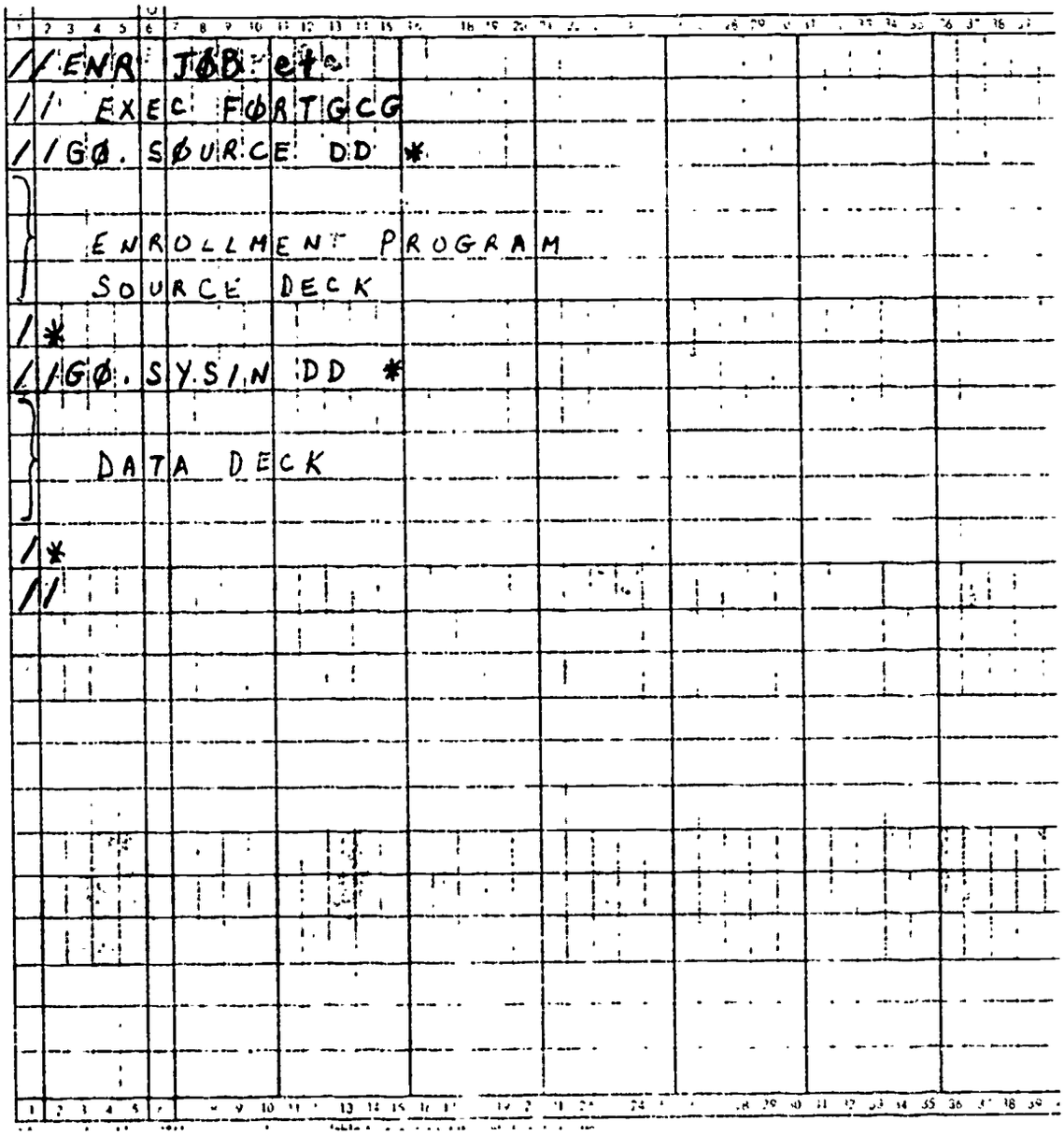
Comment

Continuing Education Program	Black	Spanish	Other	Total
TOTAL				

RUNNING AN ENROLLMENT MODULE JOB - CARD DECK ORDER

ORDER OF THE CARD DECK

a. The order of the card deck for running the ENROLLMENT MODULE computer program is shown in Exhibit III.2- Specific entries on the JOB card and JCL cards (Slash (/) in CC1) must be modified as appropriate, to conform to the specifications set by the computer facility at which the job is run.



DATA DECK ORDER FOR EXERCISING POPULATION FORECAST OVERRIDE AND SCHOOL ENROLLMENT FORECAST OVERRIDE

a. Table III.2-b provides the overall order of the data cards, and the order within each set of card types was previously provided in the data preparation instructions.

b. When the user choses to exercise the override option, additional input cards are added to the data deck. The arrangement of the data cards for exercising user option within the overall data deck are as follows:

- Run control card
- .
- .
- .
- .
- .
- .
- .
- Other population card
- NWOV Override card
- WOVR Override card
- END trailer card

Data input cards added for population forecast override

- .
- .
- Grade group Occurrence card
- Enrollment forecast option flag card
- School override option flag card
- Grade Range card
- Adjusted Enrollment data for School 1, Ethnic group 1, Year 1 etc; and

as many sets of adjusted enrollment data which require input. Each set consists of the Grade Range and the adjusted Enrollment data input cards.

TRAILER card to signal end of adjusted enrollment input.

Data input cards added for school enrollment forecast override.

DOCUMENTATION OF THE ENROLLMENT MODULE COMPUTER PROGRAM

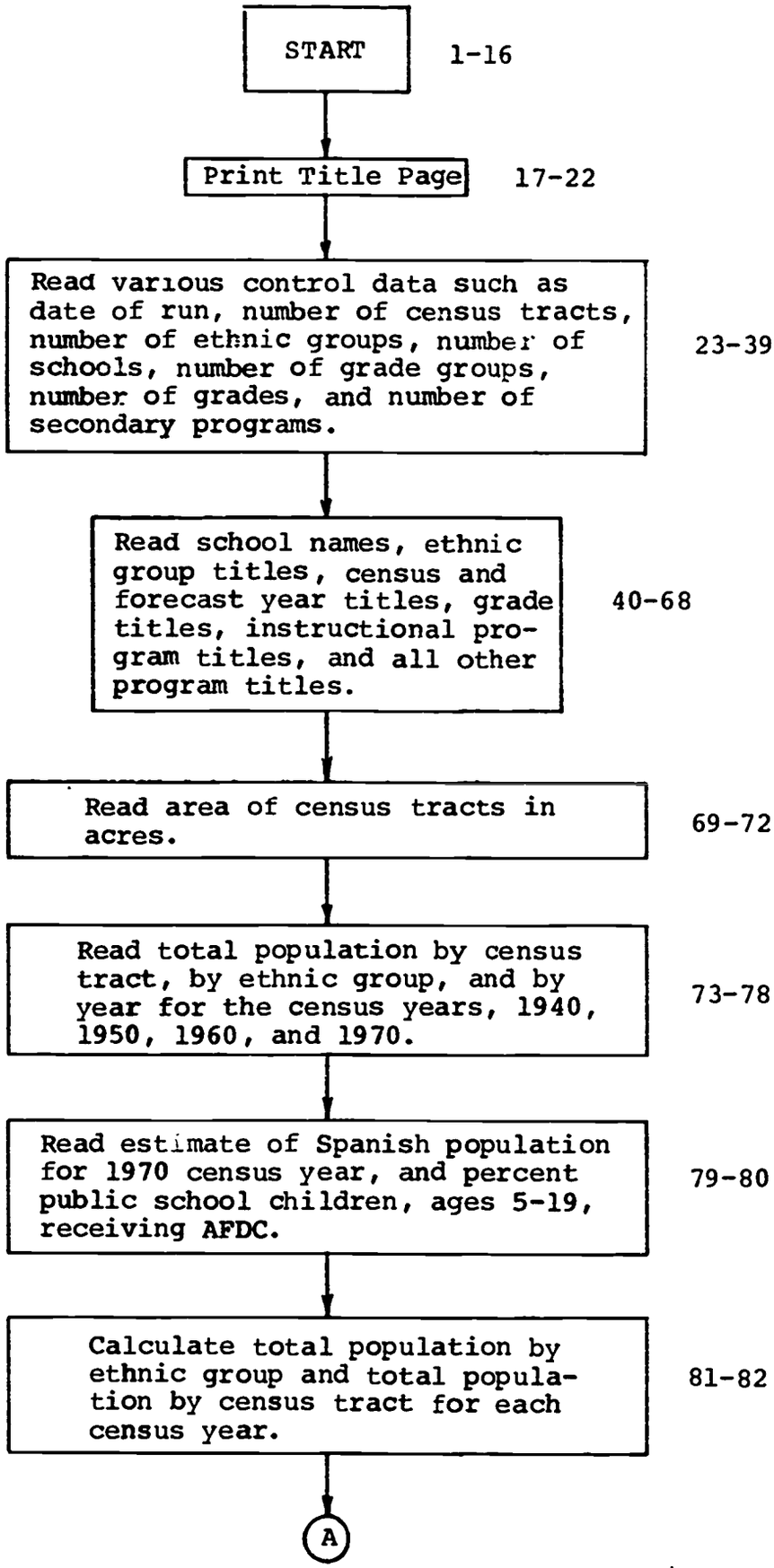
This chapter presents in detail the documentation of the Enrollment Module computer program. Documentation consists of the computer program flowchart, computer program listing, the computer program variable dictionary, and a description of the sample of each output report generated by the program.

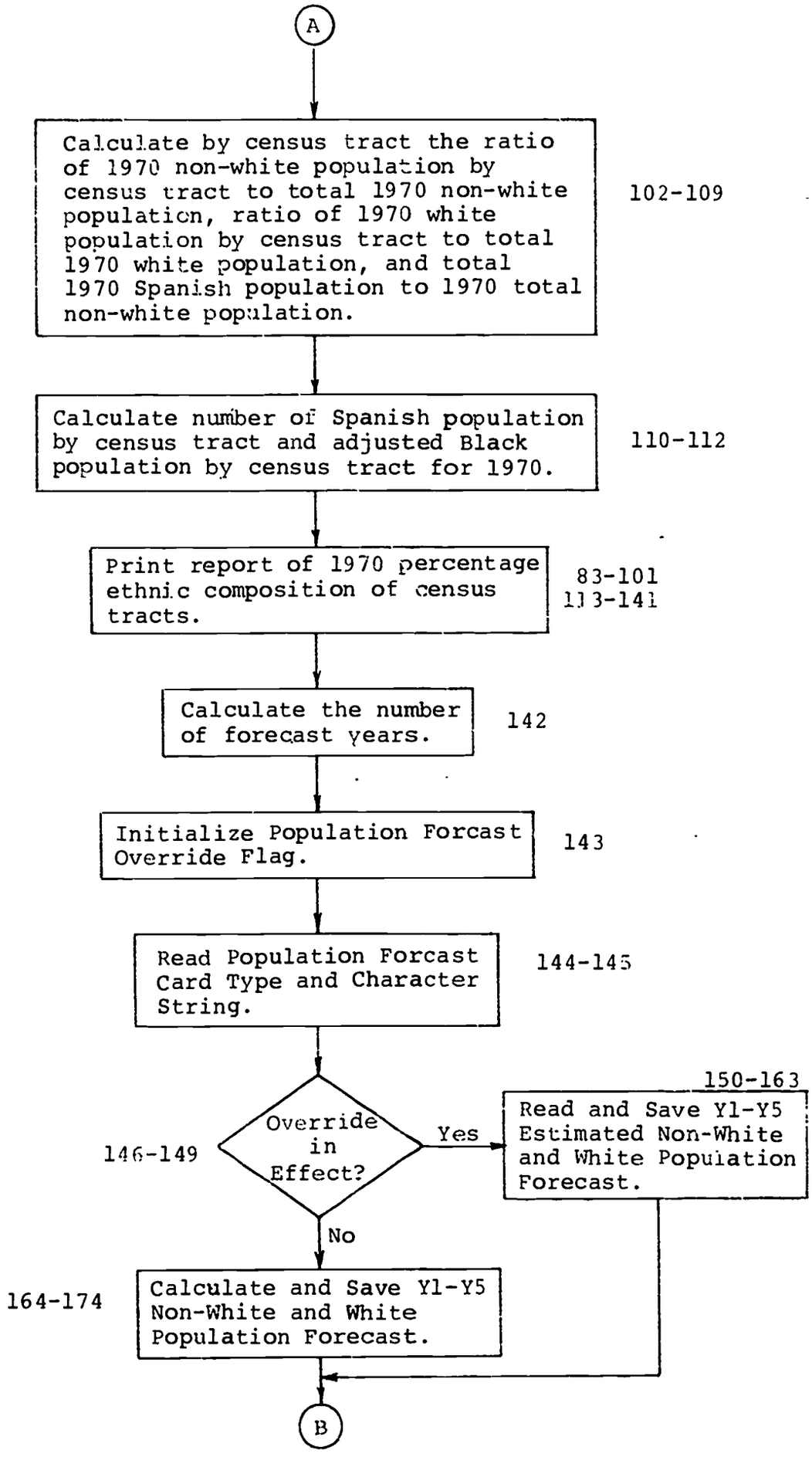
Computer Program Flowchart

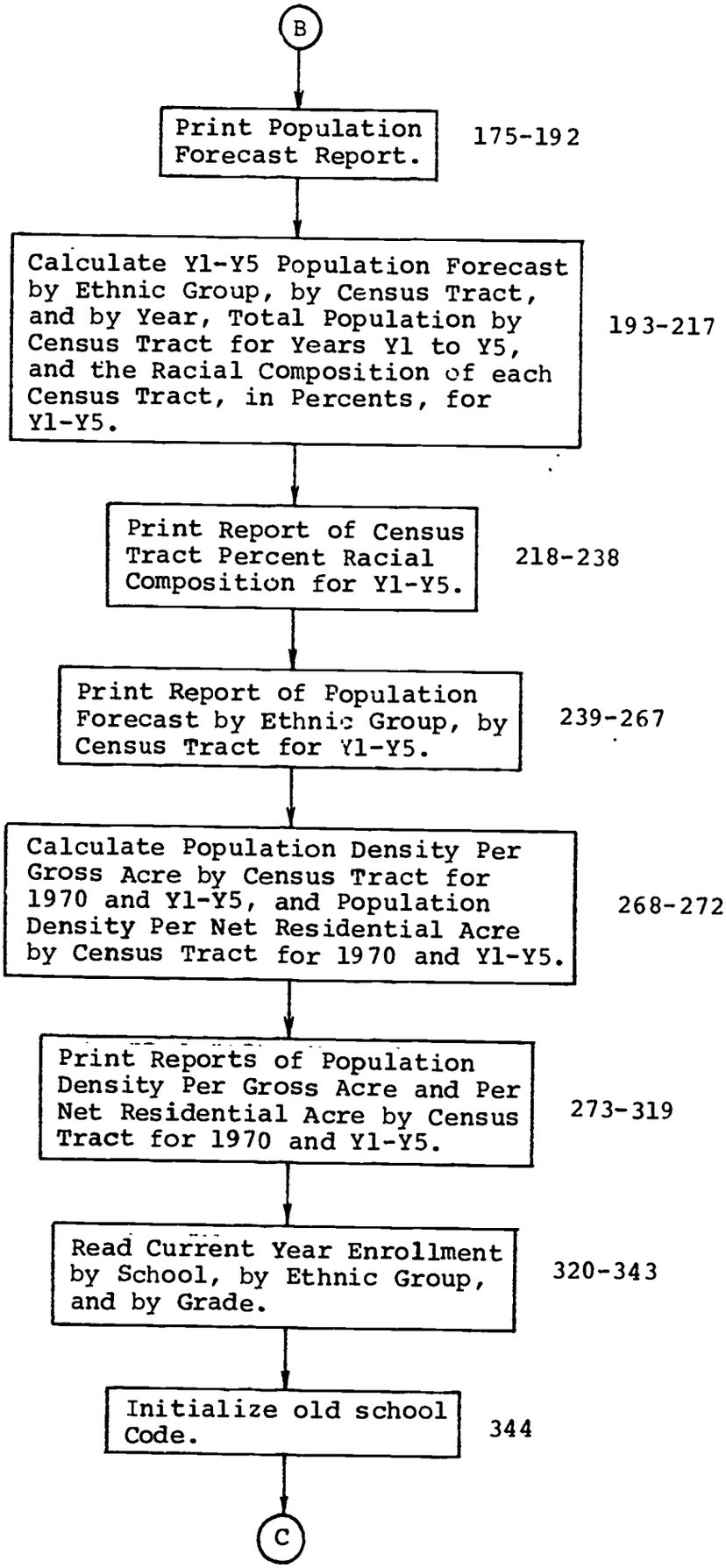
Chart III.2-3 presents a flowchart of the MAIN routine of the ENROLLMENT MODULE computer program, Version I, Model I. The numbers to the right of each box on the chart refer to the statement numbers found on the left margin of the computer program listing following the chart.

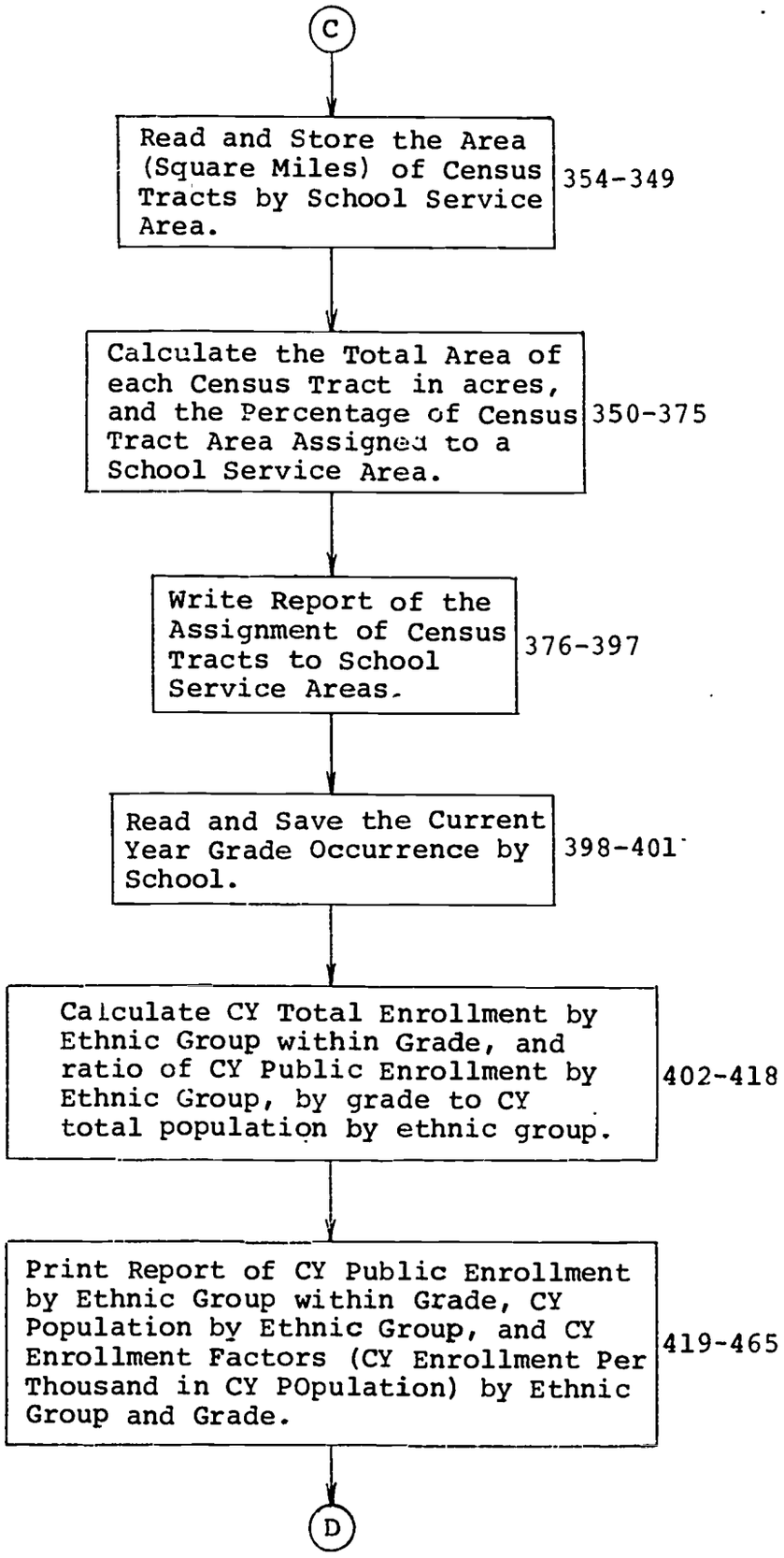
Chart III.2-3

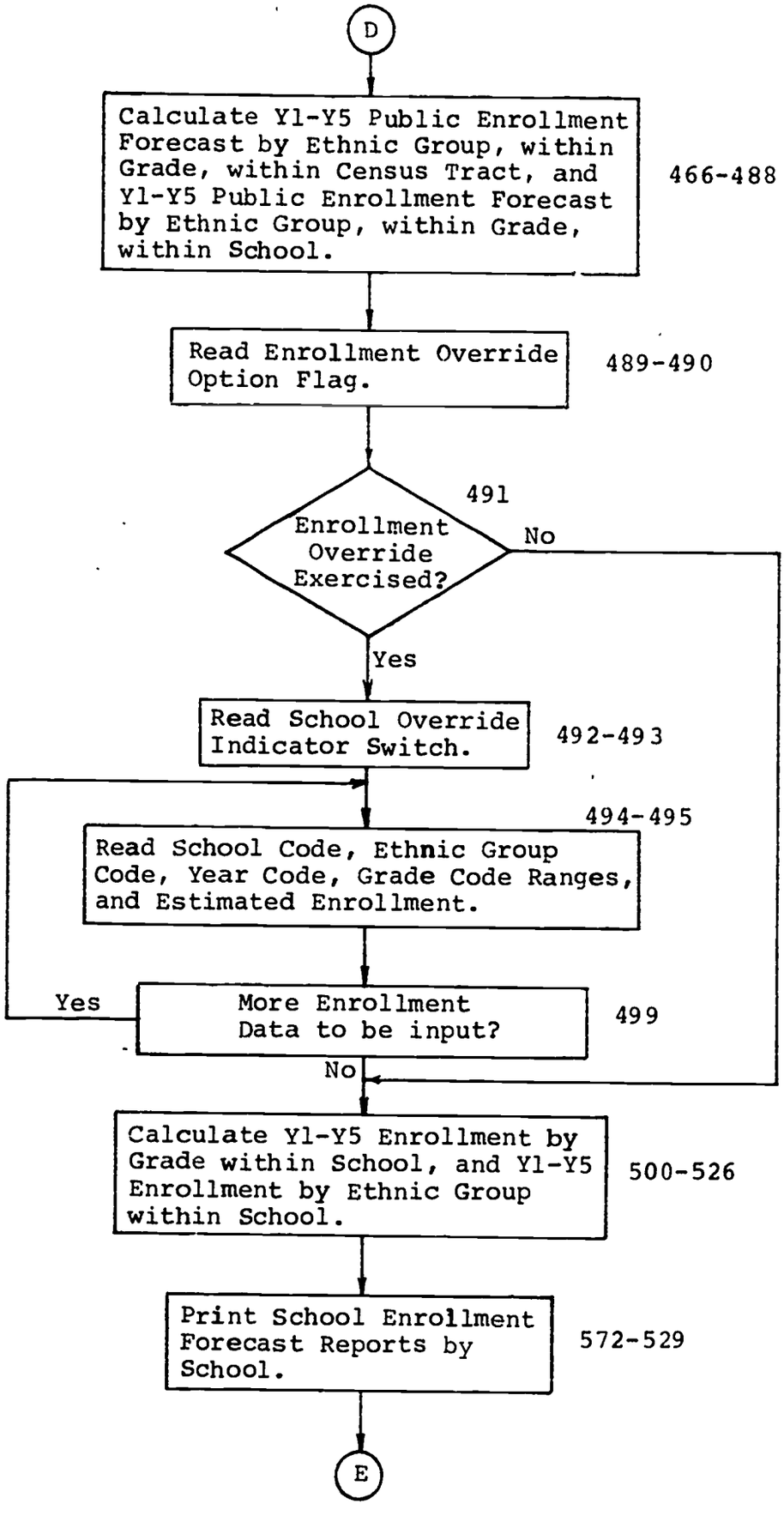
ENROLLMENT MODULE COMPUTER PROGRAM FLOWCHART

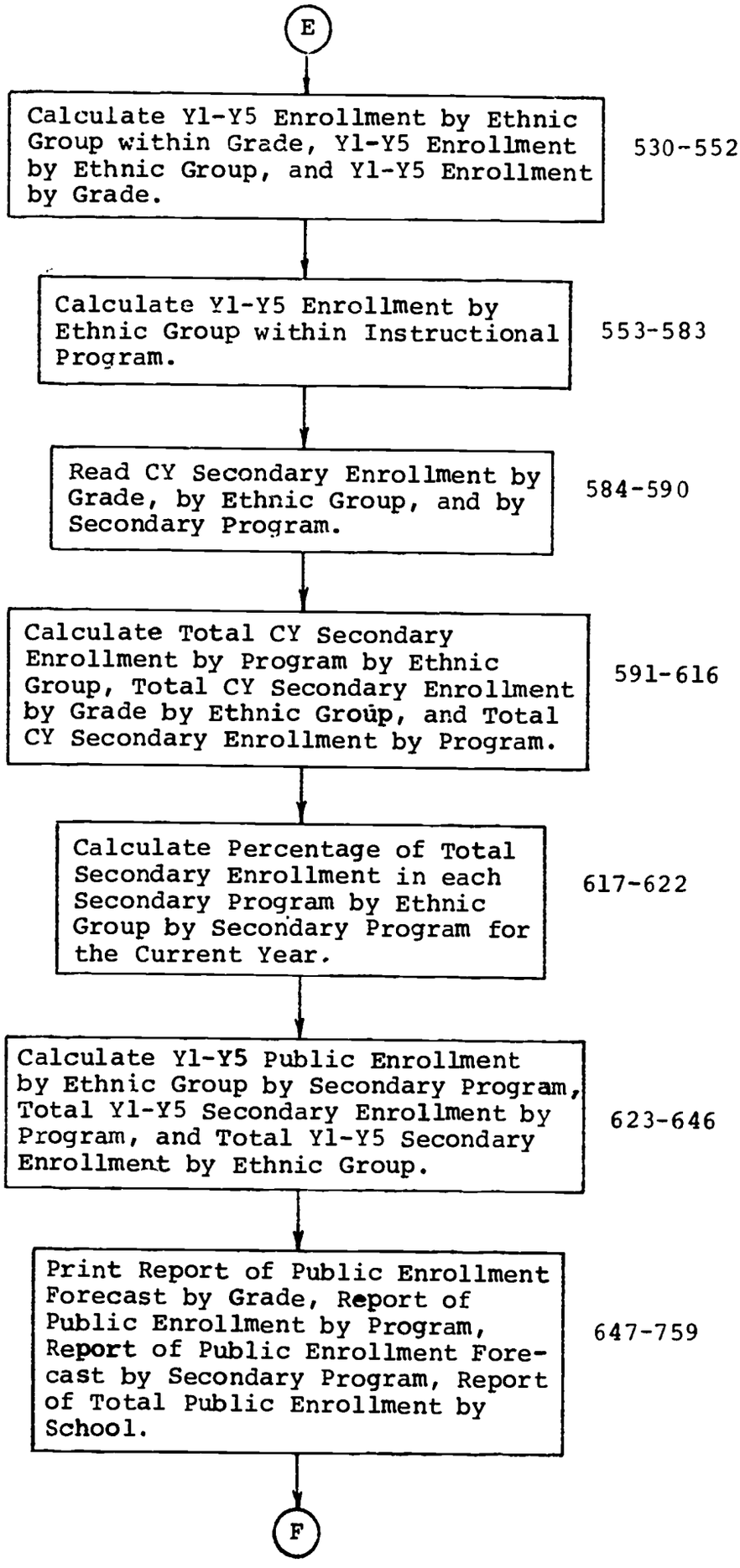


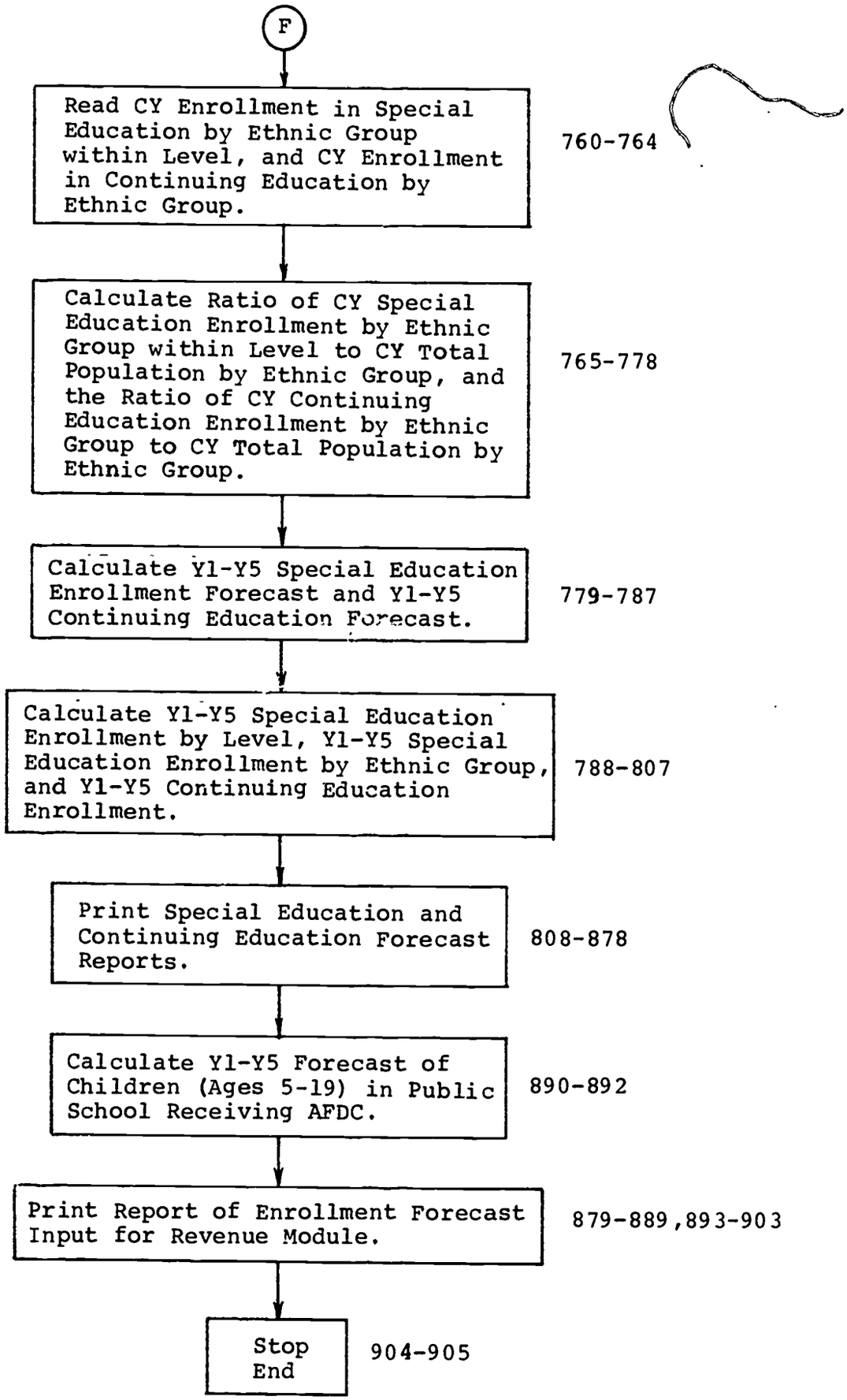

A
Calculate by census tract the ratio of 1970 non-white population by census tract to total 1970 non-white population, ratio of 1970 white population by census tract to total 1970 white population, and total 1970 Spanish population to 1970 total non-white population.
102-109
Calculate number of Spanish population by census tract and adjusted Black population by census tract for 1970.
110-112
Print report of 1970 percentage ethnic composition of census tracts.
83-101
113-141
Calculate the number of forecast years.
142
Initialize Population Forcast Override Flag.
143
Read Population Forcast Card Type and Character String.
144-145
Override in Effect?
146-149
Yes
No
150-163
Read and Save Y1-Y5 Estimated Non-White and White Population Forecast.
164-174
Calculate and Save Y1-Y5 Non-White and White Population Forecast.
B


B
Print Population Forecast Report.
175-192
Calculate Y1-Y5 Population Forecast by Ethnic Group, by Census Tract, and by Year, Total Population by Census Tract for Years Y1 to Y5, and the Racial Composition of each Census Tract, in Percents, for Y1-Y5.
193-217
Print Report of Census Tract Percent Racial Composition for Y1-Y5.
218-238
Print Report of Population Forecast by Ethnic Group, by Census Tract for Y1-Y5.
239-267
Calculate Population Density Per Gross Acre by Census Tract for 1970 and Y1-Y5, and Population Density Per Net Residential Acre by Census Tract for 1970 and Y1-Y5.
268-272
Print Reports of Population Density Per Gross Acre and Per Net Residential Acre by Census Tract for 1970 and Y1-Y5.
273-319
Read Current Year Enrollment by School, by Ethnic Group, and by Grade.
320-343
Initialize old school Code.
344
C


C
Read and Store the Area (Square Miles) of Census Tracts by School Service Area.
354-349
Calculate the Total Area of each Census Tract in acres, and the Percentage of Census Tract Area Assigned to a School Service Area.
350-375
Write Report of the Assignment of Census Tracts to School Service Areas.
376-397
Read and Save the Current Year Grade Occurrence by School.
398-401
Calculate CY Total Enrollment by Ethnic Group within Grade, and ratio of CY Public Enrollment by Ethnic Group, by grade to CY total population by ethnic group.
402-418
Print Report of CY Public Enrollment by Ethnic Group within Grade, CY Population by Ethnic Group, and CY Enrollment Factors (CY Enrollment Per Thousand in CY POpulation) by Ethnic Group and Grade.
419-465
D


D
Calculate Y1-Y5 Public Enrollment Forecast by Ethnic Group, within Grade, within Census Tract, and Y1-Y5 Public Enrollment Forecast by Ethnic Group, within Grade, within School.
466-488
Read Enrollment Override Option Flag.
489-490
491
Enrollment Override Exercised?
No
Yes
Read School Override Indicator Switch.
492-493
494-495
Read School Code, Ethnic Group Code, Year Code, Grade Code Ranges, and Estimated Enrollment.
Yes
More Enrollment Data to be input?
499
No
Calculate Y1-Y5 Enrollment by Grade within School, and Y1-Y5 Enrollment by Ethnic Group within School.
500-526
Print School Enrollment Forecast Reports by School.
572-529
E


E
Calculate Y1-Y5 Enrollment by Ethnic Group within Grade, Y1-Y5 Enrollment by Ethnic Group, and Y1-Y5 Enrollment by Grade.
530-552
Calculate Y1-Y5 Enrollment by Ethnic Group within Instructional Program.
553-583
Read CY Secondary Enrollment by Grade, by Ethnic Group, and by Secondary Program.
584-590
Calculate Total CY Secondary Enrollment by Program by Ethnic Group, Total CY Secondary Enrollment by Grade by Ethnic Group, and Total CY Secondary Enrollment by Program.
591-616
Calculate Percentage of Total Secondary Enrollment in each Secondary Program by Ethnic Group by Secondary Program for the Current Year.
617-622
Calculate Y1-Y5 Public Enrollment by Ethnic Group by Secondary Program, Total Y1-Y5 Secondary Enrollment by Program, and Total Y1-Y5 Secondary Enrollment by Ethnic Group.
623-646
Print Report of Public Enrollment Forecast by Grade, Report of Public Enrollment by Program, Report of Public Enrollment Forecast by Secondary Program, Report of Total Public Enrollment by School.
647-759
F


F
Read CY Enrollment in Special Education by Ethnic Group within Level, and CY Enrollment in Continuing Education by Ethnic Group.
760-764
Calculate Ratio of CY Special Education Enrollment by Ethnic Group within Level to CY Total Population by Ethnic Group, and the Ratio of CY Continuing Education Enrollment by Ethnic Group to CY Total Population by Ethnic Group.
765-778
Calculate Y1-Y5 Special Education Enrollment Forecast and Y1-Y5 Continuing Education Forecast.
779-787
Calculate Y1-Y5 Special Education Enrollment by Level, Y1-Y5 Special Education Enrollment by Ethnic Group, and Y1-Y5 Continuing Education Enrollment.
788-807
Print Special Education and Continuing Education Forecast Reports.
808-878
Calculate Y1-Y5 Forecast of Children (Ages 5-19) in Public School Receiving AFDC.
890-892
Print Report of Enrollment Forecast Input for Revenue Module.
879-889,893-903
Stop
End
904-905

Computer Program Listing

The ENROLLMENT MODULE computer program listing is provided on the following pages. The program is written in the FORTRAN IV G-level language. The listing consists of the main routine and several subroutines. A description of the program's MAIN and subroutine sections and their order in the computer listing are as follows:

ROUTINE OR SUBROUTINE	DESCRIPTION	PAGES
MAIN	Forecasts Y1-Y5 enrollments by ethnic group for the following major breaks -- by grade by school, by grade only, by program only, by school only; and for special enrollment categories such as by secondary program, for Special Education, and Continuing Education.	001-021
SUMRY	Aggregates population data across all census tracts to obtain total population by ethnic group by year.	022
SUMCT	Aggregates population data across all ethnic groups to obtain total population by census tract by year.	023
RACOMP	Calculates the racial composition of each census tract in percent.	024
REPORS	Prints the school enrollment forecast reports.	025-026
POPFOR	Calculates the CY and Y1-Y5 total population forecast by ethnic group.	0027-0028

```
FORTRAN IV G LEVEL  20              MAIN              DATE = 72100          14/48/23                PAGE 0001

                DIMENSION PCVR(6),AFDC(6),T1(6)
                DIMENSION SCCVEC(2,6),PGPPTD(2,20),CCNED(6,4),WORK(23,11)
                DIMENSION            ISCLVR(24)
                COMMON    SUBGR(15,4,E),GRADEF(14,3),EFORG(22,14,3,5),PRCGNM(19,6)
                COMMON PCTRAC(23,4,10),ENR(26,15,4,6),SUBPR(6,4,6)
                COMMON NAMES(25,5),ETHNIC(4,2),PCP(23,4,10)
                COMMON    NUNCT(3),CTPTS(22,25),GRGRPS(5,2)
                COMMON    SECENR(5,4,3),PSECRF(4,3),GRADES(15,2),SECFOR(5,4,5)
                COMMON STCTP(5,3,E),SECI(5),EPAC(14,3),IREPNO
                INTEGER NCCT,NCR,NCYRS,NSCH,NCGG,C,R,Y,S,G,P,IG(14),IP(5)
                INTEGER CGOLC(25,14),SL,SG,PL,PG,NCG,GL,GU,YRS(10)
                INTEGER CT,GSC,SGG(24),ENDV
                INTEGER NBOV,WCVR,PFCR,END,TC
                DAT     CR/'PFOR'/,NWCV/'NWCV'/,WCVR/'WOVR'/,END/'END '/
                DAT     '1,1,2,2,2,3,3,3,4,4,4,5,5,5/
                DATA IP/1,1,1,2,2/
          C
          C INITIALIZE ARRAYS-POP(C,R,Y) WHICH SAVES POPULATION DATA BY CT,
          C BY RACE,AND BY YEAR FOR CENSUS YRS 1950,1960,AND 1970, AND EACH OF 5
          C FORECAST YEARS; PCTRAC(C,R,Y) WHICH SAVES RACIAL COMPOSITION IN PERCTS
          C FOR EACH CT  BY RACE AND BY YEAR.
          C
          C
          C PRINT TITLE PAGE
          C
          C
                WRITE(6,5021)
           5021 FORMAT('1',10('  '/),' ',57X,'ENROLLMENT FORECAST'/'0',41X,'SYSTEM
               1FOR TRENTON''S EDUCATIONAL PLANNING(STEP)'/)
                WRITE(6,5023)
           5023 FORMAT(10('0'/),' ',59X,'PREPARED BY'/' ',59X,'GOVERNMENT STUDIES
               -AND SYSTEMS, INC.'/' ',59X,'3401 MARKET STREET'/' ',59X,'PHILADELP
               -HIA, PENNSYLVANIA 19104'/)
                WRITE(6,5027)
           5027 FORMAT('0',55X,'THIS PROJECT IS SUPPORTED THROUGH A GRANT BY'/' ',
               -59X,'THE U.S. OFFICE OF EDUCATION,'/' ',59X,'NEW JERSEY DEPARTMENT
               - OF EDUCATION'/' ',59X,'UNDER TITLE III, ESEA'/)
          C
                IREPNO=999
                READ(5,52) NUNCT,NCCT,NCR,NCYRS,NSCH,NCGG,NCG,NSECP,NPR,NELS,NJHS,
               1NSHS
             52 FORMAT(3A4,I4,I3,I3,I4,I3,I2,5I2)
                DO 10 C=1,NCCT
                DO  5 R=1,NCR
                DO  2 Y=1,NCYRS
                POP(C,R,Y)=0.0
              2 CONTINUE
              5 CONTINUE
             10 CONTINUE
                DO 25 C=1,NCCT
                DO 20 R=1,NCR
                DO 15 Y=1,NCYRS
                PCTRAC(C,R,Y)=0.0
             15 CONTINUE
             20 CONTINUE
             25 CONTINUE
          C
          C INPUT SCHOOL NAMES AND CODES, ETHNIC GROUP TITLES,
          C YEAR TITLES,GRADE GROUP TITLES, AND PROGRAM TITLES.
          C
                NN=0
```

```
0041          54 NN=NN+1
0042             READ(5,213)(NAMES(NN,I),I=1,5),J
0043         213 FORMAT(5A4,2A,I3)
0044             IF(J) 216,218,217
0045         217 SCO(J)=NN
0046             GO TO 54
0047         218 NN=NN-1
0048             DO 22 N=1,NCR
0049             READ(5,50)(ETHNIC(N,J),J=1,2)
0050          50 FORMAT(2A4)
0051          22 CONTINUE
0052             DO 1103 Y=1,NOYRS
0053             READ(5,1100) YRS(Y)
0054        1100 FORMAT(I4)
0055        1103 CONTINUE
0056             KK=NCG+1
0057             DO 465  G=1,KK
0058             READ(5,1125)(GRADES(G,J),J=1,2)
0059        1125 FORMAT(2A4)
0060         465 CONTINUE
0061             DO 466 P=1,NCCG
0062             READ(5,1130)(GRGRPS(P,J),J=1,2)
0063        1130 FORMAT(2A4)
0064         466 CONTINUE
0065             DO 465 P=1,NPA
0066             READ(5,1135)(PACONMIP,JT,J=1,6)
0067        1135 FORMAT(6A4)
0068         465 CONTINUE
                 C
                 C READ IN AREA OF CENSUS TRACTS IN ACRES,1960 RESIDENTIAL ACREAGE BY CENSUS
                 C TRACT, AND GROSS ACREAGE BY CENSUS TRACT FOR 1960 AND 1970
                 C
0069             DO 1112 C=1,25
0070             READ(5,1110) (WORK(C,K),K=1,2)
0071        1110 FORMAT(2X,F5.0,3X,F5.0,3X,F6.0)
0072        1112 CONTINUE
                 C
                 C READ IN POPULATION BY RACE AND BY CENSUS TRACT FOR 1950,1960,1970 INTO
                 C POP(CT,RACE,YR)
                 C
0073             DO 75 Y=1,4
0074             DO 70 C=1,22
0075             READ(5,65)   (POP(C,K,Y),K=1,3)
0076          65 FORMAT   (16X,F7.0,4X,F7.0,4X,F7.0)
0077          70 CONTINUE
0078          75 CONTINUE
                 C
                 C READ TOTAL NUMBER OF SPANISH SPEAKING FOR 1970 CENSUS YEAR.
                 C
0079             READ(5,1115) POP(23,2,4),SCPCT
0080        1115 FORMAT(20A,F7.0,F4.2)
                 C
                 C AGGREGATES POPULATION ACROSS CENSUS TRACT BY
                 C ETHNIC GROUP BY YEAR FOR 1940,1950,1960, AND 1970.
                 C
0081             CALL SUMRY(POP,1,4)
                 C
                 C
                 C AGGREGATE POPULATION ACROSS ETHNIC GROUPS BY
                 C CENSUS TRACT BY YEAR FOR 1940,1950,1960, AND 1970.
                 C
```

```
0082              CALL SUPCT(PCP,1,4)
                  C
                  C PRINT REPORT OF ETHNIC COMPOSITION OF CENSUS TRACTS.
                  C PRINT REPORT TITLE AND 1970 POPULATION.
                  C
0083              IREPNC=IREPNC+1
0084              WRITE(6,331)    IREPNC
0085          331 FORMAT('1',42X,'1970 ETHNIC COMPOSITION OF CENSUS TRACTS(IN PERCEN
                 1TS)',14X,'REPORT NO. (SUENK-',I4)
0086              WRITE(6,332)
0087          332 FORMAT('0','1970 POPULATION BY CENSUS TRACT')
0088              WRITE(6,342)
0089          342 FORMAT('0',' TRACT',11X,    '01',8X,' 2',8X,' 3',8X,' 4',8X,' 5',8
                 1X,' 6',8X,' 7',8X,' 8',8X,' 9',8X,'10',8X,'11',8X,'12')
0090              WRITE(6,333) (PCP(C,1,4),C=1,12)
0091          333 FORMAT('0',' NON-WHITE ',F7.0,11(3X,F7.0))
0092              WRITE(6,334) (PCP(C,3,4),C=1,12)
0093          334 FORMAT(' ',' WHITE',6X,F7.0,11(3X,F7.0))
0094              WRITE(6,336) (PCP(C,4,4),C=1,12)
0095          336 FORMAT('0',' TOTAL',6X,F7.0,11(3X,F7.0))
0096              WRITE(6,337)
0097          337 FORMAT('0',' TRACT',11X,'13',8X,'14',8X,'15',8X,'16',8X,'17',8X,'1
                 18',8X,'19',8X,'20',8X,'21',8X,'22',8X,'23')
0098              WRITE(6,333) (PCP(C,1,4),C=13,23)
0099              WRITE(6,334) (PCP(C,3,4),C=13,23)
0100              WRITE(6,336) (PCP(C,4,4),C=13,23)
0101              WRITE(6,115)
                  C
                  C
                  C SAVE CENSUS DATA ETHNIC TOTALS FOR 1960,1950,
                  C 1960, AND 1970 IN PUPETU
                  C
                  C
0102              DO 64 Y=1,4
0103              PCPETU(1,Y)=PCP(23,1,Y)
0104              PCPETU(2,Y)=PCP(23,3,Y)
0105           64 CONTINUE
                  C
                  C
                  C
                  C CALCULATE PROPORTION SPANISH IN NONWHITE POPULATION FOR 1970.
                  C PROGRAM ASSUMES SPANISH COUNT IS IN NONWHITE TOTALS.
                  C
0106              PSPAN=PCP(23,2,4)/PCP(23,1,4)
                  C
                  C
                  C CALCULATE RATIO OF BLACKS TO TOTAL BLACKS
                  C BY CENSUS TRACT FOR 1970.
                  C
                  C
0107              DO 62 C=1,22
0108              PCTRAC(C,1,4)=PCP(C,1,4)/PCP(23,1,4)
                  C
                  C
                  C CALCULATE RATIO OF WHITE TO TOTAL WHITE
                  C BY CENSUS TRACT FOR 1970.
                  C
                  C
0109              PCTRAC(C,3,4)=PCP(C,3,4)/PCP(23,3,4)
                  C
```

```
                C
                C CALCULATE  THE NUMBER OF SPANISH BY CENSUS TRACT
                C AS PRODUCT OF NON WHITE POPULATION TIMES PROPORTION OF
                C SPANISH IN NON-WHITE POPULATION FOR 1970. PROGRAM
                C ASSUMES SPANISH POPULATION INCLUDED IN NON-WHITE COUNT.
                C
                C
      0116          POP(C,2,4)=PSPAN*POP(C,1,4)
                C
                C
                C ADJUST  NON-WHITE POPULATION FOR 1970 BY THE DIFFERENCE
                C BETWEEN TOTAL NON-WHITE MINUS SPANISH POPULATION BY CENSUS TRACT.
                C
                C
      0111          POP(C,1,4)=POP(C,1,4)-POP(C,2,4)
      0112       60 CONTINUE
                C
                C PRINT BALANCE OF REPORT OF ETHNIC COMPOSITION OF CENSUS TRACTS.
                C
      0113          WRITE(6,338)
      0114      338 FORMAT('0',' RATIO OF OF 1970 ETHNIC GROUP POPULATION BY CENSUS TR
                    1ACT')
      0115          WRITE(6,339)
      0116      339 FORMAT(' ',' TO 1970 TOTAL ETHNIC GROUP POPULATION(IN PERCENTS)')
      0117          DO 343 C=1,22
      0118          POTRAC(C,1,4)=POTRAC(C,1,4) * 100.
      0119          POTRAC(C,2,4)=POTRAC(C,2,4) * 100.
      0120      343 CONTINUE
      0121          WRITE(6,342)
      0122          WRITE(6,344) (POTRAC(C,1,4),C=1,12)
      0123      344 FORMAT('0',' NON-WHITE  ',F6.2,11(4X,F6.2))
      0124          WRITE(6,346) (POTRAC(C,2,4),C=1,12)
      0125      346 FORMAT('0',' WHITE      ',F6.2,11(4X,F6.2))
      0126          WRITE(6,215)
      0127          WRITE(6,327)
      0128          WRITE(6,344) (POTRAC(C,1,4),C=13,22)
      0129          WRITE(6,346) (POTRAC(C,2,4),C=13,22)
      0130          WRITE(6,215)
      0131          WRITE(6,348) POP(23,2,4)
      0132      348 FORMAT('0',' ESTIMATED TOTAL SPANISH POPULATION IS:',F7.0)
      0133          PSPAN=PSPAN*100.
      0134          WRITE(6,349) PSPAN
      0135      349 FORMAT('0',' PERCENT SPANISH IN NON-WHITE POPULATION EQUALS ',F6.2,
                    1'%')
      0136          WRITE(6,351)
      0137      351 FORMAT(' ',' SPANISH POPULATION BY CENSUS TRACT IS THE PRODUCT OF'
                    1)
      0138          WRITE(6,352)
      0139      352 FORMAT(' ',' THIS PERCENTAGE TIMES THE NON-WHITE POPULATION BY CEN
                    1SUS')
      0140          WRITE(6,353)
      0141      353 FORMAT(' ',' TRACT.NON-WHITE POPULATION IS ADJUSTED ACCORDINGLY.')
                C
                C CALCULATE NUMBER OF FORECAST YEARS
                C
      0142          NYF=YRS(10)-YRS(4)
                C
                C
      0143          IPCV=0
      0144       290 READ(5,291) TC,(POVR(Y),Y=1,6)
      0145       291 FORMAT(A4,2X,6F10.0)
```

```
0146                IF(TC.EQ.ANGV) GO TO 402
0147                IF(TC.EQ.NOVR) GO TO 404
0148                IF(TC.EQ.PFOR) GO TO 293
0149                IF(TC.EQ.CNC) GO TO 418
0150          402   IFOV=1
0151                DO 412 I=1,6
0152                J=NYF-I+5
0153                K=6-I+1
0154                POPFTO(1,J)=POVR(K)
0155          412   CONTINUE
0156                GO TO 290
0157          404   IFOV=1
0158                DO 414 I=1,6
0159                J=NYF-I+5
0160                K=6-I+1
0161                POPFTO(2,J)=POVR(K)
0162          414   CONTINUE
0163                GO TO 290
0164          293   IREPNO=IREPNO+1
0165                CALL POPFOR(IREPNO,ROUNDT,NYF,YRS,POPFTO)
0166          413   WRITE(6,5004)
0167         5004   FORMAT('1',' POPULATION FORECAST')
                C
                C
                C SAVE FORECASTED POPULATION TOTALS BY ETHNIC
                C GROUP BY FORECAST YEAR IN POP(23,R,Y).
                C
                C
0168                DO 68 I=1,6
0169                J=NYF-I+5
0170                Y=10-I+1
0171                POP(23,1,Y)=POPFTO(1,J)
0172                POP(23,3,Y)=POPFTO(2,J)
0173           68   CONTINUE
0174                IF(IPOV.NE.1) GO TO 424
0175                WRITE(6,5037)
0176         5037   FORMAT('0',8X,'OVERRIDE OPTION EXERCISED BY USER')
0177                WRITE(6,5039) (YRS(Y),Y=5,10)
0178         5039   FORMAT('0',35X,I4,5(11X,I4))
0179                WRITE(6,115)
0180                WRITE(6,5041)(POP(23,1,Y),Y=5,10)
0181         5041   FORMAT('0',14X,'NON-WHITE',2X,F8.0,5(7X,F8.0))
0182                WRITE(6,115)
0183                WRITE(6,5043)(POP(23,3,Y),Y=5,10)
0184         5043   FORMAT('0',14X,'WHITE',12X,F8.0,5(7X,F8.0))
0185                GO TO 296
0186          424   WRITE(6,5047)
0187         5047   FORMAT('0',8X,'OVERRIDE OPTION NOT IN EFFECT-POPULATION FORECAST C
                   1OMPLETED')
0188                WRITE(6,5039) (YRS(Y),Y=5,10)
0189                WRITE(6,115)
0190                WRITE(6,5041)(POP(23,1,Y),Y=5,10)
0191                WRITE(6,115)
0192                WRITE(6,5043)(POP(23,3,Y),Y=5,10)
                C
                C
                C COMPUTE THE POPULATION FORECAST
                C BY ETHNIC GROUP BY CENSUS TRACT
                C FOR THE CURRENT YEAR AND FORECAST YEAR.
                C
                C
```

```
0193        290 DO 5008 I=1,6
0194            Y=(C-1)+1
0195            DO 5007 C=1,22
0196            POP(C,1,Y)=(PCTRAC(C,1,4)/100.)*POP(23,1,Y)
0197            POP(C,2,Y)=(PSPAN/100.)*POP(C,1,Y)
0198            POP(C,1,Y)=POP(C,1,Y)-POP(C,2,Y)
0199            POP(C,3,Y)=(PCTRAC(C,3,4)/100.)*POP(23,3,Y)
0200       5007 CONTINUE
0201            POP(23,2,Y)=(PSPAN/100.)*(POP(23,1,Y)
0202            POP(23,1,Y)=POP(23,1,Y)-POP(23,2,Y)
0203       5008 CONTINUE
           C
           C
           C CLEAR POP(C,4,Y) FOR Y=1,4.
           C
           C
0204            DO 5011 Y=1,4
0205            DO 5011 C=1,23
0206            POP(C,4,Y)=0.0
0207       5011 CONTINUE
           C
           C
           C AGGREGATE POPULATION BY CENSUS TRACT
           C
           C
0208            CALL SUMCT(POP,1,10)
           C
           C CALL SUBROUTINE RACOMP TO COMPUTE RACIAL COMPOSITION  IN PCT BY RACE
           C BY CT FOR EACH FORECAST YR AND SUM PERCENTS
           C
0209            CALL RACCOMP(1,10).
           C
           C
0210            CALL SUMCT(PCTRAC,1,10)
           C
           C
           C CONVERTS PCTRAC(C,R,Y) DATA TO PERCENTS IN PREPARATION FOR PRINTING
           C
0211            DO 4015 C=1,23
0212            DO 4010 R=1,4
0213            DO 4005 Y=1,10
0214            PCTRAC(C,R,Y)=PCTRAC(C,R,Y)*100.
0215       4005 CONTINUE
0216       4010 CONTINUE
0217       4015 CONTINUE
           C
           C PRINT REPORT C01-RACIAL COMPOSITION OF CENSUS TRACTS IN PERCENT
           C
0218            IREPNO=IREPNO+1
0219            WRITE(6,95) IREPNO
0220         95 FORMAT('1',53X,'TRENTON SCHOOL DISTRICT',33X,'REPORT NO. TSDENR-',
               1I4)
0221            WRITE(6,135) RUNDT
0222        135 FORMAT(' ',42X,'RACIAL COMPOSITION WITHIN CENSUS TRACT IN PERCENT'
               1,17X,'RUN DATE:',3A4)
0223            WRITE(6,105)
0224            WRITE(6,140)
0225            WRITE(6,145) (YRS(Y),Y=1,10)
0226        145 FORMAT(' ',' TRACT    GROUP   ',9X,I4,9(7X,I4))
0227            WRITE(6,115)
0228            DO 160 C=1,22
```

```
0229            DO 155 K=1,3
0230            IF(K.NE.1) GO TO 157
0231            WRITE(6,150) C,(ETHNIC(K,J),J=1,2),(PCTRAC(C,K,Y),Y=1,10)
0232        150 FORMAT(' ',4X,I2,2X,2A4,4X,F7.3,9F11.3)
0233            GO TO 155
0234        157 WRITE(6,159) (ETHNIC(K,J),J=1,2),(PCTRAC(C,K,Y),Y=1,10)
0235        159 FORMAT(' ',14X,2A4,4X,F7.3,9F11.3)
0236        155 CONTINUE
0237            WRITE(6,115)
0238        160 CONTINUE
                C
                C WRITE REPORT 002-POPULATION FORECAST BY ETHNIC GROUP AND CENSUS TRACT
                C
0239            IREPNO=IREPNO+1
0240            WRITE(6,95) IREPNO
0241            WRITE(6,100)RUNDT
0242        100 FORMAT(' ',35X,'POPULATION FORECAST BY CENSUS TRACT, ETHNIC GROUP,
                   AND YEAR',15X,'RUN DATE:',3A4)
0243            WRITE(6,105)
0244            WRITE(6,110)(YRS(Y),Y=4,10)
0245        110 FORMAT('0',' CENSUS TRACT   ETHNIC GROUP ',8X,14,6(11X,I4))
0246            WRITE(6,115)
0247            DO 130 C=1,23
0248            DO 125 K=1,3
0249            IF(C.EQ.2) GO TO 130
0250            IF(K.NE.1) GO TO 127
0251            WRITE(6,120) C,(ETHNIC(K,J),J=1,2),(PCP(C,K,Y),Y=4,10)
0252        120 FORMAT(' ',7X,I2,11X,2A4,5X,F8.0,6(1X,F8.0))
0253            GO TO 129
0254        127 WRITE(6,129) (ETHNIC(K,J),J=1,2),(PCPTC(K,Y),Y=4,10)
0255        129 FORMAT(' ',20X,2A4,5X,F8.0,6(7X,F8.0))
0256            GO TO 125
0257        130 IF(K.NE.1) GO TO 135
0258            WRITE(6,137) (ETHNIC(K,J),J=1,2),(ETHNIC(K,J),J=1,2),
                   (PCP(C,K,Y),Y=4,10)
0259        137 FORMAT(' ',7X,2A4,5X,2A4,5X,F8.0,6(7X,F8.0))
0260            GO TO 125
0261        135 WRITE(6,129)(ETHNIC(K,J),J=1,2),(PCP(C,K,Y),Y=4,10)
0262        125 CONTINUE
0263            WRITE(6,115)
0264        130 CONTINUE
0265        105 FORMAT(' ',53X,'FOR THE CITY OF TRENTON')
0266        115 FORMAT('0')
0267        140 FORMAT('0',' CENSUS  ETHNIC ')
                C
                C
                C COMPUTE GROSS POPULATION DENSITY PER ACRE FOR 1970 AND FORECAST YEARS
                C
                C
0268            DO 1107 Y=5,11
0269            DO 952 C=1,23
0270            WORK(C,Y)=PCP(C,4,Y-1)/WORK(C,3)
0271        952 CONTINUE
0272       1107 CONTINUE
                C
                C WRITE REPORT 002-GROSS  POPULATION DENSITY PER ACRE
                C
0273            IREPNO=IREPNO+1
0274            WRITE(6,95) IREPNO
0275            WRITE(6,1155) RUNDT
0276        165 FORMAT(' ',46X,'POPULATION DENSITY PER GROSS ACRE',
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```
     -27X,'RUN DATE:',3A4)
      WRITE(6,165)
      WRITE(6,167)
  167 FORMAT('0',' CENSUS      GROSS ACRES')
      WRITE(6,170) (YRS(4),(YRS(Y),Y=4,10)
  170 FORMAT(' ',' TRACT',11X,I4,7(10X,I4))
      WRITE(6,115)
      DO 180 C=1,22
      WRITE(6,175)C,(WORK(C,3),(WORK(C,Y),Y=5,11)
  175 FORMAT('0',I2,1X,F6.2,7F14.2)
  180 CONTINUE
      WRITE(6,176)(ETHNIC(4,J),J=1,2),(WORK(23,3),(WORK(23,Y),Y=5,11)
  176 FORMAT('0',2X,2A4,3X,F6.0,7F14.2)
      WRITE(6,1153)
 1153 FORMAT('0',' POPULATION DENSITY CALCULATED USING')
      WRITE(6,1158)
 1158 FORMAT(' ',' GROSS ACREAGE FOR 1970 BY CENSUS TRACT')
C
C COMPUTE NET RESIDENTIAL DENSITY PER ACRE USING 1960 NET RESIDENTIAL ACRES.
C
      DO 1150 Y=4,11
      DO 1145 C=1,23
      WORK(C,Y)=POP(C,4,Y-1)/WORK(C,1)
 1145 CONTINUE
 1150 CONTINUE
C
C WRITE POPULATION NET RESIDENTIAL DENSITY BY CENSUS TRACT
C
      IREPNO=IREPNO+1
      WRITE(6,55) IREPNO
      WRITE(6,603) RUNDT
  603 FORMAT('1',33X,'POPULATION DENSITY PER NET RESIDENTIAL ACRE BY CEN
     1SUS TRACT',12X,'RUN DATE:',3A4)
      WRITE(6,165)
      WRITE(6,607) YRS(3)
  607 FORMAT('0',' CENSUS',3X,I4,' RESIDENTIAL')
      WRITE(6,609) (YRS(Y),Y=3,4),(YRS(Y),Y=6,10)
  609 FORMAT(' ',' TRACT      ACREAGE',12X,I4,6(10X,I4))
      WRITE(6,115)
      DO 845 C=1,22
      WRITE(6,811) C,WORK(C,1),(WORK(C,Y),Y=4,5),(WORK(C,Y),Y=7,11)
  811 FORMAT('0',2X,I2,11X,F5.0,10X,F6.2,6F14.2)
  845 CONTINUE
      WRITE(6,815) (ETHNIC(4,J),J=1,2),WORK(23,1),(WORK(23,Y),Y=4,5),
     1(WORK(23,Y),Y=7,11)
  819 FORMAT('0',2X,2A4,5X,F5.0,11X,F6.2,6(8X,F6.2))
      WRITE(6,821)
  821 FORMAT('0',' SOURCE-CITY OF TRENTON, DEPT. OF PLANNING')
      WRITE(6,1156)
 1156 FORMAT(' ',' DENSITY CALCULATED USING 1960')
      WRITE(6,1160)
 1160 FORMAT(' ',' RESIDENTIAL ACREAGE BY CENSUS TRACT')
C
C INITIALIZE ARRAY-ENR(S,G,R,Y) STORES ENROLLMENT DATA BY SCHOOL,GRADE,
C RACE AND YR.
C
      DO 45 S=1,26
      DO 40 G=1,19
      DO 35 R=1,4
      DO 30 Y=1,6
      ENR(S,G,R,Y) = 0.0
```

```
      30 CONTINUE
      35 CONTINUE
      40 CONTINUE
      45 CONTINUE
C
      DO 47 C=1,15
      DO 46 K=1, 4
      DO 44 Y=1, 6
      SUBGR(C,K,Y)=0.0
   44 CONTINUE
   46 CONTINUE
   47 CONTINUE
C
C
C  READ IN CURRENT YEAR ENROLLMENT DATA BY SCHOOL,GRADE,RACE
 1003 READ(5,107) S,R,(ENRTS(S,R,T),T=1,NCGT
C
C
   10 FORMAT(I2,I1,1X,14F4.0)
      IF(S) 700,700,1003
  700 DO 2005 S=1,22
      DO 1000 S=1,NSCH
      CTPTS(C,S)=0.0
 1000 CONTINUE
 1005 CONTINUE
      CSC=0
C
C READ ASSIGNMENT OF CENSUS TRACTS
C TO SCHOOL SERVICE AREAS INTO CTPTS(I,K).
C
  230 READ(5,233) ACS,CT,CTPTS(CT,ACS)
  233 FORMAT(2X,I2,1X,I3,2X,F6.3)
      IF(CT) 234,234,234
  234 CONTINUE
      GO TO 238
  236 JJ=NCCT-1
      DO 8000 K=1,3
      GO TO (8001,8002,8003),K
 8001 KL=1
      KU=NELS
      GO TO 8004
 8002 KL=KU+1
      KU=KL+NJHS-1
      GO TO 8004
 8003 KL=KU+1
      KU=KL+NSHS-1
 8004 DO 240 CT=1,JJ
      WORK(CT,1)=0.0
      DO 240 K=KL,KU
      WORK(CT,1)=WORK(CT,1)+CTPTS(CT,K)
  240 CONTINUE
      DO 242 CT=1,JJ
      WORK(CT,1)=WORK(CT,1)*640.
  242 CONTINUE
      DO 244 CT=1,JJ
      DO 244 K=KL,KU
      IF(CTPTS(CT,K).EQ.0.0) GO TO 244
      CTPTS(CT,K)=(CTPTS(CT,K)*640.)/WORK(CT,1)
  244 CONTINUE
  243 CONTINUE
 8000 CONTINUE
```

```
                      IREPNC=IREPNC+1
                      WRITE(6,95) IREPNO
                      WRITE(6,281) RUNCT
                281   FORMAT('1',40X,'ASSIGNMENT OF SCHOOL SERVICE AREAS TO CENSUS TRACT
                     1S',17X,'RUN DATE:',3A4)
                      DO 27  CT=1,JJ
                      DO 270 K=1,NSCH
                      CTPTS(CT,K)=CTPTS(CT,K)*100.
                270 CONTINUE
                275 CONTINUE
                      DO 284 I=1,NA
                      DO 283 CT=1,JJ
                      J=SCO(I)
                      IF(CTPTS(CT,J).EQ.0.0) GO TO 283
                      IF(J.EQ.CSC) GO TO 282
                      WRITE(6,286)(NAMEST(J,K),K=1,5),CT,CTPTS(CT,J)
                286 FORMAT('0',2X,5A4,2X,I6,2X,F6.1)
                      GO TO 286
                282 WRITE(6,289) CT,CTPTS(CT,J)
                289 FORMAT('0',22X,I6,2X,F6.1)
                286 CSC=J
                283 CONTINUE
                284 CONTINUE
                C
                C READ GRADE GROUP OCCURENCE BY SCHOOL INTO GOOLC.
                C
                      DO 324 S=1,NSCH
                      READ(5,313) (GOOLC(S,P),P=1,NCG)
                310 FORMAT(2A,14I1)
                320 CONTINUE
                C
                C COMPUTE CT TFS ENROLLMENT BY RACE WITHIN GRADE AND STORES IN SUBGR(G,R,I)
                C
                      DO 512 R=1,3
                      DO 514 G=1,14
                      DO 512 S=1,25
                      SUBGR(G,R,I) = SUBGR(G,R,I) + ENR(S,G,R,I)
                512 CONTINUE
                514 CONTINUE
                516 CONTINUE
                C
                C COMPUTE PUBLIC ENROLLMENT FACTOR BY GRADE AND BY RACE AS THE RATIO OF CURRENT
                C YEAR ENROLLMENT BY RA  WITHIN GRADE TO CURRENT YEAR TOTAL POPULATION BY RACE
                C SAVES ENR. FACTOR IN G  (G,R).
                C
                      DO 920 R=1,3
                      DO 918 G=1,14
                      GRADEF(G,R) = SUBGR(G,R,I)/PCPT23,R,5)
                918 CONTINUE
                920 CONTINUE
                C
                C
                      DO 3004 G=1,14
                      DO 3003 R=1,3
                      EFAC(G,R)=GRADEF(G,R)*100.
                3003 CONTINUE
                3004 CONTINUE
                C
                C
                C PRINT REPORT OF ENROLLMENT FACTORS PER THOUSAND
                C IN THE POPULATION BY GRADE AND ETHNIC GROUP.
```

```
C
      WRITE(6,350)
  350 FORMAT('1',38X,'PUBLIC ENROLLMENT FACTORS BY ETHNIC GROUP AND GRAD
     1E')
      WRITE(6,357)
  357 FORMAT('0',' FACTORS ARE BASED ON CY PUBLIC ENROLLMENT')
      WRITE(6,358)
  358 FORMAT(' ',' BY ETHNIC GROUP AND GRADE PER THOUSAND IN')
      WRITE(6,359)
  359 FORMAT(' ',' CY POPULATION BY ETHNIC GROUP')
      WRITE(6,361)
  361 FORMAT('0',70('-'))
      WRITE(6,362)
  362 FORMAT('0',' CY PUBLIC ENROLLMENT')
      WRITE(6,363)((GRADES(G,J),J=1,2),G=1,7)
  363 FORMAT('0',10X,2A4,2X,2A4,2X,2A4,4X,2A4,4(2X,2A4))
      DO 367 K=1,2
      WRITE(6,364) (ETHNIC(K,J),J=1,2),(SUBOR(G,K,1),G=1,7)
  364 FORMAT('0',4X,2A4,2(3X,F7.0),5(5X,F7.0))
  367 CONTINUE
      WRITE(6,115)
      WRITE(6,363) ((GRADES(G,J),J=1,2),G=8,14)
      DO 369 K=1,2
      WRITE(6,364) (ETHNIC(K,J),J=1,2),(SUBOR(G,K,1),G=8,14)
  369 CONTINUE
      WRITE(6,361)
      WRITE(6,115)
      WRITE(6,371)
  371 FORMAT('0',' CY POPULATION BY ETHNIC GROUP')
      DO 372 K=1,3
      WRITE(6,373)(ETHNIC(K,J),J=1,2), POP(23,K,5)
  373 FORMAT(' ',4X,2A4,F9.0)
  372 CONTINUE
      WRITE(6,361)
      WRITE(6,374)
  374 FORMAT('0',' CY ENROLLMENT PER THOUSAND IN CY POPULATION')
      WRITE(6,376)
  376 FORMAT(' ',' BY ETHNIC GROUP AND GRADE(IN PERCENTS)')
      WRITE(6,363)((GRADES(G,J),J=1,2),G=1,7)
      WRITE(6,115)
      DO 378 K=1,3
      WRITE(6,377)(ETHNIC(K,J),J=1,2),(EFAC(G,K),G=1,7)
  377 FORMAT(' ',4X,2A4,7(4X,F6.2))
  378 CONTINUE
      WRITE(6,363)((GRADES(G,J),J=1,2),G=8,14)
      WRITE(6,115)
      DO 382 K=1,3
      WRITE(6,377)(ETHNIC(K,J),J=1,2),(EFAC(G,K),G=8,14)
  382 CONTINUE
C
C COMPUTE PUBLIC ENROLLMENT FORECAST BY RACE, WITHIN GRADE, WITHIN CENSUS
C TRACT FOR EACH FORECAST YEAR AND SAVE IN EFORG.
C
      DO 926 Y=1,5
      K=Y+5
      DO 926 R=1,3
      DO 924 G=1,22
      DO 922 G=1,14
      EFORG(C,G,R,Y) = GRADEF(G,K) * POP(C,R,K)
  922 CONTINUE
```

```
  924 CONTINUE
  925 CONTINUE
  928 CONTINUE
C
C COMPUTE PUB. ENR. FORECAST BY G  BY R BY SCHOOL AND SAVE IN ENR(S,G,R,Y)
C
      DO 345 Y=2,6
      L=Y-1
      DO 340 R=1,5
      DO 335 C=1,NOG
      DO 330 S=1,NSCH
      IF(GGCCCC(S,G).EQ.0) GO TO 330
      DO 325 G=1,22
      ENR(S,G,R,Y)=ENR(S,G,R,Y)*TEFCRG(C,G,R,LT)*(CTPTS(C,S)/100.)
  325 CONTINUE
  330 CONTINUE
  335 CONTINUE
  340 CONTINUE
  345 CONTINUE
C
      READ(5,316) ENCV
  316 FORMAT(4X,I2)
      IF(ENLV.NE.1) GO TO 326
      READ(5,324)(TSCOVR(ST),S=1,24)
  324 FORMAT(4X,24I1)
  322 READ(5,318) GL,GU
  318 FORMAT(2X,2I2)
      IF(GL) 326,326,326
  326 READ(5,314) S,R,Y,(ENR(S,G,R,Y),G=GL,GU)
  314 FORMAT(6X,3I2,8F4.0)
      GO TO 322
C SUM SCHOOL ENROLLMENT IN ENR BY SCHOOL BY GRADE BY YEAR ACROSS ALL
C RACES AND STORE IN ENR(S,G,4,Y)
C
  326 DO 660 Y=1,6
      DO 655 S=1,25
      DO 650 G=1,14
      DO 645 R=1,3
      ENR(S,G,4,Y)=ENR(S,G,4,Y)+ENR(S,G,R,Y)
  645 CONTINUE
  650 CONTINUE
  655 CONTINUE
  660 CONTINUE
C
C SUM SCHOOL ENROLLMENT IN ENR BY RACE, WITHIN SCHOOL ACROSS ALLGRADES
C
      DO 620 Y=1,6
      DO 615 R=1,4
      DO 610 S=1,25
      DO 605 C=1,14
      ENR(S,15,R,Y)=ENR(S,15,R,Y)+ENR(S,G,R,Y)
  605 CONTINUE
  610 CONTINUE
  615 CONTINUE
  620 CONTINUE
C
C SUM SCHOOL ENROLLMENT IN ENR BY RACE WITHIN GRADE ACROSS ALL SCHOOLS
      DO 640 Y=1,6
      DO 635 R=1,4
      DO 630 G=1,15
      DO 625 S=1,25
```

```
      ENR(20,G,R,Y)=ENR(20,G,R,Y)+ENR(S,G,R,Y)
  625 CONTINUE
  630 CONTINUE
  635 CONTINUE
  640 CONTINUE
C
C
C CALL SUBROUTINE REPORS TO WRITE ENR FORECASTS BY SCHOOL
C
      CALL REPORS(1,18,1,6,1,3,YRS,ENCV,ISCOVR)
      CALL REPORS(19,23,9,11,4,4,YRS,ENCV,ISCOVR)
      CALL REPORS(24,24,12,14,5,5,YRS,ENCV,ISCOVR)
C
C AGGREGATE ENROLLMENT FORECAST IN ENR TO GIVE TPS FORECAST TOTALS BY RACE
C WITHIN GRADE WITHIN YEAR AND SAVES IN SUBGR
      DO 536 Y=2,6
      DO 934 G=1,14
      DO 532 R=1,3
      DO 536 S=1,25
      SUBGR(G,R,Y) = SUBGR(G,R,Y)+ENR(S,G,R,Y)
  930 CONTINUE
  532 CONTINUE
  934 CONTINUE
  536 CONTINUE
C
C COMPUTE SUM OF ENROLLMENT DATA IN SUBGR TO GIVE TPS TOTALS BY RACE WITHIN
C FORECAST YEAR, AND BY GRADE BY FORECAST YEAR
      DO 942 Y=1,6
      DO 940 R=1,3
      DO 938 G=1,14
      SUBGR(15,R,Y)=SUBGR(15,R,Y)+SUBGR(G,R,Y)
  938 CONTINUE
  940 CONTINUE
  942 CONTINUE
C
C
      DO 946 Y=1,6
      DO 940 G=1,15
      DO 944 R=1,3
      SUBGR(G,4,Y)=SUBGR(G,4,Y)+SUBGR(G,R,Y)
  944 CONTINUE
  946 CONTINUE
  948 CONTINUE
C
C AGGREGATES ENROLLMENT STORED IN ENR(S,G,R,Y) BY RACE WITHIN PROGRAM AND YEAR
C AND STORES RESULT IN SUBPR
C
      DO 43 P=1,6
      DO 42 R=1,4
      DO 41 Y=1,6
      SUBPR(P,R,Y)=0.0
   41 CONTINUE
   42 CONTINUE
   43 CONTINUE
      DO 465 Y=1,6
      DO 463 R=1,3
      DO 475 G=1,14
      LL=IC(G)
      DO 470 S=1,25
      SUBPR(LL,R,Y)=SUBPR(LL,R,Y)+ENR(S,G,R,Y)
  470 CONTINUE
```

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0567          475 CONTINUE
0568          485 CONTINUE
0569          485 CONTINUE
              C
              C AGGREGATES ENR. FORECAST IN SUBPR ACROSS ALL PROGRAMS TO OBTAIN ENR TOTALS BY
              C RACE AND YR. REPEAT AGGREGATION ACROSS RACES TO OBTAIN TOTALS BY PROGRAM,BY YR
              C
0570              DO 495 Y=1,6
0571              DO 490 R=1,4
0572              DO 487 P=1,5
0573              SUBPR(6,R,Y)=SUBPR(6,R,Y)+SUBPR(P,R,Y)
0574          487 CONTINUE
0575          490 CONTINUE
0576          495 CONTINUE
              C
0577              DO 580 Y=1,6
0578              DO 575 P=1,5
0579              DO 570 R=1,3
0580              SUBPR(P,4,Y)=SUBPR(P,4,Y)+SUBPR(P,R,Y)
0581          570 CONTINUE
0582          575 CONTINUE
0583          580 CONTINUE
              C
              C COMPUTATION OF SECONDARY ENROLLMENT IN SECONDARY PROGRAMS
              C REAL IN PUB ENR IN EACH OF 4 SECONDARY PROGRAMS BY GRADE(10,11,12), BY
              C RACE BY SEC. PROG AND STORE IN SECENR.
              C
0584              DO 365 R=1,3
0585              DO 360 P=1,NSECP
0586              READ(5,350)(SECENR(P,G,R),G=1,3)
0587          350 FORMAT(3X,3F5.0)
0588          355 CONTINUE
0589          360 CONTINUE
0590          365 CONTINUE
              C
              C COMPUTE TOTAL BY PROGRAM WITHIN RACE AND SAVE IN SECENR(P,4,R)
              C
0591              DO 380 R=1,3
0592              DO 375 P=1,NSECP
0593              SECENR(P,4,R)=0.0
0594              DO 370 G=1,3
0595              SECENR(P,4,R) = SECENR(P,4,R) + SECENR(P,G,R)
0596          370 CONTINUE
0597          375 CONTINUE
0598          380 CONTINUE
              C COMPUTE TOTAL BY GRADE WITHIN RACE AND SAVE IN SECENR(5,G,R)
0599              DO 395 R=1,3
0600              DO 390 G=1,4
0601              SECENR(5,G,R)=0.0
0602              DO 385 P=1,NSECP
0603              SECENR(5,G,R) = SECENR(5,G,R) + SECENR(P,G,R)
0604          385 CONTINUE
0605          390 CONTINUE
0606          395 CONTINUE
              C
              C COMPUTE TOTAL SEC. ENR. BY PROGRAM FOR THE CURRENT YR BY SUMMING ACROSS
              C RACE WITHIN PROGRAM. SAVE RESULTS IN SEC1(P).
              C
0607              DO 399 P=1,NSECP
0608              SEC1(P)=0.0
0609              DO 422 R=1,3
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0616            SEC1(P)=SEC1(P)+SECEN(P,4,R)
0611          422 CONTINUE
0612          399 CONTINUE
0613            SEC1(5)=0.0
0614            DO 426 P=1,NSECP
0615            SEC1(5)=SEC1(5)+SEC1(P)
0616          426 CONTINUE
                C
                C COMPUTE THE PERCENT OF GRADE GROUP 5 (GRADES10,11,12) IN EACH SECON-
                C DARY PROGRAM BY RACE BY PROGRAM AND SAVE IN PSECRP
                C
0617            DO 405 R=1,3
0618            DO 400 P=1,NSECP
0619            PSECRP(P,R)=0.0
0620            PSECRP(P,R) = SECEN(P,4,R)/SUBPR(5,R,1)
0621          400 CONTINUE
0622          405 CONTINUE
                C
                C COMPUTE PUB. ENR. IN SECONDARY PROGRAMS BY RACE FOR EACH FORECAST YR
                C
0623            DO 420 Y=1,5
0624            DO 415 P=1,NSECP
0625            DO 410 R=1,3
0626            SECFOR(P,R,Y)=0.0
0627            SECFOR(P,R,Y)=SUBPR(5,R,Y+1)*PSECRP(P,R)
0628          410 CONTINUE
0629          415 CONTINUE
0630          420 CONTINUE
                C
                C SUM SECONDARY ENR FORECAST BY PROGRAM AND STORE IN SECFOR(P,4,Y),AND
                C SUM SECONDARY ENR FORECAST BY RACE AND STORE IN SECFOR(5,R,Y) .
                C
0631            DO 435 Y=1,5
0632            DO 430 P=1,NSECP
0633            SECFOR(P,4,Y) =0.0
0634            DO 425 R=1,3
0635            SECFOR(P,4,Y) = SECFOR(P,4,Y) + SECFOR(P,R,Y)
0636          425 CONTINUE
0637          430 CONTINUE
0638          435 CONTINUE
0639            DO 450 Y=1,5
0640            DO 445 R=1,4
0641            SECFOR(5,R,Y)=0.0
0642            DO 440 P=1,NSECP
0643            SECFOR(5,R,Y)=SECFOR(5,R,Y) + SECFOR(P,R,Y)
0644          440 CONTINUE
0645          445 CONTINUE
0646          450 CONTINUE
                C
                C WRITE REPORT-0006 PUBLIC ENROLLMENT FORECAST BY GRADE LEVEL
                C
0647            IREPAG=IREPAG+1
0648            WRITE(6,95) IREPAG
0649            WRITE(6,500) RUND7
0650          500 FORMAT('1',43X,'PUBLIC ENROLLMENT FORECAST BY GRADE LEVEL',25X,
                -'RUN DATE: ',A7)
0651            WRITE(6,505)
0652            WRITE(6,510)(YRSIY),Y=5,10)
0653            WRITE(6,505)
0654            DO 525 G=1,15
0655            WRITE(6,515)(GRADES(G,J),J=1,2),(SCSUM(G,4,Y),Y=1,6)
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0650          515 FORMAT('0',10X,2A4,7X,F7.0,5(12X,F7.0))
0657          525 CONTINUE
0658          505 FORMAT('0')
0659          510 FORMAT(' ',5X,'GRADE LEVEL',11X,I4,5(15X,I4))
                C
                C WRITE REPORT-007 PUBLIC ENROLLMENT FORECAST BY PROGRAM.
                C
0660                IREPNC=IREPNC+1
0661                WRITE(6,55) IREPNO
0662                WRITE(6,530) RUNDT
0663          530 FORMAT(' ',47X,'PUBLIC ENROLLMENT FORECAST BY PROGRAM',25X,'RUN DA
               -TE:',3A4)
0664                WRITE(6,505)
0665                WRITE(6,535)(YRSTY(Y),Y=5,10)
0666          535 FORMAT(' ',5X,'PROGRAM              ETHNIC GROUP',8X,I4,5(10X,I4))
0667                WRITE(6,505)
0668                WRITE(6,505)
0669                DO 539 P=1,5
0670                DO 537 R=1,4
0671                IF(R.NE.1) GO TO 534
0672                WRITE(6,705) PROGNM(P,J),J=1,6),(ETHNIC(R,J),J=1,2),
               -(SUBPR(P,R,Y),Y=1,6)
0673          705 FORMAT('0',2A4,2X,2A4,8X,F7.0,5(7X,F7.0))
0674                GO TO 537
0675          534 WRITE(6,533)(ETHNIC(R,J),J=1,2),(SUBPR(P,R,Y),Y=1,6)
0676          533 FORMAT(' ',26A,2A4,8X,F7.0,5(7X,F7.0))
0677          537 CONTINUE
0678          539 CONTINUE
                C
                C CONVERT SEC ENR FACTORS IN PSECRP IN PREPARATION FOR PRINTING
                C
0679                DO 3022 P=1,NSECP
0680                DO 3021 R=1,3
0681                PSECRP(P,R)=PSECRP(P,R)*100.
0682          3021 CONTINUE
0683          3022 CONTINUE
                C
                C PRINT ENROLLMENT FORECAST REPORT PERTAINING TO SECONDARY PROGRAMS
                C
0684                IREPNC=IREPNC+1
0685                WRITE(6,55) IREPNO
0686                WRITE(6,730) RUNDT
0687          730 FORMAT(' ',45X,'SECONDARY ENROLLMENT FORECAST BY PROGRAM',24X,
               -'RUN DATE:',3A4)
0688                WRITE(6,505)
0689                WRITE(6,732)
0690          732 FORMAT(' ','1-CURRENT YEAR SECONDARY ENROLLMENT BY ETHNIC GROUP WI
               -THIN PROGRAM')
0691                WRITE(6,734)((ETHNIC(R,J),J=1,2),R=1,4)
0692          734 FORMAT('0',' SECONDARY PROGRAMS',18X,2A4,3(10X,2A4))
0693                DO 738 P=1,NSECP
0694                NC=P+5
0695                WRITE(6,736) (PROGNM(NC,J),J=1,6),(SECENR(P,4,R),R=1,3),SEC1(P)
0696          736 FORMAT(' ',5X,6A4,9X,F7.0,3(11X,F7.0))
0697          738 CONTINUE
0698                WRITE(6,505)
0699                WRITE(6,737)(ETHNIC(4,J),J=1,2),(SECENR(5,4,R),R=1,3),SEC1(5)
0700          737 FORMAT(' ',5X,2A4,25X,F7.0,3(11X,F7.0))
0701                WRITE(6,505)
0702                WRITE(6,742)
0703          742 FORMAT(' ','2-PERCENTAGE COMPLETION OF EACH SECONDARY PROGRAM BY
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     -ETHNIC GROUP WITHIN PROGRAM FOR THE CURRENT YEAR')
0704      WRITE(6,734) ((ETHNIC(K,J),J=1,2),K=1,3)
0705      DO 744 P=1,NSECP
0706      KA=P+5
0707      WRITE(6,731) (PRCONM(KA,J),J=1,6),(PSECRP(P,R),R=1,3)
0708  731 FORMAT(' ',5X,6A4,9X,F7.3,12X,F7.3,10X,F7.3)
0709  744 CONTINUE
0710      WRITE(6,505)
0711      WRITE(6,746)
0712  746 FORMAT(' ',43=PUBLIC ENROLLMENT FORECAST BY ETHNIC GROUP AND YEAR
     -WITHIN SECONDARY PROGRAM')
0713      WRITE(6,748) (YRS(Y),Y=6,10)
0714  748 FORMAT('0',3X,'SECONDARY PROGRAMS',10X,'ETHNIC GROUP    ',9X,
     -5(10X,I4))
0715      DO 758 P=1,NSECP
0716      KB=P+5
0717      DO 756 R=1,4
0718      IF(R.NE.1) GO TO 752
0719      WRITE(6,750) (PRCONM(KB,J),J=1,6),(ETHNIC(R,J),J=1,2),
     -(SECFOR(P,R,Y),Y=1,5)
0720  750 FORMAT('0',5X,6A4,4X,2A4,15A,5(7X,F7.0))
0721      GO TO 756
0722  752 WRITE(6,754) (ETHNIC(R,J),J=1,2),(SECFOR(P,R,Y),Y=1,5)
0723  754 FORMAT(' ',33X,2A4,15X,5(7X,F7.0))
0724  756 CONTINUE
0725  758 CONTINUE
0726      WRITE(6,760)
0727  760 FORMAT('0','   PROGRAMMATIC TOTALS')
0728      DO 764 P=1,NSECP
0729      KC=P+5
0730      WRITE(6,762) (PRCONM(KC,J),J=1,6),(SECFOR(P,4,Y),Y=1,5)
0731  762 FORMAT(' ',5X,6A4,27A,5(7X,F7.0))
0732  764 CONTINUE
0733      DO 646 Y=1,5
0734      DO 644 P=1,5
0735      SLEVEL(P,Y)=0.0
0736      KK=IP(P)
0737      SLEVEL(KK,Y)=SLEVEL(KK,Y)+SUBPRT(P,4,Y)
0738  644 CONTINUE
0739  646 CONTINUE

C
C PRINT ENROLLMENT FORECAST BY SCHOOL BY YEAR.
C
0740      IREPNO=IREPNO+1
0741      WRITE(6,55) IREPNO
0742      WRITE(6,651) RUNDT
0743  651 FORMAT(' ',39X,'PUBLIC ENROLLMENT FORECAST TOTALS BY SCHOOL AND YE
     -AR',16X,'RUN DATE=',A8)
0744      WRITE(6,505)
0745      WRITE(6,653)(YRS(Y),Y=5,10)
0746  653 FORMAT(' ',5X,'SCHOOL NAME',17X,I4,5(13X,I4))
0747      DO 655 S=1,12
0748      WRITE(6,657) (NAMES(S,J),J=1,5),(ENR(S,15,4,Y),Y=1,6)
0749  657 FORMAT('0',6X,5A4,3X,F6.0,5(11X,F6.0))
0750  655 CONTINUE
0751      WRITE(6,661) (SLEVEL(Z,Y),Y=1,5)
0752  661 FORMAT('0',9X,'TOTAL ELEMENTARY',10X,F6.0,5(11X,F6.0))
0753      DO 663 S=19,24
0754      WRITE(6,657) (NAMES(S,J),J=1,5),(ENR(S,15,4,Y),Y=1,6)
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0755          603 CONTINUE
0756              WRITE(6,607) (SCLEVEL(Z,Y),Y=1,6)
0757          607 FORMAT('0',5X,'TOTAL SECONDARY',11X,F6.0,5(11X,F6.0))
0758              WRITE(6,609) (GRAND(Z,Y),Y=1,6)
0759          609 FORMAT('0',5X,'GRAND TOTAL',15X,F6.0,5(11X,F6.0))
                C
                C READ ACTUAL PUBLIC ENROLL.IN SPECIAL EDUCATION FOR CY BY
                C ETHNIC GROUP WITHIN LEVEL, AND IN CONTINUING EDUCATION BY ETHNIC GROUP
                C
0760              DO 601 L=1,2
0761              READ(5,602) (STUTP(L,K,1),K=1,3)
0762          602 FORMAT(6X,3F6.0)
0763          603 CONTINUE
0764              READ(5,601) (CONED(1,K),K=1,3)
                C
                C
                C CALCULATE SPECIAL EDUCATION AND CONTINUING
                C EDUCATION ENROLLMENT FACTORS/ 100 IN POPULATION.
                C
0765              DO 891 K=1,3
0766              DO 604 L=1,2
0767              IF(STUTP(L,K,1).EQ.0.0) GO TO 892
0768              EFAC(L,K)=STUTP(L,K,1)/POP(23,K,5)
0769              GO TO 893
0770          892 EFAC(L,K)=0.0
0771          893 CONTINUE
0772          891 CONTINUE
0773              DO 897 K=1,3
0774              IF(CONED(1,K).EQ.0.0) GO TO 893
0775              GRADEF(1,K)=CONED(1,K)/POP(23,K)
0776              GO TO 897
0777          893 GRADEF(1,K)=0.0
0778          897 CONTINUE
                C
                C
                C CALCULATE SPECIAL EDUCATION AND CONTINUING
                C EDUCATION ENROLLMENT FORECASTS.
                C
0779              DO 902 Y=2,6
0780              K=Y+4
0781              DO 901 R=1,3
0782              CONED(Y,R)=GRADEF(1,R)*POP(Z3,R,K)
0783              DO 902 L=1,2
0784              STUTP(L,R,Y)=EFAC(L,R)*POP(Z3,R,K)
0785          902 CONTINUE
0786          901 CONTINUE
0787          903 CONTINUE
                C
                C
                C AGGREGATE CY-Y5 SPECIAL EDUCATION ENROLLMENT FORECAST
                C BY LEVEL BY YR(ACROSS ETHNIC GRPS),AND CONT ED ACROSS ETHNIC GRPS
                C
07cc              DO 887 Y=1,6
0789              CONED(Y,4)=0.0
0790              DO 888 R=1,3
0791              CONED(Y,4)=CONED(Y,4) + CONED(Y,R)
0792          888 CONTINUE
0793          887 CONTINUE
0794              DO 889 Y=1,6
0795              DO 889 L=1,2
0796              STUTP(L,4,Y)=0.0
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0797          DO 886 R=1,3
0798          STOTP(L,4,Y)=STOTP(L,4,Y)+STOTP(L,R,Y)
0799      886 CONTINUE
              C
              C
              C ACCUMULATE CY-Y5 SPEC. ED ENR. FORECAST BY ETHNIC
              C GROUP BY Y#(ACROSS LEVELS).
              C
0800          DO 908 R=1,4
0801          DO 907 Y=1,6
0802          STOTP(3,R,Y)=0.0
0803          DO 908 L=1,2
0804          STOTP(3,R,Y)=STOTP(3,R,Y) + STOTP(L,R,Y)
0805      908 CONTINUE
0806      907 CONTINUE
0807      908 CONTINUE
              C
              C
              C PRINT SPECIAL EDUCATION AND CONTINUING EDUCATION
              C FORECAST REPORTS.
              C
              C
0808          IREPNO=IREPNO + 1
0809          WRITE(6,955) IREPNO
0810          WRITE(6,909)RUNDT
0811      909 FORMAT('1',42X,'PUBLIC ENROLLMENT FORECAST FOR SPECIAL EDUCATION',
             1 20X,'RUN DATE:',3A4)
0812          WRITE(6,911)
0813      911 FORMAT('0',' ENROLLMENT FACTORS: SPECIAL EDUCATION ENROLLMENT FACT
             1OR PER THOUSAND')
0814          WRITE(6,962) YRS(5)
0815      962 FORMAT('0',22X,'IN POPULATION BY ETHNIC GROUP FOR THE CY',2X,I4)
0816          WRITE(6,915)
0817          WRITE(6,913)((ETHNIC(R,J),J=1,2),R=1,3)
0818      913 FORMAT('0',9X,'LEVEL',20X,2A4,10X,2A4,14X,2A4)
0819          DO 964 R=1,3
0820          DO 966 L=1,2
0821          EFAC(L,R)= EFAC(L,R)*100.
0822      966 CONTINUE
0823      964 CONTINUE
0824          WRITE(6,968)(EFAC(1,R),R=1,3)
0825      968 FORMAT('0',11X,'ELEMENTARY',8X,F10.3,2(10X,F10.3))
0826          WRITE(6,917)(EFAC(2,R),R=1,3)
0827      917 FORMAT('0',11X,'SECONDARY',9X,F10.3,2(10X,F10.3))
0828          WRITE(6,115)
0829          WRITE(6,115)
0830          WRITE(6,969)
0831      969 FORMAT('0',' ENROLLMENT FORECAST')
0832          WRITE(6,919) (YRS(Y),Y=5,10)
0833      919 FORMAT('0',' LEVEL',12X,'ETHNIC GROUP',6X,I4,5(10X,I4))
0834          DO 979 R=1,4
0835          IF(R.NE.1) GO TO 972
0836          WRITE(6,921)(ETHNIC(R,J),J=1,2),(STOTP(1,R,Y),Y=1,6)
0837      921 FORMAT('0',' ELEMENTARY',7X,2A4,8X,F5.0,5(9X,F5.0))
0838          GO TO 975
0839      972 WRITE(6,923)(ETHNIC(R,J),J=1,2),(STOTP(1,R,Y),Y=1,6)
0840      923 FORMAT(' ',20X,2A4,8X,F5.0,5(9X,F5.0))
0841      979 CONTINUE
0842          DO 929 R=1,4
0843          IF(R.NE.1) GO TO 927
0844          WRITE(6,976) (ETHNIC(R,J),J=1,2),(STOTP(2,R,Y),Y=1,6)
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0845          576 FORMAT('0',' SECONDARY',8X,2A4,8X,F5.0,5(9X,F5.0))
0846              GO TO 929
0847          927 WRITE(6,923)(ETHNIC(K,J),J=1,2),(STOTP(2,K,Y),Y=1,6)
0848          929 CONTINUE
0849              DO 939 K=1,4
0850              IF(K.NE.1) GO TO 982
0851              WRITE(6,931)(ETHNIC(K,J),J=1,2),(STOTP(3,K,Y),Y=1,6)
0852          931 FORMAT('0',' TOTAL',12X,2A4,8X,F5.0,5(9X,F5.0))
0853              GO TO 939
0854          982 WRITE(6,923)(ETHNIC(K,J),J=1,2),(STOTP(3,K,Y),Y=1,6)
0855          939 CONTINUE
                  C
                  C
                  C
0856              IREPNO=IREPNO + 1
0857              WRITE(6,95) IREPNO
0858              WRITE(6,933)RUNDT
0859          933 FORMAT(' ',40X,'PUBLIC ENROLLMENT FORECAST FOR CONTINUING EDUCATIO
                 1N',20X,'RUN DATE=',3A4)
0860              WRITE(6,984)
0861          984 FORMAT('0','CONTINUING EDUCATION ENROLLMENT FACTOR BY ETHNIC')
0862              WRITE(6,9861) YRS(5)
0863          986 FORMAT(' ','GROUP PER THOUSAND IN THE POPULATION FOR CY',2X,I4)
0864              WRITE(6,115)
0865              WRITE(6,937)((ETHNIC(K,J),J=1,2),K=1,3)
0866          937 FORMAT('0',34X,2A4,10X,2A4,14X,2A4)
0867              DO 988 K=1,3
0868              GRADEF(I,K)=GRADEF(I,K)*100.
0869          988 CONTINUE
0870              WRITE(6,989)((GRADEF(I,K),K=1,3)
0871          989 FORMAT('0',2X,F10.3,2(10X,F10.3))
0872              WRITE(6,969)
0873              WRITE(6,941) (YRS(Y),Y=5,10)
0874          941 FORMAT('0',20X,'ETHNIC GROUP',4X,I4,5(10X,I4))
0875              DO 994 K=1,4
0876              WRITE(6,992) (ETHNIC(K,J),J=1,2), (CCNED(Y,K),Y=1,6)
0877          992 FORMAT('0',20A,2A4,11X,F5.0,5(9X,F5.0))
0878          994 CONTINUE
0879              IREPNO=IREPNO+1
0880              WRITE(6,95) IREPNO
0881              WRITE(4,3C2)
0882          3C2 FORMAT('0','ENROLLMENT FORECAST INPUT FOR REVENUE SIMULATOR')
0883              DO 7000 Y=1,6
0884              TI(Y)=0.0
0885         7000 CONTINUE
0886              DO 384 Y=1,6
0887              DO 384 P=2,3
0888              TI(Y)=TI(Y)+SUBPR(P,4,Y)
0889          384 CONTINUE
0890              DO 382 Y=1,6
0891              PROG(Y)=SUBGR(15,4,Y)*UCPCT
0892          382 CONTINUE
0893              WRITE(6,3C7) (YRS(Y),Y=5,10)
0894          3C7 FORMAT('0',35X,I4,5(10X,I4))
0895              WRITE(6,388)(PROGNM(11,J),J=1,6),(SUBGR(2,4,Y),Y=1,6)
0896          388 FORMAT('0',3X,6A4,1X,6(2X,F8.0))
0897              WRITE(6,390) (PROGNM(12,J),J=1,6),(TI(Y),Y=1,6)
0898              WRITE(6,383) (PROGNM(13,J),J=1,6),(SUBPR(4,4,Y),Y=1,6)
0899              WRITE(6,388) (PROGNM(14,J),J=1,6),SEC1(1),(SECFOR(1,4,Y),Y=1,5)
0900              WRITE(6,388) (PROGNM(15,J),J=1,6),SEC1(2),(SECFOR(2,4,Y),Y=1,5)
```

```
0901          WRITE(6,388) (PRCGNM(10,J),J=1,6),(CCNED(Y,4),Y=1,6)
0902          WRITE(6,388) (PRCGNM(17,J),J=1,6),(STCTP(3,4,Y),Y=1,6)
0903          WRITE(6,388) (PROGNM(18,J),J=1,6),(AFDC(Y),Y=1,6)
0904          STOP
0905          END
```

```
0001          SUBROUTINE SUMRY(A,KL,KU)
0002          DIMENSION A(23,4,6)
0003          COMMON    SUBGR(15,4,6),GRADEF(14,3),EFORG(22,14,3,5),PROGNM(19,6)
0004          COMMON PCTRAC(23,4,10),ENR(26,15,4,6),SUBPR(6,4,6)
0005          COMMON NAMES(25,5),ETHNIC(4,2),PGP(23,4,10)
0006          COMMON    RCNOTI(3),CITYTS(22,25),GRGRPS(5,2)
0007          COMMON    SECENR(5,4,3),PSECAP(4,3),GRADES(15,2),SECPCR(5,4,5)
0008          COMMON STUTP(5,3,6),SECI(5),EFACT(14,3),IREPRO
0009          INTEGER ACCT,ACR,AGYRS,ASCH,ALGG,C,R,Y,S,G,P,IG(14),IP(5)
0010          INTEGER GGGCC(25,14),SL,SU,PL,PU,NL,GL,GU,YRS(10)
0011          DO 15 Y=KL,KU
0012          DO 10 R=1,3
0013          DO  5 C=1,22
0014          A(23,R,Y)= A(23,R,Y) + A(C,R,Y)
0015        5 CONTINUE
0016       10 CONTINUE
0017       15 CONTINUE
0018          RETURN
0019          END
```

```
0001          SUBROUTINE SUMGT(A,NL,KU)
0002          DIMENSION A(25,4,6)
0003          COMMON    SLEGR(15,4,6),GRADEF(14,3),FLAG(22,14,3,5),PROGNM(19,6)
0004          COMMON PCTRAC(25,4,10),CRA(26,15,4,6),SUBPR(6,4,6)
0005          COMMON NAMES(25,5),ETHNIC(4,2),POP(25,4,10)
0006          COMMON    RCRET(3),CTPTS(22,25),GRGRPS(5,2)
0007          COMMON    SLEGRA(5,4,3),PSECRP(4,3),GRADES(15,2),SECFGR(5,4,5)
0008          COMMON STCTPT(5,3,6),SECT(5),EFACT(4,3),IREPNO
0009          INTEGER NCC1,NCR,NOYRS,NSCH,NLGG,C,R,Y,S,G,P,IG(14),IP(5)
0010          INTEGER GGUCC(25,14),SL,SU,PL,PU,NCG,GL,GU,YRST(10)
0011          DO 30 Y=NL,KU
0012          DO 25 C=1,23
0013          DO 20 R=1,3
0014          A(C,4,Y) = A(C,4,Y) + A(C,R,Y)
0015       20 CONTINUE
0016       25 CONTINUE
0017       30 CONTINUE
0018          RETURN
0019          END
```

```
      SUBROUTINE RACCMP(KL,KU)
      COMMON     SUBGR(15,4,6),GRADEF(14,3),EFGRG(22,14,3,5),PRCONM(19,6)
      COMMON PCTRAC(23,4,10),ENR(26,15,4,6),SUBPR(6,4,6)
      COMMON RATES(25,5),ETPNIC(4,2),PCP(23,4,10)
      COMMON     RCNDT(3),CTPTS(22,25),GRGRPS(5,2)
      COMMON     SECENR(5,4,5),PSECHF(4,3),GRADES(15,2),SECFOR(5,4,5)
      COMMON STUTP(5,3,6),SECI(5),EFAC(14,3),IREPNC
      INTEGER NCCTTNGR,NCYRS,RSCH,NCGG,C,R,Y,S,G,P,IG(14),IP(5)
      INTEGER GGCCC(25,14),SL,SC,PL,PU,NCG,GL,GU,YRS(10)
      DO 60 Y=KL,KU
      DO 55 R=1,3
      DO 50 C=1,22
      IF(POP(C,4,Y).EQ.0.0) GO TO 50
      PCTRAC(C,R,Y)= PCP(C,R,Y)/POP(C,4,Y)
   50 CONTINUE
   55 CONTINUE
   60 CONTINUE
      RETURN
      END
```

```
      C SUBROUTINE REPORS GENERATES ENROLLMENT FORECAST REPORTS BY SCHOOL.
      C FOR ELEMENTARY SCHOOLS:S=1,19;G=1,8;P=1,5. FOR JUNIOR HIGHS:S=20,24;
      C G=9,11;P=4,4.FOR SR. HIGH:S=25,25;G=12,14,P=5,5.
            SUBROUTINE REPORTS(SC,SU,CC,GC,PC,PU,YRS,MM,IA)
            DIMENSION IA(24)
            COMMON    SUBGR(15,4,8),GRADEPT(14,3),EPGRP(22,14,3,5),PROGNM(19,8)
            COMMON PCTRAC(25,4,10),ENR(20,15,4,8),SUBPR(8,4,6)
            COMMON NAMES(25,5),ETHNIC(4,2),POP(23,4,10)
            COMMON    RUNDT(3),CIP(S(22,25),GRGRPS(5,2)
            COMMON    SECENR(5,4,3),PSECPP(4,3),GRADES(15,2),SECPGR(5,4,5)
            COMMON STOTP(5,3,6),SEC1(5),EPAC(14,3),IREPNO
            INTEGER NCCT,NCR,NOYRS,ASCH,ACGG,C,R,Y,S,G,P,IG(14),IP(5)
            INTEGER GGOCC(25,14),SL,SC,PL,PU,ACG,GC,GU,YRS(10)
            INTEGER ENCV
            DATA IG/1,1,2,2,2,3,3,3,4,4,4,5,5,5/
            DO 100 S=SL;SL
            IREPNO=IREPNO+1
            DO 728 P=1,5
            DO 726 R=1,4
            DO 724 Y=1,8
            STOTP(P,R,Y)=0.0
        724 CONTINUE
        726 CONTINUE
        728 CONTINUE
            WRITE(6,95) IREPNO
         95 FORMAT('1',55X,'TRENTON SCHOOL DISTRICT',33X,'REPORT NO: TSDENR-',
           1(4)
            WRITE(6,545) RUNDT
        545 FORMAT(' ',35X,'ENROLLMENT FORECAST BY ETHNIC GROUP WITHIN GRADE
           -AND SCHOOL',14X,'RUN DATE=',3A4)
            WRITE(6,505)
        505 FORMAT('0')
            IF(NM-1) 33,38,33
         38 IF(IA(5).NE.1) GO TO 33
            WRITE(6,42)
         42 FORMAT('0',' INPUT OVERRIDE EXERCISED-USER REVISION')
            WRITE(6,44)
         44 FORMAT(' ',' TO ENROLLMENT FORECAST FOR THIS SCHOOL')
         33 WRITE(6,550) (NAMES(S,J),J=1,5)
        550 FORMAT('0',' SCHOOL: ',5A4)
            WRITE(6,555) (YRS(Y),Y=5,10)
        555 FORMAT('0',' GRADE ETHNIC GROUP',12X,I4,5(11X,I4))
            WRITE(6,505)
            DO 5 G=SL,GU
            DO 1 P=1,4
            IF(P.NE.1) GO TO 2
            WRITE(6,560) (GRADES(G,J),J=1,2),(ETHNIC(R,J),J=1,2),
           -(ENR(S,G,R,Y),Y=1,6)
        560 FORMAT(' ',4X,2A4,6X,2A4,10X,F7.0,5(6X,F7.0))
            GO TO 1
          2 WRITE(6,565) (ETHNIC(R,J),J=1,2),(ENR(S,G,R,Y),Y=1,6)
        565 FORMAT(' ',18X,2A4,10X,F7.0,5(8X,F7.0))
          1 CONTINUE
          5 CONTINUE
            DO 569 R=1,2
            IF(R.NE.1) GO TO 8
            WRITE(6,566) (ETHNIC(4,J),J=1,2),(ETHNIC(R,J),J=1,2),
           -(ENR(S,15,R,Y),Y=1,6)
        566 FORMAT('0',2X,2A4,8X,2A4,10X,F7.0,5(8X,F7.0))
            GO TO 569
          8 WRITE(6,565) (ETHNIC(R,J),J=1,2),(ENR(S,15,R,Y),Y=1,6)
```

```
0055          509 CONTINUE
0056              DO 710 Y=1,6
0057              DO 714 R=1,3
0058              DO 716 G=GL,GU
0059              P=IG(G)
0060              STOTP(P,R,Y)=STOTP(P,R,Y)+GRR(S,G,R,Y)
0061          710 CONTINUE
0062          714 CONTINUE
0063          716 CONTINUE
0064              DO 722 P=PL,PU
0065              DO 720 R=1,3
0066              IF(R.NE.1) GO TO 718
0067              WRITE(6,500) (GRGRPS(P,J),J=1,2),(ETHNIC(R,J),J=1,2),
                 -(STOTP(P,R,Y),Y=1,6)
0068              GO TO 720
0069          718 WRITE(6,505) (ETHNIC(R,J),J=1,2),(STOTP(P,R,Y),Y=1,6)
0070          720 CONTINUE
0071          722 CONTINUE
0072          100 CONTINUE
0073              RETURN
0074              END
```

```
0001                SUBROUTINE POPFOR(IREPNO,RUNDT,NYF,YRS,POPFTD)
0002                INTEGER YRS
0003                DIMENSION YRS(10),POPFTD(2,20),X(4),RUNDT(3)
0004                WRITE(6,50)IREPNO,(RUNDT(I),I=1,3)
0005          50    FORMAT('1',53X,'TRENTON SCHOOL DISTRICT',33X,'REPORT NO. ISSUED-',
                    1I4/' ',82X,'POPULATION FORECASTING BY TIME TREND',65X,
                    2'RUN DATE:',3A4)
0006                X(1)=0.0
0007                SX=0.0
0008                SX2=0.0
0009                DO 1 I=2,4
0010                X(I)=X(I-1)+10.0
0011                SX=SX+X(I)
0012          1     SX2=SX2+(X(I)*X(I))
0013                DO 2 I=1,2
0014                IF(I.EQ.1)WRITE(6,51)
0015          51    FORMAT('0','NON-WHITE POPULATION IS FORECASTED BY A CONSTANT PERCE
                    1NT TIME TREND')
0016                IF(I.EQ.2)WRITE(6,52)
0017          52    FORMAT('0','WHITE POPULATION IS FORECASTED BY A CONSTANT ABSOLUTE
                    1INCREMENT TIME TREND')
0018                SY=0.0
0019                SXY=0.0
0020                DO 3 J=1,4
0021                IF(I.EQ.1)Y=ALOG(POPFTD(1,J))
0022                IF(I.EQ.2)Y=POPFTD(2,J)
0023                SY=SY+Y
0024          3     SXY=SXY+(X(J)*Y)
0025                B=(4.0*SXY-SX*SY)/(4.0*SX2-(SX*SX))
0026                A=(SY-B*SX)/4.0
0027                IF(I.EQ.2)GO TO 4
0028                GF=(EXP(B)-1.0)*100.0
0029                WRITE(6,53)GF
0030          53    FORMAT('0','ESTIMATED NON-WHITE YEARLY PERCENT CHANGE= ',F6.1)
0031                GO TO 5
0032          4     WRITE(6,54)B
0033          54    FORMAT('0','ESTIMATED WHITE YEARLY ABSOLUTE CHANGE =',F10.1)
0034          5     WRITE(6,55)
0035          55    FORMAT('0','A COMPARISON BETWEEN THE ACTUAL POPULATION AND THE TIM
                    1E TREND FOR THE CENSUS YEARS')
0036                IF(I.EQ.1)WRITE(6,56)
0037          56    FORMAT('0',17X,'NON-WHITE',8X,'NON-WHITE',17X,'PERCENT')
0038                IF(I.EQ.2)WRITE(6,57)
0039          57    FORMAT('0',17X,'WHITE',12X,'WHITE',21X,'PERCENT')
0040                WRITE(6,58)
0041          58    FORMAT(' ',6X,'CENSUS YEAR',3X,'ACTUAL POPULATION',3X,'TIME TREND',
                    13X,'DIFFERANCE',3X,'ERROR'/' ',14('-'),3X,17('-'),2X,10('-'),
                    23X,10('-'),3X,7('-'))
0042                DO 6 J=1,4
0043                FNA=(B*X(J))
0044                IF(I.EQ.1)F=EXP(F)
0045                DIFPOPFTD(I,J)=F
0046                PE=(1/POPFTD(I,J))*100.0
0047          6     WRITE(6,59)YRS(J),POPFTD(I,J),F,D,PE
0048          59    FORMAT('0',3X,I4,10X,F10.0,7X,F10.0,3X,F10.0,4X,F6.1)
0049                WRITE(6,60)
0050          60    FORMAT('0','FORECASTS BASED ON TIME TREND')
0051                IF(I.EQ.1)WRITE(6,61)
0052          61    FORMAT('0',17X,'NON-WHITE')
0053                IF(I.EQ.2)WRITE(6,62)
0054          62    FORMAT('0',17X,'WHITE')
```

```
0055                  WRITE(6,63)
0056            63    FORMAT('1',3X,'YEAR',7X,'FORECASTED POPULATION'/' ',3X,41('='),7X,
                     12A('-'))
0057                  K=1
0058                  P=W*(6*X(4))
0059                  JJ=4
0060                  DO 7 J=1,NYF
0061                  K=K+1
0062                  P=P+b
0063                  JJ=JJ+1
0064                  IF(I.EQ.1)POPFTD(1,JJ)=EXP(P)
0065                  IF(I.EQ.2)POPFTD(2,JJ)=P
0066            7     WRITE(6,64)K,POPFTD(I,JJ)
0067           64     FORMAT('0',3X,I4,10A,F10.0)
0068            2     CONTINUE
0069                  RETURN
0070                  END
```

VARIABLE DICTIONARY FOR ENROLLMENT MODULE (EXCEPT POPFOR)

The variable names used in the ENROLLMENT MODULE MAIN Program and subroutines, with the exception of subroutine POPFOR, are define in the list below. A separate variable dictionary is provided for POPFOR immediately following this section. The use of the variable dictionary in conjunction with the commented program listing will provide the user with an understanding of intenal computer program processing.

Variable	Definition
AFDC(Y)	Variable used to store data relative to public school children receiving Aid For Dependent Children. Y=1 through Y=6 represents CY and Y1-Y5 estimates of the number of public school children receiving AFDC.
C	Index used to denote a census tract. C=1 represents census tract 1, C=2 represents census tract 2, etc. C=23 represents population totals by ethnic group across all census tracts.
CONED(Y,R)	Continuing Education enrollment. Subscript Y ranges over years, and subscript R ranges over ethnic groups. Subscript R=4 represents Total Continuing Education enrollment by year. Y=1 is CY Continuing Education enrollment. Y=2 to Y=6 represents Y1-Y5 Continuing Education enrollment forecast by ethnic group.
CT	Census tract number.
CTPTS(C,S)	Assignment in percent of a census tract to a school service area, based upon area. Subscript C ranges across census tracts. Subscript S ranges over schools in the district.
DCPCT	Percentage of public school children (ages 5-19) receiving Aid For Dependent Children in the current year.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
EFAC(G,R)	Variable used to calculate and story the following during the course of computer processing: (1) Percent CY public enrollment by ethnic group and by grade to CY total population by ethnic group. Subscript G ranges over grades and subscript R ranges over ethnic groups. (2) CY Special Education enrollment by ethnic group within level per 1000 in the CY total population by ethnic group. Subscript G ranges over levels and subscript R ranges over ethnic groups. L=1 represents elementary level and L=2 represents the secondary level.
EFORG(C,G,R,Y)	Public enrollment forecast by ethnic group and by grade within census tract. Subscript C ranges over census tracts, subscript G ranges over grades, subscript R ranges over ethnic grades, and subscript Y ranges over years.
ENOV	School enrollment forecast override flag. ENOV equals 0 represents no enrollment forecast override. ENVO equals 1 indicates that the enrollment override option is being exercised.
ENR(S,G,R,Y)	School enrollment data. Subscript S ranges over the schools in the school district. Subscript G ranges over grades in the school denoted by Subscript S. Subscript R ranges over the ethnic groups in the grade and school denoted by the subscript G and S. Subscript Y ranges over the years. Y=1 represents the CY and Y=2 through Y=6 represents the Y1-Y5 enrollment forecast by ethnic group within grade within school.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
ETHNIC(N,J)	Variable used to store the names of the ethnic groups for which enrollment forecasts are to be made. Subscript N ranges over the ethnic group titles. Subscript J ranges over the locations necessary to store the characters in each ethnic group title.
G	Index used to denote a grade. G=1 represents Pre-Kindergarten, G=2 represents Kindergarten, G=3 represents 1st grade, G=4 represents 2nd grade, etc. G=15 represents total enrollment (across all grades).
GGOC(S,G)	Grade occurrence flag. Subscript S ranges over schools. Subscript G ranges over grades. If the value of GGOC(S,G) is 0, the grade represented by the position of the particular G in the list does not occur at School S. If the value is 1, the opposite is true.
GL	Temporary index representing the lower index value for the grade subscript G.
GRADEF(G,R)	Variable used to calculate and store the following during the course of computer processing: (1) CY public enrollment by ethnic group within grade per 1000 in the CY total population by ethnic group. Subscript G ranges over grades, and Subscript R ranges over ethnic groups. (2) CY Continuing Education enrollment by ethnic group per 1000 in the CY total population by ethnic group. Continuing Education data stored in GRADEF(1,R), where Subscript R ranges over ethnic groups.
GRADES(G,J)	Variable used to store the grade titles. Subscript G ranges over the various grade titles. Subscript J ranges over the locations necessary to store the characters in the grade title.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
GRGRPS(P,J)	Variable used to store the grade group titles corresponding to the instructional program titles. Subscript P ranges over the grade groups. Subscript J ranges over the locations necessary to store the characters of the grade group title.
GU	Temporary index representing the upper index value for the grade subscript G.
IA(S)	Enrollment override flag by school. Subscript S ranges over schools. See variable ISCOVR(S) for further details.
IG(G)	Variable used to store the program to which a grade belongs. Subscript G ranges over grades. For example, IG(1) and IG(2) both equal 1 thereby representing grades PK and K as being in program 1 or the Early Childhood program.
IP(P)	Variable used to store the school level, elementary or secondary, to which a program belongs. Subscript P ranges over programs. For example, IP(1)=1, IP(2)=1, and IP(3)=1 which represent the fact that the Early Childhood, Elementary and Primary programs are at the elementary school level.
IPOV	Population override flag. IPOV=0 means to calculate the population forecast, and IPOV=1 represents bypass the population forecast calculation, and input Y1-Y5 population estimates by ethnic group.
IREPNO	Report number.
ISCOVR(S)	Enrollment override flag by school. Subscript S ranges over schools. S(1)=1 indicates that an enrollment forecast override is in effect for schools Code 1.S(2)=0 represents calculated forecast for school code 2, etc.
J	Temporary index.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
JJ	Temporary index.
K	Temporary index.
KK	Temporary variable used to store the number of grades in the district plus 1.
KL	Temporary index used to denote the lower value for the year subscript Y.
KU	Temporary index used to denote the upper value for the year subscript Y.
LL	Temporary index used to denote an instructional program area. See the definition of the variable P for further details.
MM	Enrollment override flag. See variable ENOV for additional details.
NAMES(N,J)	Variable used to store the names of schools in the district. Subscript N ranges over the names of the schools. Subscript J ranges over the locations necessary to store the characters in each school name.
NELS	Number of elementary schools.
NJHS	Number of junior high schools.
NN	School count.
NOCT	Total number of census tracts in the school district used for enrollment forecasting purposes.
NOG	Total number of grades taught in the district.
NOGG	Total number of instructional program or grade groups.
NOR	Total number of ethnic groups for which enrollments are forecast.
NOS	School number of code.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
NOYRS	Number of census years plus the current year plus the number of forecast years (4+1+5=10).
NPN	Total number of program names to be input and stored in PRØGNM(P,J).
NSCH	Total number of schools in the district.
NSECP	Number of secondary programs.
NSRH	Number of senior high schools.
NYF	Number of years for which population data is to be forecasted.
OSC	Old school code.
P	Subscript denoting a particular program or grade group. P=1 represents the Early Childhood program, P=2 represents the Elementary program, P=3 represents the Primary program, P=4, represents the Intermediate program, and P=5 represents the Secondary program.
PL	Temporary index used to denote the lower value for the program subscript P.
PU	Temporary index used to denote the upper value for the program subscript P.
PCTRAC(C,R,Y)	Racial composition in percent for each census tract. Subscript I ranges over census tracts. Subscript R ranges over ethnic groups. Subscript Y ranges over years.
PØP(C,R,Y)	Population data by ethnic group within census tract and year. Subscript C ranges over the census tracts, where C=1 is census tract 1, C=2 is census tract 2, etc. C=23 represents the total citywide population by ethnic group within year. Subscript R ranges over ethnic groups where R=1 is Black. R=2 is Spanish, R=3 is other, and R=4 is Total by Census Tract. Subscript Y ranges over years.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
POPFTD(I,Y)	Population forecast by ethnic group. Subscript I=1 is Non-White. Subscript I=2 represents Other. Subscript Y ranges over years.
POVR(Y)	Y1-Y5 population forecast by ethnic group read as input. Subscript Y ranges over years.
PSECRP(P,R)	Ratio of CY secondary enrollment by ethnic group within program to total secondary enrollment by ethnic group. Subscript P ranges over secondary program, and subscript R ranges over ethnic groups.
PSPAN	Proportion of Spanish speaking population by census tract in Non-White population for 1970.
PROGNM(P,J)	Variable used to store various program names required to label output reports. Subscript P ranges over the set of program names. Subscript J ranges over the locations necessary to store the characters in the program title.
PSPAN	Percentage of 1970 Spanish population in 1970 total Non-White population.
R	Index used to denote an ethnic group. R=1 represents Black, R=2 represents Spanish, and R=3 represents Other. R=4 represents population total by census tract (across all ethnic groups, R=1, R=2, and R=3).
RUNDT	Data of and number of the computer run.
S	Index used to denote a school. S=1 is the Cadwalader School, S=2 is the Columbus School, etc. See Table II-1 for the school codes. S=26 represents total enrollment by grade (across are schools).

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
SAXCT	Ratio of the area of a school service area by census tract to the total area of the census tract.
SECENR(P,G,R)	Current year secondary enrollment by ethnic group within grade within secondary program. Subscript P ranges over secondary programs. P=1 is the regular secondary program and P=2 represents vocational-technical. P=5 represents total secondary enrollment by ethnic group within grade. Subscript G ranges over grade. G=1 represents 10th grade, and G=3 represents 12th grade. Subscript R ranges over ethnic groups. R=4 represents total secondary enrollment by ethnic group within secondary program.
SECFOR(P,R,Y)	Secondary enrollment forecast. Subscript P ranges over secondary programs, subscript R ranges over ethnic groups, and subscript Y ranges over years. Y=1 to Y=5 represents the Y1-Y5 secondary enrollment forecast by secondary program, by ethnic group, and by year.
SEC1(P)	Total CY secondary enrollment by secondary program. P ranges over secondary programs.
SL	Temporary index used to denote the lower value for the school subscript S.
SLEVEL(L,Y)	Public enrollment by school level and year. Subscript L ranges over school levels. L=1 represents elementary, and L=2 represents secondary. Subscript Y ranges over years. Y=1 represents CY enrollment by level and Y=2 to Y=6 represents Y1-Y5 enrollment estimates by level.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
SOO(I)	Print order of census tract to school service area assignment report. Subscript I ranges over the school codes in the order in which data for a school is to be printed on the report.
STOTP(L,R,Y)	Special education enrollment. Subscript L ranges over school levels. L=1 represents the elementary level and L=2 represents the secondary level. L=3 represents the sum of L=1 and L=2. Subscript R ranges over ethnic groups. Subscript R=4 represents Total Special Education enrollment by level by year. Subscript Y ranges over years. Y=1 represents CY enrollment. Y=2 to Y=6 represents Y1-Y5 Special Education enrollment forecast by ethnic group within level.
SU	Temporary index used to denote the upper value for the school subscript S.
SUBGR(G,R,Y)	Enrollment data by grade, by race, and by year. Subscript G ranges over grades. Subscript R ranges over ethnic groups. Subscript Y ranges over years. Y=1 represents CY enrollment, and Y=2 to Y=6 represents the Y1-Y5 enrollment forecast by ethnic group within grade.
SUBPR(P,R,Y)	Public enrollment by instructional program, by ethnic group and by year. Subscript P ranges over programs, subscript R ranges over ethnic groups, and subscript Y over years. P=6 represents total enrollment by ethnic group and year. R=4 represents total enrollment by program and year. Y=1 represents CY enrollment and Y=2 to Y=6 equals Y1-Y5 public enrollment forecast by ethnic group within program.

VARIABLE DICTIONARY OF THE COMPUTER PROGRAM

Variable	Definition
TC	Card type identifier. TC equals NWOV represents Y1-Y5 Non-White population forecast input, TC equals WOVR represents Y1-Y5 White population forecast input, and TC equals END represents the end of the population forecast input cards. TC equals PFOR represents population forecast override not in effect and population forecast is to be calculated.
T1(Y)	Enrollment in grades 1-6. Subscript Y ranges over years. T=1 represents the current year. T=2 represents Y1, T=3 represents Y2, and so on.
WORK(C,K)	Area, in acres, of each census tract in the school district, and of the city as a whole. Subscript C ranges over the census tracts. Subscript K=1 is 1960 net residential area by census tract. K=2 is 1960 gross residential acreage. K=3 is 1970 gross residential acreage. K=4 represents population density per net residential acre for 1960. K=5 is gross or net population density for 1970. K=6 represents gross or net population density for the first forecast year. K=7 represents gross or net population density for the second forecast year, etc.
Y	Index used to denote a year. In some instances, Y=1 represents 1940 census data, Y=2 represents 1950, Y=3 represents 1960, and Y=4 represents 1970. Y=5 represents the current year. Y=6 represents the first forecast year, Y=7 the second, etc. In those cases where Y ranges from 1 to 6, Y=1 represents the current year, Y=2 represents the first forecast year, Y=3 represents the second forecast year, etc.
YRS(Y)	Variable used to store the year titles. Subscript Y ranges over the number of census years plus current year plus forecast years (usually 10).

VARIABLE DICTIONARY FOR SUBROUTINE POPFOR

POPFOR produces the time trended forecasts of total white and total non-white population. The white population forecast uses a constant absolute increment time trend. The model is:

$$W_t = a + bxt, \quad t = o, 10, 20, \text{ or } 30$$

Where

- t = o represents the first census year, t=10 represents the second census year, etc.
- W_t = the white population in census year t
- a = the estimated trend white population in the first census year (t=o)
- b = the estimated yearly absolute increment

In POPFOR, for the white population:

- $Y = W_t$
- $A = a$
- $B = b$
- $X(I) = t$

The non-white population forecast uses a constant present change time trend. The model is:

$$N_t = a \times (1 + b)^t, \quad t = o, 10, 20, \text{ or } 30$$

Where

- t = o represents the first census year, t=10 represents the second census year, etc.
- N_t = the non-white population is census year t
- a = the estimated trend non-white population in the first census year (t=o)
- b = the estimated yearly rate of change

VARIABLE DICTIONARY FOR SUBROUTINE POPFOR

The logarithms of both sides of the model yields:

$$\log(n_t) = \log(a) + t \times \log(1 + b)$$

In POPFOR, for the non-white population:

$Y = \log(n_t)$

$A = \log(a)$

$B = \log(1 + b)$

$X(I) = t$

The remaining variables of POPFOR are defined in the following table:

Variable	Definition
D	The difference between the actual population and the trend for a census year.
F	The trend population for a census year and the forecast or its logarithm for a forecast year.
GP	The estimated yearly percent change for the non-white population.
I	I ranges over ethnic group. I=1 represents the non-white population forecast and I=2 represents the white population forecast.
J	J ranges over years.
JJ	The forecast year subscript value of POPFOR to return the forecasts to the main program.
K	The forecast year.

VARIABLE DICTIONARY FOR SUBROUTINE POPFOR

Variable	Definition
PE	The percent error between the actual population and its time trend for a census year.
PØPFTD(I,JJ)	The actual population by census year (JJ=1, 2, 3, and 4) and the forecasted populations by forecast years (JJ=5, 6..., NYF+4). I=1 represents non-white population and I=2 white.
SX	Sum of the census years (0, 10, 20, 30).
SX2	Sum of the census years squared.
SX	Sum of the actual population or its logarithm times the census years.
S	Sum of the actual population or its logarithm for the census years.

SAMPLE OUTPUT REPORTS

The enrollment reports generated by the ENROLLMENT MODULE computer program are described in detail in this section. Sample printouts are also displayed. The outputs can be grouped under one of three headings: first, district summary reports by grade, by program, by school; second, school detail reports; and, third reports which display input data and various calculations used in forecasting enrollment.

The reports displayed in this chapter are intended for illustrative purposes only.

ENROLLMENT FORECAST

SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING(STEP)

III.2-141

PREPARED BY
GOVERNMENT STUDIES AND SYSTEMS, INC.
3401 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19104

THIS PROJECT IS SUPPORTED THROUGH A GRANT BY
THE U.S. OFFICE OF EDUCATION,
NEW JERSEY DEPARTMENT OF EDUCATION
UNDER TITLE III, ESEA

1970 non-white and white population by census tract for census tracts 1 to 22 are input. The 1970 total population by census tract is calculated by adding the 1970 non-white to 1970 white population by census tract.

The percent of 1970 ethnic group population by census tract to 1970 total ethnic group population is calculated for the non-white and the white populations. The percent ethnic composition of each census tract based upon the total ethnic population of the city is critical for it is used to distribute the Y1-Y5 total population forecast for non-white and white ethnic groups among the 22 census tracts for each forecast year. If an ethnic group is not represented in a census tract in 1970, a population forecast value will not appear for the ethnic group in that census tract in years Y1-Y5.

The 1970 estimated total Spanish population is input. The total 1970 Spanish population divided by the 1970 total non-white population equals the percent Spanish in the non-white population. The percent Spanish in the Non-white population times the non-white population by census tract equals the Spanish population by census tract. Black population by census tract is calculated as the difference between Non-white population by census tract and Spanish population by census tract.

The use of the percent Spanish in the Non-white population assumes that Spanish population will only be displayed in census tracts which have a non-white population, and that allocation of Spanish population by census tract for Y1-Y5 is at the same percent based upon 1970 data.

1970 ETHNIC COMPOSITION OF CENSUS TRACTS(IN PERCENTS) REPORT NO. TSDENR-1000

1970 POPULATION BY CENSUS TRACT

TRACT	01	2	3	4	5	6	7	8	9	10	11	12
NON-WHITE	67.	61.	28.	196.	53.	50.	81.	487.	2551.	1710.	3719.	1292.
WHITE	2593.	3515.	4187.	4556.	3882.	4561.	3023.	2280.	4498.	1452.	3121.	3435.
TOTAL	2660.	3576.	4215.	4756.	3935.	4611.	3104.	2467.	7049.	3162.	6840.	4727.

TRACT	13	14	15	16	17	18	19	20	21	22	23
NON-WHITE	879.	5836.	4584.	1039.	3759.	620.	3066.	2719.	3666.	2232.	38705.
WHITE	3137.	3025.	323.	151.	2303.	3327.	828.	193.	3019.	4609.	62080.
TOTAL	3016.	8861.	4907.	1190.	6062.	3953.	3894.	2912.	6685.	6841.	105885.

RATIO OF OF 1970 ETHNIC GROUP POPULATION BY CENSUS TRACT
TO 1970 TOTAL ETHNIC GROUP POPULATION(IN PERCENTS)

TRACT	01	2	3	4	5	6	7	8	9	10	11	12
NON-WHITE	0.17	0.05	0.07	0.51	0.14	0.13	0.21	0.48	6.59	4.42	9.61	3.34
WHITE	4.13	5.66	6.74	7.34	6.25	7.35	4.87	3.67	7.25	2.34	5.03	5.53

TRACT	13	14	15	16	17	18	19	20	21	22	23
NON-WHITE	1.60	15.08	11.84	4.23	9.71	1.62	7.93	7.02	9.47	5.77	
WHITE	5.19	4.87	0.52	0.24	3.71	5.36	1.33	0.31	4.86	7.42	

ESTIMATED TOTAL SPANISH POPULATION IS: 5100.

PERCENT SPANISH IN NON-WHITE POPULATION EQUALS 13.18.
SPANISH POPULATION BY CENSUS TRACT IS THE PRODUCT OF
THIS PERCENTAGE TIMES THE NON-WHITE POPULATION BY CENSUS
TRACT.NON-WHITE POPULATION IS ADJUSTED ACCORDINGLY.

The CY and Y1-Y5 population forecasts for Non-White and White ethnic groups are calculated by time trending the 1940, 1950, 1960, and 1970 census data. There is insufficient historical data to permit a time trending of the Spanish population.

Time trending of the Non-White and White populations provide Trenton School District's educational planners with an estimates of future population, assuming that past historical patterns continue into the future. Then, educational planners can modify these future estimates based upon expert opinion about conditions which might change the historical patterns.

Statistical analyses were performed for both the White and the Non-White population to determine what form of the trend line most closely fit the past data. For the Non-White population a constant percent change trend line fit best. For the White population, a constant absolute increment, i.e., straight-line, trend fit best.

The reports show what yearly percent change in Non-White population and yearly absolute change in White population best fit the past census years and how close the past population are to their trends. The White and Non-White population forecast from 1970 through to Y5 are shown.

In addition to the calculated population forecast report, which shows the detailed computation, a summary report of the calculated ethnic group population forecast is also printed. This report, illustrated on page 5 of the sample reports, displays the CY and Y1-Y5 population forecasts by ethnic group and the message "OVERRIDE OPTION NOT IN EFFECT - POPULATION FORECAST COMPUTED." This message indicates that the trended population forecast will be used to perform the enrollment forecasts.

POPULATION FORECASTING BY TIME TREND

NON-WHITE POPULATION IS FORECASTED BY A CONSTANT PERCENT TIME TREND

ESTIMATED NON-WHITE YEARLY PERCENT CHANGE= 5.3

A COMPARISON BETWEEN THE ACTUAL POPULATION AND THE TIME TREND FOR THE CENSUS YEARS

CENSUS YEAR	NON-WHITE ACTUAL POPULATION	NON-WHITE TIME TREND	DIFFERENCE	PERCENT ERROR
1940	8516.	8431.	87.	1.0
1950	13551.	14082.	-492.	-3.6
1960	24497.	23525.	972.	4.0
1970	38705.	39295.	-590.	-1.5

FORECASTS BASED ON TIME TREND

YEAR	NON-WHITE FORECASTED POPULATION
1971	41364.
1972	43541.
1973	45835.
1974	48246.
1975	50786.
1976	53460.

WHITE POPULATION IS FORECASTED BY A CONSTANT ABSOLUTE INCREMENT TIME TREND

ESTIMATED WHITE YEARLY ABSOLUTE CHANGE = -1410.5

A COMPARISON BETWEEN THE ACTUAL POPULATION AND THE TIME TREND FOR THE CENSUS YEARS

CENSUS YEAR	WHITE ACTUAL POPULATION	WHITE TIME TREND	DIFFERENCE	PERCENT ERROR
1940	100900.	110525.	-9625.	-9.5
1950	105548.	96415.	13133.	12.0
1960	84915.	82306.	2609.	3.1
1970	62080.	68197.	-6117.	-9.9

FORECASTS BASED ON TIME TREND

YEAR	WHITE FORECASTED POPULATION

1971	60780.
1972	61375.
1973	63564.
1974	62353.
1975	61142.
1976	59721.

POPULATION FORECAST

OVERRIDE OPTION NOT IN EFFECT-POPULATION FORECAST COMPUTED

	1971	1972	1973	1974	1975	1976
NON-WHITE	41364.	43541.	45833.	48246.	50786.	53460.
WHITE	66700.	65375.	63904.	62553.	61142.	59731.

ESTIMATED ETHNIC GROUP POPULATION FORECAST REPORT - ESTIMATE INPUT - Page 6

The CY and Y1-Y5 population forecast for Non-White and White ethnic groups is estimated and input directly by the user (calculation of the CY and Y1-Y5 population by the computer program is bypassed). The report is flagged with "OVERRIDE OPTION EXERCISED BY USER." This message indicates that enrollment estimates will be based on population estimates input directly by the user.

POPULATION FORECAST

OVERRIDE OPTION EXERCISED BY USER

	1971	1972	1973	1974	1975	1976
NON-WHITE	50000.	51000.	52000.	53000.	54000.	55000.
WHITE	66000.	65000.	64000.	63000.	62000.	61000.

The percent composition of each census tract by ethnic group for 1970 was previously calculated. Refer to the Report of Ethnic Composition of Census Tracts for 1970. The CY and Y1-Y5 population forecast by ethnic group (White and Non-white) was either calculated or input. The Ethnic Group Population Forecast Report provides further details on the population forecast. The percent Spanish population to total non-white population for 1970 was previously calculated.

The CY and Y1-Y5 population forecast by ethnic group Non-white and White) and by census tract is calculated as the product of the CY and Y1-Y5 Non-white population forecast times the 1970 percent non-white by census tract, and the CY and Y1-Y5 White population forecast time the 1970 percent white by census tract.

The CY and Y1-Y5 Spanish population forecast by census tract is calculated as the product of the 1970 percent Spanish in the total non-white population times the CY and Y1-Y5 non-white population by census tract. The CY and Y1-Y5 Black population forecast is calculated by taking the CY and Y1-Y5 Spanish population by census tract from the CY and Y1-Y5 Non-White population by census tract. The CY and Y1-Y5 total population by ethnic group (Black, Spanish, and Other) is calculated as the aggregation of the CY and Y1-Y5 population

forecasts across all census tracts for each ethnic group. Total population by census tract is calculated as the summation by census tracts of CY and Y1-Y5 population forecasts across ethnic groups.

The CY and Y1-Y5 percent racial composition by census tract are calculated by dividing the total census tract population of the appropriate year into the respective census tract ethnic group populations for the same year. The percent racial composition by census tract for the census years 1940, 1950, 1960, and 1970 is also calculated and displayed.

TRENTON SCHOOL DISTRICT
RACIAL COMPOSITION WITHIN CENSUS TRACT IN PERCENT
FOR THE CITY OF TRENTON

REPORT NO. TSDENR-1002
RUN DATE:FEB. 8,1972

CENSUS TRACT	ETHNIC GROUP	1960	1965	1966	1970	1971	1972	1973	1974	1975	1976
1	BLACK	0.0	0.026	0.819	2.187	2.173	2.332	2.504	2.689	2.889	3.105
	SPANISH	0.0	0.0	0.0	0.332	0.330	0.354	0.380	0.408	0.438	0.471
	OTHER	100.000	99.972	99.181	97.481	97.497	97.314	97.116	96.903	96.672	96.423
2	BLACK	0.0	0.104	0.152	0.516	0.512	0.551	0.592	0.637	0.686	0.738
	SPANISH	0.0	0.0	0.0	0.078	0.078	0.084	0.090	0.097	0.104	0.112
	OTHER	100.000	99.896	99.848	99.406	99.410	99.366	99.318	99.266	99.210	99.150
3	BLACK	0.019	0.0	0.0	0.577	0.573	0.616	0.662	0.712	0.767	0.826
	SPANISH	0.0	0.0	0.0	0.086	0.087	0.093	0.100	0.108	0.116	0.125
	OTHER	99.981	100.000	100.000	99.336	99.340	99.291	99.237	99.180	99.117	99.049
4	BLACK	0.122	0.048	1.257	3.615	3.592	3.850	4.129	4.428	4.750	5.096
	SPANISH	0.0	0.0	0.0	0.549	0.545	0.584	0.627	0.672	0.721	0.773
	OTHER	99.878	99.952	98.703	95.837	95.863	95.565	95.245	94.900	94.529	94.130
5	BLACK	0.196	0.118	0.116	1.169	1.162	1.248	1.341	1.442	1.551	1.669
	SPANISH	0.0	0.0	0.0	0.177	0.176	0.189	0.204	0.219	0.235	0.253
	OTHER	99.802	99.882	99.884	98.653	98.662	98.563	98.455	98.339	98.214	98.078
6	BLACK	0.059	0.057	0.346	0.941	0.935	1.005	1.080	1.162	1.250	1.345
	SPANISH	0.0	0.0	0.0	0.143	0.142	0.153	0.164	0.176	0.190	0.204
	OTHER	99.905	99.903	99.854	98.916	98.923	98.842	98.756	98.662	98.561	98.451
7	BLACK	0.022	0.048	0.084	2.206	2.451	2.416	2.594	2.786	2.993	3.216
	SPANISH	0.0	0.0	0.0	0.344	0.342	0.367	0.394	0.423	0.454	0.488
	OTHER	99.978	99.952	99.916	97.390	97.407	97.217	97.012	96.792	96.553	96.296
8	BLACK	0.0	0.756	3.454	6.561	6.541	6.994	7.479	7.998	8.553	9.146
	SPANISH	0.0	0.0	0.0	0.999	0.993	1.061	1.135	1.214	1.298	1.388
	OTHER	0.0	99.244	92.548	92.420	92.466	91.944	91.386	90.788	90.149	89.466
9	BLACK	3.693	5.100	24.222	31.421	31.268	32.757	34.261	35.799	37.368	38.964
	SPANISH	0.0	0.0	0.0	4.769	4.748	4.971	5.200	5.433	5.671	5.913
	OTHER	96.307	94.900	75.777	63.810	63.983	62.272	60.540	58.768	56.961	55.122
10	BLACK	14.927	27.045	46.541	46.954	46.811	48.273	49.932	51.485	53.027	54.554
	SPANISH	0.0	0.0	0.0	7.140	7.104	7.341	7.576	7.813	8.047	8.279
	OTHER	85.073	72.955	53.459	45.920	46.085	44.386	42.490	40.702	38.926	37.166
11	BLACK	9.466	13.659	33.442	47.207	47.064	48.625	50.181	51.731	53.269	54.792
	SPANISH	0.0	0.0	0.0	7.184	7.143	7.379	7.616	7.851	8.084	8.315
	OTHER	90.532	86.341	66.558	45.609	45.793	43.996	42.203	40.418	38.647	36.893

12	BLACK	0.0	0.952	3.055	23.731	23.617	24.886	26.204	27.571	28.984	30.442
	SPANISH	0.0	0.0	0.0	3.601	3.584	3.777	3.977	4.184	4.399	4.620
	OTHER	0.0	99.048	96.941	72.668	72.799	71.337	69.819	68.245	66.618	64.938
13	BLACK	0.0	4.410	4.038	14.084	14.006	14.860	15.804	16.778	17.804	18.883
	SPANISH	0.0	0.0	0.0	2.157	2.128	2.258	2.398	2.546	2.702	2.866
	OTHER	0.0	95.590	95.962	83.779	83.869	82.881	81.798	80.676	79.494	78.251
14	BLACK	3.693	10.737	27.231	54.183	57.004	58.458	59.837	61.186	62.505	63.790
	SPANISH	0.0	0.0	0.0	8.678	8.659	8.872	9.081	9.286	9.486	9.681
	OTHER	96.307	89.263	72.669	34.138	34.288	32.670	31.082	29.528	28.009	26.529
15	BLACK	43.672	59.226	86.478	81.108	81.073	81.451	81.808	82.145	82.462	82.761
	SPANISH	0.0	0.0	0.0	12.309	12.304	12.361	12.415	12.467	12.515	12.560
	OTHER	56.328	40.773	13.522	6.582	6.623	6.188	5.777	5.389	5.023	4.679
16	BLACK	7.566	17.670	72.705	79.499	79.455	79.930	80.380	80.806	81.208	81.587
	SPANISH	0.0	0.0	0.0	12.065	12.058	12.130	12.199	12.263	12.324	12.382
	OTHER	92.434	82.330	27.295	8.436	8.487	7.940	7.421	6.931	6.468	6.031
17	BLACK	14.493	22.943	35.543	53.839	53.703	55.176	56.633	58.066	59.474	60.852
	SPANISH	0.0	0.0	0.0	8.171	8.150	8.374	8.595	8.812	9.026	9.235
	OTHER	85.507	80.057	64.457	37.991	38.147	36.448	34.772	33.121	31.501	29.912
18	BLACK	2.691	4.547	10.181	13.749	13.673	14.521	15.437	16.394	17.402	18.464
	SPANISH	0.0	0.0	0.0	2.087	2.075	2.205	2.343	2.488	2.641	2.802
	OTHER	97.309	95.453	89.819	84.164	84.252	83.274	82.220	81.118	79.957	78.734
19	BLACK	7.050	12.421	32.099	68.371	68.275	69.312	70.312	71.274	72.198	73.084
	SPANISH	0.0	0.0	0.0	10.376	10.362	10.519	10.671	10.817	10.957	11.091
	OTHER	92.950	87.579	68.305	21.253	21.364	20.169	19.017	17.909	16.845	15.825
20	BLACK	28.870	41.919	75.990	81.069	81.033	81.414	81.773	82.112	82.432	82.733
	SPANISH	0.0	0.0	0.0	12.303	12.298	12.356	12.410	12.462	12.510	12.556
	OTHER	71.130	58.081	24.010	6.628	6.669	6.231	5.817	5.426	5.058	4.712
21	BLACK	8.930	8.145	23.918	47.613	47.471	49.028	50.581	52.125	53.657	55.173
	SPANISH	0.0	0.0	0.0	7.226	7.204	7.441	7.676	7.911	8.143	8.373
	OTHER	93.070	91.855	76.082	45.161	45.325	43.531	41.743	39.965	38.200	36.454
22	BLACK	0.909	2.819	8.835	28.328	28.201	29.602	31.045	32.528	34.049	35.606
	SPANISH	0.0	0.0	0.0	4.259	4.280	4.492	4.711	4.937	5.167	5.404
	OTHER	99.091	97.181	91.165	67.373	67.519	65.905	64.244	62.536	60.784	58.991

... The 1940, 1950, 1960, and 1970 census population data by census tract and ethnic group were previously input, and the CY and Y1-Y5 population forecast by ethnic group was previously calculated or input.

The CY and Y1-Y5 population forecast by ethnic group and census tract is calculated in the following steps:

1. Non-white population foreacast by census tract for a forecast year equals the 1970 percent Non-white by census tract times the non-white population forecast for the forecast year.

2. Spanish population forecast by census tract for a forecast year equals the 1970 percent Spanish in the Non-white population times the Non-white population forecast by census tract for a forecast year.

3. Black population forecast by census tract for a forecast year equals the Non-white forecast by census tract for a forecast year minus the Spanish forecast by census tract for the same forecast year.

4. White or other population forecast by census tract for a forecast year equals the 1970 percent White by census tract times the White population forecast for a forecast year.

5. Ethnic population forecasts by census tract by year are aggregated to obtain the total population by census tract by year.

The population forecast is then printed by ethnic group within census tract for 1970, the current year, and each of five forecast years.

TRENTON SCHOOL DISTRICT
POPULATION FORECAST BY CENSUS TRACT, ETHNIC GROUP, AND YEAR
FOR THE CITY OF TRENTON

REPORT NO. TSDENR-1003
RUN DATE:FEB. 8,1972

CENSUS TRACT	ETHNIC GROUP	1970	1971	1972	1973	1974	1975	1976
1	BLACK	58.	62.	65.	69.	73.	76.	80.
	SPANISH	9.	9.	10.	10.	11.	12.	12.
	OTHER	2593.	2730.	2731.	2672.	2613.	2554.	2495.
	TOTAL	2660.	2801.	2806.	2751.	2696.	2642.	2587.
2	BLACK	18.	19.	21.	22.	23.	24.	25.
	SPANISH	3.	3.	3.	3.	3.	4.	4.
	OTHER	3515.	3781.	3702.	3622.	3542.	3462.	3382.
	TOTAL	3536.	3804.	3725.	3647.	3568.	3489.	3411.
3	BLACK	24.	26.	27.	29.	30.	32.	34.
	SPANISH	4.	4.	4.	4.	5.	5.	5.
	OTHER	4187.	4504.	4409.	4314.	4219.	4124.	4029.
	TOTAL	4215.	4534.	4441.	4347.	4254.	4160.	4067.
4	BLACK	172.	184.	193.	204.	214.	226.	237.
	SPANISH	26.	28.	29.	31.	33.	34.	36.
	OTHER	4558.	4904.	4800.	4696.	4593.	4489.	4386.
	TOTAL	4756.	5116.	5023.	4931.	4840.	4749.	4659.
5	BLACK	46.	49.	52.	54.	57.	60.	64.
	SPANISH	7.	7.	8.	8.	9.	9.	10.
	OTHER	3882.	4176.	4088.	4000.	3912.	3823.	3735.
	TOTAL	3935.	4232.	4148.	4063.	3978.	3893.	3808.
6	BLACK	43.	46.	49.	51.	54.	57.	60.
	SPANISH	7.	7.	7.	8.	8.	9.	9.
	OTHER	4561.	4907.	4803.	4699.	4596.	4492.	4388.
	TOTAL	4611.	4960.	4859.	4759.	4658.	4558.	4457.
7	BLACK	70.	75.	79.	83.	88.	92.	97.
	SPANISH	11.	11.	12.	13.	13.	14.	15.
	OTHER	3023.	3252.	3183.	3115.	3046.	2977.	2909.
	TOTAL	3104.	3339.	3275.	3211.	3147.	3084.	3020.
8	BLACK	162.	174.	183.	192.	202.	213.	224.
	SPANISH	25.	26.	27.	29.	31.	32.	34.
	OTHER	2280.	2453.	2401.	2349.	2297.	2246.	2194.
	TOTAL	2467.	2653.	2611.	2571.	2530.	2491.	2452.
9	BLACK	2219.	2367.	2492.	2623.	2761.	2906.	3059.
	SPANISH	336.	359.	378.	398.	419.	441.	464.
	OTHER	4478.	4839.	4737.	4634.	4532.	4430.	4328.
	TOTAL	7049.	7565.	7606.	7655.	7712.	7777.	7851.
10	BLACK	1485.	1587.	1676.	1758.	1851.	1948.	2051.
	SPANISH	225.	241.	253.	267.	281.	296.	311.

	OTHER	1452.	1502.	1529.	1496.	1463.	1430.	1397.
	TOTAL	3162.	3390.	3453.	3521.	3595.	3674.	3759.
11	BLACK	3229.	3451.	3632.	3824.	4025.	4237.	4460.
	SPANISH	490.	524.	551.	580.	611.	643.	677.
	OTHER	3121.	3358.	3287.	3216.	3145.	3074.	3003.
	TOTAL	6840.	7332.	7470.	7620.	7781.	7954.	8140.
12	BLACK	1122.	1199.	1262.	1328.	1398.	1472.	1549.
	SPANISH	170.	182.	192.	202.	212.	223.	235.
	OTHER	3435.	3695.	3617.	3539.	3461.	3383.	3305.
	TOTAL	4727.	5076.	5071.	5069.	5072.	5078.	5090.
13	BLACK	537.	574.	605.	636.	670.	705.	742.
	SPANISH	82.	87.	92.	97.	102.	107.	113.
	OTHER	3197.	3439.	3367.	3294.	3221.	3149.	3076.
	TOTAL	3816.	4101.	4063.	4027.	3993.	3961.	3931.
14	BLACK	5067.	5415.	5700.	6000.	6316.	6649.	6999.
	SPANISH	769.	822.	865.	911.	959.	1009.	1062.
	OTHER	3025.	3234.	3186.	3117.	3048.	2979.	2911.
	TOTAL	8861.	9471.	9751.	10028.	10323.	10637.	10971.
15	BLACK	3980.	4253.	4477.	4713.	4961.	5222.	5497.
	SPANISH	804.	846.	879.	715.	753.	793.	834.
	OTHER	323.	347.	340.	333.	325.	318.	311.
	TOTAL	4907.	5246.	5497.	5761.	6039.	6333.	6642.
16	BLACK	1423.	1521.	1601.	1685.	1774.	1867.	1966.
	SPANISH	210.	231.	243.	256.	269.	283.	298.
	OTHER	151.	162.	159.	156.	152.	149.	145.
	TOTAL	1790.	1914.	2003.	2096.	2195.	2299.	2409.
17	BLACK	3264.	3488.	3671.	3865.	4068.	4282.	4508.
	SPANISH	495.	529.	557.	587.	617.	650.	684.
	OTHER	2303.	2478.	2425.	2373.	2321.	2269.	2216.
	TOTAL	6062.	6495.	6654.	6824.	7006.	7201.	7408.
18	BLACK	544.	581.	611.	644.	677.	713.	751.
	SPANISH	82.	88.	93.	98.	103.	108.	114.
	OTHER	3327.	3579.	3504.	3428.	3352.	3277.	3201.
	TOTAL	3953.	4248.	4208.	4169.	4133.	4098.	4066.
19	BLACK	2004.	2847.	2997.	3154.	3320.	3495.	3679.
	SPANISH	404.	432.	455.	479.	504.	530.	558.
	OTHER	828.	891.	872.	853.	834.	815.	797.
	TOTAL	3896.	4170.	4323.	4486.	4659.	4841.	5034.
20	BLACK	2361.	2523.	2650.	2790.	2943.	3098.	3261.
	SPANISH	356.	383.	403.	424.	447.	470.	495.
	OTHER	195.	208.	208.	199.	194.	190.	186.
	TOTAL	2912.	3113.	3262.	3419.	3584.	3758.	3941.

21	BLACK	3163.	3402.	3561.	3769.	3968.	4176.	4396.
	SPANISH	485.	516.	543.	572.	602.	634.	667.
	OTHER	3019.	3240.	3179.	3111.	3042.	2973.	2905.
	TOTAL	6665.	7160.	7303.	7452.	7612.	7784.	7968.
22	BLACK	1938.	2071.	2180.	2295.	2416.	2543.	2677.
	SPANISH	294.	314.	331.	348.	367.	386.	406.
	OTHER	4609.	4958.	4854.	4749.	4644.	4539.	4435.
	TOTAL	6841.	7344.	7365.	7392.	7426.	7468.	7517.
TOTAL	BLACK	36705.	39513.	37804.	39754.	41889.	44094.	46416.
	SPANISH	5100.	5450.	5737.	6039.	6357.	6692.	7044.
	OTHER	62000.	66706.	65375.	63904.	62553.	61142.	59731.
	TOTAL	103805.	111670.	108916.	109797.	110799.	111928.	113191.

The gross acreage by census tract for 1970 is input. The population density per gross acre is computed by dividing the 1970 gross acreage by census tract into the population forecast by census tract by forecast year.

This report is intended to be used as a reference point for determining the reasonableness of the population forecasts by comparing the Trenton population densities by census tracts to those cities of comparable size.

TRENTON SCHOOL DISTRICT
POPULATION DENSITY PER GROSS ACRE*
FOR THE CITY OF TRENTON

REPORT NO. TSDENR-1004
RUN DATE:FEB. 8,1972

CENSUS TRACT	GROSS ACRES 1970	1970	1971	1972	1973	1974	1975	1976
1	245.80	10.91	11.14	11.51	11.26	11.06	10.84	10.61
2	120.50	29.39	31.62	30.97	30.31	29.66	29.01	28.35
3	133.50	27.11	29.16	28.56	27.96	27.36	26.76	26.16
4	136.90	34.74	37.36	36.69	36.02	35.35	34.69	34.03
5	101.70	38.69	41.62	40.78	39.95	39.11	38.28	37.45
6	162.50	28.38	30.52	29.90	29.28	28.67	28.05	27.43
7	80.00	38.80	41.75	40.93	40.13	39.34	38.55	37.76
8	131.20	18.80	20.22	19.90	19.59	19.29	18.99	18.69
9	302.20	19.46	20.89	21.00	21.14	21.29	21.47	21.68
10	276.30	14.62	15.07	15.96	16.25	16.62	16.98	17.38
11	351.40	19.46	20.87	21.26	21.66	22.14	22.63	23.16
12	334.70	14.12	15.17	15.15	15.15	15.15	15.17	15.21
13	437.80	8.72	9.37	9.28	9.20	9.12	9.05	8.98
14	339.80	26.03	27.93	28.70	29.51	30.36	31.30	32.29
15	145.80	32.76	35.02	36.69	38.46	40.32	42.28	44.34
16	69.10	25.90	27.70	28.98	30.34	31.77	33.28	34.86
17	247.00	24.54	26.29	26.94	27.63	28.37	29.15	29.99
18	306.80	12.89	13.80	13.72	13.60	13.48	13.37	13.26
19	144.00	27.08	28.95	30.02	31.15	32.35	33.62	34.96
20	176.80	16.49	17.63	18.47	19.36	20.29	21.28	22.32
21	227.20	29.42	31.54	32.14	32.80	33.50	34.26	35.07
22	277.80	24.83	26.44	26.51	26.61	26.73	26.88	27.06
TOTAL	4775.	22.17	22.65	22.81	22.99	23.20	23.44	23.70

* POPULATION DENSITY CALCULATED USING GROSS ACREAGE FOR 1970 BY CENSUS TRACT

The residential acreage by census tract for 1970 is input. The population density per residential acre is computed by dividing the 1960 residential acreage by census tract into the population forecast by census tract by forecast year.

TRENTON SCHOOL DISTRICT
POPULATION DENSITY PER NET RESIDENTIAL ACRE BY CENSUS TRACT
FOR THE CITY OF TRENTON

REPORT NO. TSDENR-1005
RUN DATE:FEB. 8,1972

CENSUS TRACT	1960 RESIDENTIAL ACREAGE*	1960	1970	1972	1973	1974	1975	1976
1	41.	74.46	64.88	66.44	67.10	65.76	64.43	63.11
2	56.	70.30	63.14	60.52	65.12	63.71	62.31	60.91
3	67.	53.41	46.45	51.04	49.97	48.89	47.82	46.75
4	62.	63.53	56.00	61.25	60.13	59.02	57.91	56.82
5	70.	61.60	56.21	59.25	58.04	56.82	55.61	54.40
6	84.	61.52	54.85	57.85	56.65	55.45	54.26	53.07
7	43.	82.55	72.19	76.15	74.67	73.19	71.71	70.24
8	33.	88.61	74.76	79.13	77.90	76.68	75.48	74.30
9	57.	98.78	72.67	76.42	78.92	79.51	80.18	80.94
10	49.	135.46	68.74	75.06	72.54	76.14	79.87	81.72
11	91.	74.26	75.16	82.09	83.73	85.50	87.40	89.45
12	132.	32.71	35.81	38.41	38.40	38.42	38.47	38.56
13	152.	24.54	25.11	26.73	26.49	26.27	26.06	25.86
14	148.	58.91	59.27	65.88	67.75	69.75	71.87	74.13
15	65.	71.06	71.12	79.67	83.49	87.53	91.78	96.26
16	24.	66.71	74.58	83.45	87.35	91.47	95.80	100.38
17	64.	81.19	72.17	79.21	81.24	83.41	85.72	88.19
18	72.	61.53	54.90	58.44	57.91	57.40	56.92	56.47
19	39.	63.56	99.90	110.85	115.03	119.45	124.13	129.08
20	42.	78.36	69.33	77.67	81.40	81.33	89.47	93.84
21	106.	58.61	61.90	67.62	69.00	70.39	72.07	73.78
22	114.	60.23	61.08	65.75	66.00	61.31	66.68	67.12
TOTAL	1712.	63.91	61.89	63.62	64.13	64.72	65.38	66.12

*SOURCE-CITY OF TRENTON, DEPT. OF PLANNING
DENSITY CALCULATED USING 1960
RESIDENTIAL ACREAGE BY CENSUS TRACT

The area in square miles of a census tract contained in a school service area are input by school and census tract. For example, the total area of census tract 1, .381 square miles, is in the Mott School service area, the total area of census tract 2 is .188 square miles, .181 square miles being in the Harrison School Service area and .007 square miles being part of the Franklin School service area.

The area of a census tract in a school service area is converted to acres by multiplying the area in square miles times 640 acres/square miles. The percent assignment of a census tract to a school service area equals the area of a census tract in a school service area divided by the total area of the census tract.

CADWALADER SCHOOL	11	78.9
	15	4.7
COLUMBUS SCHOOL	18	100.0
	19	36.4
COOK SCHOOL	21	11.3
	22	29.7
FRANKLIN SCHOOL	2	3.7
	3	100.0
	4	11.7
	5	27.7
GRANT SCHOOL	9	23.9
	20	66.1
	21	3.9
GREGORY	11	17.1
	13	1.5
	14	28.1
	15	18.4
HARRISON SCHOOL	2	56.3
	4	55.1
	5	1.9
	8	22.0
JEFFERSON SCHOOL	14	3.8
	15	13.7
	16	34.3
	17	100.0
JUNIOR 2 ELEMENTARY	6	83.1
	21	21.0
	22	49.1
JUNIOR 3 ELEMENTARY	12	100.0
	13	68.1

JUNIOR & ELEMENTARY	9	17.7
	11	6.4
	15	32.9
	16	85.7
MONUMENT SCHOOL	14	25.4
	15	30.3
MOTT SCHOOL	1	100.0
	8	21.5
	10	21.3
PARKER SCHOOL	8	13.2
	9	36.9
	10	78.7
	11	3.6
ROBBINS SCHOOL	5	40.1
	7	59.2
	8	33.2
	9	21.6
	21	53.5
STOKES SCHOOL	13	30.4
	14	45.8
WASHINGTON SCHOOL	4	33.2
	5	60.4
	6	16.9
	7	40.8
	8	10.2
WILSON SCHOOL	19	63.6
	20	39.9
	22	21.2
JUNIOR 1	9	3.7
	14	26.2
	15	15.8
	16	44.4

	17	100.0
	18	100.0
	19	100.0
	20	57.4
	21	3.9
	22	21.5
JUNIOR 2	5	21.9
	6	100.0
	7	24.8
	9	1.6
	21	82.6
	22	78.5
JUNIOR 3	11	89.2
	12	100.0
	13	100.0
	14	72.8
	15	21.4
JUNIOR 4	1	[illegible]
	2	100.0
	3	100.0
	4	100.0
	5	98.1
	7	75.2
	8	100.0
	9	13.2
	10	73.1
	11	10.5
	15	82.8
	20	55.6
	21	10.5
JUNIOR 5	5	81.3
	10	26.9

	20	2.6
	21	2.5
TRENTON HIGH SCHOOL	1	100.0
	2	100.0
	3	100.0
	4	100.0
	5	100.0
	6	100.0
	7	100.0
	8	100.0
	9	100.0
	10	100.0
	11	100.0
	12	100.0
	13	100.0
	14	100.0
	15	100.0
	16	100.0
	17	100.0
	18	100.0
	19	100.0
	20	100.0
	21	100.0
	22	100.0

Current year public enrollment by ethnic group within grade and school is input. Total CY enrollment by ethnic group within grade is calculated by summing enrollments by ethnic group and grade across all schools. Total CY enrollment by grade is calculated by summing enrollments by grade across all ethnic groups.

The CY population forecast by ethnic group was previously calculated. CY enrollment per thousand in the CY population by ethnic group and grade is calculated as follows:

1. Black enrollment by grade per thousand in the CY Black population equals CY Black enrollment by grade divided by CY Black population forecast.

2. Spanish enrollment by grade per thousand in the CY Spanish population equals CY Spanish enrollment by grade divided by CY Spanish population forecast.

3. White enrollment by grade per thousand in the CY White population equals CY White enrollment by grade divided by the CY White population forecast.

PUBLIC ENROLLMENT FACTORS BY ETHNIC GROUP AND GRADE

FACTORS ARE BASED ON CY PUBLIC ENROLLMENT BY ETHNIC GROUP AND GRADE PER THOUSAND IN CY POPULATION BY ETHNIC GROUP

CY PUBLIC ENROLLMENT

	PK	K	1ST	2ND	3RD	4TH	5TH
BLACK	0.	559.	1002.	908.	1054.	961.	914.
SPANISH	0.	147.	155.	150.	127.	130.	112.
OTHER	0.	330.	296.	284.	296.	294.	301.

	6TH	7TH	8TH	9TH	10TH	11TH	12TH
BLACK	921.	942.	868.	763.	828.	642.	579.
SPANISH	114.	99.	93.	73.	68.	47.	30.
OTHER	290.	300.	327.	328.	279.	229.	283.
TOTAL	0.	0.	0.	0.	0.	0.	0.

CY POPULATION BY ETHNIC GROUP

BLACK	35515.
SPANISH	3450.
OTHER	00760.

CY ENROLLMENT PER THOUSAND IN CY POPULATION BY ETHNIC GROUP AND GRADE(IN PERCENTS)

	PK	K	1ST	2ND	3RD	4TH	5TH
BLACK	0.0	2.87	2.79	2.70	2.93	2.68	2.55
SPANISH	0.0	2.70	2.84	2.53	2.33	2.39	2.05
OTHER	0.0	0.49	0.44	0.42	0.44	0.44	0.45

	6TH	7TH	8TH	9TH	10TH	11TH	12TH
BLACK	2.54	2.76	2.40	2.12	2.31	1.73	1.61
SPANISH	2.09	1.82	1.71	1.34	1.25	0.86	0.55
OTHER	0.42	0.45	0.49	0.45	0.41	0.34	0.42

SCHOOL ENROLLMENT FORECAST REPORT - Pages 19,20,21 & 22

The CY AND Y1-Y5 population forecast by ethnic group within census tract was previously calculated. Refer to the Population Forecast Report and the Report of the Percent Racial Composition by Census Tract for additional details about the population forecast calculations.

The CY and Y1-Y5 public enrollment forecast by ethnic group within grade and census tract is calculated as the product of the population forecast by ethnic group within census tract for the forecast year times the percent CY enrollment by ethnic group and grade per 1000 in the CY population by ethnic group. For example, the population forecast for Blacks in grade 2 in census tract 3 for year Y1 equals the Black population forecasted for census tract 3 in year Y1 times the ratio of CY Black enrollment in grade 2 to the CY Black population forecast.

The CY and Y1-Y5 public enrollment forecast by ethnic group by grade by school within a census tract is calculated as the product of the public enrollment forecast by ethnic group within grade and census tract times the percent assignment of a census tract to a school service area. This calculation is performed for every school provided the grade, PK up to 12, is taught at the particular school. Accordingly, the calculation is performed for grades PK to 6 if the school

is an elementary school, grades 7 to 9 for a junior high, and 10-12 for the senior high school. The enrollment forecast is aggregated across all census tract by school to produce the public enrollment forecast by ethnic group within grade and school.

Sample enrollment forecast reports by ethnic group within grade and school are provided for an elementary school a junior high school, and the senior high school. Refer to the next three pages for these samples (enrollment forecast calculated.)

When the enrollment override option is exercised the report is flagged with the following descriptor: "ENROLLMENT OVERRIDE EXERCISED - USER REVISION TO ENROLLMENT FORECAST FOR THIS SCHOOL." A sample report for which the override option was used is shown on the page after the aforementioned three reports. (See Page 22)

TRENTON SCHOOL DISTRICT
ENROLLMENT FORECAST BY ETHNIC GROUP WITHIN GRADE AND SCHOOL

REPORT NO. TSDENR-1007
RUN DATE=FEB. 8,1972

SCHOOL: CADWALADER SCHOOL

GRADE	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
PK	BLACK	0.	0.	0.	0.	0.	0.
	SPANISH	0.	0.	0.	0.	0.	0.
	OTHER	0.	0.	0.	0.	0.	0.
	TOTAL	0.	0.	0.	0.	0.	0.
K	BLACK	68.	82.	86.	91.	96.	101.
	SPANISH	8.	13.	13.	14.	15.	15.
	OTHER	1.	13.	13.	12.	12.	12.
	TOTAL	77.	108.	112.	117.	123.	128.
1ST	BLACK	85.	80.	90.	95.	100.	105.
	SPANISH	14.	13.	14.	15.	15.	16.
	OTHER	1.	12.	11.	11.	11.	10.
	TOTAL	98.	111.	116.	121.	126.	132.
2ND	BLACK	92.	83.	87.	92.	97.	102.
	SPANISH	6.	12.	12.	13.	14.	15.
	OTHER	3.	11.	11.	11.	10.	10.
	TOTAL	103.	106.	110.	115.	121.	126.
3RD	BLACK	92.	90.	95.	100.	105.	111.
	SPANISH	4.	11.	11.	12.	13.	13.
	OTHER	0.	12.	11.	11.	11.	10.
	TOTAL	96.	113.	116.	123.	129.	135.
4TH	BLACK	80.	82.	87.	91.	96.	101.
	SPANISH	13.	11.	12.	12.	13.	14.
	OTHER	1.	11.	11.	11.	11.	10.
	TOTAL	94.	105.	110.	115.	120.	125.
5TH	BLACK	81.	78.	82.	87.	91.	96.
	SPANISH	4.	10.	10.	11.	11.	12.
	OTHER	0.	12.	12.	11.	11.	11.
	TOTAL	85.	100.	104.	109.	113.	119.
6TH	BLACK	0.	78.	82.	86.	91.	96.
	SPANISH	0.	10.	10.	11.	11.	12.
	OTHER	0.	11.	11.	10.	10.	10.
	TOTAL	0.	99.	103.	108.	113.	118.
TOTAL	BLACK	496.	580.	610.	642.	676.	712.
	SPANISH	49.	79.	83.	88.	92.	97.
	OTHER	6.	81.	79.	78.	76.	74.
PK-K	BLACK	68.	82.	86.	91.	96.	101.
	SPANISH	8.	13.	13.	14.	15.	15.
	OTHER	1.	13.	13.	12.	12.	12.
1-3	BLACK	269.	259.	272.	287.	302.	318.
	SPANISH	24.	36.	38.	40.	42.	44.
	OTHER	4.	34.	33.	33.	32.	31.
4-6	BLACK	161.	239.	251.	264.	278.	293.
	SPANISH	17.	30.	32.	34.	36.	37.
	OTHER	1.	34.	33.	33.	32.	31.

TRENTON SCHOOL DISTRICT
ENROLLMENT FORECAST BY ETHNIC GROUP WITHIN GRADE AND SCHOOL

REPORT NO. TSDENR-1026
RUN DATE:FEB. 8,1972

SCHOOL: JUNIOR 2

GRADE	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
7TH	BLACK	201.	133.	140.	147.	155.	163.
	SPANISH	15.	13.	14.	15.	15.	16.
	OTHER	71.	60.	59.	58.	56.	55.
	TOTAL	287.	206.	212.	219.	226.	234.
8TH	BLACK	176.	115.	121.	128.	135.	142.
	SPANISH	14.	12.	13.	14.	14.	15.
	OTHER	88.	66.	64.	63.	61.	60.
	TOTAL	278.	193.	199.	204.	210.	217.
9TH	BLACK	151.	102.	107.	113.	119.	125.
	SPANISH	16.	10.	10.	11.	11.	12.
	OTHER	96.	66.	64.	63.	62.	60.
	TOTAL	263.	178.	182.	187.	192.	197.
TOTAL	BLACK	528.	350.	368.	388.	408.	430.
	SPANISH	43.	35.	37.	39.	41.	43.
	OTHER	255.	192.	186.	184.	179.	175.
7-9	BLACK	528.	350.	368.	388.	408.	430.
	SPANISH	43.	35.	37.	39.	41.	43.
	OTHER	255.	192.	186.	184.	179.	175.

TRENTON SCHOOL DISTRICT
ENROLLMENT FORECAST BY ETHNIC GROUP WITHIN GRADE AND SCHOOL

REPORT NO. TSDENR-1030
RUN DATE:FEB. 8,1972

SCHOOL: TRENTON HIGH SCHOOL

GRADE	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
10TH	BLACK	628.	672.	917.	966.	1017.	1070.
	SPANISH	68.	72.	75.	79.	83.	84.
	OTHER	273.	267.	261.	256.	250.	243.
	TOTAL	1169.	1210.	1454.	1301.	1350.	1401.
11TH	BLACK	822.	655.	689.	725.	764.	804.
	SPANISH	47.	49.	52.	55.	58.	61.
	OTHER	225.	220.	215.	211.	206.	200.
	TOTAL	894.	924.	957.	991.	1027.	1065.
12TH	BLACK	579.	609.	642.	675.	711.	748.
	SPANISH	30.	32.	33.	35.	37.	39.
	OTHER	283.	277.	271.	265.	259.	252.
	TOTAL	892.	918.	946.	975.	1007.	1039.
TOTAL	BLACK	2029.	2136.	2248.	2367.	2491.	2622.
	SPANISH	145.	153.	161.	169.	178.	187.
	OTHER	781.	764.	748.	732.	715.	695.
10-12	BLACK	2029.	2136.	2248.	2367.	2491.	2622.
	SPANISH	145.	153.	161.	169.	178.	187.
	OTHER	781.	764.	748.	732.	715.	695.

INPUT OVERRIDE EXERCISED-USER REVISION
TO ENROLLMENT FORECAST FOR THIS SCHOOL
SCHOOL: JUNIOR 2 ELEMENTARY

GRADE	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
PK	BLACK	0.	0.	0.	0.	0.	0.
	SPANISH	0.	0.	0.	0.	0.	0.
	OTHER	0.	0.	0.	0.	0.	0.
	TOTAL	0.	0.	0.	0.	0.	0.
K	BLACK	37.	59.	62.	65.	69.	72.
	SPANISH	9.	9.	10.	10.	11.	11.
	OTHER	42.	36.	35.	34.	33.	32.
	TOTAL	88.	104.	107.	110.	112.	115.
1ST	BLACK	35.	62.	65.	68.	72.	75.
	SPANISH	6.	10.	10.	11.	11.	12.
	OTHER	45.	32.	32.	31.	30.	29.
	TOTAL	86.	104.	107.	110.	113.	116.
2ND	BLACK	31.	61.	63.	66.	69.	72.
	SPANISH	8.	9.	9.	9.	10.	10.
	OTHER	39.	31.	30.	29.	28.	27.
	TOTAL	78.	99.	102.	104.	107.	110.
3RD	BLACK	48.	65.	68.	72.	74.	77.
	SPANISH	7.	9.	9.	9.	10.	10.
	OTHER	50.	32.	32.	31.	30.	29.
	TOTAL	105.	105.	109.	111.	114.	117.
4TH	BLACK	39.	59.	62.	65.	68.	72.
	SPANISH	10.	8.	9.	9.	9.	10.
	OTHER	49.	32.	31.	30.	29.	28.
	TOTAL	98.	100.	102.	105.	108.	111.
5TH	BLACK	71.	56.	59.	62.	65.	69.
	SPANISH	12.	7.	7.	8.	8.	9.
	OTHER	50.	33.	32.	31.	30.	29.
	TOTAL	132.	96.	99.	101.	104.	107.
6TH	BLACK	87.	56.	59.	62.	65.	69.
	SPANISH	12.	7.	7.	8.	8.	9.
	OTHER	48.	31.	30.	29.	28.	27.
	TOTAL	147.	94.	96.	99.	101.	104.
TOTAL	BLACK	347.	418.	439.	461.	485.	510.
	SPANISH	65.	57.	61.	63.	67.	69.
	OTHER	322.	228.	221.	215.	209.	203.
PK-K	BLACK	37.	59.	62.	65.	69.	72.
	SPANISH	9.	9.	10.	10.	11.	11.
	OTHER	42.	36.	35.	34.	33.	32.
1-3	BLACK	114.	187.	196.	206.	217.	228.
	SPANISH	22.	26.	27.	29.	30.	32.
	OTHER	133.	96.	93.	91.	89.	86.
4-6	BLACK	197.	172.	181.	190.	200.	210.
	SPANISH	34.	22.	23.	24.	26.	27.
	OTHER	147.	96.	98.	93.	91.	89.

Public enrollment forecast by ethnic group within grade and school was previously calculated. Refer to the description of the School Enrollment Forecast Report for details on this calculation. The CY and Y1-Y5 enrollment forecast by ethnic group within grade is calculated by aggregating school enrollments by ethnic group and grade over all schools. The CY and Y1-Y5 enrollments by ethnic group within grade is summed by grade over all ethnic groups to obtain the CY and Y1-Y5 enrollment forecast by grade.

TRENTON SCHOOL DISTRICT
PUBLIC ENROLLMENT FORECAST BY GRADE LEVEL

REPORT NO. TSDENR-1031
RUN DATE: FEB. 6,1972

GRADE LEVEL	1971	1972	1973	1974	1975	1976
PK	0.	0.	0.	0.	0.	0.
K	1430.	1487.	1542.	1599.	1660.	1723.
1ST	1452.	1507.	1564.	1626.	1690.	1757.
2ND	1387.	1435.	1495.	1553.	1615.	1679.
3RD	1477.	1533.	1592.	1655.	1721.	1790.
4TH	1365.	1430.	1490.	1548.	1609.	1672.
5TH	1327.	1375.	1425.	1479.	1535.	1594.
6TH	1305.	1353.	1404.	1458.	1515.	1574.
7TH	1391.	1446.	1496.	1554.	1614.	1677.
8TH	1283.	1326.	1372.	1421.	1473.	1526.
9TH	1164.	1201.	1240.	1282.	1327.	1372.
10TH	1169.	1210.	1254.	1301.	1350.	1401.
11TH	854.	924.	957.	991.	1027.	1065.
12TH	852.	910.	946.	975.	1007.	1039.
TOTAL	16962.	17152.	17776.	18441.	19144.	19869.

REPORT OF SECONDARY ENROLLMENT FORECAST BY SECONDARY PROGRAM - Page 24

Current year secondary enrollment by ethnic group within secondary program is input. The secondary programs for which enrollment is currently forecasted are Vocational-Technical and Regular or Non-Vocational.

The percent racial composition of each secondary program by ethnic group within secondary program for the current year is calculated by dividing total CY enrollment in secondary programs by ethnic group into secondary enrollment by ethnic group within secondary program.

The CY and Y1-Y5 public enrollment forecast by ethnic group within secondary program is calculated as the product of the secondary program enrollment forecast by ethnic group by year times the 1970 percent racial composition of each secondary program by ethnic group by secondary program. Refer to the descriptions of the School Enrollment Forecast Report, Grade Enrollment Forecast Report, and the Program Enrollment Forecast Report for more details concerning the calculation of the secondary program enrollment forecast.

TRENTON SCHOOL DISTRICT
SECONDARY ENROLLMENT FORECAST BY PROGRAM

REPORT NO. TSDENR-1033
RUN DATE:FEB. 6,1972

1-CURRENT YEAR SECONDARY ENROLLMENT BY ETHNIC GROUP WITHIN PROGRAM

SECONDARY PROGRAMS	BLACK	SPANISH	OTHER	TOTAL
NON VOCATIONAL TECHNICAL	1041.	68.	535.	1644.
VOCATIONAL-TECHNICAL	988.	77.	246.	1311.
TOTAL	2029.	145.	781.	2955.

2-PERCENTAGE COMPOSITION OF EACH SECONDARY PROGRAM BY ETHNIC GROUP WITHIN PROGRAM FOR THE CURRENT YEAR

SECONDARY PROGRAMS	BLACK	SPANISH	OTHER
NON VOCATIONAL TECHNICAL	51.306	4.097	32.502
VOCATIONAL-TECHNICAL	48.694	5.303	18.495

3-PUBLIC ENROLLMENT FORECAST BY ETHNIC GROUP AND YEAR WITHIN SECONDARY PROGRAM

SECONDARY PROGRAMS	ETHNIC GROUP	1972	1973	1974	1975	1976
NON VOCATIONAL TECHNICAL	BLACK	1090.	1153.	1214.	1278.	1345.
	SPANISH	72.	75.	79.	83.	88.
	OTHER	529.	512.	501.	490.	476.
	TOTAL	1691.	1741.	1795.	1851.	1909.
VOCATIONAL-TECHNICAL	BLACK	1040.	1095.	1152.	1213.	1277.
	SPANISH	81.	85.	90.	95.	100.
	OTHER	241.	236.	230.	225.	219.
	TOTAL	1362.	1416.	1473.	1533.	1595.
PROGRAMATIC TOTALS						
NON VOCATIONAL TECHNICAL		1691.	1741.	1795.	1851.	1909.
VOCATIONAL-TECHNICAL		1362.	1416.	1473.	1533.	1595.

CY and Y1-Y5 enrollment forecasts by ethnic group within program is obtained by aggregating school enrollment forecasts by ethnic group within grade groupings (PK-K, 1-3, 4-6, 7-9, and 10-12) across all schools.

TRENTON SCHOOL DISTRICT
PUBLIC ENROLLMENT FORECAST BY PROGRAM

REPORT NO. TSDENR-1032
RUN DATE:FEB. 8,1972

PROGRAM	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
EARLY CHILDHOOD	BLACK	956.	1009.	1063.	1119.	1177.	1239.
	SPANISH	147.	155.	163.	171.	180.	190.
	OTHER	330.	303.	316.	309.	302.	294.
	TOTAL	1436.	1467.	1542.	1599.	1660.	1723.
PRIMARY(1-3)	BLACK	3023.	3182.	3350.	3526.	3712.	3907.
	SPANISH	420.	442.	465.	490.	516.	543.
	OTHER	873.	855.	836.	818.	799.	777.
	TOTAL	4316.	4479.	4651.	4834.	5026.	5227.
ELEMENTARY(4-6)	BLACK	2780.	2933.	3087.	3250.	3421.	3601.
	SPANISH	350.	375.	394.	415.	437.	460.
	OTHER	875.	857.	838.	820.	801.	778.
	TOTAL	4017.	4164.	4320.	4484.	4659.	4839.
INTERMEDIATE(7-9)	BLACK	2618.	2756.	2901.	3054.	3214.	3384.
	SPANISH	265.	279.	294.	309.	325.	342.
	OTHER	955.	935.	915.	894.	874.	850.
	TOTAL	3838.	3970.	4109.	4257.	4414.	4576.
SECONDARY(10-12)	BLACK	2029.	2136.	2248.	2367.	2491.	2622.
	SPANISH	145.	153.	161.	169.	178.	187.
	OTHER	781.	764.	746.	732.	715.	695.
	TOTAL	2955.	3053.	3157.	3267.	3384.	3505.

The CY and Y1-Y5 public enrollment forecast by ethnic group within grade and school was previously calculated. Enrollment forecast totals by school and year for CY and Y1-Y5 are obtained by aggregating enrollments by school over all grades and ethnic groups in the school.

TRENTON SCHOOL DISTRICT
PUBLIC ENROLLMENT FORECAST TOTALS BY SCHOOL AND YEAR

REPORT NO. TSDENR-1034
RUN DATE:FEB. 8,1972

SCHOOL NAME	1971	1972	1973	1974	1975	1976
CHROMALOY SCHOOL	553.	740.	773.	807.	844.	882.
COLUMBUS SCHOOL	306.	484.	500.	518.	537.	557.
COOK SCHOOL	512.	284.	294.	306.	318.	331.
FRANKLIN SCHOOL	370.	208.	205.	201.	198.	194.
GRANT SCHOOL	870.	542.	568.	595.	623.	653.
GREGORY SCHOOL	704.	703.	736.	771.	808.	846.
HARRISON SCHOOL	329.	248.	245.	243.	240.	238.
JEFFERSON SCHOOL	892.	1123.	1177.	1233.	1292.	1353.
JUNIOR 2 ELEMENTARY	734.	704.	724.	746.	769.	793.
JUNIOR 3 ELEMENTARY	428.	542.	557.	573.	590.	608.
JUNIOR 5 ELEMENTARY	560.	671.	704.	739.	775.	813.
MONUMENT SCHOOL	443.	630.	661.	693.	728.	761.
MOTT SCHOOL	321.	210.	213.	216.	219.	223.
PARKER SCHOOL	625.	617.	642.	668.	696.	725.
ROBBINS SCHOOL	710.	730.	755.	782.	810.	840.
STACY SCHOOL	761.	675.	709.	737.	770.	805.
WASHINGTON SCHOOL	370.	233.	230.	228.	225.	223.
WILSON SCHOOL	364.	785.	823.	862.	904.	948.
TOTAL ELEMENTARY	9769.	10130.	10512.	10917.	11345.	11789.
JUNIOR 1	668.	1215.	1209.	1327.	1387.	1450.
JUNIOR 2	620.	577.	593.	611.	629.	648.
JUNIOR 3	967.	1002.	1041.	1083.	1127.	1173.
JUNIOR 4	789.	902.	922.	943.	966.	988.
JUNIOR 5	448.	474.	483.	494.	505.	516.
TRENTON HIGH SCHOOL	2955.	3053.	3137.	3207.	3384.	3505.
TOTAL SECONDARY	6793.	7023.	7200.	7524.	7796.	8080.
GRAND TOTAL	16562.	17152.	17778.	18441.	19144.	19869.

Current year Special Education enrollment by ethnic group within level is input. A current year Special Education enrollment factor by ethnic group within level is calculated as the ratio of CY Special Education enrollment by ethnic group within level divided by CY population forecast by ethnic group.

The CY and Y1-Y5 Special Education public enrollment forecast equals the product of the total population forecast by ethnic group times the Special Education enrollment factor by ethnic group within level.

ENROLLMENT FACTORS: SPECIAL EDUCATION ENROLLMENT FACTOR PER THOUSAND IN POPULATION BY ETHNIC GROUP FOR THE CY 1971

LEVEL	BLACK	SPANISH	OTHER
ELEMENTARY	0.980	0.440	0.109
SECONDARY	0.556	0.220	0.045

ENROLLMENT FORECAST

LEVEL	ETHNIC GROUP	1971	1972	1973	1974	1975	1976
ELEMENTARY	BLACK	354.	451.	548.	644.	741.	837.
	SPANISH	24.	25.	27.	28.	29.	31.
	OTHER	73.	71.	70.	68.	67.	65.
	TOTAL	451.	548.	644.	741.	837.	933.
SECONDARY	BLACK	214.	256.	296.	340.	382.	424.
	SPANISH	12.	13.	13.	14.	15.	16.
	OTHER	30.	29.	29.	28.	27.	27.
	TOTAL	256.	298.	340.	382.	424.	467.
TOTAL	BLACK	568.	707.	844.	984.	1123.	1261.
	SPANISH	36.	38.	40.	42.	44.	47.
	OTHER	103.	101.	99.	96.	94.	92.
	TOTAL	707.	846.	984.	1123.	1261.	1400.

The current year Continuing Education enrollment by ethnic group is input. A Continuing Education enrollment factor by ethnic group is calculated as CY Continuing Education enrollment by ethnic group divided by CY total population forecast by ethnic group.

The CY and Y1-Y5 Continuing Education enrollment forecast is the product of the Continuing Education enrollment factor by ethnic group times the total population forecast by ethnic group by year.

TRENTON SCHOOL DISTRICT
PUBLIC ENROLLMENT FORECAST FOR CONTINUING EDUCATION

REPORT NO. TSDENR-1036
RUN DATE:FEB. 8,1972

CONTINUING EDUCATION ENROLLMENT FACTOR BY ETHNIC GROUP PER THOUSAND IN THE POPULATION FOR CY 1971

BLACK	SPANISH	OTHER
2.960	5.053	0.013

ENROLLMENT FORECAST

ETHNIC GROUP	1971	1972	1973	1974	1975	1976
BLACK	1063.	1119.	1178.	1240.	1305.	1374.
SPANISH	319.	336.	353.	372.	392.	412.
OTHER	9.	9.	9.	8.	8.	8.
TOTAL	1391.	1464.	1540.	1620.	1705.	1794.

REPORT OF ENROLLMENT FORECAST INPUT FOR REVENUE SIMULATOR - Page 29

The following CY and Y1-Y5 enrollment forecasts categores were calculation internally from detail data levels previously produced: Kindergarten (Grade Forecast Report) Grades 1 to 6 (Program and Grade Forecast Reports), Grades 7 to 9 (Program Report), Grades 10-12 (Program Report), Vocational-Technical (Secondary Program Report), Shared Time A.V.T.S. (Continuing Education Report), and Special Classes (Special Education Report).

The Aid for Dependent Children Forecast for the CY and Y1-Y5 is obtained by multiplying total public enrollment by year times the percentage of school age children in the TPS receiving AFDC during the current year. This latter percent was input previously.

ENROLLMENT FORECAST INPUT FOR REVENUE SIMULATOR

	1971	1972	1973	1974	1975	1976
KINDERGARTEN	1436.	1487.	1542.	1595.	1660.	1723.
GRADES 1 TO 6	8335.	8043.	8971.	9318.	9685.	10066.
GRADES 7 TO 9	3838.	3970.	4109.	4257.	4414.	4576.
GRADES 10 TO 12-REGULAR	1644.	1859.	1912.	1968.	2028.	2088.
GRADES 10 TO 12-VOC-TECH	1311.	1220.	1261.	1304.	1350.	1397.
CONTINUING EDUCATION	1391.	1464.	1540.	1620.	1705.	1794.
SPECIAL CLASSES	707.	846.	984.	1143.	1201.	1400.
ESTIMATE OF AFDC IN TPS	826.	858.	889.	922.	957.	993.

III.3 The Cost/Resource Requirements Module

INTRODUCTION AND CONCEPTUAL DESIGN

Main Functions of the Forecaster

STEP's Cost/Resource Requirements forecaster (RRM), is a set of manual and automated procedures for determining important probable information about existing and new programs in the district. As in all the forecasting procedures in the system, it is contingent upon important assumptions and estimates, which are made explicity, and which can be revised to produce alternate runs of the forecaster. Given these assumptions (which are discussed in some detail later), the forecaster produces four main reports: The Planning Unit Report; the Program Report; the Project Report; and the Site Report. Each report includes the following information:

(1) The number of positions, by each of fifteen staff types, for Year 1-Year 5.

(2) The salary cost, fringe benefit cost, and total, for Year 1-Year 5.

(3) The total capital outlay cost, Year 1-Year 5.

(4) The total non-staff/non-capital outlay cost, Year 1-Year 5.

(5) The total gross cost, and the total local cost.

(6) The total expected positions, by staff type, and total "hires," Year 1-Year 5.

(7) Subsidiary data on planning factors.

These data elements are relatively constant in each of the reports generated by the module; the differences are in the level or focus of aggregation. In the Planning Unit Report, the above information is displayed for each of the district's "planning units" - a concept to be described below. In the Program Report, the information is aggregated in "programs," according to the district's program structure; this report may be viewed as the "program budget" for the district, and will be produced to show actual expenditures for Current Year, as well as projected expenditures for Year 1-Year 5 in alternative plans. In the Project Report, planning unit information is re-aggregated into project summaries, and in the Site Report, planning unit information is aggregated to provide summaries of cost and resource requirements by site - a report that will prove especially interesting and valuable to building administrators. There will, then, be a program budget for each planning unit in the district, for each program, for each project, and for each site.

There are several functions served by this module. Obviously, it is important to project the staff and financial resources required to continue current programs or future alternatives. In addition, it is quite instructive to observe the relative allocations among the district's various programs, or compare the unit costs in the various programs and projects of the district. In addition, the complicated effects of such

variables as inflation and staff turnover rates are reflected in the forecasts, in a way that would be almost infeasible without automated computation of thousands of calculations.

The information in these reports also serves basic planning functions as well. The module allows for experimentation with various "planning factors," that is, assumed parametric relationships between activity and expenditure. It provides the cost data that will be used in cost-utility evaluation of alternative plans, and the feasibility data which will be used to set limits on posible courses of action. Perhaps most importantly, however, the cost/resource requirements forecasts allow, at several levels in the district, a sophisticated evaluation of proposed expenditures, and an after-the-fact assessment of whether resources have been used effectively. The last mentioned functions can only be realized when the forecasts are used in conjunction with other aspects of the STEP system. These interfaces are discussed below.

Interfaces with the Cost/Resource Requirements Forecaster

An important input to the RRM is the data from the enrollment forecasting procedure. Most school expenditures, particularly in instructional services, are presumed to vary as a function of changes in type and number of students. The RRM gives its users the option to use "enrollment base" as a planning factor in projecting several costs.

The output of RRM also interfaces with other system components. Cost data is fed, for instance, into the Revenue Forecaster, and used as the basis of the calculation of necessary revenues in conjunction with alternative [illegible] data on State-reimbursable program costs, such as Transportation and Special Education, is also fed to the Revenue Forecaster.

Perhaps most significantly, cost data is fed into the manual cost-utility evaluation procedure, the key decision-point in the system. When conjoined with projections of performance and revenue, the cost data allows the district's policy-makers to identify that alternative plan which promises accomplishment of the largest magnitude of district goals within allowable cost constraints.

Conceptual Design and Data Flow

RRM operates by taking detailed, current year data about the "planning units" in the district, along with other inputs about staff costs and turnover in the district, and, using a combination of forecast options available to the planners, projects the five-year staff requirements and costs for each planning unit. These planning units are then aggregated into larger cluster e.g., programs, projects, sites, or the whole district, to produce the main planning reports.

The data on which the forecasts are based is relatively simple. For each planning unit, users input identification data and information about the current staff, capital outlay, and other resources being utilized in the unit. In addition, appropriate enrollment information (taken from the enrollment forecasting procedure) is input to the planning unit description, along with estimates of categorical or "project" grants expected to accrue to the unit. After data is collected for each planning unit, district data is added: mainly, the "fringe benefit percentage" associated with each staff type, the expected turnover rates associated with each type, and the forecast options chosen for each resource type in each planning unit. The resource requirements model then proceeds to incorporate the effects of enrollment change, inflation, turnover rates, and other relevant variables, according to the forecast options selected by the users, and produce cost/resource requirements projections for Year 1-Year 5. In the "base case" plan, data about actual and approved planning units is input to the model; in alternative plans, planning units derived from "project designs" are added to planning unit card deck to generate alternative cost/resource requirement forecasts. Chart III.3 - 1, shows the summary flow of information and calculation in the forecaster. A more detailed description of the computational flow and outputs is provided later.

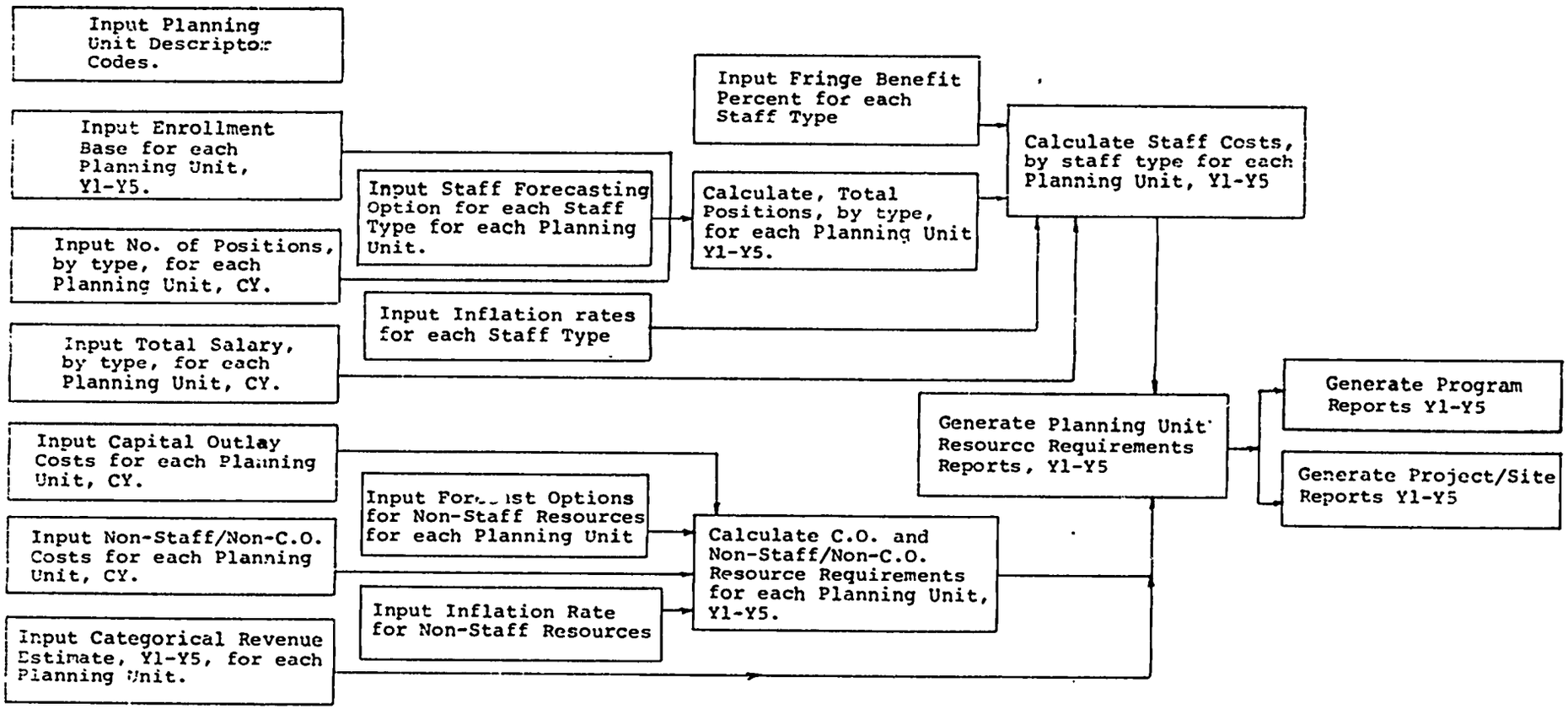


Chart III.3-1

Summary Flow; Cost/Resource Requirements Forecaster

Basic Elements of the Model: Clarification

Planning Unit Concept

STEP's cost/resource requirements forecaster has certain unique and innovative features which make it highly flexible and adaptive to changes in management organization in the district; unlike other program-budgeting systems, it allows the user to change program structures, or sustain several program structures at once, without re-programming the software. The entity which allows this flexibility - the "planning unit" - is an important concept, therefore. The use of the planning unit concept, while giving extraordinary flexibility and freedom to the user, on the one hand, poses analytical problems on the other.

A planning unit is, to an extent, and undefined term. It is the smallest cost-activity center used in STEP, but its size and boundaries are not specified. A planning unit is a cluster of instructional or support activities, sharing common objectives and management, existing in one school or site, in one program. Thus, it follows, that the entire educational program of a school may be a single planning unit with an enrollment base of 4,000 students, or a single class in and elementary school can be a planning unit, with an enrollment base of 30. A planning unit may be a course, a class, a grade level within a school, or a whole school - as long as it is located in one site, and is entirely in one program. Therefore,

Elementary Instruction cannot be a planning unit - because it exists in about 20 sites, and Title I cannot be a planning unit - because it exists in several sites and at least three programs. (The district's program structure is discussed later in this section.) Because Junior High No. 5 has a K-9 grade spread, there must be at least one planning unit for each of the Early Childhood, Primary, Elementary, and Intermediate sub-programs in that school - a minimum of four planning units. In contrast, Trenton Central High School, given the current program structure, conducts activities which are all part of the Secondary Instruction program, so that, except for reasons to be discussed later, it could be described in one planning unit - although clearly this would be undesirable.

Obviously, it is an option of the users to define the boundaries of planning units within these constraints. While Junior 5 must have at least four planning units, and TCH at least one, there is no upper limit on how many they may have, or, in other words, how small the planning units may be. TCH may divide its program by Vocational/Non-Vocational, or by grades, or by subject matters, or by "houses," or any other organization judged appropriate in the particular planning period. For the first iteration of the planning system, we propose that TCH be divided by Vocational/Non-Vocational and grade level, for a total of at least six planning units.

Whatever organization scheme is used to define planning unit boundaries, it is important that each planning unit have certain characteristics. First, there must be persons, materials, facilities, and equipment that are clearly "billable," or assignable to the planning unit. (Of course, many persons will be charged fractionally to planning units, as a function of the time they work in that planning unit.) Further, the planning unit must define an entity of some kind, a functionally unified activity-cost center, such that one can make judgements about the whole unit and implement changes in the whole planning unit. In the case of planning unit's which are part of instructional programs, each planning unit will have a well-defined student client group; in fact, instructional planning unit's may be best defined in terms of the students affected. In support planning unit's there will be no student client group, generally, but rather a function or service defining the planning unit's boundaries.

In STEP, each year the authorizations shown in the Line-item budget are "crosswalked" to appropriate planning units, that is, for each object of expenditure, staff or non-staff, some portion of the dollar amount is charged to a given planning unit. If a given staff member works in several planning unit's, his salary is pro-rated across the planning unit's, either as a function of time spent in each, or as a function of enrollment in each. (A principal who worked only in instructional programs in his school would be pro-rated across the planning units

in that school, proportionate to the enrollment in each planning unit.) Each dollar authorized in the budget is charged to exactly one planning unit; any duplication or undercounting will obviate the cost analysis procedure. These pro-ratings and fractional assignments, as in any accounting system, may be arbitrary on occasion; but the arbitrary rules must be used consistently and uniformly throughout the cost analysis phase.

The total of all costs charged to all planning units, therefore, should exactly equal the Current Year budget. Similarly, when a plan has been approved, the total costs of all planning units for Year One should exactly equal the approved budget for Year One. (The approved program budget for Year One is "crosswalked" back into a line-item format.) It is estimated that there will be between 90 and 120 planning units in the entire school district each year, given the current program structure. The number can change, of course, if the program structure or program definitions change.

A qualitative goal of STEP is to, whenever possible, assign costs to instructional planning units. Thus, in a given building, administrative, clerical, and maintainence personnel are pro-rated across the instructional planning units in that building. Any resource which cannot be reasonably charged to an instructional planning unit may be charged to one of the district's support planning units.

Each planning unit has a status: it is either a sub-program, project, or "project design." A sub-program is that portion of a program assigned to a single site; it is called a sub-program because it is presumed that it will continued to exist indefinitely, that when its objectives are accomplished it will develop new objectives. A project, however, is not assumed to exist indefinitely - frequently because it has a limited grant life of three-five years; when a project accomplishes its objectives, it goes away. A "project design" planning unit is an idea for a project, developed during the generation of alternatives phase of planning; it is a proposed or hypothetical project, included in the cost/resource requirements forecast deck to simulate its multi-year consequences on the district's plan. Note that if a project or "project design" exists in more than one school/site, there must be at least as many different planning units as there are sites, and if a project or project design cuts across more than one program, there must be at least as many planning units as there are programs affected.

The planning unit concept, thus, is highly useful but poses some difficulties in implementation. There will be, no doubt, several experiments with the scope and definition of planning units before a fully satisfactory set is developed. Whatever scheme is finally developed, however, the planning unit will be the focus of cost/resource requirements projection.

The model presented here actually computes the five-year requirements for each planning unit, and then aggregates into programs, project, and sites.

DATA INPUT FOR A PLANNING UNIT

Certain data is input for each planning unit. First, the number of positions for each of the staff types is entered, along with the total salary for each staff type in the planning unit for the current year. (Planning units which have no current year operation are entered differently, as explained in the data preparation section of this explanation.) In addition, Current Year authorizations for Capital Outlay and Non-Staff/Non-C.O. costs are entered. Other data includes the enrollment base used for calculation purposes and the categorical revenues associated with the planning unit. Enrollment base is not identical to enrollment; the enrollment base is the preferred denominator to be used in forecasting resource requirements as a ratio to students; that is, certain resources, notably teachers and consumable supplies, are presumed to vary with planning unit enrollment; in non-instructional planning units, however, there is frequently also an enrollment base for projection, either the entire student body or some selected proportion of it. Transportation Services may vary as a function of the number of handicapped in the district, for example, or Food Services as a function of AFDC children. Thus, in inputing the enrollment base for a planning unit, the

analyst identifies the relevant parametric relationship between resources and demand (students), or, if he believes there is no such relationship, he uses one of the other forecasting options: holding resources constant (but inflated in cost), or directly estimating for Y1-Y5.

District-Level Data Input

In addition to data collected about each Planning Unit, there are also important inputs from the district level, mainly inflation rates for various staff and resource types, and turnover rates for each staff type. In addition, a "fringe benefit percentage" is input for each staff type, meaning the fraction of base salary expended for contributions to pension, social security, etc.

Data Collection Considerations

The data input from the district level, as well as the Planning Unit level, poses some special problems for persons new to longer-range planning. It may be objected that certain of the requisite inputs are not now available, in some cases, or unknowable, in others. These problems emerge in most of the planning procedures, but particularly in connection with the resource requirements analysis. To place the problem in perspective, consider the following classes of data:

(1) Factual - historical, e.g., expenditures and enrollments in the present or past.

(2) Factual - future, e.g., future costs and enrollments.

(3) Assumptions - testable, e.g., inflation rates.

(4) Assumptions - non-testable, e.g., "desired" expenditures and ratios.

These four kinds of data are all used in planning, particularly in resource requirements analysis, and for each kind of data there is "good" and "bad" data that may be introduced. For type (1), the good data is based on actual records and information, reliably gathered, in the districts files, while the less good data is based on rough estimations of what that data is (or was) in the absence of hard facts. For data type (2) the good data is based on reliable forecasting and prediction procedures, while the less good data is based on hunches and speculation. In general, the district should implement all procedures -- mainly data-gathering procedures -- which will improve the quality of data types (1) and (2). Data type (3) is related to (1) and (2), but refers to classes of information being considered for the first time; when trying a new variable in planning, it is not reasonable to expect the district to have the facts or projection techniques available to generate that data; thus, good type (3) data is based on intelligent estimates and speculations about a field of information for which data is not yet available. Type (3) data is testable, that is, over time data may be gathered to convert it into firmer factual knowledge of the (1) or (2) variety. At present, the district's data gathering

activities are somewhat confusing and incomplete, but, by using testable assumptions in planning, and testing them as part of the planning process, it is probable that they will become type (1) or (2) data in a few years. Good examples of this form of data are performance levels on the district's Indicators, and such planning factor as "fringe benefit percentage," and"turnover rates for staff types." Soon the district will have the facts about these matters; in the meanwhile they are introduced into the planning procedures as testable assumptions.

Data type (4), untestable assumptions, is a different kind of information, representing values and preferences of the planners. The users, in other words, determine what is desirable or preferred in the district, rather than what <u>is</u>, and input these determinations in appropriate form in the planning process. The number of planning units in a program (beyond the minimum imposed by number of sites) is an untestable assumption or stipulation; similarly, many of the pro-rating procedures for assigning persons to planning units are also in this class. For this type of data, the good data are those determined through appropriate discussions with persons empowered to make the decisions, used reliably and consistently in planning, while the poor data are those determined arbitrarily, without discussion or deliberation, and applied capriciously.

At any time, in any governmental planning process, not all the data is as "good" as it should be, but this is no excuse for abandoning the planning effort; in fact the effort should be directed at planning with the best data available, and continually improving the base of facts, projections, and reasonable assumptions.

RESOURCE CLASSIFICATION SCHEMES

Program Structure

Because of the planning unit concept, the STEP program structure may be modified without extensive changes in planning procedures or software. The following charts show the currently proposed program structure, in three major components: Instructional Programs; Support Programs; Projects. Chart III.3 - 2 shows the organization of instructional programs, each of which is focused on a given student client group, rather than subject matters or specific instructional goals.

In the proposed STEP program structure, the cost center is a cluster of students, receiving a relatively uniform package of instructional services, usually in a given location. (Non-instructional programs are defined somewhat differently and will be discussed later). Thus, the objectives for a given program, or sub-program, are to effect changes in the clients of that program; the evaluation of the program, or sub-program, is concerned mainly with the degree of success in effecting the desired changes. The most important aspects of a program description are, first, a description of the students in the program, and, second, a description of that group's performance on the district's Indicators of Quality.

An analysis of district costs and effectiveness at the program level will prove quite instructive. The cost/student

CHART III.3-2 INSTRUCTIONAL PROGRAMS

Number	Name	Subprograms	Comment
I.1	Early Childhood	Each Site	Grades Pre-K to K.
I.2	Primary	Each Site	Grades 1-3.
I.3	Elementary	Each Site	Grades 4-6.
I.4	Intermediate	Each Site	Grades 7-8.
I.5	Secondary	Voc. 10, Voc. 11, Voc. 12. Non-voc 10, Non-voc. 11, Non-voc. 12.	Temporary pending organization of High School into smaller units.
I.6	Special	Each Site	A planning unit for each handicap group at each site.
I.7	Continuing	Basic, HSE, Misc. Community Ed.	All adults or drop-outs from the regualr system.

in each of these programs is different, as are the proportions of the district's total instructional expenditures in each program. Note, also, that even at this abstract level we can begin to see the expected output of each program; that is, the general objective for each of programs I.1-I.4 is to achieve a level of student competence that means he is ready or prepared for the next higher level. The objectives for I.5 - Secondary and I.7 - Continuing, relate to the kind of person who will enter the community as a result of public school services, especially with respect to his social and economic competence. Program I.6 - Special, of course, is harder to define, and will no doubt change frequently with the district's (or the State's) goals for education of the handicapped.

The level of detail in this instructional program structure, while it allows for immediate improvement of the district's cost analysis, can be carried even further to improve planning and management. For that reason, each of the instructional programs may be further divided into its sites or schools. Note, however, that this school-by-school division is intended to focus on clusters of students who are taught together, rather than on the school itself as a cost center.

This organization is not identical with the grade organization in all the schools. Most Elementary schools in the district consist of three sub-programs - an Early Childhood, Primary,

and Elementary - and most Junior High Schools in the district consist of one sub-program - an Intermediate, but these divisions are not perfect. This organization is proposed because the goal of strategic cost-benefit analysis will be better served by treating students as cost centers, rather than buildings. (It will be possible, of course, to reassemble the program-budget accounts to correspond to schools, if that is what is required for some purposes.)

Another peculiarity is that the number of clients in each sub-program grows larger as the grades get higher. This imbalance is by design; the feeling among many TPS staff, and the general educational community, is that the consequences of early educational experiences are greater than those of later educational experiences. Thus, it is felt that much closer analysis and planning is required at the earlier levels - as a means to achieving goals at the higher levels. (Many academic failures at the secondary level are related to deficiencies that should have been overcome in primary grades.)

Unlike many educational program accounting systems, the STEP program analysis endeavors to allocate as much of the indirect and central office expenditures of the district to instructional programs as possible. Nevertheless, many of TPS' expenditures are committed to support activities, programs that enable the district to achieve its instructional goals and satisfy its legal obligations to Trenton, The State, and the U.S. Office of Education. It is difficult, in most cases, to

specify the output of these supportive services, but is clear that when they are inadequately financed or operated, the district will be unable to meet its direct objectives and satisfy its legal requirements. The Support Program structure is shown in Chart III.3-3

Note that in several support programs, the word "central" underscores our intention to charge as many district expenditures as possible to instructional programs; those that remain, and cannot be realistically pro-rated, will be charged to support programs. (Thus, a custodial employee, permanently assigned to a given school, will be pro-rated across the instructional sub-programs in that school, not charged to program II.12. Similarly, a principal who spends a tenth of his time on a central office curriculum development project will have a tenth of his costs charged to II.3.)

Planners have greater flexibility in determining the number of subprograms in the Support Programs; they may even treat an entire Support Program as a single planning unit (provided the site constraint is not violated).

In addition to programs and sub-programs, there are also "projects" (see earlier definition). A project is a fixed life cluster of activities, directed to a clear set of objectives, usually funded with a supplemental source of revenue. In STEP, a project must exist in <u>one program</u>, so that the term is not used synonymously with the term "project" in other TPS publications. In STEP, if a project cuts across several programs, it

Chart III.3-3

Support Programs

II.1 Executive-Policy Program (Superintendent and Board of Education

II.2 Central Public Information and Community Affairs

II.3 Central Curriculum Research and Development

II.4 Central Planning and Budget Development

II.5 Central Curriculum Supervision and Support

II.6 Central Pupil Personnel Services

II.7 Central Health-Dental-Child Study Services

II.8 Financial-Legal Services

II.9 Personnel-Payroll Services

II.10 Central Food Services

II.11 Central Transportation Services

II.12 Central Facilities-Maintenance-Operations

II.13 Central Capital Projects

must be treated as several projects. Thus, instead of Title I, STEP would have Title I - Early Childhood, Title I - Primary, Title I - Elementary, etc. For a description of existing TPS projects, see Project Directory, Division of Research, Planning, and Evaluation, Trenton Public Schools, Spring 1972.

Staff Types and Staff Variables

The resource requirements forecaster allows for any listing of 15 staff types, to define the staff resources in the district. (Expanding the list beyond 15 would require some program modifications.) Since more than 80% of the dollars spent in any school district are for salaries and employees benefits, this part of the cost/resource analysis is most important.

For the current implementation of the system, the staff-type list described in Chart III.3-4, is recommended.

Other staff-related variables, important in the system, are "fringe benefit percentage" and "turnover rate," for each staff type. The fringe benefit percentage is the relationship between the base salary and employer contributions to social security, pension, unions, health insurance, etc. Any dollar outlay mandated by contract, which is beyond the salary of the staff member, is included; this data does not now exist in TPS files, but should be entered as a testable assumption, until a more accurate analysis can be performed. Turnover rate refers to the percentage of members of a given staff type who, for any reason other than

Chart III.3-4

STAFF TYPES

01. Central Administration and Program Managers

02. Principals/Vice Principals

03. Administrative Staff (Professional/technical)

04. Teacher A - Early Childhood, Primary, Elementary

05. Teacher B - Intermediate, Secondary (non-voc.), Continuing

06. Teacher C - Vocational-technical

07. Teacher D - Special Ed.

08. Instructional Specialists (including, guidance, pupil personnel, library professionals, curriculm supervisors and specialists, etc.)

09. Health - doctors, nurses, psychologists, dentists, technicians, etc.

10. Transportation - non-administrative personnel

11. Food services - non-administrative personnel

12. Operations-Maintenance-Facilities - non-administrative personnel

13. Instructional aides and Support staff - non-administrative and paraprofessionals

14. Clerical-Office personnel

15. Miscellaneous (specify)

temporary leave or sabbatical, will not be working for the district the next year. Again, this data must now be entered as a testable assumption, pending further investigation. Users input a single value for these variables, to be used in all five years of the forecast.

A similar staff variable is "inflation" rate for each staff type. In STEP, staff inflation is the percentage incremental increase in salary, combining both raises and guaranteed annual increments. Again, it will be treated as an assumed variable until a more sophisticated analysis of historical data can be developed to produce a projection model.

Non-Staff Costs

The small proportion of resources not committed to salaries and benefits are Capital Outlay, all costs ordinarily associated with the 1200 series of the budget, and Non-staff/Non-C.O. costs -- all other resources. Caution must be taken to ensure that CO costs are not duplicated as Non-staff/Non-C.O. costs in other programs, particularly when debt service charges (the largest non-staff expenditure) are entered.

As with staff, the users are obliged to input a testable assumption about the inflation rates expected for Capital and other costs. If they do not wish to make such an assumption, they may input a direct estimation of the dollars committed to these categories, for each planning unit, in each of the five years of the planning period.

RESOURCE REQUIREMENT CALCULATIONS FOR PLANNING UNITS

a. Introduction

(1) Planning unit total costs for Y1-Y5 includes Y1-Y5 planning unit total staff costs, Y1-Y5 capital outlay, and Y1-Y5 planning unit total non-staff non-capital outlay costs. Each of these three cost variables can be determined by either one of two general methods: direct input of Y1-Y5 estimates or as calculated by the computer program using mathematical formula. The procedures for calculating Y1-Y5 planning unit costs are described below.

b. Cost Forecast Option Code

(1) The Resource Requirements Module has the capability of determining Y1-Y5 costs for the three cost categories in one of the three following ways:

(a) estimate and input costs directly

(b) adjust CY costs annually (Y1-Y5) by an inflation factor

(c) adjust CY costs annually by an inflation factor and a planning factor directly related to planning unit operations.

(2) Accordingly, the user must first, decide upon the Y1-Y5 cost calculation method best suited for each cost category in a particular planning unit,

and input his cost calculation preferences to the computer program. The latter task is accomplished by recording a Cost Forecast Option Code for each planning unit cost category, and then inputting the data.

(a) One of the following Cost Forecast Option Codes recorded in the forecast option code field of the appropriate form (CO Forecast Option - Block 5J, Form TSD-RRM-5905, NSNCO Forecast Option - Block 7F, Form TSD-RRM-5905, and Staff Forecast Option - Block 6F, Form TSD-RRM-5906) will upon input cause the desired cost calculation method to be used:

COST FORECAST OPTION CODE	EXPLANATION
01	User estimates Y1-Y5 costs (or number of positions) and CY and Y1-Y5 data is is input.
02	CY cost data only is input. Y1-Y5 cost data will be calculated taking into account inflation.
03	CY cost data only is input. Y1-Y5 cost data will be calculated taking into account inflation and a planning factor directly related to planning unit operations (e.g., expenditures per pupil).

C. Cost Calculations for Planning Units.

(1) Table III.3-a details the computational steps followed to calculate Y1-Y5 CO costs for a planning unit, Y1-Y5 NSNCO costs by cost type for a planning unit, and Y1-Y5 salary and staff costs by staff type for a planning unit based upon the cost forecast option code selected by the user.

(2) Once Y1-Y5 planning unit costs for each of the three cost categories are calculated, the following cost aggregations by planning unit can be performed:

(a). Y1-Y5 planning unit total NSNCO cost equals the summation of Y1-Y5 planning unit NSNCO costs across all NSNCO cost types for the planning unit.

(b). Y1-Y5 planning unit total staff cost equals the summation of Y1-Y5 staff costs by staff type across all staff types for the planning unit.

(c). Y1-Y5 planning unit current expense cost equals Y1-Y5 planning unit total NSNCO cost plus Y1-Y5 planning unit total staff cost.

(d). Y1-Y5 total planning unit cost equals Y1-Y5 planning unit current expense cost plus Y1-Y5 planning unit capital outlay.

(e). Y1-Y5 planning unit total local costs equal Y1-Y5 planning unit total cost minus Y1-Y5 planning unit non-current expense revenues.

d. Calculation Edit Checks

(1) The computer programs edits the values of cost variables used in the cost calculations. These edit checks are summarized below:

(a) Capital outlay and NSNCO costs (current year (CY) cost must be positive when the forecast option code is 2, and CY cost and CY enrollment must be both positive when the forecast option code is 3):

i. If the forecast option code is 2 and the CY cost is zero, Y1-Y5 costs are also zero.

ii. If the forecast option code is 3 and the CY cost is zero, Y1-Y5 costs are also zero.

iii. If the forecast option code is 3, and the CY cost is positive but the CY enrollment is zero, Y1-Y5 costs are calculated using the option 2 formula.

(b) Staff Costs (CY number of positions for a staff type must be positive when the forecast option code is 2, and CY number

of positions for a staff type and CY enrollment must be both positive when the forecast option is 3):

i. If the forecast option code is 2 and the CY number is zero, then salary, fringe, and staff costs for a staff type for a planning unit are zero.

ii. If the forecast option code is 3 and the CY number of positions for a staff type and the CY enrollment are zero, then staff costs for a staff type for a planning unit are zero also.

d. Aggregate Cost Calculations: by Program, by Site, and by Project

(1) Y1-Y5 capital outlay costs, Y1-Y5 NSNCO costs, and Y1-Y5 staff costs for programs, sites, and projects are obtained by aggregating cost data accross the appropriate planning units by program code, site code and project code. Accordingly, the following general series of steps are performed:

(a). A planning unit is selected from the planning unit file for aggregating data

by program, site, or project based upon the planning unit's program, site and project codes matching prespecified codes of the corresponding variable types.

(b). The cost data for the selected planning unit is extracted, and cost totals for each cost category for a program, or for a site, or for a project are aggregated.

TABLE III.3-a PROCEDURES FOR CALCULATING CAPITAL OUTLAY, NON-STAFF NON-CAPITAL OUTLAY, AND STAFF COSTS

COST FORECAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
01*	1. Estimate Y1-Y5 planning unit CO costs.	1. Estimate Y1-Y5 planning unit NSNCO costs by NSNCO cost type.	1. Estimate Y1-Y5 number of positions by staff type.
	2. Record CY and Y1-Y5 CO costs in Block 5J, FORM TSD-RRM-5905.	2. Record CY and Y1-Y5 NSNCO costs by cost type in Block 7F, FORM TSD-RRM-5905.	2. Record CY and Y1-Y5 number of positions by staff type and CY salary by staff type in Block 6, FORM TSD-RRM-5906.
	3. Keypunch planning unit detail cards. Assemble card deck and input.	3. Keypunch planning unit detail cards. Assemble card deck and input.	3. Keypunch planning unit detail cards. Assemble card deck and input.
	4. No cost calculation performed by computer program.	4. No cost calculation performed by computer program.	4. Computer program then calculates salary and staff costs by planning unit, staff type, and year as detailed under Cost Forecast Option Code 03, Steps 1, 2, 3, 4a, 4b, 4d, and 4e.
02	1. Record CY planning unit CO costs in appropriate space in Block 5J, FORM TSD-RRM-5905. Also record zero for Y1-Y5 planning unit CO costs.	1. Record CY planning unit NSNCO costs by NSNCO cost type in Block 7F, FORM TSD-RRM-5905. Also record zero for Y1-Y5 planning unit NSNCO costs by NSNCO cost type.	1. Estimate Y1-Y5 number of positions by staff type.
			2. Record CY and Y1-Y5 number of positions by staff type and CY salary by staff type in Block 6, FORM TSD-RRM-5906.
	2. Keypunch planning unit detail cards. Assemble card deck and input.	2. Keypunch planning unit detail cards. Assemble card deck and input.	3. Keypunch planning unit detail cards. Assemble card deck and input.
			4. Computer program then calculates salary and staff costs by planning unit, staff type, and year as detailed under Cost Forecast Option Code 03, Steps 1, 2, 3, 4a, 4b, 4d, and 4e.

TABLE III.3-a PROCEDURES FOR CALCULATING CAPITAL OUTLAY, NON-STAFF NON-CAPITAL OUTLAY, AND STAFF COSTS

COST FORECAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
	3. Computer program calculates Y1-Y5 CO costs by planning unit as follows: $CO_{pu,y} = CO_{pu,y} \times (1. + i)^{Y}$ where, $CO_{pu,y}$ = Future year CO costs for planning unit PU in year Y. $CO_{pu,y-1}$ = Previous years CO costs for planning unit PU. i = district-wide CO inflation rate. y = number of cost periods. Such that, Y1 Capital Outlay costs equal increased CO costs at the end of Y1 due to inflation plus the initial or CY CO costs. Y2 CO costs equal Y1 CO costs plus increased CO costs at the end of Y2 due to inflation, and so on.	3. Computer program calculates Y1-Y5 CO costs by planning unit as follows: $NSNCO_{pu,ct,y} = NSNCO_{pu,ct,y1} \times (1. + i_{ct})^{Y}$ where, $NSNCO_{pu,ct,y}$ = Future year NSNCO costs for planning unit PU, NSNCO cost type CT, and year Y. $NSNCO_{pu,ct,y1}$ = Previous year's NSNCO costs for planning unit PU and NSNCO cost type CT. i_{ct} = The district-wide NSNCO inflation rate for NSNCO cost type CT. y = Number of cost periods.	

COST FORECAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
03	1. Record CY planning unit CO costs in Block 5J, FROM TSD-RRM-5905. Also record zero for Y1-Y5 planning unit CO costs.	1. Record CY planning unit NSNCO costs by NSNCO cost type in Block 7F, FORM TSD-RRM-5905. Also record zeros for Y1-Y5 planning unit NSNCO costs by cost type.	1. Record CY planning unit number of positions by staff type and CY total salary by staff type on FORM TSD-RRM-5906. Also record zeros for Y1-Y5 planning unit number of positions by staff type.
	2. Record CY actual enrollment and Y1-Y5 enrollment estimates for the planning unit in Block 4A, FORM TSD-RRM-5905.	2. Record CY actual enrollment and Y1-Y5 enrollment estimates for the planning unit in Block 4A, FORM TSD-RRM-5905.	2. Record CY actual enrollment and Y1-Y5 enrollment estimates for the planning unit in Block 4A, FORM TSD-RRM-5905.
	3. Keypunch planning unit detail cards. Assemble card deck and input.	3. Keypunch planning unit detail cards. Assemble card and input.	3. Keypunch planning unit detail cards. Assemble card deck and input.
	4. Computer program calculates Y1-Y5 CO costs by planning unit in the following series of steps: a. Calculates the planning unit CO planning factor (CO expenditures/pupil): $COPF_{pu} = \frac{CO_{pu,y-1}}{E_{pu,y-1}}$ where, $COPF_{pu}$ = Capital outlay planning factor (PF) for planning unit PU.	4. Computer program calculates Y1-Y5 NSNCO costs by planning unit by NSNCO cost type in the following series of steps: a. Calculates the NSNCO planning factor (NSNCO expenditures/pupil) by planning unit by NSNCO cost type: $NSNCOPF_{pu,ct} = \frac{NSNCO_{pu,ct,y1}}{E_{pu,y-1}}$ where, NSNCOPF = NSNCO planning factor for planning unit PU and NSNCO cost type CT.	4. Computer program calculates Y1-Y5 Staff cost by planning unit by staff type in the following steps: a. Calculates a Staff to Student Ratio (SSR_{pu}) for the planning unit: $SSR_{pu} = \frac{E_{pu,y-1}}{NP_{pu,st,y-1}}$ where, $E_{pu,y-1}$ = Current year enrollment for planning unit PU.

TABLE III.3-a PROCEDURES FOR CALCULATING CAPITAL OUTLAY, NON-STAFF NON-CAPITAL OUTLAY, AND STAFF COSTS

COST FORECAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
	$CO_{pu,y-1}$ = Current year CO cost for planning unit PU. $E_{pu,y-1}$ = Current year enrollment for planning unit PU. b. Calculates Y1-Y5 CO costs by planning unit ($CO_{pu,y}$) as follows: $CO_{pu,y} = CO_{pf,pu} \times E_{pu,y} \times (1 + i)^y$ Where, $E_{pu,y}$ = Enrollment for planning unit PU in year Y. i = The district-wide CO inflation rate. y = Number of cost periods.	$NSNCO_{pu,ct,y-1}$ = Current year NSNCO costs for planning unit PU and NSNCO cost type CT. $E_{pu,y-1}$ = Current year enrollment for planning unit PU. b. Calculates Y1-Y5 NSNCO costs for planning unit PU and cost type CT ($NSNCO_{pu,ct,y}$) as follows: $NSNCO_{pu,ct,y} = NSNCOPE_{pu,ct} \times E_{pu,y} \times (1 + i_{ct})$ Where, $E_{pu,y}$ = Enrollment for planning unit PU in year Y. i_{ct} = District-wide NSNCO inflation rate for NSNCO cost type CT. y = Number of cost periods.	$NP_{pu,st,y-1}$ = Number of positions of staff type ST in planning unit PU for the current year year. b. Calculates the current year mean salary by staff type by planning unit ($MS_{pu,st}$): $CYMS_{pu,st} = \frac{SC_{pu,st,y-1}}{NP_{pu,st,y-1}}$ Where, $SC_{pu,st,y-1}$ = Current year salary cost (excludes fringe benefits) for staff type ST in planning unit PU.

III.3-a PROCEDURES FOR CALCULATING CAPITAL OUTLAY, NON-STAFF NON-CAPITAL OUTLAY, AND STAFF COSTS

COST FORE-CAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
03			c. Calculates the Y1-Y5 number of positions for staff type ST and planning unit PU ($NP_{PU,ST,Y}$) as follows: $NP_{PU,ST,Y} = \frac{E_{PU,Y}}{SSR_{PU}}$ Where, $E_{PU,Y}$ = Enrollment for planning unit PU in year Y. SSR_{PU} = Staff to student ratio for planning unit PU. d. Calculates Y1-Y5 salary cost for staff type ST and planning unit PU ($SC_{PU,ST,Y}$) as follows: $SC_{PU,ST,Y} = NP_{PU,ST,Y} \times CYMS_{PU,ST,Y} \times (1. + i_{ST})$ Where, i_{ST} = District-wide salary cost inflation rate for staff type ST. Y = Number of cost periods.

TABLE III.3-a PROCEDURES FOR CALCULATING CAPITAL OUTLAY, NON-STAFF NON-CAPITAL OUTLAY, AND STAFF COSTS

COST FORECAST OPTION CODE	CAPITAL OUTLAY COST (CO)	NON-STAFF, NON-CAPITAL OUTLAY COST (NSNCO)	STAFF COST
			e. Calculates Y1-Y5 staff cost (includes fringe benefit costs) for staff type ST and planning unit PU ($SFC_{PU,ST,Y}$) as follows: $SFC_{PU,ST,Y} = SC_{PU,ST,Y} \times (1. + FB_{ST})$ Where, FB_{SY} = Fringe benefit percent for staff type ST.

USING THE RESOURCE REQUIREMENTS MODULE

a. Components of the Resource Requirements Module.

1. The Resource Requirements Module consists of four computer programs: the input data playback and planning unit cost model, the program cost model, the site cost model, and the project cost model.

   (a) The input data playback prints formatted reports of all data input to the planning unit model.

   (b) The planning unit model calculates Y1-Y5 costs by planning unit by cost type and prints a detail cost report for each planning unit.

   (c) In each of the remaining models, planning unit cost data is aggregated by program, by site and by project and detail cost reports are produced by program, by site, and by project for a case (base case or alternative cases, as appropriate).

b. Milestones in Using the Computer Software.

The user is required to go through several stages of preparation and execution to use the Resource Requirements Module. These are discussed below.

1. Order of Tasks for Using the Resource Requirements Module

   (a) The Resource Requirements Module must be run in the following two stages:

(1) TASK 1: PLAYBACK RUN AND PROCESSING - For the initial run of a case (either base case or alternative case) run only the input data playback for purposes of the review and the correction of data input.

(2) TASK 2: RUN COST MODELS - Subsequent to the input of final data corrections, run the cost models for the case.

(b) The steps to be followed in running the Resource Requirements Module are depicted in Chart III.3-5.

2. Order of steps for a computer run of the Resource Requirements Module

Table III.3-b lists the ordered sequence of job steps to be followed to run the Resource Requirements Module and the card deck to be used for each job. This same sequence of steps is followed for either a base case or an alternative case run. The steps listed in Table III.3-b were also presented graphically in Chart III.3-5.

Each job step, including data requirements and JCL are discussed in the sections which follow.

CHART III.3-5 STEPS FOR RUNNING THE RESOURCE REQUIREMENTS MODULE

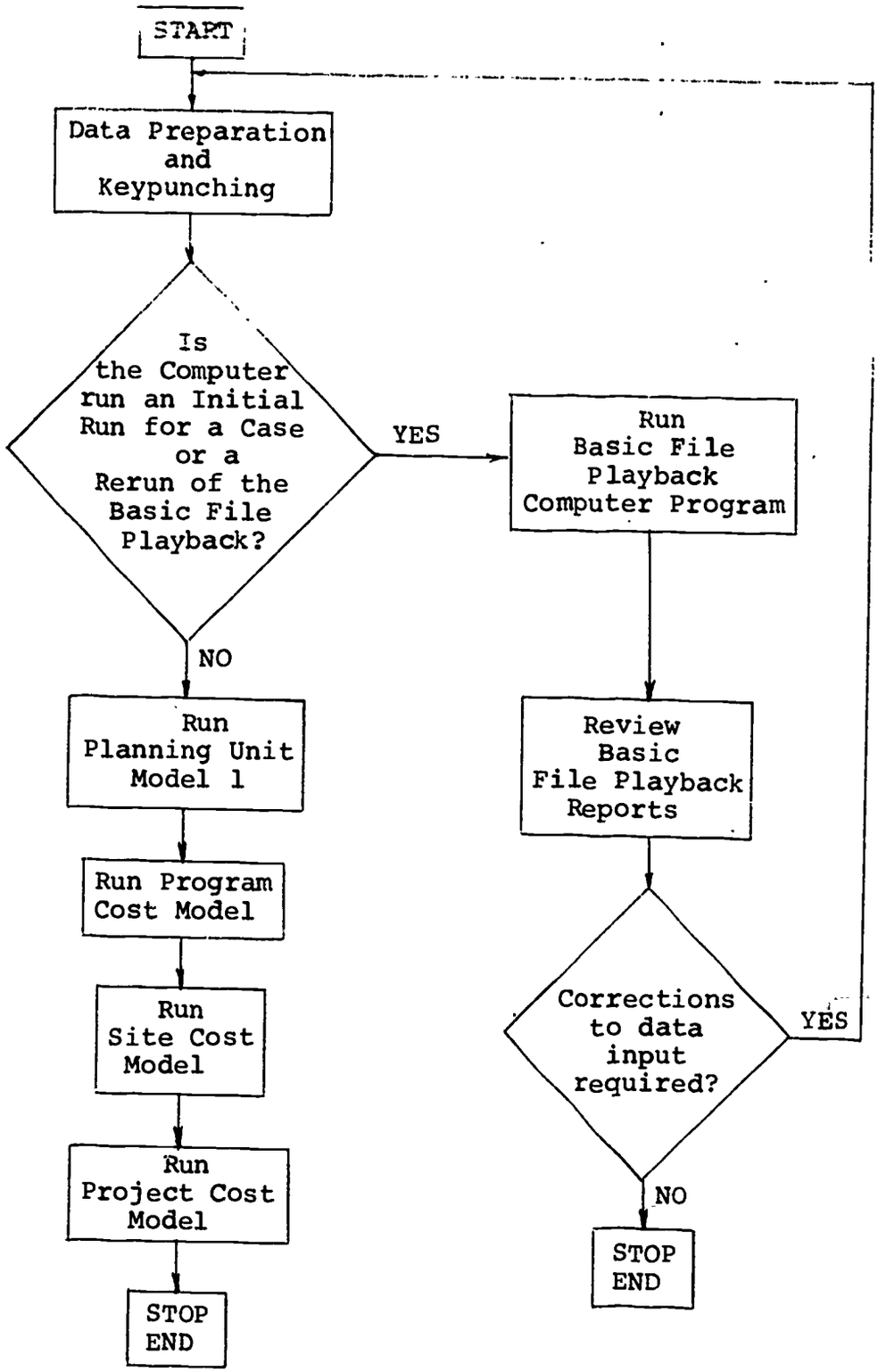


TABLE III.3-b Order for Running the Component Modules of the RESOURCES REQUIREMENTS MODULE

JOB NUMBER AND EXPLANATION	APPLICABLE CARD DECK
1 - Initial Basic File Playback for a case.	Planning Unit Model
2 - Rerun of Basic File Playback for a case, if required.	Planning Unit Model
3 - Generate planning unit cost reports for a case.	Planning Unit Model
4 - Generate program cost reports for a case.	Program Model
5 - Generate site/project cost reports for a case.	Site Model and Project Model

3. Basic File Playback

(a) Introduction

As described in Paragraph a above, a base case run, as well as an alternative case run produces detail costs reports by planning unit, by programs, and by site/project. In the instance of the alternative case run, a set of program, site, and project cost reports are produced for each alternative case specified by the user. (The alternative case planning unit data base contains information about all planning units which will be included in any of the alternative cases specified for a single computer run.)

However, prior to either a base case run or an alternative case run, the user must run a playback. The basic file playback is described below.

(b) What is the basic file playback?

The basic file playback is precisely what its name implies: it is a series of reports which contain a repetition of the most recent data input (data base) for planning purposes on file for the school district. Accordingly, a basic file playback is produced for base case input data and alternative cases input data. Each playback contains the permanent data and the planning unit data applicable to the particular run. The user has the option of obtaining a playback of both permanent and planning unit data, or only planning unit data. Table III.3-c lists the permanent data input and planning unit data input.

Table III.3-c Resource Requirements Module Data Input

Part A: Permanent Data

Site code and name for each planning unit site.

Staff Type code and name for each defined staff type.

Turnover rate for each staff type.

Salary inflation percent for each staff type.

Fringe benefit percent for each staff type.

Program code and name for each program in the program structure.

Capital outlay inflation rate for the district.

Non-staff and non-capital outlay cost code and name for each NSNCO cost type.

NSNCO cost inflation rate by NSNCO cost type.

Planning unit code and name for each planning unit in the base case, plus the planning unit code and name for each planning unit in the alternative case, if appropriate.

Part B: Planning Unit Data

For each base case or alternative case planning unit, as appropriate:

Planning unit code and name.

Reporting date - cutoff date of planning unit data.

Site code - site at which planning unit is located.

Program code - program to which planning unit belongs.

Project code - project of which planning unit is a part.

Status code - defines planning unit as subprogram, existing project, or project design.

Part B: Planning Unit Data (continued)

Capital outlay forecast option code - code to indicate how to calculate Y1-Y5 capital outlay for the planning unit

CY, Y1-Y5 Enrollment Base forecast

CY, Y1-Y5 Non-current expense revenues

CY capital outlay cost (also for Y1-Y5 CO if applicable)

Total number of non-staff non-capital outlay (NSNCO) cost types for which cost data is input

NSNCO forecast option code - code to indicate how to calculate Y1-Y5 NSNCO for the planning unit

CY NSNCO cost by NSNCO cost type (also for Y1-Y5 NSNCO if applicable)

Total number of staff types in the planning unit

Forecast option code by staff type - code to indicate how to calculate Y1-Y5 number of positions by staff type for the planning unit

CY total salary (without fringe benefits) by staff type

CY number of positions by staff type (also for Y1-Y5, number of positions, if applicable).

(c) Who will use the basic file playback?

The individual with responsibility for planning, will want to keep abreast of the basic data input for the basic case and for the alternative case, as will those persons responsible for maintaining the data base. In the latter case, the playback reports can be used to record corrections to input. Procedures for correcting basic data input will be described below.

Occasionally, even the superintendent or other decision making groups may want to see the data base, and therefore, utilize the playback. Ultimately however, anyone, even those outside of the planning function may want to use the playback at some point because of both the quantity and the quality of current assembled data which describes the various aspects the district's program.

(d) Description of Playback Reports

The basic file playback produces a report which displays data input card counts for the run, and several formatted reports of the actual data input. The latter report contains a formatted description of the data input, i.e., the input data is identified by descriptive headings. A separate report is provided for each permanent data input card type, i.e., there is a site title card report, a program title report, a project title report, and so on. A playback report is also

provided for planning unit data input by planning unit. Exhibit III.3-i shows samples of the card count report and the data playback reports. (These reports are intended for illustrative purposes only.)

Exhibit III.3-i

Playback Reports

RESOURCE REUIREMENTS MODULE

DATA INPUT CARD COUNTS FOR BASE CASE RUN-DATA AS OF 10/1/71

CARD IDENTIFIER	CARD COUNT
SITE	2
STAFF TITLE	4
PROGRAM	4
PROJECT	3
PLG UNIT TITLE	4
PLG UNIT DESCRIPTOR	4
TOTAL INPUT CARDS	57

DATA INPUT PLAYBACK: BASE CASE RUN-DATA AS OF 10/1/7x

PERMANENT DATA INPUT

SITE TITLE CARDS

CARD NUMBER	CARD IDENTIFIER	SITE CODE	SITE NAME
2	SCHL	14	ROBBINS SCHOOL
2	SCHL	32	ANGLE 45E to STATE STREET

STAFF TITLE CARDS

CARD NUMBER	CARD IDENTIFIER	STAFF CODE	STAFF NAME
3	MNFN	1	TEACHERS=EARLY CHILDHOOD
3	MNFN	2	TEACHERS=PRIMARY
3	MNPN	3	TEACHERS=ELEMENTARY
3	MNFN	4	ADMINISTRATION=PRINCIPAL

PROGRAM TITLE CARDS

CARD NUMBER	CARD IDENTIFIER	PROGRAM CODE	PROGRAM NAME
4	PRCG	06	EARLY CHILDHOOD
4	PRCG	07	ELEMENTARY
4	PRCG	03	PRIMARY
4	PRCG	71	SUPPORT SERVICES

PROJECT TITLE CARDS

CARD NUMBER	CARD IDENTIFIER	PROJECT CODE	PROJECT NAME
5	PRJC	2120	INNOVATIVE SCHOOL
5	PRJC	2336	RIGHT TO READ EFFORT
5	PRJC	1689	ESEA TITLE I

DISTRICT-WIDE CC INFLATION RATE CARD

CARD NUMBER	CARD IDENTIFIER	CAPITAL OUTLAY INFLATION RATE
6	DCCI	0.05

NON-STAFF NON-CC INFLATION RATE BY NSNCC COST TYPE CARD

CARD NUMBER	CARD IDENTIFIER	NSNCC COST TYPES	NSNCC COST TYPE1	NSNCC COST TYPE2	NSNCC COST TYPE3	NSNCC COST TYPE4
7	DNSI	1	0.03	0.03	0.03	0.03

DISTRICT-WIDE STAFF DATA CARDS

CARD NUMBER	CARD IDENTIFIER	STAFF CODE	TURNOVER RATE	SALARY INFLATION PERCENT	FRINGE BENEFIT PERCENTAGE
6	DMAP	1	0.20	0.05	0.09
6	DMAP	2	0.13	0.07	0.09
6	DMAP	3	0.12	0.07	0.09
6	DMAP	4	0.02	0.04	0.09

PLANNING UNIT TITLE CARDS

CARD NUMBER	CARD IDENTIFIER	PLANNING UNIT CODE	PLANNING UNIT TITLE
9	PUID	1168	ROBBINS-EARLY CHILDHOOD PU
9	PUID	896	ROBBINS-PRIMARY PLG UNIT
9	PUID	5638	ROBBINS-ELEMENTARY PLG UNIT
9	PUID	4371	ANNEX-READING ACH ESEA TI

DATA INPUT PLAYBACK: BASE CASE RUN-DATA AS OF 10/1/71

CARD NO: 10 CARD TYPE: PLOS DATE: 1071 NAME:ACCELERATED-EARLY CHILDHOOD PLG UNIT PO CODE: 1100

SITE CODE: 14 PROGRAM CODE: 0 PROJECT CODE: 0 STATUS CODE: 000P CE FORECAST OPTION CODE: 1

					CY	Y1	Y2	Y3	Y4	Y5
CARD NO: 11	CARD TYPE: PENR	DATE: 1071	CODE:1100	ENROLLMENT :	99	107	111	114	116	116
CARD NO: 12	CARD TYPE: PNCE	DATE: 1071	CODE:1100	NCE REVENUE:	0	0	0	0	0	0
CARD NO: 13	CARD TYPE: PCCC	DATE: 1071	CODE:1100	CAPITAL CCF:	1000	1000	1000	1000	3000	0

CARD NO: 14 CARD TYPE: PNSC DATE: 1071 CODE:1100 NUMBER OF NSMCD COST TYPES: 1

CARD NO: 15 CARD TYPE: PNSC DATE: 1071 CODE:1100

NSMCD COST CODE 1	FORECAST OPTION CODE 2	CY	Y1	Y2	Y3	Y4	Y5
		3000	0	0	0	0	0

CARD NO: 16 CARD TYPE: PNNP DATE: 1071 CODE:1100

STAFF TYPES IN RC: 1 STAFF TYPE CODES: 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0

CARD NO: 17 CARD TYPE: PUNP DATE: 1071 CODE:1100

			NUMBER OF POSITIONS					
STAFF TYPE CODE 1	FORECAST OPTION CODE 2	CY SALARY 28000	CY	Y1	Y2	Y3	Y4	Y5
			3.0	4.0	4.0	4.0	4.0	4.0

(e) When and How to Produce a Playback

(1) Prior to running the Resource Requirement Module cost models for either a base case or alternative case run, obtain a playback of the input data for the respective cases as follows:

i. Table III.3-d provides the list of data cards for input to the basic file playback. Prepare the data cards in accordance with the instructions in the section on Card Purposes and Formats.

NOTE: For a base case, input data applicable to the base case. In the instance of an alternative case, input base case and alternative case permanent data, and only alternative case planning unit data.

ii. The PLAYBACK OPTION card controls the generation of the playback as follows:

(i) Enter the playback option code ALL in CC11-14 of the PLAYBACK OPTION card to produce a playback of all input data. Refer to the description of the PLAYBACK OPTION card in the section on Input Card Purposes and Formats for a complete discussion of that card and Table III.3-d for the overall order of the data input card deck.

(ii) Enter the run option code BLNK in CC16-19 of the PLAYBACK OPTION card, in which case only the playback is produced (the planning unit cost model is not run).

Table III.3-d List of Ordered Sequence of Data Input Cards for Basic File Playback

- RUN Card.
- PLAN TYPE Card.
- PLAYBACK OPTION Card.
- PERMANENT DATA HEADER Card.
- Set of SITE TITLE Cards (in any order).
- Set of STAFF TITLE Cards (in ascending STAFF TYPE Code order).
- Set of PROGRAM TITLE Cards (in any order)
- CAPITAL OUTLAY INFLATION RATE Card.
- DISTRICT NON-STAFF NON-CAPITAL OUTLAY INFLATION RATE Card.
- Set of DISTRICT-WIDE STAFF DATA Cards, (in same order as STAFF TITLE Cards).
- Set of PLANNING UNIT TITLE Cards (in any order).
- A set of cards to input data about a base case or or alternative case planning unit as follows (in same order as PLANNING UNIT TITLE Cards):
  - . PLANNING UNIT DESCRIPTOR Card
  - . PLANNING UNIT ENROLLMENT DATA Card
  - . PLANNING UNIT NON-CURRENT EXPENSE REVENUE DATA Card
  - . PLANNING UNIT CAPITAL OUTLAY Card
  - . PLANNING UNIT NSNCO INFORMATION Card
  - . Set of PLANNING UNIT NSNCO COST DATA Cards
  - . PLANNING UNIT STAFF INFORMATION Card
  - . Set of PLANNING UNIT STAFF TYPE DATA Cards.

- a set of cards to input data about the next planning unit in the case

  .
  .
  .
  .
  .
  .
  .
  .
  .

- a set of cards to input data about the last planning unit in the case

  .
  .
  .
  .
  .
  .
  .
  .

(2) The JCL and overall order of the card deck for obtaining an initial playback for a base case run is listed in Exhibit III.3-ii.

i. Data set FT01F001 is created and catalogued (saved). It is used to store all permanent and planning unit data input as 80 column card images.

ii. Data set FT03F001 is created and catalogued. It is used to store the permanent data input as identifiable card types in specified formats.

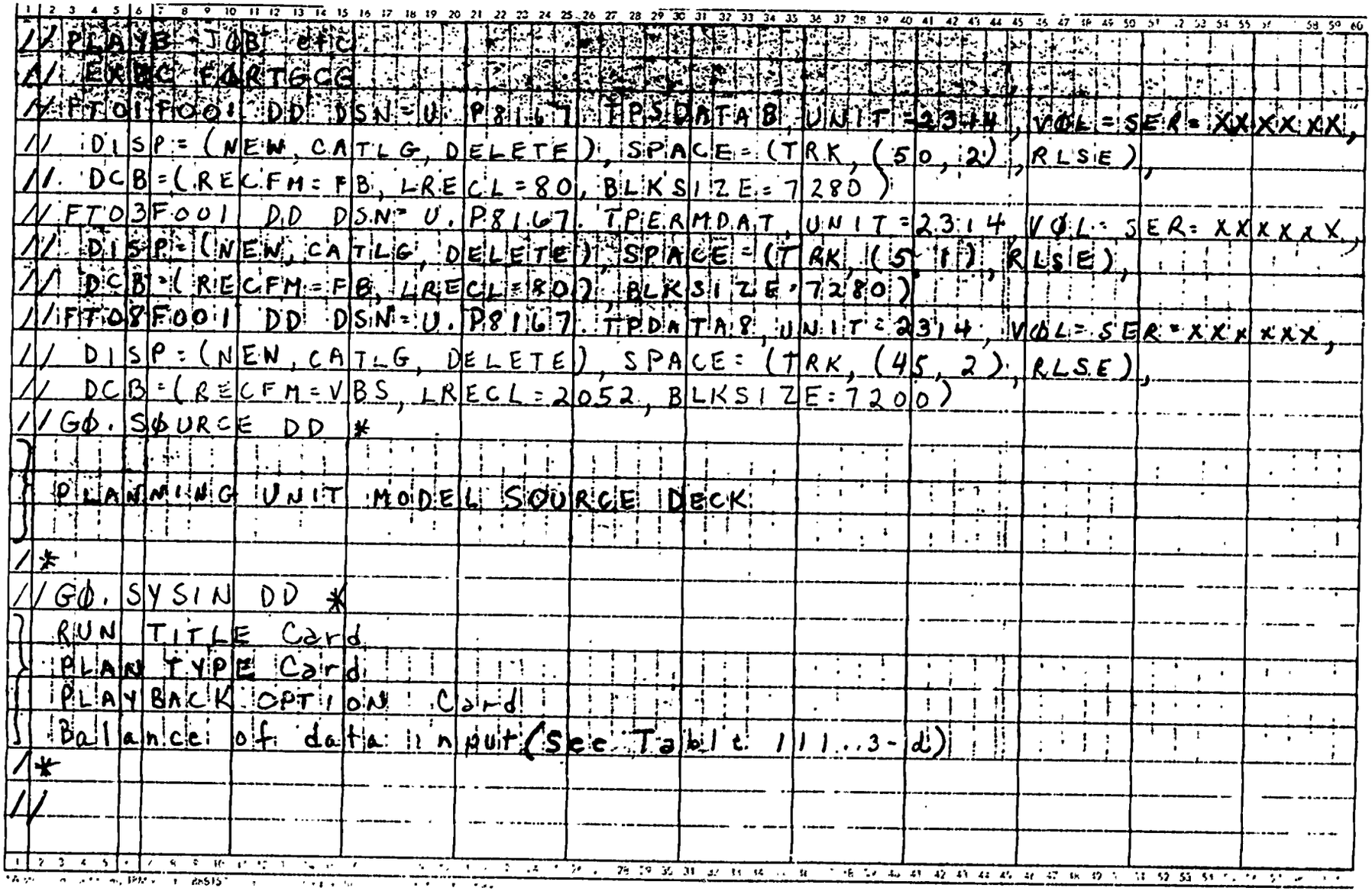
iii. Data set FT08F001 is created and catalogued. It is used to store identifiable planning unit records in specified format by planning unit.

iv. The overall order of the data input cards is shown in Table III.3-d. Data input cards preparation and format are discussed below in the section of the same name.

v. Exhibit III.3-ii(I) presents a list of the data deck input for a basic file playback.

Exhibit III.3-ii

JCL and Card Deck Order for Initial Playback for a Base Case



```
//PLAYB JOB etc
// EXEC EARTGCG
//FT01F001 DD DSN=U.P8167.TPSDATA,UNIT=2314,VOL=SER=XXXXXX,
// DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(50,20),RLSE),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=7280)
//FT03F001 DD DSN=U.P8167.TPERMDAT,UNIT=2314,VOL=SER=XXXXXX,
// DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(5,1),RLSE),
// DCB=(RECFM=FB,LRECL=80),BLKSIZE=7280)
//FT08F001 DD DSN=U.P8167.TPDATA,UNIT=2314,VOL=SER=XXXXXX,
// DISP=(NEW,CATLG,DELETE),SPACE=(TRK,(45,2),RLSE),
// DCB=(RECFM=VBS,LRECL=2052,BLKSIZE=7200)
//GO.SOURCE DD *
  PLANNING UNIT MODEL SOURCE DECK
/*
//GO.SYSIN DD *
  RUN TITLE Card
  PLAN TYPE Card
  PLAYBACK OPTION Card
  Balance of data input (See Table III.3-d)
/*
//
```

Exhibit III.3-ii(I)

List of Data Deck Input to Basic File Playback (Base Case)

```
RUN    BASE CASE RUN-DATA AS OF 10/1/71
CASE     BASE
LIST     ALL  BLNK
01PRDRPERMANENT DATA INPUT
02SCHLC0014ROBBINS SCHOOL
02SCHLC032ANNEX 436 E. STATE STREET
03MNPNC001TEACHERS-EARLY CHILDHOOD
03MNPNC002TEACHERS-PRIMARY
03MNPNC003TEACHERS-ELEMENTARY
03MNPNC004ADMINISTRATION-PRINCIPAL
04PROG0006EARLY CHILDHOOD
04PROG0087ELEMENTARY
04PROG0083PRIMARY
04PROG0071SUPPORT SERVICES
05PRJC212CINNOVATIVE SCHOOL
05PRJC2336RIGHT TO READ EFFORT
05PRJC1685ESEA TITLE 1
06DEL1    .05
07DNS101    .03    .03    .03    .03
08DMNPC001    .20    .05    .09
08DMNPC002    .15    .07    .09
08DMNPC003    .12    .07    .09
08DMNPC004    .02    .04    .09
09PUID1168ROBBINS-EARLY CHILDHOOD PU
09PUID0896ROBBINS-PRIMARY PLG UNIT
09PUID5638ROBBINS-ELEMENTARY PLG UNIT
09PUID4371ANNEX-READING ACH ESEA II
10PULS1071ROBBINS-EARLY CHILDHOOD PLG UNIT1168C0140000000SUBPU1
11PENR10711168       99      107      111      114      118      122
12PNCE10711168        0        0        0        0        0        0
13PUCC10711168     1000     1500     1500     1500     3000        0
14PNSD10711168    1
15PNSC10711168C001 2     5000        0        0        0        0        0
16PMNP10711168C1 01
17PUNP10711168C102     26000      3.5  4.0  4.0  4.0  4.0  4.5
10PULS1071ROBBINS-ELEMENTARY PLANNING UNIT0896C014070000SUBPU2
11PENR10710896      322      322      332      342      354      367
12PNCE10710896        0        0        0        0        0        0
13PUCC10710896     5000        0        0        0        0        0
14PNSD10710896    1
15PNSC10710896C001 3     10000       0        0        0        0        0
16PMNP10710896C01 03
17PUNP10710896C301     82400     10.3 10.3 10.3 11.1 11.4 11.8
10PULS1071ROBBINS-PRIMARY PLANNING UNIT     5638C014830000SUBPU2
11PENR10715638      289      300      310      320      330      340
12PNCE10715638        0        0        0        0        0        0
13PUCC10715638      500        0        0        0        0        0
14PNSD10715638    1
15PNSC10715638C001 1     15000    18000    20000    25000    30000    34000
16PMNP10715638C1 03
17PUNP10715638C203     76000      9.2
10PULS10718C OF EL ANNEX-READING ACH-ESEA 43710038300000PROJ02
11PENR10714371      150      200      200      400      500      700
12PNCE10714371    50000    50000    50000    50000    50000    50000
13PUCC10714371      200        0        0        0        0        0
14PNSD10714371    1
15PNSC10714371C001 2     6000        0        0        0        0        0
16PMNP10714371C2 02 04
17PUNP10714371C203    120000     15.0
17PUNP10714371C403     20000      1.0
```

(3) The data input and overall order of the card deck for obtaining an initial playback for an alternative case run is similar to that for the base case, however, the JCL is different, and the job is accomplished in two steps as follows:

a) Data sets FT01F001, FT03F001, and FT08F001 created by the base case run must be deleted as the first step in the job.

b) In step 2 of the job, the same data sets are created for the alternative case data input. Data Set FT03F001 contains permanent data applicable to both the base case and alternative case. Exhibit III.3-iii illustrates the JCL and card deck order for running a playback for an alternative case. Refer to Table III.3-d for the list of data cards.

(f) Processing the Playback

(1) Review the Playback report against the corresponding input forms, checking for four types of errors: keypunch errors; data incorrectly transferred from the input form to the computer card; data on either the input form or computer card that was not entered correctly (not right or left justified as appropriate); and any omissions in data (valid correspondence between forecast option codes and the input of CY and Y1-Y5 cost data, etc.).

a) Place a check mark in the margin to identify cards to be punched, cross-out the incorrect value, and record corrections in red pencil on the playback report to the right of the erroneous value.

b) Submit playback reports for keypunching of the corrected cards.

c) Replace invalid cards in data deck with corrected cards.

(2) If the playback does not have to be rerun, skip Paragraph (g) and proceed to Paragrahp 3.

(g) Rerun of a playback

(1) A playback is rerun when there are errors in the preceding playback of input data. Therefore, the entire data deck with the corrected data cards must be input again. The JCL and overall order of the card deck for obtaining a rerun of a playback for either a base or alternative case is provided in Exhibit III.3-iii.

(2) In Step 1, Exhibit III.3-iii, the previously created data sets 1,3, and 8 are deleted. In Step 2, the same data sets are created (same as Exhibit III.3-ii).

NOTE: 1) In running any Resource Requirement Module job, care must be exercised in preparing and including JCL for new or old data sets, and killing data sets which were catalogued but are no longer required.

Exhibit III.3-iii

JCL and Card Deck Order for Rerun of Playback
For a Base Case

```
//RBCPLAY JOB etc..
//STEP1 EXEC PGM=IEFBR14
KILL1  DD DSN=U.P8167.TPSDATAB,DISP=(OLD,DELETE)
KILL2  DD DSN=U.P8167.TPERMDAT,DISP=(OLD,DELETE)
KILL3  DD DSN=U.P8167.TPDATA8,DISP=(OLD,DELETE)
//STEP2 EXEC FORTGCG
//FT01F001
  :
  :
//FT03F001
  :
//FT08F001
  :
//GO.SOURCE DD *
  PLANNING UNIT MODEL
/*
//GO.SYSIN DD *
  Data Card Deck - includes corrected data cards
/*
//
```

(2) The JOB Card and JCL represented in this manual apply to the University of Pennsylvania Computer Center where these procedures were tested and debugged. The user is urged to refer to the IBM JCL Manual for a more detailed explanation of JCL and the specific card entries. In addition, the user should become familiar with the User Guide of the computer facility at which the module will be run so as to obtain the specific JOB card entries and JCL applicable to that facility.

3. Planning Unit Model Run

(a) For the Base Case

(1) Once all input data errors have been corrected and data sets (FT03F001 and FT08F001) with "scrubbed" input data have been catalogued planning unit model for the base case can be run.

(2) Run the planning unit model as the first job step in the multi-step job as follows:

i. Table III.3-e lists the data cards input to the planning unit model. Prepare the data cards in accordance with the instructions for these card types in the section on "Card Purposes and Formats. Exhibit III.3-iv illustrates data input to the planning unit model.

TABLE III.3-e Overall Order of Data Input to Planning Unit Model

RUN Card

PLAN TYPE Card

PLAYBACK OPTION Card

PERMANENT DATA COUNT Card

Exhibit III.3-iv

Data Input to Planning Unit Model

```
RUN    BASE CASE PROGRAM RUN-10/1/71
CASE     BASE
LIST     BLNK CORR
NUMB     2    4    4    3    4
```

ii. Prepare the PLAYBACK OPTION card, with the following entries:

(i) Enter the playback option code BLNK in cc11-14 to preclude the printing of a playback.

(ii) Enter the run option code GORR in cc16-19 to indicate that the planning unit model is to be run.

(3) Refer to Exhibit III.3-v for the JCL and input cards required to run the planning unit model for the base case.

i. Data set FT02F001 is created and catalogued. It is used to store cost data by planning unit for the base case. (The results of the cost calculations performed by the planning unit model are written on FT02F001)

ii. Notice that only four data cards are now required the RUN TITLE card, the PLAN TYPE INFORMATION card, the PLAYBACK OPTION Card, and the PERMANENT DATA COUNT Card - since the permanent data and the planning unit data are on data sets FT03F001 and FT08F001.

Exhibit III.3-v

JCL and Card Deck Order for Running Planning Unit Model for the Base Case

```
//PUMBC JOB etc.
// EXEC FORTGCG
//FT03F001 DD DSN=U.P8167.TPERMDAT,DISP=(OLD,KEEP)
//FT08F001 DD DSN=U.P8167.TPDATA2,DISP=(OLD,KEEP)
//FT02F001 DD DSN=U.P8167.TPUEXP2,UNIT=2314,VOL=SER=XXXXXX,
//  DISP=(NEW,CATLG,DELETE),SPACE=(TRK(45,2),RLSE),
//  DCB=(RECFM=VBS,LRECL=2052,BLKSIZE=7200)
//GO.SOURCE DD *

  PLANNING UNIT MODEL PROGRAM SOURCE DECK

/*
//GO.SYSIN DD *
  Run Title Card
  Plan Type Information Card
  Playback Option Card
  Permanent Data Count Card
/*
//
```

(b) For the Alternative Case

(1) The procedures listed above in Paragraph 3(a)(1) to 3(a)(2) apply to an alternative case run also.

(2) Refer to Exhibit III.3-v for the JCL and overall order of the card deck with the following modifications:

(a) Change the job name on the job card to PUMAC.

(b) Remove the JCL cards for data set FT02F001, and replace with the following:

```
//FT04F001 DD DSN=U.P8167.TPUEXP4,UNIT=2314,
// VOL=SER=XXXXXX,DISP=(NEW,CATLG,DELETE),
// SPACE=TRK,(45,2),RLSE),DCB=(RECFM=VBS,
// LRECL=2052,BLKSIZE=7200)
```

(c) Data set FT04F001 is created and catalogued during an alternative case run of the planning unit model. This data set contains the alternative case planning unit data, including the results of the model's cost calculations.

4. Program and Site/Project Model Run

(a) For the Base Case

(1). The program, site, and project models can be run as a three step job. Exhibit III.3-vi presents the JCL and the overall Card deck order for running these models.

(b) For the Alternative Case

(1). Refer to Exhibit III.3-vi for the JCL and overall order of the card deck with the following modification:

i Change the step names on the EXEC cards to PRØGA, SITEA, and PROJA respectively.

ii Add the following JCL card to each step immediately following the //FTO3FOOl card:

```
//FTO4FOOl DD DSN=U.P8167.TPUEXP4,
// DISP=(OLD,KEEP)
```

iii Copy the following set of cards in triplicate, and add to the data input cards in each step after the PLAN TYPE INFORMATION Card:

NUMBER OF ALTERNATIVE CASES Cards

Set of ALTERNATIVE CASE SPECIFICATION Cards.

Exhibit III.3-vi

JCL and Card Deck Order for Running Program, Site, and Project Models.

```
//PRØGST JØB etc
//PRØGB EXEC FØRTGCG
//FT02F001 DD DSN=U.P8167.TPUExP2,DISP=(ØLD,KEEP)
//FT03F001 DD DSN=U.P8167.TPERMDAT,DISP=(ØLD,KEEP)
//GØ.SØURCE DD *
  PRØGRAM MØDEL SOURCE DECK
/*
//GØ.SYSIN DD *
  Permanent Data Count Card
  Run Title Card
  Plan TYPE Information Card
/*

//SITEB EXEC FØRTGCG
//FT02F001 etc.
//FT03F001 etc.
//GØ.SØURCE DD *
  SITE MØDEL SOURCE DECK
/*
//GØ.SYSIN DD *
  Permanent Data Count Card
  Run Title Card
  Plan Type Information Card
/*
//PRØJB EXEC FØRTGCG
//FT02F001 etc.
//FT03F001 etc.
//GØ.SØURCE DD *
  PRØJECT MODEL SOURCE DECK
/*
//GØ.SYSIN DD *
  Permanent Data Count Card
  Run Title Card
  Plan Type Information Card
/*
//
```

5. Summary of Data Sets By Stage

(a) Table III.3-f provides a summary of the JCL required and the data sets by stage and case as a result of running the Resource Requirements Module.

(b) The data set definitions are summarized below:

(1) For a base case run

FT01F001 - base case input data stored as card images.

FT03F001 - base case permanent data input.

FT08F001 - base case planning unit data input without cost calculation results.

FT02F001 - base case planning unit data with the results of cost calculations for Y1-Y5 by cost type by planning unit.

(2) For an alternative Case run

FT01F001 - alternative case input data stored as card images.

FT03F001 - base case and alternative case permanent data input.

FT08F001 - alternative case planning unit data input without cost calculation results.

FT04F001 - alternative case planning unit data input with cost calculation results.

TABLE III.3-f JCL Requirements and Data Sets by Stage by Case for the Resource Requirements Module

STAGE	BASE CASE	ALTERNATIVE CASE
INITIAL PLAYBACK	JCL to Create FT01F001, FT03F001, and FT08F001.	STEP 1 - JCL to delete old FT01F001 FT03F001, and FT08F001 catalogued by a previous Base Case run STEP 2 - JCL to create new FT01F001, FT03F001, and FT08F001.
RERUN PLAYBACK	Step 1 - JCL to delete old FT01F001, FT03F001, and FT08F001. Step 2 - JCL to create new FT01F001, FT03F001, and FT08F001.	Same as Base Case
RUN PLANNING UNIT MODEL	JCL to Use Old FT03F001 and FT08F001 JCL to Create FT02F001	JCL to use old FT03F001 and FT08F001 JCL to Create FT04F001.
RUN PROCRAM, SITE, and PROJECT MODEL	JCL to Use Old FT03F001 and FT02F001.	JCL to Use Old FT02F001, FT03F001, and FT04F001.
SUMMARY DATA SETS AT COMPLETION OF ALL STAGES	FT01F001, FT02F001, FT03F001, and FT08F001 (all pertaining to base case data)	FT01F002, FT04F001, and FT08F001 pertaining to alternative case data, FT02F001 applicable to base case data, and FT03F001 applicable base case and alternative case permanent data.

C. INPUT CARD PURPOSES AND FORMATS

DATA PREPARATION PROCEDURES

a. Introduction

(1) The data deck for input to the basic file playback of the STEP Resource Requirements Module consists of a set of permanent data cards, a set of planning unit data cards, and various miscelleaneous data input. In addition, input to the cost models consist of various data sets created by the basic file playback and several data cards. Each input card is identified by a two character card type identifier. The purpose, format, and order of each card is described in this section.

b. Input Coding Forms: Use and Retention

(1) Record permanent and planning unit data on the following forms:

CARD TITLE	CARD TYPE IDENTIFIER	FORM NUMBER AND NAME
Site Title Card	SCHL	TSD-RRM-5900 Site Title & Codes
Staff Title Card	MNPN	TSD-RRM-5901 Staff Titles & Codes
Program Title Card	PRØG	TSD-RRM-5902 Program Titles Codes
Project Title Card	PRJC	TSD-RRM-5902A Project Titles & Codes
District Capital Outlay Inflation Rate Card	DCØI	TSD-RRM-5903 CO,NS Inflation Rates & Staff District-Wide

District Non-Staff Non-Capital Outlay Inflation Rate Card	DNSI	TSD-RRM-5903	Same as Above
District Non-Staff Non-Capital Outlay Inflation Rate Card	DNSI	TSD-RRM-5903	Same as Above
District-Wide Staff Data Card	DMNP	TSD-RRM-5903	Same as Above
Planning Unit Title	PUID	TSD-RRM-5904	Planning Unit Titles & Codes
Planning Unit Detail Cards	Various	TSD-RRM-5905	Planning Unit Form
		TSD-RRM-5906	Planning Unit Staff Data Inpu Form
Case Specification Input Cards	Various	TSD-RRM-5907	Case Specifications Form

(2) Record all other data input for which forms have not been provided (the RUN Card, PLAYBACK OPTION Card, PLAN TYPE Card, and the PERMANENT DATA COUNT Card) on IBM General Purpose Card Punching Form, Form X20-8030-03 UM/025, or any standard IBM standard coding form, such as the FORTRAN Coding Form, Form GX28-7327-6U/M050.

(3) Keypunch the card input directly from the coded input forms. The card columns for the keypunching of data fields on the various card types are clearly shown on each form.

(4) The data input to and the overall order of the input data cards for the basic file playback is given in Table III.3-d above, and in Table III.3-e above for the

planning unit model. Paragraph 4 above in the section on "Using the Resource Requirements Module," describes the data input to the other cost models.

(5) Retain all coded input forms and data decks as follows:

(a) Set up a hard copy file for the retention of the coded input forms and all relative backup and reference materials. Keep the input forms separated by date and computer run identification.

(b) Clearly label data decks with the date and run identification title. Retain data decks for 1 year.

RUN Card

1. PURPOSE

(a) The RUN card labels the data deck. This identification allows easy retrieval of the appropriate data deck when several decks are stored.

The RUN card is mandatory for the basic file playback, and the cost models.

2. Preparation of the Data Card

(a) Prepare a RUN card in the following format:

CC1-2	Blank.
CC3-6	Card type identifier RUN.
CC7-8	Blank
CC9-40	Identification of the data: base case or alternative plan name, planning year and date, run date, run identification number, etc.

PLAYBACK OPTION Card

1. PURPOSE

a. The PLAYBACK option card is used to input the playback option and run option selected by the user. Three playback options are available as follows: no playback, playback of only planning unit input data, or playback of all input data (planning unit and permanent input data).

b. The run option field indicates if the Planning Unit Cost Model is to be run.

c. The PLAYBACK option card is mandatory for the basic file playback and the planning unit model only.

2. Preparation of Data Card

a. Prepare a PLAYBACK option card in the following format.

CC 1-2	Blank.
CC 3-6	Card type identifier LIST.
CC 7-10	Blank.
CC 11-14	Enter one of the following PLAYBACK option codes: ALL - print playback of all input data. VAR - print playback of only planning unit data input

	BLNK - do not print playback.
CC 15	Blank.
CC 16-19	Enter one of the following codes:
	GORR - run the Planning Unit Cost and Report Model of the Resource Requirements Module.
	BLNK - do not run the Planning Unit Model.

PLAN TYPE Card

1. Purpose

(a) The PLAN TYPE card is used to input the plan type of the computer run, i.e., a base case or alternative case run. The type of plan then is used to determine the processing to be performed by the computer program. The PLAN TYPE card is mandatory for the basic file playback and the cost models.

2. Preparation of the Data Card

(a) Prepare a PLAN TYPE card completing Block 4c of Form TSD-RRM-5907,in the following format:

CC 1-2	Blank.
CC 3-6	Card type identifier CASE.
CC 7-10	Blank.
CC 11-14	Enter one of the following plan type identifiers: BASE - base case run ALTE - alternative case run

PERMANENT DATA INPUT HEADER CARD

1. PURPOSE

   (a) The PERMANENT DATA INPUT HEADER Card is used to input a header to label the start of permanent data input.

   The PERMANENT DATA INPUT HEADER Card is mandatory for the basic file playback only.

2. Preparation of the Data Card

   (a) Prepare a PERMANENT DATA INPUT HEADER Card in the following format:

CC 1-2	Card type number 01.
CC 3-6	Card type identifier PHDR.
CC 7-26	PERMANENT DATA INPUT.

SITE TITLE Card

1. PURPOSE

a. The SITE TITLE Card contains the name and numeric code of a site for a planning unit, and is used to input this data. The site title and site code is used to format output reports.

One SITE TITLE Card is required for each site in the district. The set of site title cards is mandatory for the basic file playback. Spaces in the computer program is provided for a maximum of fifty sites. Input of more than fifty site cards without increasing the dimensions of the appropriate variables will generate an error message and halt processing.

2. Preparation of Data Card

a. Prepare Form TSD-RRM-5900, SITE TITLES and CODES, entering the card type number, the card type identifier, site code, and site name in the blocks provided. Refer to Paragraph 3 below for the format of the SITE TITLE Card, and Exhibit III.3-vii for a sample of Form TSD-RRM-5900.

3. Card Format

CARD TYPE NUMBER 02	SITE TITLE Card
CC 1-2	CARD TYPE Number 02.
CC 3-6	CARD TYPE IDENTIFIER SITE.
CC 7-10	SITE Code.
CC 11-38	Name of the site.

Exhibit III.3-vii

Resource Requirements Module
Site Titles and Codes
Input Form

TSD-RRM-5900

1. Prepared by	2. Date	3. Run Title

Instructions. Complete one line for each site in the district, entering the card type, card type identifier, site code, and school name in columns 1,2,3, and 4, respectively. Prepare the set of school title cards in any order. Keypunch one school title card per line on the form as indicated by the card column notations at the top of each column.

	1 Card Type Number KPCC1-2	2 Card Type Identifier KPCC3-6	3 Site Code KPCC7-10	4 Site Name (KPCC 11-38) (Left-justify name, i.e., code title starting in CC11.)
1.				
2.	02 1 2	STTE 3 6	7 10	11 38
3.				
4.				
5.				
6.				
7.				
8.				
9.				

STAFF TITLE Card

1. PURPOSE

a. The STAFF TITLE card is used to input the alphanumeric name of a staff type and the numeric code of a staff type. The staff title and code is used to format output reports.

One STAFF TITLE card is required for each staff type for which district staff costs are calculated. A set of STAFF TITLE cards is mandatory for the basic file playback.

Space in the computer program is provided for a maximum of 15 staff types. Input of more than 15 staff title cards without revising the program will generate error messages and halt processing.

2. Preparation of Data Card

a. Prepare FORM TSD-RRM-5901 STAFF TITLES AND CODES, entering the card type number, the card type identifier, staff code and staff name in the blocks provided. Refer to Paragraph 3 below for the format of the STAFF TITLE card, and Exhibit III.3-viii for a sample of Form TSD-RRM-5901.

3. CARD FORMAT

CARD TYPE NUMBER 03 - STAFF TITLE Card

CC 1-2	CARD TYPE Number 03.
CC 3-6	CARD TYPE IDENTIFIER MNPN.
CC 7-10	Code of a staff type.
CC 11-38	Name of the staff type corresponding to the staff type code in CC 7-10.

Exhibit III.3-viii

Resource Requirements Module
Staff Titles and Codes

TSD-RRM-5901

1. Prepared by	2. Date	3. Run Title

Instructions. Complete one line for each staff type, entering the card type number, the card type identifier, the staff code, and the corresponding staff name in columns 1,2,3, and 4, respectively. Keypunch directly from this form, preparing one Staff Title card per line as indicated by the card column notation at the top of each column.

	1 Card Type Number KPCC1-2	2 Card Type Identifier KPCC3-6	3 Staff Code KPCC7-10	4 Staff Name (KP CC 11-38) (Left-justify name, i.e., code title starting in CC11.)
1.				
2.	03 1 2	MNPN 3 6	7 10	11 38
3.				
4.				
5.				
6.				
7.				
8.				
9.				

PROGRAM TITLE Card

1. PURPOSE

a. The PROGRAM TITLE card is used to input the alphanumeric name of a program and the numeric code of the program. The program title and code is used to determine the program to which a planning unit belongs and to format output reports.

One PROGRAM TITLE card is required for each program in the program structure. A set of PROGRAM TITLE cards is mandatory for the basic file playback.

Space in the computer program is provided for a maximum of 20 program title cards. Input of more than 20 program title cards without increasing the dimensions of the appropriate variables will generate an error message and halt processing.

2. Preparation of Data Card

a. Prepare FORM TSD-RRM-5902 PROGRAM TITLES AND CODES, using one line per title, entering the card type number, the card type identifier, program code, and program title in the blocks provided. Refer to Exhibit III.3-ix for a sample of Form TSD-RRM-5902.

b. Refer to Paragraph 3 below for the format and coding of the PROGRAM TITLE card.

3. CARD FORMAT

CARD TYPE NUMBER 04 - PROGRAM TITLE Card

CC 1-2	CARD TYPE Number 04.
CC 3-6	CARD TYPE IDENTIFIER PRØG.
CC 7-10	Code of a program.
CC 11-38	Name of the program corresponding to the program code in CC 7-10.

Exhibit III.3-ix

Resource Requirements Module
Program Titles and Codes

TSD-RRM-5902

1. Prepared by	2. Date	3. Run Title

Instructions. Complete one line for each program in the program structure for which costs are to be calculated. Enter the card type number, the card type identifier, the program code, and the corresponding program name in columns 1,2,3, and 4, respectively. Keypunch directly from this form, preparing one Program Title card per line as prescribed by the card columns at the top of each column.

	1 Card Type Number KPCC1-2	2 Card Type Identifier KPCC3-6	3 Program Code KPCC7-10	4 Program Name (KP CC 11-38) (Left-justify name, i.e., code title starting in CC11.)
1.	04 1 2	PRØG 3 6	7 10	11 38
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

PROJECT TITLE Card

1. PURPOSE

a. The PROJECT TITLE card is used to input the alphanumeric name of a project and the numeric code of the project. The project title and code is used to determine the project, if any, to which a planning unit belongs.

One PROJECT TITLE card is required for each project in a case. A set of PROJECT TITLE cards is mandatory for the basic file playback.

Space in the computer program is provided for a maximum of 50 project title cards. Input of more than 50 title cards without increasing the dimensions of the appropriate variables will generate an error message and stop processing.

2. Preparation of Data Card

a. Prepare Form TSD-RRM-5902A, PROJECT TITLES and CODES, using one line per title, entering the card type number, the card type identifier, project code, and project title in the blocks provided. Refer to Exhibit III.3-x for a sample of Form TSD-RRM-5902A.

b. Refer to Paragraph 3 below for the format and coding of the PROJECT TITLE card.

c. CARD FORMAT

CARD TYPE NUMBER 05	PROJECT TITLE Card
CC 1-2	CARD TYPE Number 05.
CC 3-6	CARD TYPE IDENTIFIER PRJC.
CC 7-10	Code of a project.
CC 11-38	Name of the project corresponding to the program code in CC 7-10.

Exhibit III.3-x

Resource Requirements Module
Project Titles and Codes

TSD-RRM-5902A

1. Prepared by	2. Date	3. Run Title

nstructions. Complete one line for each project defined for the run. Enter the card type number, card type identifier, the project code and name in columns 1,2,3, and 4 respectively. Keypunch directly from this form, preparing one project title card as prescribed by the card column notation at the top of each column.

	1 Card Type Number KPCC1-2	2 Card Type Identifier KPCC3-6	3 Project Code KPCC7-10	4 Project Name (KP CC 11-38) (Left-justify name, i.e., code title starting in CC11.)
	05	PRJC		
1.	1 2	3 6	7 10	11 38
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

DISTRICT-WIDE DATA FOR NSNCO AND STAFF

1. Introduction

   a. FORM TSD-RRM-5903 is designed to enter the district-wide values for the Capital Outlay Inflation Rate (CØIR), Non-Staff Non-Capital Outlay Inflation Rate (NSNCIR) for each NSNCO cost type, and for each staff type - the Turnover Rate (TR), Salary Inflation Rate (SALIR), and Fringe Benefit Percent (FB). Each of the aforementioned data elements is input as separate card types and are discussed in order below. Refer to Exhibit III.3-xi for a sample of FORM TSD-RRM-5903.

2. CAPITAL OUTLAY INFLATION RATE Card

   a. PURPOSE

      (1) The COIR card is used to input the current year inflation rate for capital outlay. The COIR is used to inflate CY planning unit CO costs to calculate Y1-Y5 CO by planning unit.

      One COIR card is mandatory for the basic file playback.

   b. Preparation of the Data Card

      a. Complete Blocks [illegible], and 1c of FORM TSD-RRM-5903, CO,NS INFLATION AND STAFF DATA DISTRICT-WIDE.

b. Enter the card type number, card type identifier, and the COIR as prescribed in the format and coding instructions in Paragraph 2c below.

c. CARD FORMAT

CARD TYPE NUMBER 06 - DISTRICT CAPITAL OUTLAY INFLATION RATE Card

CC1-2	CARD TYPE Number 06.
CC3-6	CARD TYPE IDENTIFIER DCØI.
CC7-12	Capital Outlay Inflation Rate as a decimal.

Exhibit III.3-xi Resource Requirements Module TSD-RRM-5903

CO,NS Inflation Rates and Staff Data, District Wide

Prepared by	Date	

Instructions. Enter the capital outlay inflation percent in Block IC. Enter non-staff non-CO inflation rate data in Blocks 2A through 2F. Enter district wide staff data by staff type in Blocks 3A to 3F. Complete on line of Section 3 for each staff type.

1. Capital Outlay (CO) Inflation Rate

A. Card Type Number	B. Card Type Iden.	C. CO Inflation Rate
06 (1–2)	DCØI (3–6)	___.___ (7–12)

2. Non-Staff Non-Capital Outlay (NSNCO) Inflation Rate

A. Card Type Number	B. Card Type Iden.	C. Num. of NSNCO Rates	D. Rate 1	E. Rate 2	F. Rate 3	G. Rate 4
07 (1–2)	DNSI (3–6)	___ (7–8)	___.___ (9–14)	___.___ (15–20)	___.___ (21–26)	___.___ (27–32)

3. Staff Data, District Wide by Staff Type

	A. Card Type Number	B. Card Type Iden.	C. Staff Code	D. Turnover Rate	E. Salary Inflation Rate	F. Fringe Benefit Rate
	08 (1–2)	DMNP	____ (7–10)	___.___ (11–16)	___.___ (17–22)	___.___ (23–28)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

3. DISTRICT NON-STAFF NON-CAPITAL OUTLAY INFLATION RATE Card

a. PURPOSE

(1) The NON-STAFF NON-CAPITAL OUTLAY INFLATION RATE card is used to input the total number of NSNCO cost types defined in STEP, and the inflation rate for each NSNCO cost type. The NSNCO inflation rate by NSNCO cost type is used to inflate CY NSNCO costs by cost type to calculate the impact of inflation on Y1-Y5 NSNCO costs by cost type for each planning unit.

(2) One NON-STAFF NON-CAPITAL OUTLAY INFLATION RATE Card is mandatory for the basic file playback.

b. Preparation of the Data Card

(1) Complete Blocks 2a,2b,2c, and 2d (also 2e, 2f, and 2g, if applicable) of FORM TSD-RRM-5903 CO,NS INFLATION RATES AND STAFF DATA, DISTRICT-WIDE. The number of NSNCO inflation rate blocks completed (Blocks 2d to 2g) equals the total number of NSNCO cost types. However, at least Block 2d must be completed.

(2) Enter the card type number and identifier, and the NSNCO inflation rate as a decimal and as prescribed in the format and coding instructions in Paragraph 3c below.

c. CARD FORMAT

CARD TYPE 07 - DISTRICT NON-STAFF NON-CAPITAL OUTLAY INFLATION RATE

CC1-2	CARD TYPE Number 07.
CC3-6	CARD TYPE IDENTIFIER DNSI.
CC7-8	Total number of inflation rates by type of non-staff, non-capital outlay costs.
CC9-14	Inflation rate for non-staff, non-capital outlay cost type 1.
CC15-20	Inflation rate for non-staff, non-capital outlay cost type 2.
CC21-26	Inflation rate for non-staff, non-capital outlay cost type 3.
CC27-32	Inflation rate for non-staff, non-capital outlay cost type 4.

4. DISTRICT-WIDE STAFF DATA Card

a. PURPOSE

(1) The DISTRICT-WIDE STAFF DATA card is used to input the turnover rate, the salary inflation rate and the fringe benefit percent for each staff type for which planning unit salary and staff costs are calculated. The turnover rate by staff type is used to calculate the number of separations by staff type, district-wide. The salary inflation rate by staff type is used to inflate CY salary costs by staff type by planning unit. The fringe benefit percent by staff type is used to calculate the fringe benefit costs by staff type by planning unit. Total salary cost by staff type plus fringe benefit cost by staff type equals total staff cost by staff type.

(2) One DISTRICT-WIDE STAFF DATA card for each staff type is mandatory for the basic file playback.

b. Preparation of the Data Card

(1) Record data for one staff type per line, completing Blocks 3a,3b,3c,3d,3e, and 3f, of FORM TSD-RRM-5903 CO,NS INFLATION RATE AND STAFF DATA, DISTRICT-WIDE.

(2) Enter the card type number and identifier, the staff code, and the corresponding turnover rate, salary inflation rate, and fringe benefit rate as decimals and as prescribed in Paragraph 4c below.

c. CARD FORMAT

CARD TYPE NUMBER 08 - DISTRICT-WIDE STAFF DATA Card

CC1-2	CARD TYPE Number 08.
CC3-6	CARD TYPE IDENTIFIER DMNP.
CC7-10	Staff type code.
CC11-16	Turnover rate for the staff type in CC7-10.
CC17-22	Salary inflation rate for the staff type in CC7-10.
CC23-28	Fringe benefit rate for the staff type in CC7-10.

PLANNING UNIT TITLE Card

1. PURPOSE

a. The PLANNING UNIT TITLE card is used to input the code and name of each planning unit in the base case plus the planning units in the alternative case, if the computer run is an alternative case run. The set of PLANNING UNIT TITLE cards are arranged in the same order as the set of PLANNING UNIT DETAIL Cards are input.

b. One PLANNING UNIT TITLE card is required for each planning unit specified for a particular run.

c. A set of PLANNING UNIT TITLE cards is mandatory for the basic file playback.

d. Space in the computer program is provided for a maximum of 150 planning unit title cards. Input of more than 150 without increasing the dimensions of the appropriate variables will generate an error message and stop processing.

2. Preparation of the Data Card

a. Prepare FORM TSD-RRM-5904 PLANNING UNIT TITLES AND CODES, using one line per planning unit title, entering the card type number, card type identifier,

planning unit code and name in columns 1,2,3, and 4, respectively. Refer to Exhibit III.3-xii for a sample of FORM TSD-RRM-5904.

b. Enter the planning unit information as prescribed in Paragraph 3 below.

3. CARD FORMAT

CARD TYPE NUMBER 09 - PLANNING UNIT TITLE Card

CC1-2	CARD TYPE Number 09.
CC3-6	CARD TYPE IDENTIFIER PUID.
CC7-10	A code of a planning unit.
CC11-38	Planning unit name corresponding to the planning unit code in CC7-10.

Exhibit III.3-xii

Resource Requirements Module
Planning Unit Titles and Codes

TSD-RRM-5904

1. Prepared by	2. Date	3. Run Title

Instructions. Complete one line for each planning unit defined for the run. Enter the card type number, card type identifier, the planning unit code and name in columns 1,2,3, and 4 respectively. Keypunch directly from this form preparing one Planning Unit Title Card per as prescribed by the card columns at the top of each column.

	1 Card Type Number KPCC1-2	2 Card Type Identifier KPCC3-6	3 Planning Unit Code KPCC7-10	4 Name of the Planning Unit (KP CC 11-38) (Left-justify name, i.e., code title starting in CC11.)
1.	09 (1–2)	PUID (3–6)	(7–10)	(11–38)
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

Planning Unit Detail Cards

1. Introduction

a. Detail planning unit data elements were previously listed in Part B of Table III.3-C. The planning unit data is input to the basic file playback via a series of eight card types. A basic set of planning unit detail cards contains at least eight cards (representing one card for each card type). However, a maximum number of 25 cards can be in set of planning unit detail cards if multiple numbers of two of the eight card types are required.

b. A set of planning unit detail cards consists of the following ordered card types:

Card Num.	Card Identifier	Explanation
10	PUDS	Planning unit descriptive characteristics 1 card.
11	PENR	Planning unit CY,Y1-Y5 enrollment one card
12	PNCE	Planning unit CY actual estimates of Non-Current Expense Revenues one card.
13	PUCO	Planning Unit Capital Outlay Costs for the CY for the CY (and Y1-Y5, if applicable) one card.
14	PNSD	Total Number of Non-Staff Non-Capital Outlay Cost Types to be input for the planning unit one card.

Card Num.	Card Identifier	Explanation
15	PNSC	Planning unit Non-Staff Non-Capital Outlay Cost for Cost Type 1 for the CY (and Y1-Y5, if applicable). at least one card or as many as four, the maximum number of NSNCO cost types for which space is allocated.
16	PMNP	Total number of Staff types for which staff data will be input for the planning unit - one card.
17	PUNP	Staff Forecast Option Code, CY total salary, number of positions by staff type for the planning unit for the CY (and Y1-Y5 if applicable) - at least one card or as many as fifteen, the maximum number of staff types defined by the district

A basic set of planning unit detail cards as described above is required for every planning unit specified for a particular run in precisely the same order for a planning unit.

c. FORM TSD-RRM-5905 Planning Unit Data Form and FORM TSD-RRM-5906 Planning Unit Staff Data Form are to be used for completing the eight planning unit card types. Examples of each of these two forms are provided in Exhibit III.3-xiii and and Exhibit III.3-xiv, respectively.

d. The purpose and format of each planning unit detail card type is discussed below.

ii

Resource Requirements Module
Planning Unit Data Form

TGD-RRM-5905

1. Prepared by	2. Date	3. Run	4. Type Unit

scriptive Characteristics

B. Card Type Identifier	C. Date	D. Planning Unit Name	E. Planning Unit Code
PUDS (3 6)	(7 10)	(11 42)	(43 46)

F. Site Code	G. Program Code	H. Project Code	I. Status Code	J. CO Forecast Option
(47 50)	(51 52)	(53 56)	(57 60)	(61 62)

ollment, Revenue, and CO Data - CY and Y1-Y5 (if appropriate).

No.	C. Card Iden. (CT)	D. Date Mo. Yr.	E. PU Code	F. Years - (1)	CY, Y1-Y5 (if appropriate) (2)	(3)	(4)	(5)	(6)
2	3 6	7 10	11 14	15 22	23 30	31 38	39 46	47 54	55 62
1	PENR								
2	PNCE								
3	PUCØ								

n-Staff Non-Capital Costs (NSNCO)

	D. Date Mo. Yr.	E. PU Code	F. No. or Cost Type Code	G. Option Code	H. Years - CY, Y1-Y5 (if appropriate) not required for Line 1 of Part 7 1 CY	2 Y1	3 Y2	4 Y3	5 Y4	6 Y5
6	7 10	11 14	15 18	19 20	21 28	29 36	37 44	45 52	53 60	61 68
SD										
SC										

Exhibit III.3-xiii

Resource Requirements Module
Planning Unit Data Form

	1. Prepared by	2. Date	3. Run	4. Type Ur

5. Planning Unit Descriptive Characteristics

A. Card Type Number	B. Card Type Identifier	C. Date	D. Planning Unit Name
10 (1 2)	PUDS (3 6)	(7 10)	(11 42)

F. Site Code	G. Program Code	H. Project Code	I. Status Code	J.
(47 50)	(51 52)	(53 56)	(57 60)	

6. Planning Unit Enrollment, Revenue, and CO Data - CY and Y1-Y5 (if appropriate).

A. Data Type	B. Card No. (CN)	C. Card Iden. (CT)	D. Date Mo. Yr.	E. PU Code	F. Years - CY, Y1-Y5 (if appropriate) (1)	(2)	(3)	(4)
Card Columns	1 2	3 6	7 10	11 14	15 22	23 30	31 38	39 46
I. Enroll	11	PENR						
II. NCEREV	12	PNCE						
III. CO	13	PUC0						

7. Planning Unit Non-Staff Non Capital Costs (NSNCO)

A. NSNCO Cost Type	B.	C. CT	D. Date Mo. Yr.	E. PU Code	F. No. or Cost Type Code	G. Option Code	H. Years - CY, Y1-Y5 (if appropriate) not require 1 CY	2 Y1	3 Y2	4 Y3	5
Card Column	1 2	3 6	7 10	11 14	15 18	19 20	21 28	29 36	37 44	45 52	5
No. of NSNCO Cost Types	14	PNSD									
I.	15	PNSC									
II.	15										
III.	15										
IV.	15										

III.3-106

Resource Requirements Module
Planning Unit Staff Data Form

Prepared By	2. Date	3. Run	4. Type Unit

Comment

Total. Enter total number of staff types assigned to unit in block 5E. Enter staff type code for each unit in block 5F, starting in card column 17.

Card Type Identifier	C. Date Mo. Yr.	D. PU Code	E. Number of Staff Types	F. Staff Type Codes (right-justify, e.g., Staff Type 1 is recorded as 01).
P N P				
3 6	7 8 9 10	11 14	15 16	18 21 24 27 30 33 36 39 42 45 48 51 54 57 60

Data by staff type. Record one line of data for each staff type code entered in 5F. Enter total salary in block 6G. Enter CY number of positions for each staff type in block 6H1. If staff type forecast option ... number of positions in blocks 6H2 to 6H6.

	C. Date Mo. Yr.	D. PU Code	E. Staff Code	F. Forecast Option	G. Total CY Salary	H. Number of staff positions by year 1 CY	2 Y1	3 Y2	4 Y3	5 Y4	6 Y5
P											
6	7 10	11 14	15 16	17 18	19 26	30 34	35 39	40 44	45 49	50 54	55 59

Exh : III.3-xiv

Resource Requirements Module
Planning Unit Staff Data Form

1. Prepared by	2. Date	3. Run	4. Type Unit
Comment			

5. Planning Unit Staff Total. Enter total number of staff types assigned to unit in block 5E. Enter staff type staff type assigned to unit in block 5F, starting in card column 17.

A. Card Type Number	B. Card Type Identifier	C. Date Mo. Yr.	D. PU Code	E. Number of Staff Types	F. Staff Type Codes (right-justify, is recorded as 01).
16	PMNP				
1 2	3 6	7 8 9 10	11 14	15 16	18 21 24 27 30 33 36 39 42

6. Planning Unit Staff data by staff type. Record one line of data for each staff type code entered in 5F. Ent by staff type in block 6G. Enter CY number of positions for each staff type in block 6H1. If staff type for equals 1, enter Y1-Y5 number of positions in blocks 6H2 to 6H6.

Staff Type Name	A. CT No.	B. CT Iden.	C. Date Mo. Yr.	D. PU Code	E. Staff Code	F. Forecast Option	G. Total CY Salary	H. Number of staff positions by yea 1 CY	2 Y1	3 Y2	4 Y3
	17	PMNP									
1.	1 2	3 6	7 10	11 14	15 16	17 18	19 26	30 34	35 39	40 44	45 4
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											
15.											

2. Planning Unit Descriptor Card

a. PURPOSE

(1) The Planning Unit Descriptor Card is used to input descriptive data which identify the planning unit. The data elements contained on the card are:

(a) Date - the reporting data for planning unit data. Enter the date in the form MM YY where MM = month and YY = year.

(b) Planning unit name - self explanatory.

(c) Planning unit code - code assigned to the planning unit.

(d) Site code - code of site where the planning unit is located. Refer to Table III.3-g for the current list of sites codes and names.

(e) Program code - the code of the program to which the planning unit belongs. Refer to Chart III.3-2 and Chart III.3-3 for the current list of program names.

(f) Project code - the project, if any, to which the planning unit belongs.

Table III.3-g SITE TITLES AND CODES, 1972

Code	Title
01	Administrations Bldg.
02	Annex
03	Cadwalader
04	Columbus
05	Cook
06	Franklin
07	Grant
08	Gregory
09	Harrison
10	Jefferson
11	Monument
12	Mott
13	Parker
14	Robbins
15	Stokes
16	Washington
17	Wilson
18	Jr. #1 Elem.
19	Jr. #2 Elem.
20	Jr. #3 Elem.
21	Jr. #5 Elem.
22	Jr. #1 Secondary
23	Jr. #2 Secondary
24	Jr. #3 Secondary
25	Jr. #4 Secondary
26	Jr. #5 Secondary
27	Central High School
28	Vocational Div. C.H.S.
29	Union Industrial Home
30	Donnelly Hosp. Mail
31	YWCA
32	436 E. State
33	Broad Sr. Bnk Bldg.
34	SUB Office
35	Betheny Presb.
36	Covenent Presb.
37	Prospect Presb.
38	Prospect St. Center
39	St. James Epis.
40	Wesley Meth.
41	Westminister Presb.
42	American Legion
43	Carver "Y" Center
44	E. Trenton Center
45	New Salem Center
46	Trenton Boys Club
47	RØTATING
48	NIXØN SHØP
49	Mailed Out
50	Picked Up Here

(g) Status code - code which indicates status of a planning unit as follows: subprogram is SUBP existing project is PROJ, and project design is PJDE.

(h) Capital outlay forecast option code inputs the key which prescribes the method for determining capital outlay costs for the planning unit.

(2) The Site, Program, and Project Codes are used to extract specific planning unit data from the planning unit data sets for the inclusion in the Site, Program and Project Reports.

(3) The Planning Unit Descriptor Card is mandatory.

b. Preparation of the Data Card

(1) Complete Blocks 5A,5B,5C,5D,5E,5F,5G,5H,5I, and 5J of FORM TSD-RRM-5905, Planning Unit Data Form.

(2) Enter the card type number and identifier, and the other data elements as described in Paragraph 2C below.

c. CARD FORMAT

Card Type Number 10 Planning Unit Descriptor Card

CC 1-2	Card type number 10.
CC 3-6	Card type identifier PUDS.
CC 7-10	Reporting date or preparation date for data being entered. Enter month in CC 7-8 and last two digits of the year in CC 9-10.
CC 11-42	Planning unit name.
CC 43-46	Planning unit code.
CC 47-50	Site code for the planning unit cited in CC 43-46.
CC 51-52	Program code for the planning unit cited in CC 43-46
CC 53-56	Project code for the planning unit cited in CC 43-46.
CC 57-60	Status code for the planning unit cited in CC 43-46.
CC 61-62	Forecast option code for the capital outlay costs of the planning unit cited in CC 3-6 as follows: 01 = input CY and Y1-Y5 capital outlay costs. 02 = input CY capital outlay costs only 03 = input CY capital outlay costs only.

3. Planning Unit Enrollment Base Data Card

a. PURPOSE

(1) The Planning Unit Enrollment Data Card is used to input CY actual and Y1-Y5 forecasted enrollment for the planning unit.

(2) The Y1-Y5 enrollment estimates can be obtained from the STEP Enrollment Forecast Module Reports or estimated. The CY enrollment is used to calculate planning factors which are subsequently used to calculate Y1-Y5 cost estimates. Refer to the Resource Requirement Calculation section for a description of the cost estimate calculations.

(3) A Planning Unit Enrollment Data Card is mandatory.

b. Preparation of the Data Card

(1) Complete Blocks 6IB, 6IC, 6ID, 6IE, and 6IF (1) to 6IF (6) of FORM TSD-RRM 5905, Planning Unit Data Form, entering the data as described in Paragraph 3C below.

c. CARD FORMAT

CARD TYPE NUMBER 11	PLANNING UNIT ENROLLMENT BASE DATA Card
CC 1-2	Card type number 11.
CC 3-6	Card type identifier PENR.
CC 7-10	Reporting date for data being entered. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-22	CY enrollment for planning unit cited in CC 11-14.
CC 23-30	Y1 enrollment for planning unit cited in CC 11-14.
CC 31-38	Y2 enrollment for planning unit cited in CC 11-14
CC 39-46	Y3 enrollment for planning unit cited in CC 11-14.
CC 47-54	Y4 enrollment for planning unit cited in CC 11-14.
CC 55-62	Y5 enrollment for planning unit cited in CC 11-14.

4. Planning Unit Non-Current Expense Revenue Data Card

a. PURPOSE

(1) The Planning Unit Non-Current Expense Revenue Data Card is used to input the CY actual and Y1-Y5 estimate of non-current expense revenues from State and Federal sources anticipated by the planning unit. Total Y1-Y5 non-current expense revenue is obtained by summing Y1-Y5 revenue estimates across all planning units in the run. The Y1-Y5 non-current expense revenue total for the district is used as input to the revenue simulator.

(2) A Planning Unit Non-Current Expense Revenue Data card is mandatory.

b. Preparation of the Data Card

(1) Complete Blocks 6IIB, 6IIC, 6IID, 6IIE, and 6IIF (1) to 6IIF (6) of FORM BD-RRM 5905 Planning Unit Data Form, entering the data as described in Paragraph 4 below and as follows:

(a) Enter zero in the right most card column of Blocks 6IIF (1) to 6IIF (6), as appropriate if non-current expense revenues are not anticipated.

c. CARD FORMAT

Card Type Number 12	Non-current Expense Revenue Card
CC 1-2	Card type number 12.
CC 3-6	Card type identifier PNCE.
CC 7-10	Reporting date for data being entered. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-22	CY non-current expense revenues.
CC 23-30	Y1 non-current expense revenues.
CC 31-38	Y2 non-current expense revenues.
CC 39-46	Y3 non-current expense revenues.
CC 47-54	Y4 non-current expense revenues.
CC 55-62	Y5 non-current expense revenues.

5. Planning Unit Capital Outlay Card

a. PURPOSE

(1) The PLANNING UNIT CAPITAL OUTLAY Card is used to input at least CY planning unit capital outlay costs, i.e., Capital Outlay Forecast Option equals 02 or 03 (refer to the PLANNING UNIT DESCRIPTOR Card, Block 5J). If the Capital Outlay Forecast Option equals 01, Y1-Y5 CO is estimated, coded and input directly.

(2) A PLANNING UNIT CAPITAL OUTLAY Card is mandatory.

b. Preparation of the Data Card

(1) Complete Blocks 6IIB, 6IIC, 6IIID, 6IIIE, and 6IIIF (1) to 6IIIF (6) of FORM TSD-RRM-5905, PLANNING UNITS DATA FORM, entering the data as described in Paragraph 5C below, and as follows:

(a) If the Capital Outlay Forecast Option Code is 02 or 03, enter the CY CO in Block 6IIIF (1) and zero in the right-most card columns of Blocks 6IIIF (2) to 6IIIF (6).

(b) If the Capital Outlay Forecast Option Code is 01, enter the CY CO and the CO estimates for Y1-Y5.

CARD TYPE NUMBER 13 — CAPITAL OUTLAY COSTS Card

CC 1-2	Card type number 13.
CC 3-6	Card type identifier PUCØ
CC 7-10	Reporting date for data being entered or date the data collection form is prepared. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-22	CY capital outlay for the planning unit cited in CC 11-14.
CC 23-30	Y1 capital outlay for the planning unit cited in CC 11-14.
CC 31-38	Y2 capital outlay for the planning unit cited in CC 11-14.
CC 39-46	Y3 capital outlay for the planning unit cited in CC 11-14.
CC 47-54	Y4 capital outlay for the planning unit cited in CC 11-14.
CC 55-62	Y5 capital outlay for the planning unit cited in CC 11-14.

6. Non-Staff Non-Capital Outlay Cost Data Input

a. Introduction

(1) Non-staff non-capital outlay costs (NSNCO) are input via a series of at least two cards, a NSNCO INFORMATION card and a NSNCO COST card for at least one NSNCO type. Sufficient space is provided on FORM TSD-RRM-5905, Part 7 for a total of four NSNCO cost types.

b. NSNCO COSTS INFORMATION Card

(1) PURPOSE

(a) The NSNCO COSTS INFORMATION Card is used to input the total number of NSNCO cost types for which data is to be input via the NSNCO cost card.

(b) The NSNCO COSTS INFORMATION Card is mandatory.

(2) Preparation of the Data Card

(a) Complete Blocks 7B, 7C, 7D, 7E, and 7F, of FORM TSD-RRM-5905, PLANNING UNIT DATA FORM, entering the data as described in Paragraph 6B (3) below.

(3) Card Format

CARD TYPE NUMBER 14 - NON-STAFF NON-CAPITAL OUTLAY COSTS INFORMATION Card

CC 1-2	Card type number 14.
CC 3-6	Card type identifier PNSD.
CC 7-10	Reporting date for data being entered or date the data collection form is prepared. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-18	Total number of non-staff non-capital cost types for which data will be input for the planning unit in CC 11-14.

c. NSNCO COST Card

(1) PURPOSE

(a) The PLANNING UNIT NSNCO COST Card is used to input both the NSNCO cost type forecast option code and the NSNCO cost data by NSNCO cost type for the planning unit. The number of NSNCO COST cards must equal the total number of NSNCO cost types entered in Block 71F of FORM TSD-RRM-5905.

(b) At least one NSNCO COST Card is mandatory.

(2) Preparation of the Data Card

(a) Complete Line 7I, and Lines 7II to 7IV, if appropriate, of Form TSD-RRM-5905, PLANNING UNIT DATA FORM, entering the data as described in Paragraph 6C (3) below and as follows:

1) If the forecast option code (CC 19-20) for the NSNCO cost type is 02 or 03, enter the CY NSNCO cost 7-H (1) on the appropriate cost type line, and zero in the right-most card column of Blocks 7-H (2) to 7-H (6).

2) If the forecast option code is 01, enter the CY NSNCO costs, and the Y1-Y5 estimate.

(3) Card Format

CARD TYPE NUMBER 15 - NON-STAFF NON-CAPITAL OUTLAY COST Card

CC 1-2	Card type number 15.
CC 3-6	Card type identifier PNSC.
CC 7-10	Reporting date for data being entered or date the data collection form is prepared. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-18	Non-staff non-capital outlay cost (NSNCO) type code for the NSNCO cost type for which cost data is being entered.
CC 19-20	Forecast option code for the NSNCO cost type cited in CC 15-17. 01 = input CY and Y1-Y5 NSNCO costs. 02 = input CY NSNCO cost only. 03 = input CY NSNCO cost only.
CC 21-28	CY NSNCO costs for the cost type cited in CC 15-17.
CC 29-36	Y1 NSNCO costs for the cost type cited in CC 15-17.
CC 37-44	Y2 NSNCO costs for the cost type cited in CC 15-17.
CC 45-52	Y3 NSNCO costs for the cost type cited in CC 15-17.
CC 53-60	Y4 NSNCO costs for the cost type cited in CC 15-17.
CC 61-68	Y5 NSNCO costs for the cost type cited in CC 15-17.

7. PLANNING UNIT STAFF DATA INPUT

a. Introduction

(1) Planning unit staff data are input via a series of at least two cards representing two card types, a PLANNING UNIT STAFF INFORMATION Card and a PLANNING UNIT STAFF TYPE DATA Card for at least one staff type. Space is provided on Form TSD-RRM-5906 PLANNING UNIT STAFF DATA FORM for up to a maximum of fifteen staff types.

b. PLANNING UNIT STAFF INFORMATION Card

(1) Purpose

(a) The STAFF INFORMATION Card is used to input the total number of staff types for which data is to be input via the PLANNING UNIT STAFF TYPE DATA Card.

(b) The PLANNING UNIT STAFF INFORMATION Card is mandatory.

(2) Preparation of the Data Card

(a) Complete Blocks 5A, 5B, 5C, 5D, 5E and 5F of Form TSD-RRM-5906, entering the data as described in Paragraph 7c(3) below.

(3) Card Format

CARD TYPE NUMBER 16 - PLANNING UNIT STAFF INFORMATION Card

CC 1-2	Card type number 16.
CC 3-6	Card type identifier PMNP.
CC 7-10	Reporting date for data being entered or date the data collection form is prepared. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning unit code.
CC 15-16	Total number of staff types in the planning unit cited in CC 11-14.
CC 17	Blank
CC 18-19	Staff type code of first staff type in unit.
CC 20	Blank
CC 21-22	Staff type code of second staff type in unit.
CC 23	Blank
CC 24-25	Staff type code of third staff type in unit.
CC 26	Blank
CC 27-28	Staff type code of fourth staff type in unit.
CC 29	Blank
CC 30-31	Staff type code of fifth staff type in unit.
CC 32	Blank
CC 33-34	Staff type code of sixth staff type in unit.

CC 35	Blank
CC 36-37	Staff type code of seventh staff type in unit.
CC 38	Blank
CC 39-40	Staff type code of eighth staff type in unit.
CC 41	Blank
CC 42-43	Staff type code of ninth staff type in unit.
CC 44	Blank
CC 45-46	Staff type code of tenth staff type in unit.
CC 47	Blank
CC 48-49	Staff type code of eleventh staff type in unit.
CC 50	Blank
CC 51-52	Staff type code of twelfth staff type in unit.
CC 53	Blank
CC 54-55	Staff type code of thirteenth staff type in unit.
CC 56	Blank
CC 57-58	Staff type code of fourteenth staff type in unit.
CC 59	Blank
CC 60-61	Staff type code of fifthteenth type in unit.

c. PLANNING UNIT STAFF TYPE DATA Card

(1) Purpose

(a) The PLANNING UNIT STAFF TYPE DATA Card is used to input the forecast option code, the CY total salary of a staff type, and the number of positions of a staff type. One card is required for each staff type in the planning unit, and the total number of PLANNING UNIT STAFF TYPE DATA Cards must equal the total number of planning unit staff types in the unit entered in Block 5E of Form TSD-RRM-5906.

(b) At least one PLANNING UNIT STAFF TYPE DATA Card is mandatory.

(2) Preparation of the Data Card

(a) Complete one line of Section 6, Form TSD-RRM-5906 for each staff type in the planning unit as described in Paragraph 7c(3) below and as follows:

1) If the forecast option code for the staff (Block 6F, Form TSD-RRM-5906) equals 01, enter the CY number of positions in Block 6H(1), and the Y1-Y5 estimated number of positions in Blocks 6H(2) to 6H(6) for the staff type.

2) If the forecast option code for the staff type equals 02 or 03, enter the CY number of positions in Block 6H(1), and zero in the right-most card column of blocks 6H(2) to 6H(6) for the cost type.

(3) Card Format

CARD TYPE NUMBER 17	PLANNING UNIT STAFF TYPE DATA Card
CC 1-2	Card type number 17.
CC 3-6	Card type identifier PUNP.
CC 7-10	Reporting date for data being entered or date the data collection form is prepared. Enter the month in numeric form in CC 7-8 and the last two digits of the year in CC 9-10.
CC 11-14	Planning Unit Code
CC 15-16	Staff type code for the staff type for which data is being entered. See chart III.3-4 for the staff codes.
CC 17-18	Forecast option code for the staff type cited in CC 15-16: 01 = input CY number of positions and Y1-Y5 estimate of number of positions. 02 = input CY number of positions only (enter zero for Y1-Y5). 03 = input CY number of positions only (enter zero for Y1-Y5).
CC 19-26	Total CY salary for the staff type cited in CC 15-16.
CC 27-29	Blank.
CC 30-34	CY number of positions for the staff type cited in CC 15-16.

CARD TYPE NUMBER 17 PLANNING UNIT STAFF TYPE DATA Card

CC 35-39	Y1 number of positions for the staff type cited in CC 15-16.
CC 40-44	Y2 number of positions for the staff type cited in CC 15-16.
CC 45-49	Y3 number of positions for the staff type cited in CC 15-16.
CC 50-54	Y4 number of positions for the staff type cited in CC 15-16.
CC 55-59	Y5 number of positions for the staff type cited in CC 15-16.

PERMANENT DATA COUNT Card

1. PURPOSE

   a. The PERMANENT DATA COUNT Card is used to input the number of site title cards, staff title cards, program title cards, project title cards, and planning unit title cards which were previously input to the basic file playback. These values are used in the computer programs as DO-parameters and are obtained from the report of permanent data counts produced by the basic file playback.

   b. This card is mandatory input for running the planning unit model (CC 16-19 of PLAYBACK OPTION Card equals GORR), program model, site model, and project model.

2. Preparation of the Data Card:

   a. Prepare a PERMANENT DATA COUNT Card in the following format:

CC 1-2	Blank.
CC 3-6	Card type identifier NUMB.
CC 7	Blank.
CC 8-11	Number of site cards in basic file playback.
CC 12	Blank.
CC 13-16	Number of staff title cards in basic file playback.

CC 17	Blank.
CC 18-21	Number of program title cards in basic file playback.
CC 22	Blank.
CC 23-26	Number of project title cards in basic playback.
CC 27	Blank.
CC 28-31	Number of planning unit title cards in basic file playback.

NUMBER OF ALTERNATIVE CASES Card

1. PURPOSE:

   a. This card is used to input the number of alternative cases which determines the number of cases for which to produce resource requirement reports (i.e., program, district summary, site, and project reports).

      This card is not required for a base case run. However, it is a mandatory card for an alternative case run (the case option identifier on the CASE card equals ALTE) of the program, site, and project models.

2. Preparation of the Data Card:

   a. Complete Blocks 5A, 5B, and 5C of Form TSD-RRM-5907, CASE SPECIFICATIONS, as prescribed in Paragraph 3 below (see Exhibit III.3-xv):

3. Card Format:

CARD TYPE NUMBER 18	NUMBER OF ALTERNATIVE CASES Card
CC 1-2	Card type number 18.
CC 3-6	Card type identifier NALT.
CC 7	Blank.
CC 8-9	Number of alternative cases to be run.

ALTERNATIVE CASE SPECIFICATION Card

1. PURPOSE:

   a. The ALTERNATIVE CASE SPECIFICATION Card is used to input the codes of proposed projects to be combined with the base case data to form an alternative case.

   b. The ALTERNATIVE CASE SPECIFICATION Card is mandatory for an alternative case run of the program, site, and program models (i.e., the case option identifier on the CASE equals ALTE). An ALTERNATIVE CASE SPECIFICATION card is required for each alternative case to be forecasted in a single computer run (as many cards as are required can be used to describe a case).

2. Preparation of the Data Card

   a. Complete as many lines of Part 6, Form TSD-RRM-5907, as required for any single alternative plan specification, repeating CC 1-33 and starting with the tenth project in CC 35-38 of the next line. (See Exhibit III.3-xv for an example of Form TSD-RRM-5907.)

      1) If the case option code equals FULL, complete CC 1-33 only (do not complete the balance of the line).

2) Enter BLNK in the field after the last field in which a four digit project code was entered.

3. CARD FORMAT

CARD TYPE NUMBER 19	ALTERNATIVE CASE SPECIFICATION Card
CC 1-2	Card type number 19.
CC 3-6	Card type identifier PLAN.
CC 7-8	Numeric code of the alternative plan.
CC 9-28	Title of the alternative plan.
CC 29	Blank.
CC 30-33	FULL - use all projects in the alternative plan.
CC 34	Blank.
CC 35-38	Code of the first project in the alternative plan.
CC 39	Blank.
CC 40-43	Code of the second project in the alternative plan.
CC 44	Blank.
CC 45-48	Code of the third project in the alternative plan.
CC 49	Blank.
CC 50-53	Code of the fourth project in the alternative plan.
CC 54	Blank.

CC 55-58	Code of fifth project in the alternative plan.
CC 59	Blank.
CC 60-63	Code of sixth project in the alternative plan.
CC 64	Blank.
CC 65-68	Code of the seventh project in the alternative plan.
CC 69	Blank.
CC 70-73	Code of the eighth project in the alternative plan.
CC 74	Blank.
CC 75-78	Code of the ninth project in the alternative plan.

If more than five project codes are to be input, duplicate CC 1-34 and begin with the tenth project in CC 35-38.

Resource Requirements Module
Case Specifications

TSD-RRM-5907

epared by	2. Date	3. Run Iden.

lan Type Card

B. Card Type Identifier	C. Case Option Identifier
CASE (3–6)	(7–11–14)

rnative Cases Card

B. Card Type Identifier	C. Number of Alternative Cases
NALT (3–6)	(8–9)

Instructions. For a base case run, complete Block 4 only. For an alternative case run, complete Blocks 4, 5, and 6. The Alternative Case Specification Card indicates the projects in an alternative case. When all projects are to be included in an alternative case, complete Blocks 6A through 6E, and enter the option code FULL in CC 30-33. The balance of the card remains blank. When only specific projects are in an alternative case, complete Blocks 6A through 6E, enter the option code INPJ in CC 30-33, and enter the project codes in the case in P1 through P9 of Block 6G. If more than nine projects are in a case, repeat CC 1-33 on the next line and enter the tenth project in CC 35-38, Block G, P1. After the last project in the case is recorded, enter BLNK in the next field.

se Specification Card

C. Card Type	D. Case Code	E. Case Title	F. Option Code	G. Codes of Projects in Alternative Plan (right-justify, e.g., project code 32 is recorded as 0032).								
				P1	P2	P3	P4	P5	P6	P7	P8	P9
PLAN (3–6)	(7–8)	(9–28)	(30–33)	(35–38)	(40–43)	(45–48)	(50–53)	(55–58)	(60–63)	(65–68)	(70–73)	(75–78)

Exhibit III.3-xv

Resource Requirements Module
Case Specifications

1. Prepared by	2. Date	3. Run Iden.

4. Computer Run Plan Type Card

A. Card Type Number	B. Card Type Identifier	C. Case Option Identifier
1 2	C A S E (3 6)	7 11 14

5. Number of Alternative Cases Card

A. Card Type Number	B. Card Type Identifier	C. Number of Alternative Cases
1 8 (1 2)	N A L T (3 6)	8 9

Instructions. For a base case run, complete Bl
alternative case run, complete Blocks 4, 5, and
Case Specification Card indicates the projects
case. When all projects are to be included in
complete Blocks 6A through 6E, and enter the op
CC 30-33. The balance of the card remains blan
fic projects are in an alternative case, comple
6E, enter the option code INPJ in CC 30-33, and
codes in the case in P1 through P9 of Block 6G.
projects are in a case, repeat CC 1-33 on the n
the tenth project in CC 35-38, Block G, P1. Af
in the case is recorded, enter BLNK in the next

6. Alternative Case Specification Card

A. Case No.	B. Card Type Number	C. Card Type	D. Case Code	E. Case Title	F. Option Code	G. Codes of Projects in Alternative Pla e.g., project code 32 is recorded as					
						P1	P2	P3	P4	P5	P6
	1 9	P L A N									
1.	1 2	3 6	7 8	9 28	30 33	35 38	40 43	45 48	50 53	55 58	60 6
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											
11.											
12.											
13.											
14.											

SOFTWARE DOCUMENTATION FOR

THE RESOURCE REQUIREMENTS MODULE.

Documentation for the Resource Requirements Module is provided in this section. The documentation is presented in the following order:

a. A commented listing of the basic file playback and planning unit model computer program, and a flowchart of the main routine of the model.

b. Same as in Paragraph b for the Program Cost Model.

c. Commentary on adapting the Program Cost Model for producing site and project reports.

d. Variable dictionary applicable to all the computer programs in the module.

e. Description of output reports.

COMMENTED LISTING OF THE BASIC FILE PLAY BACK AND PLANNING UNIT MODEL COMPUTER PROGRAM

A commented listing of the Basic File Playback and Planning Unit Model is shown on the following pages. The program is written in FORTRAN IV G-level. The main routine and its subroutines appear as follows:

PROGRAM OR SUBROUTINE	EXPLANATION	Page
MAIN	Controls running of Basic File Playback and Planning Unit Model.	001-003
CDFIND	Identifies card types, reads cards in appropriate format, and writes permanent data on Data Set 3 and planning unit data on data set 2 or 4.	004-008
PLBACK	Prints formatted playback reports.	009-013
PERDAT	Reads permanent data card counts and permanent data from data set 3 into core.	014
TITLE	Prints title page.	015
PUREAD	Reads a planning unit record from data set 8.	016
PURITE	Writes a planning unit record on data set 8.	017
CPLOST	Calculates Y1-Y5 costs by cost type for a planning unit.	018-022

PRTPU	Prints planning unit detail reports.	023-024
SIFIND	Searches site title array for a site code which matches the planning unit record site code.	025
PRFIND	Searches program title array for a program code which matches the planning unit record program code.	026
DIMERR	Prints even message when a particular variable exceeds present storage.	027

```
FORTRAN IV G LEVEL  20                  MAIN               DATE = 72168          12/54/24           PAGE 0001
                        C
                        C
                        C       RESOURCE REQUIREMENTS MODULE
                        C
                        C
                        C STEP1.  PLANNING UNIT COST MODEL AND REPORT GENERATION PROGRAM.
                        C         CALCULATES Y1-Y5 PLANNING UNIT COSTS BY COST TYPE.
                        C         CREATES PLANNING UNIT DATA SET CONTAINING CY
                        C         AND Y1-Y5 COSTS BY COST TYPE BY PLANNING UNIT.
                        C         PRINTS PLANNING UNIT DETAIL REPORTS.
                        C         SUBMIT BASE CASE PLANNING UNITS ON INITIAL RUN.
                        C         SUBMIT ALTERNATIVE CASE PLANNING UNITS ON SUBSEQUENT RUN.
                        C
                        C
                        C DECLARATION STATEMENTS
                        C
 0001                         REAL*8 CARD(10)
 0002                         REAL NSINF(4)
 0003                         INTEGER C
 0004                         INTEGER E,CN,CI,I1(18),I2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
                             1PCTITL(150,8),PLN(8),PUC,PCS,PUPR,PUPJ,PUST,PLOF,T3(5),DT,PUCHK,
                             2RTITLE(8)
 0005                         INTEGER BLNK/'BLNK'/,PHDR/'PHDR'/,ALTE/'ALTE'/,
                             1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GDRR/'GDRR'/
 0006                         INTEGER CCN,CCI,CUT,CPUC
 0007                         COMMON ISICST(17,5,6),NPFCR(17),PNP(17,6),NSINF,I1,I2,I3,D,CN,CI,
                             1T1,T2,STITLE,PRTITL(15,8),PTITLE,PJTITL,CUINFR,NNSINF,PNC(15),
                             2CPNPR(15,5),PCTITL,PLN,PCC,PCS,PUPR,PUPJ,PUST,PCCF,IPENR(8),
                             3NCERV(6),ICC(6),NNSCC,IWORK(6),NPNTYF,IWORK1(15),NSITEC,NSTACD,
                             4NPRJCD,NPPLCC,NONAPL,NPU,CYCCPF,CYNSPF,SSK(15),CYNS(15),T3,DT,
                             5RTITLE,IPC,IRLPNG,NSC(5,7),UCN,UCI,UUT,UPUC,N,NPUUS
                        C
                        C
                        C
 0008                         IPEFNC=1999
 0009                         IPC=C
 0010                         N=0
                        C
                        C INPUT RUN TITLE CARD.
                        C
 0011                         READ(5,20) (RTITLE(I),I=1,8)
 0012                      20 FORMAT(2X,8A4)
                        C
                        C INPUT PLAN TYPE INFORMATION CARD.
                        C
 0013                         READ(5,22) IC1,I1
 0014                      22 FORMAT(2X,A4,4X,A4)
                        C
                        C INPUT PLAYBACK OPTION CARD.
                        C I2 IS THE PLAYBACK CONTROL FIELD
                        C I3 IS THE RUN CONTROL FIELD FOR THE PLANNING UNIT MODEL
                        C
 0015                         READ(5,26) I2,I3
 0016                      26 FORMAT(10X,A4,1X,A4)
                        C
                        C SET TEMPORARY DATA SET DESIGNATION B EQUAL TO 8.
                        C
 0017                         B=8
                        C
                        C TEST I2 TO DETERMINE IF PLAYBACK OPTION IS TO BE EXERCISED
                        C
```

```
FORTRAN IV G LEVEL 20          MAIN          DATE = 72168      12/54/24          PAGE 0002

0018                IF(I2.EC.BLANK)GO TO 200
                    C
                    C INPUT ALL DATA CARDS AND WRITE ON DATA SET 1.
                    C
0019                35 READ(5,30,END=40) CARD
0020                30 FORMAT(1CA8)
0021                   N=N+1
0022                   WRITE(1,30) CARD
0023                   WRITE(6,1) CARD
0024                 1 FORMAT('0',1CA8)
0025                   GO TO 35
                    C
0026                40 REWIND 1
                    C
                    C INITIALIZE STAFF COST ARRAY, NUMBER OF
                    C POSITIONS ARRAY, COST FORECAST OPTION
                    C ARRAY, AND ASSUC INFLATION RATE ARRAY.
                    C
0027                   DO 48 I=1,17
0028                   DO 46 J=1,3
0029                   DO 44 K=1,6
0030                   ISTCST(I,J,K)=0
0031                44 CONTINUE
0032                46 CONTINUE
0033                48 CONTINUE
0034                   DO 42 I=1,17
0035                   NPOS(I)=0
0036                42 CONTINUE
0037                   DO 56 I=1,17
0038                   DO 56 J=1,6
0039                   PAP(I,J)=0.0
0040                56 CONTINUE
0041                   DO 71 I=1,5
0042                   DO 73 K=1,7
0043                   ASC(I,K)=0
0044                73 CONTINUE
0045                71 CONTINUE
                    C
                    C INITIALIZE OTHER VARIABLES.
                    C
0046                   LCN=0
0047                   DCI=0
0048                   DCT=0
0049                   DPDC=0
0050                   DO 69 I=1,4
0051                   ASINF(I)=0
0052                69 CONTINUE
                    C
                    C
                    C IDENTIFY CARD TYPES ON DATA SET 1
                    C AND WRITE RECORD ON DATA SET 3 OR 8.
                    C
                    C
0053                   CALL DEFINE
0054                   REWIND 3
0055                   REWIND 8
                    C
                    C
0056                   CALL TITLE
                    C
                    C
```

```
      CALL PLBACK
C
C TEST 13 TO DETERMINE IF PLANNING UNIT COST
C MODEL OF THE ARP IS TO BE RUN.
C
  200 IF(IJ.NE.ICHK) GO TO 1000
      REWIND 5
      CALL PERDAT
      REWIND 8
      CALL TITLE
C
C SET DATA SET C DESIGNATION EQUAL
C TO 4 IF RUN IS FOR ALTERNATIVE CASE PLANNING UNITS.
C
      C=4
C
C SET DATA SET C DESIGNATION EQUAL TO 2 IF RUN IS
C FOR BASE CASE PLANNING UNITS.
C
      IF(I1.EQ.BASEIC=2
      DO 100 LL=1,NPU
C
C
      CALL PUREAD
C
C
      CALL CPCOST
C
C
      CALL PRTPU
C
C WRITE PLANNING UNIT RECORD ON DATA SET C(C=2 IF BASE CASE
C OR C=4 IF ALTERNATIVE CASE). PLANNING UNIT RECORD NOW
C CONTAINS RESULTS OF COST CALCULATIONS.
C
      WRITE(C)     CN, CI,CT,(FONT,J),J=1,8),PCC,PUS,PUPR,PUPJ,PUST,PCLF,
     1(CIPER(J),J=1,6),(NCERV(J),J=1,6),(ICC(J),J=1,6),AASCC,NSC,NMNTYP,
     2(CHR(J),J=1,15),NPPCR,PAP,ISICST
  100 CONTINUE
      REWIND C
      REWIND 8
 1000 STOP
      END
```

```
0001            SUBROUTINE CCFIND
          C
          C DECLARATION STATEMENTS
          C
0002            DIMENSION PALRK(6)
0003            REAL NSINF(4)
0004            INTEGER E,CN,CI,T1(16),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
               1PLTITL(150,8),PUN(8),PUC,PUS,PUPR,PUPJ,PUST,PCOF,T3(5),DT,PUCHK,
               2RTITLE(6)
0005            INTEGER BLANK/'BLNK'/,FHDR/'PHDR'/,ALTE/'ALTE'/,
               1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GCRR/'GCRR'/
0006            INTEGER CCN,CCI,CCT,CPUC
0007            COMMON ISTCST(17,3,6),NPFLR(17),PNP(17,6),NSINF,I1,I2,I3,B,CN,CI,
               1T1,T2,STITLE,PNTITL(15,8),PTITLE,PJTITL,CUINFR,NNSINF,MNC(15),
               2UPNFR(15,3),PLTITL,PUN,PUC,PUS,PUPR,PUPJ,PUST,PCOF,IPENR(6),
               3NCERV(6),ICC(6),NNSCC,INCRK(6),NPNTYF,INURKI(15),NSITEC,NSTACD,
               4NPRJCC,NPRUUC,NUMNPU,NPU,CYCCPF,CYNSFF,SSK(15),CYMS(15),T3,DT,
               5RTITLE,IPC,IPLFNC,NSL(5,7),CCN,CCI,CCT,CPUC,N,NPLUS
          C
          C
          C THIS SUBROUTINE TESTS AND BRANCHES ON CARD TYPE.
          C READS CARD TYPES IN APPROPRIATE FORMAT AND WRITES
          C THE FORMATTED CARD TYPE ON DATA SET 3 FOR PERMANENT
          C DATA, AND ON DATA SET 8 FOR PLANNING UNIT DATA.
          C
          C
          C
          C INITIALIZE CARD COUNTERS FOR
          C PERMANENT DATA INPUT CARD TYPES
          C
          C
0008            NSITEC=0
0009            NPRJCC=0
0010            NFFCCC=0
0011            NSTACC=0
0012            NFU=0
0013            NCMNPC=0
0014            NSCCIC=0
0015            NLNSIC=0
          C
          C INITIALIZE CARD COUNTERS FOR
          C PLANNING UNIT CARD TYPES
          C
0016            NPLUS=0
0017            NPENR=0
0018            NFNCE=0
0019            NFUCG=0
0020            NPNSD=0
0021            NPMNP=0
0022            NPUNP=0
0023            NFNSC=0
          C
          C READ DATA CARD FROM DATA SET 1
          C
0024         40 READ(1,35,END=51) CN,CI,T1,T2
0025         35 FORMAT(I2,A4,18A4,I2)
0026            BACKSPACE 1
0027            GO TO(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17), CN
          C
          C HEADER CARD FOR DATA SET 3.
          C
```

```
0028          1 READ(1,43)CN,CI,T3
0029         43 FORMAT(12,A4,5A4)
0030            WRITE(3,43)CN,CI,T3
0031            GO TO 40
                C
                C SITE TITLE CARD
                C
0032          2 NSITEC=NSITEC+1
0033            IF(NSITEC.GT.50) CALL DIMERR(2)
0034            READ (1,34)CN,CI,STITLE(NSITEC,1),(STITLE(NSITEC,J),J=2,8)
0035         34 FORMAT(12,A4,14,7A4)
0036            WRITE(3,34)CN,CI,STITLE(NSITEC,1),(STITLE(NSITEC,J),J=2,8)
0037            GO TO 40
                C
                C STAFF TITLE CARD
                C
0038          3 NSTACC=NSTACC+1
0039            IF(NSTACC.GT.15) CALL DIMERR(3)
0040            READ(1,34) CN,CI,MATITL(NSTACC,1), (MATITL(NSTACC,J),J=2,8)
0041            WRITE(3,34) CN,CI,MATITL(NSTACC,1), (MATITL(NSTACC,J),J=2,8)
0042            GO TO 40
                C
                C PROGRAM TITLE CARD
                C
0043          4 NPRGCC=NPRGCC+1
0044            IF(NPRGCC.GT.20) CALL DIMERR(4)
0045            READ(1,34) CN,CI,PTITLE(NPRGCC,1),(PTITLE(NPRGCC,J),J=2,8)
0046            WRITE(3,34)CN,CI,PTITLE(NPRGCC,1),(PTITLE(NPRGCC,J),J=2,8)
0047            GO TO 40
                C
                C PROJECT TITLE CARD
                C
0048          5 NPRJCC=NPRJCC+1
0049            IF(NPRJCC.GT.50) CALL DIMERR(5)
0050            READ(1,34) CN,CI,PJTITL(NPRJCC,1),(PJTITL(NPRJCC,J),J=2,8)
0051            WRITE(3,34)CN,CI,PJTITL(NPRJCC,1),(PJTITL(NPRJCC,J),J=2,8)
0052            GO TO 40
                C
                C DISTRICT-WIDE CAPITAL OUTLAY INFLATION RATE CARD
                C
0053          6 READ(1,31) CN,CI,CCINFR
0054         31 FORMAT(12,A4,F6.3)
0055            WRITE(3,31)CN,CI,CCINFR
0056            GO TO 40
                C
                C DISTRICT-WIDE INFLATION RATES FOR NONCLCOSTS
                C
0057          7 READ(1,32) CN,CI,NNSINF,(NSINFT(I),I=1,4)
0058         32 FORMAT(12,A4,I2,4F6.3)
0059            WRITE(3,32)CN,CI,NNSINF,(NSINFT(I),I=1,4)
0060            GO TO 40
                C
                C DISTRICT-WIDE STAFF DATA BY STAFF TYPE
                C
0061          8 NDMAPC=NDMAPC+1
0062            IF(NDMAPC.GT.15) CALL DIMERR(8)
0063            READ(1,33) CN,CI,MAC(NDMAPC),(DMAPR(NDMAPC,J),J=1,3)
0064         33 FORMAT(12,A4,I4,3F6.3)
0065            WRITE(3,33) CN,CI,MAC(NDMAPC),(DMAPR(NDMAPC,J),J=1,3)
0066            GO TO 40
                C
```

```
C PLANNING UNIT TITLE CARDS
C
    9 NPU=NPU+1
      IF(NPU.GT.15C) CALL DIMERR(9)
      READ(1,34) CN,CI, PUTITL(NPU,1),(PUTITL(NPU,J),J=2,8)
      WRITE(3,34)CN,CI,PUTITL(NPU,1),(PUTITL(NPU,J),J=2,8)
      GO TO 40
C
C  PLANNING UNIT CARDS
C
C
C TEST FOR WRITING PU STAFF DATA ON DSB
C
   10 IF(NPUS.EQ.0) GO TO 12?
      CALL PURITE
C
C INITIALIZE STAFF DATA ARRAYS IN PREPARATION
C FOR STAFF DATA OF NEXT PLANNING UNIT
C
      DO 103 I=1,17
      NPFCR(I)=0
  103 CONTINUE
      DO 105 I=1,17
      DO 104 K=1,6
      PAP(I,K)=0.0
  104 CONTINUE
  105 CONTINUE
      DO 1CE I=1,17
      DO 1C7 J=1,3
      DO 1C6 K=1,6
      ISTCST(I,J,K)=C
  1C6 CONTINUE
  1C7 CONTINUE
  1C8 CONTINUE
C
C INITIALIZE ARRAY IN PREPARATION FOR
C NSALO DATA OF NEXT PLANNING UNIT.
C
      DO 11C I=1,5
      DO 1C9 K=1,7
      NSC(I,K)=0
  1C9 CONTINUE
  11C CONTINUE
C
C PLANNING UNIT DESCRIPTOR CARD
C
  1?7 PUPJ=C
      PUST=0
      DO 23 J=1,8
      PUN(J)=C
   23 CONTINUE
      NPUCS=NPUCS+1
      READ(1,36) CN,CI,DT,(PUN(J),J=1,8),PLC,PLS,PUPR,PUPJ,PUST,PLCF
   36 FORMAT(I2,A4,I4,8A4,2I4,I2,I4,A4,I2)
      CCA=CN
      DCI=CI
      CPUC=PLC
      DDT=DT
      GO TO 40
C
C PLANNING UNIT ENROLLMENT BASE CARD
```

```
C
0137          11 DO 21 J=1,6
0138             IPEAK(J)=0
0139          21 CONTINUE
0140             NPEAK=NPEAK+1
0141             READ(1,61) CN,CI,DT,PUC,(IPEAK(J),J=1,6)
0142          61 FORMAT(12,A4,214,618)
0143             GO TO 40
              C
              C PLANNING UNIT NON-CURRENT EXPENSE REVENUE CARD
              C
0144          12 DO 62 J=1,6
0145             NCERV(J)=0
0146          62 CONTINUE
0147             NRNCE=NRNCE+1
0148             READ(1,61) CN,CI,DT,PUC, (NCERV(J),J=1,6)
0149             GO TO 40
              C
              C PLANNING UNIT CAPITAL OUTLAY CARD
              C
0150          13 DO 68 J=1,6
0151             ICO(J)=0
0152          68 CONTINUE
0153             NPCCO=NPCCO+1
0154             READ(1,61) CN,CI,DT,PUC,(ICO(J),J=1,6)
0155             GO TO 40
              C
              C PLANNING UNIT NSNCO INFORMATION CARD
              C
0156          14 NPNSC=NPNSC+1
0157             READ(1,64) CN,CI,DT,PUC,NNSCO
0158          64 FORMAT(12,A4,214,I4)
0159             GO TO 40
              C
              C NSNCO COST CARD
              C
0160          15 NPNSC=NPNSC+1
0161             READ (1,75) CN,CI,DT,PUC,NSCSTY,NSFCRC,(IWORK(J),J=1,6)
0162          75 FORMAT(12,A4,314,12,618)
0163             NSC(NSCSTY,1)=NSFCRC
0164             NSC(NSCSTY,2)=IWORK(1)
0165             IF(NSC(NSCSTY,1).NE.1) GO TO 40
0166             DO 65 I=3,7
0167             NSC(NSCSTY,I)=IWORK(I-1)
0168          65 CONTINUE
0169             GO TO 40
              C
              C NUMBER OF STAFF TYPE INFORMATION CARD
              C
0170          16    DO 72 I=1,15
0171             IWORK1(I)=0
0172          72 CONTINUE
0173             NPMAP=NPMAP+1
0174             READ (1,306) CN,CI,DT,PUC,NMNTYP,(IWORK1(I),I=1,15)
0175          306 FORMAT(12,A4,214,12,1513)
0176             GO TO 40
              C
              C STAFF DATA BY STAFF TYPE CARD.
              C
0177          17 NPLAP=NPLAP+1
0178             READ (1,308) CN,CI,DT,PUC,MNT,IFCR,ISAL,(PWORK(I),I=1,6)
```

```
0149          208 FORMAT(I2,A4,2I4,2I2,I8,3X,6F5.1)
0150              NPFGR(MAT)=IFOR
0151              ISTCST(MAT,1,1)=ISAL
0152              PAP(MAT,1)=PRCRK(1)
0153              IF(NPFGR(MAT).EQ.3) GO TO 40
0154              DO 112 I=2,6
0155              PAP(MAT,I)=PRCRK(I)
0156          112 CONTINUE
0157              GO TO 40
0158           51 CALL PURITE
0159              RETURN
0160              END
```

```
0001            SUBROUTINE PLBACK
          C
          C DECLARATION STATEMENTS
          C
0002            REAL NSINF(4)
0003            INTEGER B,CN,C1,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
               1PUTITL(150,8),PUN(8),PUC,PUS,PUPR,PUPJ,PUST,PCUF,T3(5),DT,PUCHK,
               2RTITLE(8)
0004            INTEGER BLNK/'BLNK'/,PHOR/'PFOR'/,ALTE/'ALTE'/,
               1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GCRR/'GCRR'/
0005            INTEGER CCN,CC1,CDT,CPUC
0006            COMMON ISTCST(17,3,6),NPFOR(17),PNP(17,6),NSINF,I1,I2,I3,B,CN,C1,
               1T1,T2,STITLE,NNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,NNC(15),
               2NNNPR(15,3),PCTITL,PCN,PCC,PCS,PUFR,PUPJ,PUST,PCUF,IPENR(6),
               3NCERV(6),ICU(6),NNSCC,IWORK(6),NPNTYP,IWORK1(15),NSITEC,NSTACD,
               4NPRJCC,NPFLCC,NUPNPC,NPU,CYCCPF,CYNSPF,SSR(15),CYMS(15),T3,DT,
               5RTITLE,IPU,IREFNL,NSC(5,7),CCN,CC1,CDT,CPUC,K,NPUDS
          C
          C
          C THIS SUBROUTINE PRINTS PLAYBACK REPORTS
          C
          C
0007            WRITE(6,2)(RTITLE(I),I=1,8)
0008          2 FORMAT('1',20X,'DATA INPUT PLAYBACK: ',8A4)
          C
          C TEST I2 FOR FULL PLAYBACK
          C
0009            IF(I2.NE.ALL)GO TO 1
          C
          C PERMANENT DATA SET 3 HEADER RECORD.
          C
0010            READ(3,43) CN,C1,T3
0011         43 FORMAT(I2,A4,5A4)
0012            WRITE(6,6) T3
0013          6 FORMAT('0',10X,5A4)
          C
          C SITE RECORDS.
          C
0014            WRITE(6,7)
0015          7 FORMAT('0',4X,'SITE TITLE CARDS')
0016            WRITE(6,8)
0017          8 FORMAT('0',12X,'CARD',6X,'CARD',6X,'SITE',6X,'SITE')
0018            WRITE(6,9)
0019          9 FORMAT(' ',11X,'NUMBER',2X,'IDENTIFIER',3X,'CODE',6X,'NAME')
0020            DO 10 I=1,NSITEC
0021            READ(3,34) CN,C1,(STITLE(I,J),J=1,8)
0022         34 FORMAT(I2,A4,I4,7A4)
0023            WRITE(6,14)CN,C1, STITLE(I,1),(STITLE(I,J),J=2,8)
0024         14 FORMAT('0',13X,I2,7X,A4,6X,I4,3X,7A4)
0025         10 CONTINUE
0026            WRITE(6,16)
0027         16 FORMAT('0',131('-'))
          C
          C STAFF TITLE RECORDS.
          C
0028            WRITE(6,18)
0029         18 FORMAT('1',4X,'STAFF TITLE CARDS')
0030            WRITE(6,20)
0031         20 FORMAT('0',12X,'CARD',6X,'CARD',5X,'STAFF',5X,'STAFF')
0032            WRITE(6,9)
0033            DO 22 I=1,NSTACD
```

```
      READ(3,34) CN,CI,(MNTITL(1,J),J=1,8)
      WRITE(6,14)CN,CI,MNTITL(1,1),(MNTITL(1,J),J=2,8)
   24 CONTINUE
      WRITE(6,16)
C
C PROGRAM TITLE RECORDS.
C
      WRITE(6,24)
   24 FORMAT('1',4X,'PROGRAM TITLE CARDS')
      WRITE(6,26)
   26 FORMAT('0',12X,'CARD',6X,'CARD',5X,'PROGRAM',3X,'PROGRAM')
      WRITE(6,5)
      DO 28 I=1,NPRGCD
      READ(3,34) CN,CI,(PTITLE(I,J),J=1,8)
      WRITE(6,14)CN,CI, PTITLE(I,1),(PTITLE(I,J),J=2,8)
   28 CONTINUE
      WRITE(6,16)
C
C PROJECT TITLE RECORDS.
C
      WRITE(6,30)
   30 FORMAT('1',4X,'PROJECT TITLE CARDS')
      WRITE(6,35)
   35 FORMAT('0',12X,'CARD',6X,'CARD',5X,'PROJECT',3X,'PROJECT')
      WRITE(6,5)
      DO 39 I=1,NPRJCD
      READ(3,34)CN,CI,(PJTITL(I,J),J=1,8)
      WRITE(6,14)CN,CI,PJTITL(I,1),(PJTITL(I,J),J=2,8)
   39 CONTINUE
      WRITE(6,16)
C
C CAPITAL OUTLAY INFLATION RATE.
C
      WRITE(6,37)
   37 FORMAT('0',4X,'DISTRICT-WIDE CO INFLATION RATE CARD')
      WRITE(6,38)
   38 FORMAT('0',12X,'CARD',6X,'CARD',6X,'CAPITAL OUTLAY')
      WRITE(6,40)
   40 FORMAT(' ',11X,'NUMBER',2X,'IDENTIFIER',3X,'INFLATION RATE')
      READ(3,31) CN,CI,CLINFR
   31 FORMAT(12,A4,F6.3)
      WRITE(6,44)CN,CI,CLINFR
   44 FORMAT('0',13X,12,7X,A4,6X,F6.3)
      WRITE(6,16)
C
C NSNCO INFLATION RATE.
C
      WRITE(6,46)
   46 FORMAT('0',4X,'NON-STAFF NON-CO INFLATION')
      WRITE(6,48)
   48 FORMAT(' ',4X,'RATE BY NSNCO COST TYPE CARD')
      WRITE(6,5C)
   50 FORMAT('0',12X,'CARD',6X,'CARD',11X,'NSNCO',4(10X,'NSNCO'))
      WRITE(6,52)
   52 FORMAT(' ',11X,'NUMBER',2X,'IDENTIFIER',5X,'COST TYPES',5X,'COST T
     1YPE1',5X,'COST TYPE2',5X,'COST TYPE3',5X,'COST TYPE4')
      READ(3,34) CN,CI,ANSINF,(NSINF(I),I=1,4)
   32 FORMAT(12,A4,1X,4F6.3)
      WRITE(6,56)CN,CI,ANSINF,(NSINF(I),I=1,4)
   56 FORMAT('0',13X,12,7X,A4,12X,12,11X,F6.2,3(9X,F6.3))
      WRITE(6,16)
```

```
C
C DISTRICT-WIDE STAFF DATA CARD.
C
      WRITE(6,58)
   58 FORMAT('1',4X,'DISTRICT-WIDE STAFF DATA CARDS')
      WRITE(6,60)
   60 FORMAT('0',12X,'CARD',6X,'CARD',5X,'STAFF',9X,'TURNOVER',6X,'SALAR
     1Y INFLA-',7X,'FRINGE BENEFIT')
      WRITE(6,62)
   62 FORMAT(' ',11X,'NUMBER',2X,'IDENTIFIER',3X,'CODE',11X,'RATE',8X,'I
     1LLN PERCENT',10X,'PERCENTAGE')
      DO 108 I=1,NUMAPC
      READ(5,33) CA,C1,ANL(I),(UMAPR(I,J),J=1,3)
   33 FORMAT(I2,A4,I4,3F6.3)
      WRITE(6,68) CA,C1,ANL(I),(UMAPR(I,J),J=1,3)
   68 FORMAT('0',13X,I2,7X,A4,8X,I4,2(11X,F6.2),15X,F6.3)
  108 CONTINUE
      WRITE(6,16)
C
C PLANNING UNIT TITLE RECORDS.
C
      WRITE(6,70)
   70 FORMAT('1',4X,'PLANNING UNIT TITLE CARDS')
      WRITE(6,72)
   72 FORMAT('0',12X,'CARD',8X,'CARD',14X,'PLANNING',11X,'PLANNING')
      WRITE(6,74)
   74 FORMAT(' ',11X,'NUMBER',2X,'IDENTIFIER',10X,'UNIT CODE',11X,'UNIT
     1TITLE')
      DO 76 I=1,NPL
      READ(5,34)CN,C1,PUTITLE(I,1),(PUTITLE(I,J),J=2,8)
      WRITE(6,78) CN,C1,PUTITLE(I,1),(PUTITLE(I,J),J=2,8)
   78 FORMAT('0',13X,I2,7X,A4,16X,I4,14X,7A4)
   76 CONTINUE
      WRITE(6,16)
C
C PLANNING UNIT PLAYBACK PRINT TITLE
C
C
C PRINT PLAYBACK REPORT TITLE LINES.
C
      DO 606 I=1,6
      WRITE(6,91)
  606 CONTINUE
    1 IF(II.NE.BASE) GO TO 800
      WRITE(6,54)
   54 FORMAT('1',10X,'PLANNING UNIT INPUT DATA FOR THE BASE CASE')
      GO TO 802
  800 WRITE(6,803)
  803 FORMAT('1',10X,'PLANNING UNIT INPUT DATA FOR THE ALTERNATIVE CASE'
     1)
  802 DO 81 I=1,NPU
      WRITE(6,2)  (RTITLE(J),J=1,8)
      WRITE(6,91)
      CALL PLREAD
C
C PLANNING UNIT DESCRIPTOR CARD
C
      WRITE(6,85) CT,(PLN(J),J=1,8),PUC
   85 FORMAT('0',5X,'CARD NO: 10',3X,'CARD TYPE: PUDS ',3X,'DATE: ',
     114,3A,'NAME:',8A4,3A,'PU CODE: ',I4)
      WRITE(6,51)
```

```
0123          91   FORMAT('C')
0124               WRITE(6,87) PLS,PUPR,PUPJ,PLST,PCCF
0125          87   FORMAT('0',5X,'SITE CODE: ',I4,7X,'PROGRAM CODE: ',I4,3X,'PROJECT
                  1CODE: ',I4,' STATUS CODE: ',A4,3X,'CC FORECAST OPTION CODE: ',I2)
0126               WRITE(6,91)
0127               WRITE(6,92)
0128          92   FORMAT('C',131('-'))
0129               WRITE(6,700)
0130          700  FORMAT('C',60X,'CY',6A,'Y1',6X,'Y2',6X,'Y3',6X,'Y4',6X,'Y5')
                   C
                   C
                   C ENROLLMENT BASE CARD
                   C
0131               WRITE(6,93) CT,PUC,(IPENR(J),J=1,6)
0132          93   FORMAT('0',5X,'CARD NO: 11',3X,'CARD TYPE: PENR ',3X,'DATE: ',I4,
                  13X,'CODE:',I4,3X,'ENROLLMENT :',6I8)
                   C
                   C NON-CURRENT EXPENSE REVENUE CARD
                   C
0133               WRITE(6,95) CT,PUC,(NCERV(J),J=1,6)
0134          95   FORMAT('C',5X,'CARD NO: 12',3X,'CARD TYPE: PNCE ',3X,'DATE: ',I4,
                  13X,'CODE:',I4,3X,'NCE REVENUE:',6I8)
                   C
                   C CAPITAL OUTLAY CARD
                   C
0135               WRITE(6,97) CT,PUC,(ICO(J),J=1,6)
0136          97   FORMAT('C',5A,'CARD NO: 13',3X,'CARD TYPE: PCCO ',3X,'DATE: ',I4,
                  13X,'CODE:',I4,3X,'CAPITAL OUT:',6I8)
0137               WRITE:6,91)
0138               WRITE(6,92)
                   C
                   C NSNCC CARDS
                   C
0139               WRITE(6,101) CT,PUC,NNSCC
0140          101  FORMAT('C',5X,'CARD NO: 14',3X,'CARD TYPE: PNSC ',3X,'DATE: ',I4,
                  13A,'CODE:',I4,3A,'NUMBER OF NSNCC COST TYPES:  ',I3)
                   C
                   C
0141               WRITE(6,107) CT,PUC
0142          107  FORMAT('C',5X,'CARD NO: 15',3X,'CARD TYPE: PNSC ',3X,'DATE: ',I4,
                  13A,'CODE:',I4)
0143               WRITE(6,102)
0144          102  FORMAT('C',10X,'NSNCC COST CODE',6X,'FORECAST OPTION CODE',2BX,'CY
                  1',6X,'Y1',6X,'Y2',6A,'Y3',6X,'Y4',6X,'Y5')
0145               WRITE(6,91)
0146               DO 133 J=1,4
0147               IF(NSC(J,1).EC.0) GO TO 135
0148               WRITE(6,105) J,NSC(J,1),(NSC(J,K),K=2,7)
0149          105  FORMAT(' ',16X,I2,21X,I2,2X,6I8)
0150          133  CONTINUE
0151               WRITE(6,91)
0152               WRITE(6,92)
                   C
                   C STAFF INFORMATION CARD
                   C
0153               WRITE(6,114) CT,PUC
0154          114  FORMAT('C',5X,'CARD NO: 16',3X,'CARD TYPE: PMNP ',3X,'DATE: ',I4,
                  13X,'CODE:',I4)
0155               WRITE(6,115) NPRTYP,(INUMK1(J),J=1,15)
0156          115  FORMAT('C',10A,'STAFF TYPES IN PC: ',I2,3X,'STAFF TYPE CODES:',
                  13A,15I4)
```

```
0157                WRITE(6,51)
                C
                C PLANNING UNIT  STAFF TYPE CARD
                C
0158                WRITE(6,116) IT,PUC
0159          110   FORMAT('0',5X,'CARD NO: 17',3X,'CARD TYPE: PUNP ',3X,'DATE: ',14,
                    13X,'CODE:',14)
0160                WRITE(6,91)
0161                WRITE(6,703)
0162          703   FORMAT(' ',62X,'NUMBER OF POSITIONS')
0163                WRITE(6,705)
0164          705   FORMAT(' ',1CX,'STAFF TYPE CODE',6X,'FORECAST OPTION CODE',2X,'CY
                    1SALARY',17X,'CY',6X,'Y1',6X,'Y2',6X,'Y3',6X,'Y4',6X,'Y5')
0165                DO 118 J=1,15
0166                IF(NPPOR(J).EQ.0) GO TO 118
0167                WRITE(6,117) J,NPPOR(J),ISTCST(J,1,1),(PNP(J,K),K=1,6)
0168          117   FORMAT(' ',10X,I2,21X,I2,12X,I8,12X,6F8.1)
0169          118   CONTINUE
0170            81  CONTINUE
0171                WRITE(6,200)
0172          200   FORMAT('1',51X,'RESOURCE REQUIREMENTS MODULE')
0173                WRITE(6,201) (TITLE(I),I=1,8)
0174          201   FORMAT(' ',39X,'DATA INPUT CARD COUNTS FOR ',8A4)
0175                WRITE(6,202)
0176          202   FORMAT('0')
0177                WRITE(6,204)
0178          204   FORMAT('0',13X,'CARD IDENTIFIER',15X,'CARD COUNT')
0179                WRITE(6,206) NSITEC
0180          206   FORMAT('0',10X,'SITE',30X,I4)
0181                WRITE(6,208) NSTACD
0182          208   FORMAT('0',10X,'STAFF TITLE',23X,I4)
0183                WRITE(6,210) NPROGC
0184          210   FORMAT('0',10X,'PROGRAM',27X,I4)
0185                WRITE(6,212) NPROJC
0186          212   FORMAT('0',10X,'PROJECT',27X,I4)
0187                WRITE(6,214) NPU
0188          214   FORMAT('0',10X,'PLG UNIT TITLE',20X,I4)
0189                WRITE(6,216) NPUDS
0190          216   FORMAT('0',10X,'PLG UNIT DESCRIPTOR',15X,I4)
0191                WRITE(6,218) N
0192          218   FORMAT('0',10X,'TOTAL INPUT CARDS',17X,I4)
0193                RETURN
0194                END
```

```
0001              SUBROUTINE PERDAT
0002              REAL NSINF(4)
0003              INTEGER C
0004              INTEGER E,CN,CI,TI(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
                 1PUTITL(150,8),PUN(8),PCC,PCS,PUPR,PUPJ,PUST,PCOF,T3(5),DT,PUCHK,
                 2RTITLE(8)
0005              INTEGER BLNK/'BLNK'/,PHDR/'PHDR'/,ALTS/'ALTS'/,
                 1ALL/'ALL '/,VAR/'VAR '/,BASE/'BASE'/,CORR/'CORR'/
0006              INTEGER CCN,CCI,CCT,CPCC
0007              COMMON ISTCST(17,3,6),NPFCR(17),PNF(17,6),NSINF,I1,I2,I3,B,CN,CI,
                 1T1,T2,STITLE,MNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNC(15),
                 2UMNPR(15,3),PUTITL,PCN,PCC,PCS,PUPR,PUPJ,PUST,PCOF,IPERR(6),
                 3NCERV(6),ICC(6),NNSCC,INORK(6),NPATYP,INGRK(15),NSITEC,NSTACC,
                 4NPRJCC,NPRCGC,NUMNPC,NPU,CYCCPF,CYNSPF,SSK(15),CYMS(15),T3,DT,
                 5RTITLE,IPG,INEPNL,NSC(5,7),CCN,CCI,CCT,CPCC,N,NPUDS
            C
            C
            C READS PERMANENT DATA CARD COUNTS AND READS
            C PERMANENT DATA FROM DATA SET 3 INTO CORE.
            C
            C
0008              READ(5,1) NSITEC,NSTACC,NPRCCC,NPRJCC,NPU
0009            1 FORMAT(6X,5(1X,I4))
0010              READ(3,43) T3
0011           43 FORMAT(6X,5A4)
0012              DO 10 I=1,NSITEC
0013              READ(3,34)(STITLE(I,J),J=1,8)
0014           34 FORMAT(6X,I4,7A4)
0015           10 CONTINUE
0016              DO 22 I=1,NSTACC
0017              READ(3,34)(MNTITL(I,J),J=1,8)
0018           22 CONTINUE
0019              DO 28 I=1,NPRCCC
0020              READ(3,34)(PTITLE(I,J),J=1,8)
0021           28 CONTINUE
0022              DO 39 I=1,NPRJCC
0023              READ(3,34)(PJTITL(I,J),J=1,8)
0024           39 CONTINUE
0025              READ(3,31) COINFR
0026           31 FORMAT(6X,F6.3)
0027              READ(3,32) NNSINF,(NSINF(I),I=1,4)
0028           32 FORMAT(6X,I2,4F6.3)
0029              DO 108 I=1,NSTACC
0030              READ(3,33) MNC(I),(UMNPR(I,J),J=1,3)
0031           33 FORMAT(6X,I4,3F6.3)
0032          108 CONTINUE
0033              DO 76 I=1,NPC
0034              READ(3,34)(PUTITL(I,J),J=1,8)
0035           76 CONTINUE
0036              RETURN
0037              END
```

```
0001            SUBROUTINE TITLE
                C
                C PRINT TITLE PAGE
                C
0002              WRITE(6,5021)
0003            5021 FORMAT('1',10(' '),' ',48X,'PLANNING UNIT COST FORECAST'/'0',41X,
                1'SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING(STEP)'//)
0004              WRITE(6,5023)
0005            5023 FORMAT(10('0'),' ',59X,'PREPARED BY'/' ',59X,'GOVERNMENT STUDIES
                -AND SYSTEMS, INC.'/' ',59X,'3401 MARKET STREET'/' ',59X,'PHILADELP
                -HIA, PENNSYLVANIA 19104'/)
0006              WRITE(6,5027)
0007            5027 FORMAT('0',59X,'THIS PROJECT IS SUPPORTED THROUGH A GRANT BY'/' ',
                -59X,'THE U.S. OFFICE OF EDUCATION,'/' ',59X,'NEW JERSEY DEPARTMENT
                - OF EDUCATION'/' ',59X,'UNDER TITLE III, ESEA'/)
0008              RETURN
0009              END
```

```
0001          SUBROUTINE PUREAD
        C
        C DECLARATION STATEMENTS
        C
0002          REAL NSINF(4)
0003          INTEGER B,CN,CI,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
             1PCTITL(150,8),PUN(8),PUC,PLS,PUPR,PUPJ,PUST,PCUF,T3(5),DT,PUCHK,
             2RTITLE(6)
0004          INTEGER BLNK/'BLNK'/,PHOR/'PHOR'/,ALTE/'ALTE'/,
             1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GORR/'GORR'/
0005          INTEGER CCN,CCI,CDT,CPUC
0006          COMMON ISTCST(17,3,6),NPFOR(17),FNF(17,6),NSINF,I1,I2,I3,B,CN,CI,
             1T1,T2,STITLE,PNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNC(15),
             2UNNPR(15,3),PCTITL,PCN,PCC,PCS,PUPR,PUPJ,PUST,PCCF,IPENR(6),
             3NCENV(6),ICG(6),NNSCG,INCRR(6),NPNTYP,INORR1(15),NSITEC,NSTACD,
             4NFRJCL,NFFLCC,NCPNPL,NPU,CYCLFF,CYNSPF,SSN(15),CYMS(15),T3,DT,
             5RTITLE,IPG,IREFNC,NSC(5,7),CCN,CCI,CDT,CPUC,N,NPUCS
        C
        C
        C
        C READ PLANNING UNIT RECORD FROM DATA SET 6.
        C
        C
0007          READ (6)    CN, CI,DT,(PUN(J),J=1,8),PUC,PUS,PUPR,PUPJ,PUST,PCUF,
             1(IPENR(J),J=1,6),(NCENV(J),J=1,6),(ICG(J),J=1,6),NNSCG,NSC,NPNTYP,
             2(INORR1(J),J=1,15),NPFCR,PNP,ISTCST
0008          RETURN
0009          END
```

```
0001          SUBROUTINE PURITE
        C
        C DECLARATION STATEMENTS
        C
0002          REAL NSINF(4)
0003          INTEGER B,CN,CI,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
             1POTITL(150,8),PUN(6),PUC,PUS,PUPR,PUPJ,PUST,PCUF,T3(5),OT,PUCHK,
             2RTITLE(8)
0004          INTEGER BLNK/'BLNK'/,PHUR/'PHUR'/,ALTE/'ALTE'/,
             1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GUNR/'GUNR'/
0005          INTEGER CCN,CCI,CCT,CPUC
0006          COMMON ISTCST(17,3,6),NPFUR(17),PNP(17,6),NSINF,I1,I2,I3,B,CN,CI,
             1T1,T2,STITLE,MNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNL(15),
             2CMNPR(15,3),PCTITL,PCN,PCC,PCS,PCPR,PUPJ,PUST,PCCF,IPENR(6),
             3NCERV(6),ICC(6),NNSCC,IWORK(6),NMNTYP,IWORK1(15),NSITEC,NSTACU,
             4NPMUCC,NIPCCC,NCMNPC,NPU,CYCCFF,CYRSPI,SSR(15),CYNST(5),T3,OT,
             5RTITLE,IPC,INCFNC,NSC(5,7),CCN,CCI,CCT,CPUC,N,NPUDS
        C
        C
        C WRITE PLANNING UNIT RECORD ON DATA SET 8
        C
        C
0007          WRITE(8)    CCN,CCI,CCT,(PUN(J),J=1,6),PUC,PUS,PUPR,PUPJ,PUST,PCUF,
             1(IPENR(J),J=1,6),(NCERV(J),J=1,6),(ICC(J),J=1,6),NNSCC,NSC,NMNTYP,
             2(IWORK1(J),J=1,15),NPFUR,PNP,ISTCST
0008          RETURN
0009          END
```

```
FORTRAN IV G LEVEL  20                  CFCOST          DATE = 72168        12/54/24            PAGE 0018
0001              SUBROUTINE CFCOST
            C
            C DECLARATION STATEMENTS
            C
0002              DIMENSION ICCF(3),INSCF(4,3),INPE(15)
0003              REAL NSINF(4)
0004              INTEGER B,CN,CI,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
                 1PLTITL(150,8),PUN(8),PUC,PUS,PUPR,PUPJ,PUST,PLUF,T3(5),DT,PUCHK,
                 2RTITLE(8)
0005              INTEGER BLNK/'BLNK'/,PHOR/'PHOR'/,ALTE/'ALTE'/,
                 1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GORR/'GORR'/
0006              INTEGER CCN,CCI,CDT,GPUC
0007              COMMON ISTCST(17,3,6),NPFOR(17),PNP(17,6),NSINF,I1,I2,I3,B,CN,CI,
                 1T1,T2,STITLE,PNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNC(15),
                 2CPNPR(15,3),PLTITL,PUN,PUC,PUS,PUPR,PUPJ,PUST,PCCF,IPENR(6),
                 3NCCAV(6),ICC(6),NSCC,INCRR(6),NNNTYP,INORRI(15),NSTIEL,NSTACD,
                 4NPROCD,NPHLGC,NUMNPU,NPU,CYCCFF,CYNSFF,SSR(15),CYMS(15),T3,DT,
                 5RTITLE,IPC,IREFNC,NSC(5,7),CCN,CCI,CDT,GPUC,N,NPUOS
            C
            C CALCULATES THE FOLLOWING Y1-Y5 COSTS FOR A PLANNING UNIT:
            C SALARY, FRINGE BENEFIT, AND STAFF COSTS BY STAFF TYPE,
            C NSNCD COSTS, CAPITAL OUTLAY COSTS,CURRENT EXPENSE COST,
            C AND NET COSTS(GROSS COST MINUS NCE REVENUE) FOR A PLU UNIT.
            C
            C
            C
            C WARNING: WHEN A PLANNING UNIT DOES NOT HAVE CY CAPITAL
            C OUTLAY COST, CY NSNCD COST, OR CY NUMBER OF POSITIONS FOR
            C A STAFF TYPE, USE OPTION CODE 1, AND ENTER Y1-Y5 DATA
            C DIRECTLY FOR THE COST TYPE FOR WHICH THE ABOVE CONDITION EXISTS.
            C
            C
0008              DO 600 I=1,3
0009              ICCF(I)=0
0010          600 CONTINUE
0011              DO 605 I=1,4
0012              DO 605 J=1,3
0013              INSCF(I,J)=0
0014          605 CONTINUE
            C
            C
            C CAPITAL OUTLAY CALCULATION.
            C
            C
0015              GO TO(11,12,13),PCOF
            C
            C ADJUST CY CO BY COMPOUND
            C INFLATION RATE FOR Y1-Y5.
            C
            C
            C TEST ICO(1) TO DETERMINE IF CY CO COST IS POSITIVE.
            C
0016           12 IF(ICO(1).EQ.0) GO TO 30
0017           34 DO 1 J=2,6
0018              ICO(J)=(ICO(J-1)*(1.+(COINFR)**(J-1)))+.5
0019            1 CONTINUE
0020              GO TO 11
            C
            C SET Y1-Y5 CO COST EQUAL TO ZERO IF
            C CY CO COSTS ARE ZERO AND CO FORECAST
            C OPTION CODE IS 2 OR 3.
```

```
C
      30 ICCF(I)=1
      31 DO 33 J=2,6
         ICC(J)=0
      33 CONTINUE
         GO TO 11
C
C CALCULATE Y1-Y5 CC USING AN INFLATION
C RATE AND A PLANNING FACTOR(CC $/STUDENT).
C 1 ADDED TO FORCE REAL OPERATION.
C
C
C TEST ICC(1) TO DETERMINE IF CY COST IS POSITIVE.
C
      35 IF(ICC(1).NE.0) GO TO 38
         ICCF(2)=1
         GO TO 31
C
C
C TEST CY PLANNING UNIT ENROLLMENT FOR POSITIVE VALUE.
C
C
C WHEN CAPITAL OUTLAY FORECAST OPTION CODE IS 3, CY CC COST
C IS POSITIVE, AND CY PLANNING UNIT ENROLLMENT IS ZERO,
C CALCULATE Y1-Y5 COST AS THOUGH THE FORECAST OPTION CODE IS 2.
C
C
      36 IF(IPENR(I).NE.0) GO TO 39
         ICCF(3)=1
         GO TO 34
C
C
C CALCULATE CY CAPITAL OUTLAY PLANNING FACTOR(CY
C ENROLLMENT AND CY COST ARE POSITIVE)
C
C
      39 CYCCPF=(1.+ICC(1))/IPENR(I)
         DO 2 J=2,6
         ICC(J)=(CYCCPF*IPENR(J)*(1.+CCINFR)**(J-1))+.5
       2 CONTINUE
      11 CONTINUE
C
C
C ASSGD COST BY COST TYPE CALCULATION
C
      DO 8 I=1,5
      IF(NSC(I,1).EQ.0) GO TO 8
      DO 7 K=3,7
      IF(NSC(I,1).EQ.1) GO TO 7
      IF(NSC(I,1).EQ.3) GO TO 17
C
C TEST CY ASSGD COST BY COST TYPE
C FOR VALUE OTHER THAN ZERO.
C
      16 IF(NSC(I,2).EQ.0) GO TO 85
C
C ADJUST CY ASSGD BY COMPOUND
C INFLATION RATE FOR Y1-Y5.
C
      81 NSC(I,K)=(NSC(I,K-1)*(1.+NSINFR(I))**(K-2))+.5
         GO TO 7
```

```
0045          85 INSCF(I,1)=1
                C
                C
                C WHEN  THE NSNCC FORECAST OPTION CODE  FOR A
                C NSNCC COST TYPE IS 2 OR 3,AND CY NSNCC COST FOR
                C A NSNCC COST TYPE IS ZERO, SET Y1-Y5 NSNCC COST FOR THE
                C COST TYPE TO ZERO.
                C
                C
0046            86 NSC(I,K)=0
0047               GO TO 7
                C
                C TEST CY NSNCC COST BY COST
                C TYPE FOR VALUE GREATER THAN ZERO.
                C
0048            17 IF(NSC(I,2).NE.0) GO TO 82
0049               INSCF(I,2)=1
0050               GO TO 86
                C
                C TEST CY ENROLLMENT FOR POSITIVE VALUE
                C
                C
                C
                C WHEN THE NSNCC FORECAST OPTION CODE FOR A NSNCC
                C COST TYPE IS 3, CY NSNCC COST IS POSITIVE, AND
                C CY ENROLLMENT IS ZERO, CALCULATE Y1-Y5 NSNCC COST
                C FOR THE NSNCC COST TYPE AS THOUGH THE
                C FORECAST OPTION CODE EQUALS 2.
                C
                C
0051            82 IF(IPENR(I).NE.0) GO TO 83
0052               INSCF(I,3)=1
0053               GO TO 81
                C
                C CALCULATE Y1-Y5 NSNCC USING AN INFLATION
                C RATE AND A PLANNING FACTOR(NSNCC $/STUDENT)
                C
0054            83 CYNSPF=(1.+NSC(I,2))/IPENR(I)
0055               NSC(I,K)=(CYNSPF*IPENR(K-1)*(1.+NSINF(I))**(K-2))+.5
0056             7 CONTINUE
0057             8 CONTINUE
                C
                C CALCULATE TOTAL NSNCC COSTS
                C
0058               DO 45 K=2,7
0059               DO 44 I=1,4
0060               NSC(5,K)=NSC(5,K)+NSC(I,K)
0061          44   CONTINUE
0062          45   CONTINUE
                C
                C INITIALIZE ARRAYS TO STORE STAFF-STUDENT RATIO,
                C AND CURRENT YEAR MEAN SALARY,EACH BY STAFF TYPE FOR A PLG UNIT.
                C
0063               DO 75 I=1,15
0064               SSR(I)=0.0
0065               CYMS(I)=0.0
0066               IAPE(I)=0
0067            75 CONTINUE
                C
                C
                C SALARY AND STAFF COST BY STAFF TYPE
```

```
C
C
      DO 25 I=1,15
      IF(NPFOR(I).EQ.0)GO TO 25
C
C CALCULATE CY SALARY, FRINGE BENEFIT, AND STAFF COST.
C
      ISTCST(I,3,I)=(ISTCST(I,1,I)*(1.+PMPR(I,3)))+.5
      ISTCST(I,2,I)=ISTCST(I,3,I)-ISTCST(I,1,I)
      DO 24 K=2,6
C
C
C TEST NUMBER OF POSITIONS FORECAST OPTION CODE FOR
C 1 OR 2. CY AND Y1-Y5 NUMBER OF POSITIONS
C FOR A STAFF TYPE ARE INPUT DIRECTLY
C
C
      IF(NPFOR(I).EQ.1.OR.NPFOR(I).EQ.2) GO TO 20
C
C
C FORECAST OPTION CODE FOR NUMBER OF POSITIONS IS 3.
C CALCULATE NUMBER OF POSITION FOR A STAFF TYPE.
C
C
      IF(PNP(I,1).NE.0.AND.IPENR(I).NE.0) GO TO 20
      INPE(I)=1
      GO TO 24
C
C
C CALCULATE STAFF TO STUDENT RATIO FOR A STAFF TYPE
C AS THE RATIO OF CY PLANNING UNIT ENROLLMENT
C DIVIDED BY THE CY NUMBER OF POSITIONS FOR A STAFF TYPE.
C
C
   20 SSR(I)=IPENR(I)/PNP(I,1)
C
C
C Y1-Y5 NUMBER OF POSITIONS FOR A STAFF TYPE EQUAL Y1-Y5
C ENROLLMENT FOR THE PLANNING UNIT DIVIDED BY
C CY STAFF-STUDENT RATIO FOR THE STAFF TYPE.
C
C
      PNP(I,K)=IFENR(K)/SSR(I)
      GO TO 23
C
C
C TEST CY NUMBER OF POSITIONS FOR A STAFF
C TYPE FOR A POSITIVE VALUE
C
C
   28 IF(PNP(I,1).NE.0.AND.IPENR(I).NE.0) GO TO 23
      INPE(I)=1
      GO TO 24
C
C CALCULATE CURRENT YEAR MEAN SALARY FOR A STAFF TYPE.
C
   23 CYMS(I)=ISTCST(I,1,1)/PNP(I,1)
      ISTCST(I,1,K)=(PNP(I,K)*CYMS(I)*(1.+CMPR(I,2))**(K-1))+.5
      ISTCST(I,3,K)=(ISTCST(I,1,K)*(1.+PMPR(I,3)))+.5
      ISTCST(I,2,K)=ISTCST(I,3,K)-ISTCST(I,1,K)
   24 CONTINUE
```

```
0086          25 CONTINUE
              C
              C CALCULATE PLANNING UNIT TOTALS
              C
              C TOTAL NUMBER OF POSITIONS BY YR
0089              DO 58 K=1,6
0090              DO 56 I=1,15
0091              PNP(16,K)=PNP(16,K)+PNP(I,K)
0092          56 CONTINUE
0093          58 CONTINUE
              C
              C PLANNING UNIT TOTALS FOR SALARY COST,
              C FRINGE BENEFIT COST, AND STAFF COST
              C ACROSS ALL STAFF TYPES.
              C
0094              DO 64 K=1,6
0095              DO 62 J=1,3
0096              DO 60 I=1,15
0097              ISTCST(16,J,K)=ISTCST(16,J,K)+ISTCST(I,J,K)
0098          60 CONTINUE
0099          62 CONTINUE
0100          64 CONTINUE
0101              DO 66 K=1,6
              C
              C CALCULATE PLANNING UNIT TOTAL CE COST
              C
0102              ISTCST(17,1,K)=ISTCST(16,3,K)*NSC(5,K+1)
              C
              C CALCULATE PLANNING UNIT TOTAL COST
              C
0103              ISTCST(17,2,K)=ISTCST(17,1,K)+ICC(K)
              C
              C CALCULATE TOTAL LOCAL PLANNING UNIT COSTS
              C
0104              ISTCST(17,3,K)=ISTCST(17,2,K)-NCERV(K)
0105          66 CONTINUE
0106              RETURN
0107              END
```

```
0001            SUBROUTINE PRTPU
          C
          C DECLARATION STATEMENTS
          C
0002            REAL NSINF(4)
0003            INTEGER B,CN,CI,TI(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
               1PUTITL(150,8),PUN(8),PUC,PCS,PUPR,PUPJ,PUST,PCOF,T3(5),DT,PUCHK,
               2RTITLE(6)
0004            INTEGER BLNK/'BLNK'/,PHOR/'PHOR'/,ALTE/'ALTE'/,
               1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,CURR/'CURR'/
0005            INTEGER CCN,CCI,CDT,CPUC
0006            COMMON ISTCST(17,3,6),NPFLR(17),PNF(17,6),NSINF,I1,I2,I3,B,CN,CI,
               1TI,T2,STITLE,PNTITL(15,8),PTITLE,PJTITL,LOINFR,NNSINF,MNC(15),
               2DMNPR(15,3),PUTITL,PUN,PUC,PCS,PUPR,PUPJ,PUST,PCOF,IPENR(6),
               3NCERV(6),ICL(6),NNSCO,IWORK(6),NMNTYP,IWORK1(15),NSITEC,NSTACD,
               4NPROJC,NPFLGL,NUMNPC,NPU,LYCLFF,CYNSPF,SSN(15),LYMS(15),T3,DT,
               5RTITLE,IPG,IREPNO,NSC(5,7),CCN,CCI,CCT,CPUC,N,NPUDS
          C
          C PRINTS PLANNING UNIT
          C DETAIL REPORT
          C
0007            IREPNO=IREPNO+1
0008            IPG=IPG+1
0009            WRITE(6,1) IREPNO
0010          1 FORMAT('1',52X,'TRENTON SCHOOL DISTRICT',30X,'REPORT NO. TSD-RRM-'
               1,I4)
0011            WRITE(6,2) IPG
0012          2 FORMAT(' ',55X,'PLANNING UNIT DETAIL REPORT',20X,'PAGE ',I4)
0013            CALL STFIND(L)
0014            IF(TI.NE.BASE) GO TO 800
0015            WRITE(6,54)
0016       54   FORMAT('0',2X,'PLANNING UNIT REPORT FOR BASE CASE')
0017            GO TO 802
0018      800   WRITE(6,803)
0019      803   FORMAT('0',2X,'PLANNING UNIT REPORT FOR ALTERNATIVE CASE')
0020      802   WRITE(6,3) (PUN(J),J=1,8),PUC,(STITLE(L,J),J=2,8)
0021          3 FORMAT('0','PLANNING UNIT NAME: ',8A4,6X,'CODE: ',I4,'  SITE: ',
               17A4)
0022            CALL PRFIND(L)
0023            WRITE(6,4) (PTITLE(L,J),J=2,8),PCST
0024          4 FORMAT('0','PROGRAM MEMBERSHIP:  ',7A4,6X,'PLANNING UNIT STATUS:',
               11X,A4)
0025            WRITE(6,5)
0026          5 FORMAT('0','CURRENT EXPENSE',34X,'CY',13X,'Y1',13X,'Y2',13X,'Y3',
               113X,'Y4',13X,'Y5')
0027            WRITE(6,6)
0028          6 FORMAT(' ',2X,'STAFF COSTS')
          C
          C PRINT STAFF COSTS BY STAFF
          C TYPE FOR A PLANNING UNIT.
          C
0029            DO 15 I=1,15
0030            IF(NPFLR(I).EQ.0) GO TO 15
0031            WRITE(6,7)(PNTITL(I,J),J=2,8)
0032          7 FORMAT('0',5X,7A4)
0033            WRITE(6,8) NPFLR(I)
0034          8 FORMAT(' ',7X,'FORECAST OPTION CODE = ',I2)
0035            WRITE(6,9) (PNF(I,K),K=1,6)
0036          9 FORMAT('0',9X,'NUMBER OF POSITIONS',18X,F5.1,5(10X,F5.1))
0037            WRITE(6,10)(ISTCST(I,1,K),K=1,6)
0038         10 FORMAT(' ',9X,'SALARY COST',23X,I6,5(7X,I8))
```

```
      WRITE(6,11)(ISTCST(I,2,K),K=1,6)
   11 FORMAT(' ',5X,'FRINGE BENEFIT COST',15X,18,5(7X,18))
      WRITE(6,12)(ISTCST(I,3,K),K=1,6)
   12 FORMAT(' ',5X,'STAFF COST',24X,18,5(7X,18))
   15 CONTINUE
      WRITE(6,14)
   14 FORMAT('0',5X,'UNIT TOTALS')
      WRITE(6,9) (PRFI(6,K),K=1,6)
      WRITE(6,10)(ISTCST(16,1,K),K=1,6)
      WRITE(6,11)(ISTCST(16,2,K),K=1,6)
      WRITE(6,12)(ISTCST(16,3,K),K=1,6)
      DO 47 I=1,4
      IF(NSC(I,1).EQ.0) GO TO 47
      WRITE(6,48) I,(NSC(I,K),K=2,7)
   48 FORMAT('0',' ASSOC COST TYPE ',I2,' FORECAST CODE = ',12,3X,
     1I2,5(7X,I8))
   47 CONTINUE
      WRITE(6,16)(NSC(5,K),K=2,7)
   16 FORMAT('0',' TOTAL ASSOC COSTS',24X,18,5(7X,18))
      WRITE(6,18) (ISTCST(17,1,K),K=1,6)
   18 FORMAT('0',' TOTAL CURRENT EXPENSE',22X,18,5(7X,18))
      WRITE(6,19)
   19 FORMAT('0',131('-'))
      WRITE(6,20) PCCP,(ICC(K),K=1,6)
   20 FORMAT('0',' CAPITAL-OUTLAY COST-FORECAST OPTION=',12,5X,18,5(7X,18
     1))
      WRITE(6,21) (ISTCST(17,2,K),K=1,6)
   21 FORMAT('0',' TOTAL PLANNING UNIT COST',19X,18,5(7X,18))
      WRITE(6,22)(ACERV(K),K=1,6)
   22 FORMAT('0',' TOTAL ACA-CURRENT EXPENSE REVENUE',10X,18,5(7X,18))
      WRITE(6,23) (ISTCST(17,3,K),K=1,6)
   23 FORMAT('0',' TOTAL LOCAL PLANNING UNIT COST',13X,18,5(7X,18))
      WRITE(6,19)
      WRITE(6,24)
   24 FORMAT(' ',58X,'SUBSIDIARY DATA')
      WRITE(6,25)
   25 FORMAT(' ',49X,'CY',13X,'Y1',13X,'Y2',13X,'Y3',13X,'Y4',13X,'Y5')
      WRITE(6,26)(IPENR(K),K=1,6)
   26 FORMAT('0',' ENROLLMENT BASE',49X,18,5(7X,18))
      WRITE(6,27)
   27 FORMAT('0',47X,'CY MEAN SALARY',10X,'STUDENT-STAFF RATIO')
      DO 32 I=1,15
      IF(APPLY(I).EQ.0) GO TO 32
      IF(APPLY(I).NE.3) GO TO 42
      WRITE(6,28) (MATITL(I,J),J=2,6),CYMS(I),SSR(I)
   28 FORMAT(' ',2X,7A4,19X,F8.2,2X,F8.2)
      GO TO 32
   42 WRITE(6,40)(MATITL(I,J),J=2,6),CYMS(I)
   40 FORMAT(' ',2X,7A4,19X,F8.2,12X,'STAFF-STUDENT RATIO NOT CALCULATED
     1 FOR OPTIONS 1 OR 2')
   32 CONTINUE
      RETURN
      END
```

```
0001            SUBROUTINE SITING(JJ)
          C
          C DECLARATION STATEMENTS
          C
0002            REAL NSINF(4)
0003            INTEGER B,CN,CI,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
               1PUTITL(150,8),PUN(8),PUC,PLS,PUPR,PUPJ,PUST,PCUF,T3(5),DT,PUCHK,
               2RTITLE(8)
0004            INTEGER BLNK/'BLNK'/,PHDR/'PHDR'/,ALTE/'ALTE'/,
               1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GORR/'GORR'/
0005            INTEGER CCN,CCI,CCT,CPUC
0006            COMMON ISTCST(17,3,6),NPFOR(17),FAP(17,6),NSINF,I1,I2,I3,B,CN,CI,
               1T1,T2,STITLE,PATITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNC(15),
               2MNPP(15,3),PUTITL,PCN,PCC,PLS,PUPF,PUPJ,PUST,PCUF,IPERR(6),
               3NCERR(6),ICC(6),NNSCO,IWORK(6),NMNTYP,IWORK1(15),NSITEC,NSTACO,
               4NPNJCC,NFFLOC,NOMNPC,NPU,CYCLPF,CYNSPF,SSR(15),CYMS(15),T3,DT,
               5RTITLE,IPU,IREFNC,NSC(15,7),CCN,CCI,CCT,CPUC,N,NPJOB
          C
          C
          C SEARCHES SITE TITLE ARRAY FOR A SITE CODE
          C WHICH MATCHES THE PLANNING UNIT RECORD SITE CODE.
          C
          C
0007            DO 50 I=1,NSITEC
0008            IF(PUS.NE.STITLE(I,1))GO TO 50
0009            JJ=I
0010         50 CONTINUE
0011            RETURN
0012            END
```

```
0001              SUBROUTINE PRFIND(JJ)
            C
            C DECLARATION STATEMENTS
            C
0002              REAL NSINF(4)
0003              INTEGER B,CN,CI,T1(18),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
                 1PUTITL(150,8),PUN(8),FUC,PCS,PUPR,PUPJ,PUST,PCUF,T3(5),DT,PUCHK,
                 2RTITLE(8)
0004              INTEGER BLNK/'BLNK'/,PHDR/'PHDR'/,ALTE/'ALTE'/,
                 1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,CORR/'CORR'/
0005              INTEGER CCN,CCI,CCT,CPOC
0006              COMMON ISTCST(17,3,6),NPFOR(17),FNP(17,6),NSINF,I1,I2,I3,B,CN,CI,
                 1T1,T2,STITLE,MNTITL(15,8),PTITLE,PJTITL,COINFR,NNSINF,MNC(15),
                 2DRNPR(15,3),PUTITL,PCN,PCC,PCS,PCFR,FUPJ,PUST,PCCF,IPENR(6),
                 3NCENV(5),ICC(6),NNSCO,IWORK(2),NPNIYF,IWORK1(15),NSITEC,NSTACO,
                 4NPRJCC,NPPLCC,NUMNPC,NPU,CYCLFF,CYNSPF,SSK(15),CYKS(15),T3,DT,
                 5RTITLE,IPO,INEFNL,NSC(5,7),CCN,CCI,CCT,CPOC,N,NPUCS
            C
            C
            C SEARCHES PROGRAM TITLE ARRAY FOR A PROGRAM CODE
            C WHICH MATCHES THE PLANNING UNIT RECORD PROGRAM CODE.
            C
            C
0007              DO 50 I=1,NPPLCC
0008              IF(PUPR.NE.PTITLE(I,1)) GO TO 50
0009              JJ=I
0010           50 CONTINUE
0011              RETURN
0012              END
```

```
0001      SUBROUTINE CIMERR(I)
        C
        C DECLARATION STATEMENTS
        C
0002      REAL NSINF(4)
0003      INTEGER E,CN,CI,T1(16),T2,STITLE(50,8),PTITLE(20,8),PJTITL(50,8),
         1PLTITL(150,8),PUN(8),PUC,PUS,PUPR,PUPJ,PUST,PUUF,T3(5),UT,PUCHK,
         2RTITLE(8)
0004      INTEGER BLNK/'BLNK'/,FHOP/'PFLR'/,ALTE/'ALTE'/,
         1ALL/'ALL'/,VAR/'VAR'/,BASE/'BASE'/,GGRR/'GGRR'/
0005      INTEGER CCN,CCI,CDT,CPUC
0006      COMMON ISTCST(17,3,6),NPFOR(17),PNP(17,6),NSINF,I1,I2,I3,B,CN,CI,
         1T1,T2,STITLE,MNTITL(15,8),PTITLE,PJTITL,CGINFR,NNSINF,MNC(15),
         2OPNPR(15,3),PLTITL,PLN,PLC,PLS,PUFR,PUPJ,PUST,PCCF,IPENR(6),
         3NCENV(6),ICC(6),NNSCU,IWORK(8),NPNTYP,IWORK1(15),NSITLC,NSTACO,
         4NPRJCC,NPRCUC,NCNNPL,NPC,CYCLFF,CYNSFF,SSK(15),CYMS(15),T3,UT,
         5RTITLE,IPO,IPEFNO,NSC(5,7),GCN,GCI,CDT,GPUC,K,NPUUS
        C
        C
        C PRINTS ERROR MESSAGE WHEN A PARTICULAR
        C VARIABLE EXCEEDS PRESENT STORAGE.
        C
        C
0007      IPO=IPO+1
0008      WRITE(6,102)(RTITLE(I),I=1,8)
0009  102 FORMAT('1',20X,8A4)
0010      GO TO (1,2,3,4,5,6,7,8,9),I
0011    1 GO TO 210
0012    2 WRITE(6,104)
0013  104 FORMAT('0','TOO MANY SITES FOR PRESENT STORAGE')
0014      GO TO 200
0015    3 WRITE(6,106)
0016  106 FORMAT('0','TOO MANY MANPOWER TITLES FOR PRESENT STORAGE')
0017      GO TO 200
0018    4 WRITE(6,108)
0019  108 FORMAT('0','TOO MANY PROGRAMS FOR PRESENT STORAGE')
0020      GO TO 200
0021    5 WRITE(6,110)
0022  110 FORMAT('0','TOO MANY PROJECTS FOR PRESENT STORAGE')
0023      GO TO 200
0024    6 WRITE(6,112)
0025  112 FORMAT('0','ONLY ONE DISTRICT-WIDE CG INFLATION RATE CARD REQUIRED
         1')
0026      GO TO 200
0027    7 WRITE(6,114)
0028  114 FORMAT('0','ONLY ONE DISTRICT-WIDE NSNCU INFLATION RATE CARD IS RE
         1QUIRED')
0029    8 WRITE(6,116)
0030  116 FORMAT('0','TOO MANY STAFF TYPES FOR PRESENT STORAGE IN DISTRICT-W
         1IDE STAFF DATA ARRAY')
0031      WRITE(6,118)
0032  118 FORMAT('0','CHECK DIMENSIONS FOR PLANNING UNIT STAFF ARRAYS')
0033    9 WRITE(6,120)
0034  120 FORMAT('0','TOO MANY PLANNING UNITS FOR PRESENT STORAGE')
0035      GO TO 200
0036  200 WRITE(6,202)
0037  202 FORMAT('0','HAVE SYSTEMS ANALYST INCREASE DIMENSIONS OF VARIABLES
         1CONCERNED WITH THIS DATA TYPE')
0038      GO TO 215
0039  210 WRITE(6,211)
0040  211 FORMAT('0','END CARD ERRONEOUSLY PASSED. REVIEW DATA INPUT')
```

```
0041          215 STOP
0042              END
```

FLOWCHART OF

BASIC FILE PLAY BACK AND PLANNING

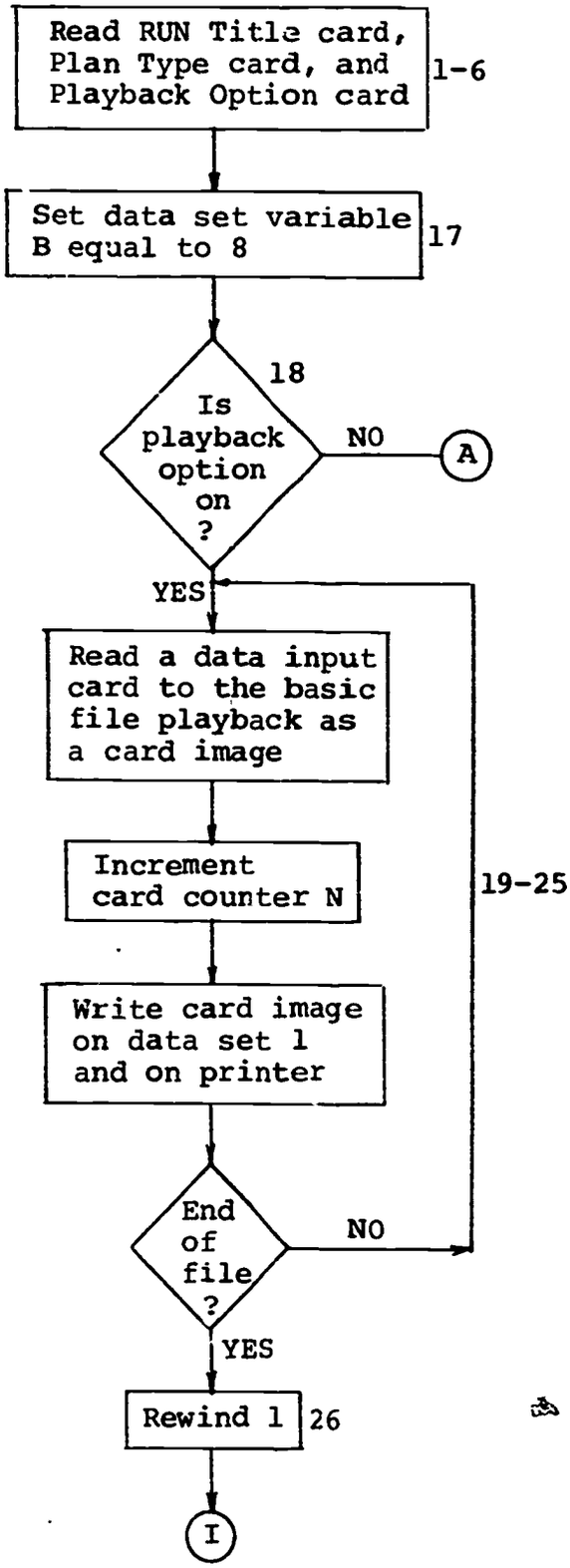
UNIT MODEL

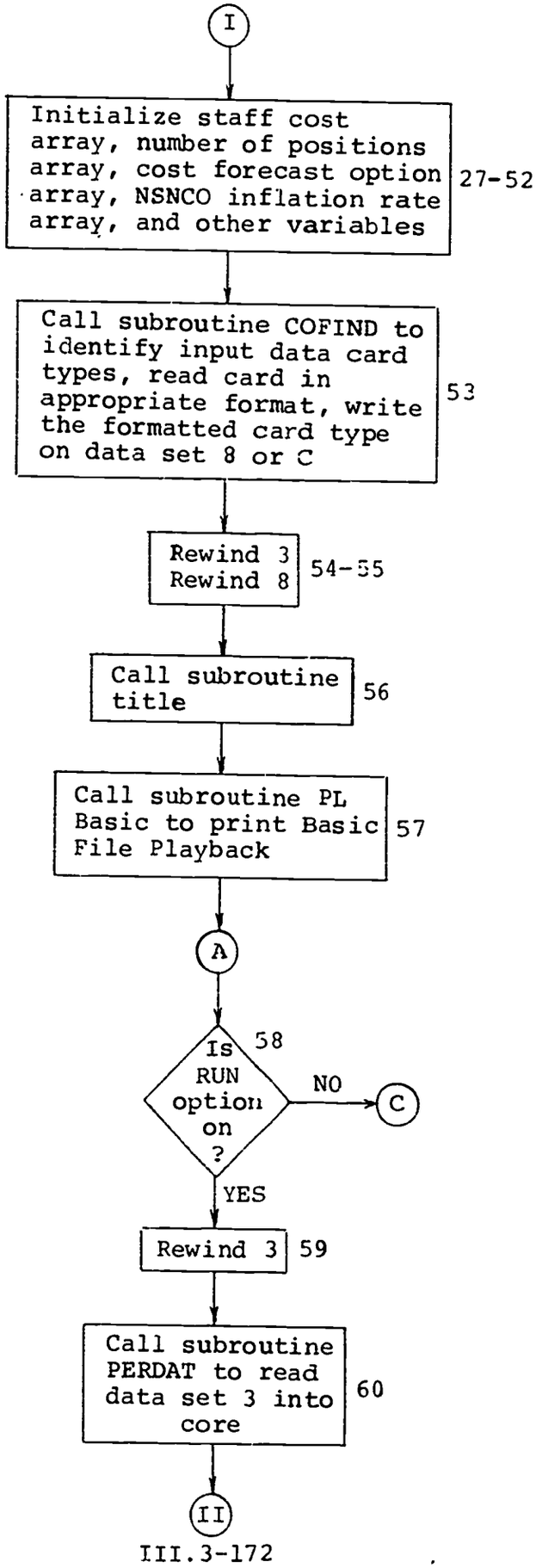
COMPUTER PROGRAM

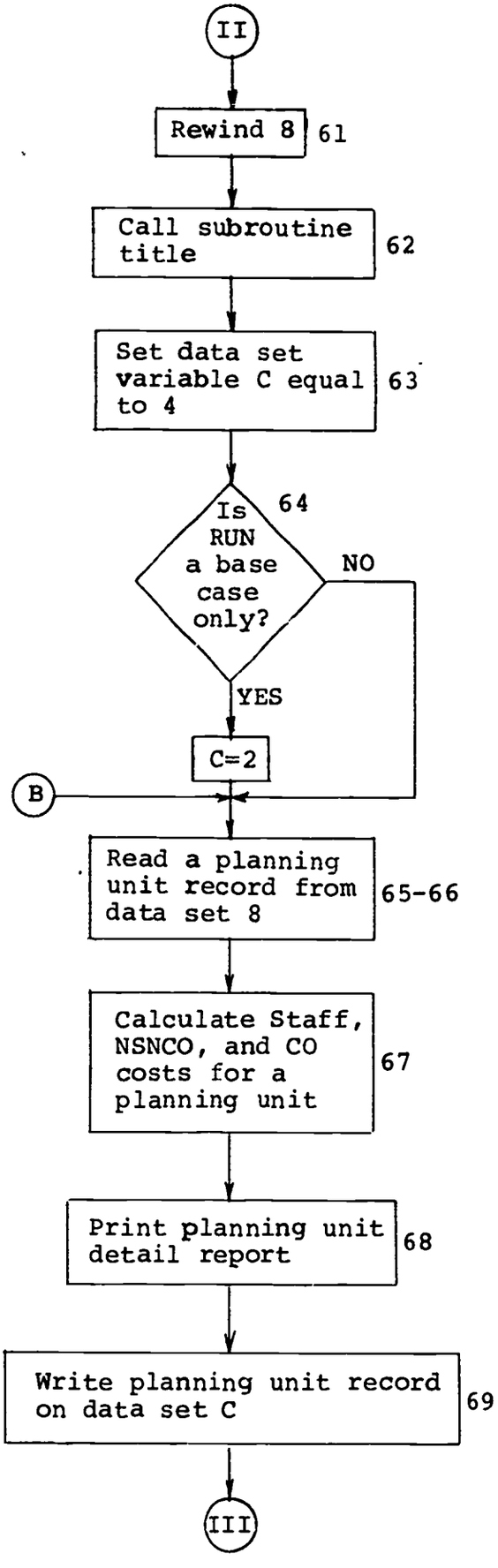
Chart III.3-6 presents a flowchart of the main routine of the Basic File Playback and Planning Unit Model The numbers to the right of each box of the chart correspond to the statement numbers in the left margin of the source computer program listing.

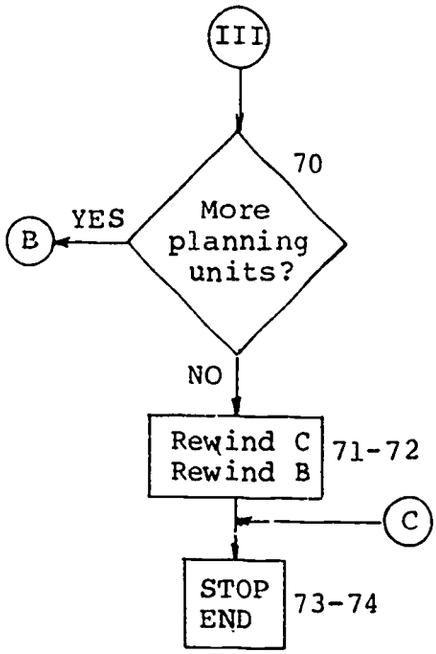
Chart III.3-6

Flowchart of Basic File Playback and Planning Unit Model Main Computer Program




I
Initialize staff cost array, number of positions array, cost forecast option array, NSNCO inflation rate array, and other variables
27-52
Call subroutine COFIND to identify input data card types, read card in appropriate format, write the formatted card type on data set 8 or C
53
Rewind 3
Rewind 8
54-55
Call subroutine title
56
Call subroutine PL Basic to print Basic File Playback
57
A
Is RUN option on ?
58
NO
C
YES
Rewind 3
59
Call subroutine PERDAT to read data set 3 into core
60
II


II
Rewind 8
61
Call subroutine title
62
Set data set variable C equal to 4
63
Is RUN a base case only?
64
NO
YES
C=2
B
Read a planning unit record from data set 8
65-66
Calculate Staff, NSNCO, and CO costs for a planning unit
67
Print planning unit detail report
68
Write planning unit record on data set C
69
III


III
70
More planning units?
YES
B
NO
Rewind C
Rewind B
71-72
C
STOP
END
73-74

COMMENTED LISTING OF THE PROGRAM COST MODEL

COMPUTER PROGRAM

A commented listing of the Program Cost Model is shown in the following pages. The program is written in FORTRAN IV G level. The MAIN routine and its subroutines appear as follows:

```
                C
                C THIS PROGRAM PERFORMS THE FOLLOWING:
                C  READS THE DATA SETS WITH PERMANENT DATA AND PLANNING UNIT DATA;
                C  FOR AN ALTERNATIVE CASE,READS THE PROJECTS IN THE PLAN;
                C  AGGREGATES COSTS BY PROGRAM
                C
                C
                C
                C
                C DECLARATION STATEMENTS
                C
                C
 0001                 REAL NSINF(4),DWAPST(15,6),TCTHIR(15,6)
 0002                 INTEGER PTITLE(8),STITLE(50,8), PTITLE(20,8),PJTITL(50,8),
                     1PLTITL(150,8),R,C,BASE/'BASE'/,IS(18),PLNCDE,PLNTYP,INPJ/'INPJ'/,
                     2BLNK/'BLNK'/,PJCTP(50),FULL/'FULL'/,SUPP/'SUPP'/,PROJ/'PROJ'/,
                     3PJDF/'PJDF'/,ALTE/'ALTE'/,PLNTLE(5),IPRS(20,5,6),ICWSUM(9,6)
 0003                 COMMON NSITEC,NSTACD,NPROGC,NPRJCD,NPU,RTITLE,ICT,II,IPC,IREFNC,
                     1STITLE,MNTITL(15,8),PTITLE,PJTITL,CCINFR,NNSINF,NSINF,MNC(15),
                     2DWNPR(15,3),IR,IQ,PLNCDE,PLNTYP,NPJIP,PJCIP,IIS,IPPPN(16,3,6),
                     3IAPWCC(6,6),APRGAP(16,6),IAPWN(16,3,6),IAPRGC(6,6),APRGNP(16,6),
                     4NSUPF,NPRJ,NFCE,ISUBP(100),INPRJ(100),INPDF(100),NSITYP(15),PLNTLE
 0004                 COMMON PUTITL
                C
                C INPUT CARD COUNTS
                C USED AS DO-PARAMETERS
                C
 0005                 READ(5,1) NSITEC,NSTACD,NPROGC,NPRJCD,NPU
 0006           1     FORMAT(6X,5(1X,I4))
                C
                C INPUT RUN TITLE
                C
 0007                 READ(5,2)(PTITLE(I),I=1,8)
 0008           2     FORMAT(8X,8A4)
                C
                C INPUT PLAN TYPE CARD
                C
 0009                 READ(5,3) ICT,II
 0010           3     FORMAT(2X,A4,4X,A4)
 0011                 IPC=0
 0012                 IREFNC=2999
                C INPUT PERMANENT DATA
                C FROM DATA SET 3 INTO CORE
 0013                 REWIND 3
 0014                 READ(3,43) T3
 0015              43 FORMAT(6X,5A4)
 0016                 DO 10 I=1,NSITEC
 0017                 READ(3,34)(STITLE(I,J),J=1,8)
 0018              34 FORMAT(6X,I4,7A4)
 0019              10 CONTINUE
 0020                 DO 22 I=1,NSTACD
 0021                 READ(3,34)(MNTITL(I,J),J=1,8)
 0022              22 CONTINUE
 0023                 DO 28 I=1,NPROGC
 0024                 READ(3,34)(PTITLE(I,J),J=1,8)
 0025              28 CONTINUE
 0026                 DO 35 I=1,NPRJCD
 0027                 READ(3,34)(PJTITL(I,J),J=1,8)
 0028              35 CONTINUE
 0029                 READ(3,31) CCINFR
 0030              31 FORMAT(6X,F7.3)
```

```
0031            READ(3,32) ANSINE,(INSINE(I),I=1,4)
0032         32 FORMAT(6X,I2,4F6.3)
0033            DO 109 I=1,NSTAGE
0034            READ(3,33) PRC(I),(CPNPP(I,J),J=1,3)
0035         33 FORMAT(6X,I4,3F6.3)
0036        109 CONTINUE
0037            DO 76 I=1,NPL
0038            READ(3,34)(PLTITL(I,J),J=1,8)
0039         76 CONTINUE
0040            REWIND 3
      C
0041            IF(IJ.EQ.1.AND.) GO TO 100
      C
      C INPUT NUMBER OF ALTERNATIVE
      C CASES CARD.
      C
0042            READ(5,4) CN,CI,NALC
0043          4 FORMAT(A2,A4,1X,I2)
0044            NALTC=0
      C INPUT ALTERNATIVE CASE
      C SPECIFICATION CARD
      C
0045            READ(5,6) ICN, ICI,IB,(IP(I),I=1,18)
0046          6 FORMAT(A2,A4,A2,18I4)
0047        500 NALTC=NALTC+1
0048            PLNCDE=IP
0049            PLNTYP=IP(6)
0050            DO 7 I=1,5
0051            PLNTIT(I)=IP(I)
0052          7 CONTINUE
0053            IPG=IPG+1
0054            WRITE(6,8) (RTITLE(I),I=1,8),IPG
0055          8 FORMAT('1',5X,8A4,47X,'PAGE ',I3)
0056            WRITE(6,9) IB,(IP(I),I=1,5)
0057          9 FORMAT('0','ALTERNATIVE PLAN: ',A3,2X,5A4)
0058            IF(PLNTYP.EQ.INDP) GO TO 20
0059            WRITE(6,11)
0060         11 FORMAT('0','ALL THE PROJECTS ARE TO BE INCLUDED IN THIS ALTERNATIV
               1E PLAN')
0061            GO TO 75
0062         20 NPJIP=0
0063         21 J=7
0064            DO 24 I=1,9
0065            IF(IP(J).EQ.BLANK) GO TO 80
0066            NPJIP=NPJIP+1
0067            IF(NPJIP.LE.50) GO TO 50
0068            IPG=IPG+1
0069            WRITE(6,8) (RTITLE(I),I=1,8),IPG
0070            WRITE(6,120)
0071        120 FORMAT('0','TOO MANY PROJECTS FOR PRESENT STORAGE')
0072            WRITE(6,121)
0073        121 FORMAT(' ','HAVE SYSTEMS ANALYST INCREASE DIMENSIONS')
0074            WRITE(6,122)
0075        122 FORMAT(' ','CONCERNED WITH THIS DATA TYPE')
0076            GO TO 1000
0077         50 PJLIP(NPJIP)=IP(J)
0078            J=J+1
0079         24 CONTINUE
0080            IIS=IB
0081            READ(5,6) ICN,ICI,IB,(IP(I),I=1,18)
0082            IF(IB.EQ.IIS) GO TO 21
```

```
0093          80 IF(NPJIP.GT.0) GO TO 81
0094             IIS=18
0095             GO TO 75
0096          81 WRITE(6,82)
0097          82 FORMAT('0','THE PROJECT CODES OF PROJECTS TO BE INCLUDED IN THIS A
                 1LTERNATIVE PLAN WERE READ IN')
0098          75 WRITE(6,83)
0099          83 FORMAT('0','THE FOLLOWING PROJECTS ARE INCLUDED IN THE ALTERNATIVE
                 1PLAN')
0090             WRITE(6,84)
0091          84 FORMAT('0',10X,'PROJECT',7X,'PROJECT'/' ',10X,'CODE',10X,'NAME')
0092             IF(PLNTYP.EQ.IKPJ) GO TO 44
0093             DO 88 I=1,KPPJCD
0094             WRITE(6,85) PJTITLE(I,1),(PJTITLE(I,J),J=2,8)
0095          85 FORMAT(' ',11X,A4,11X,7A4)
0096          88 CONTINUE
0097             GO TO 100
0098          44 DO 48 J=1,NPJTP
0099             CALL PJFIND(J,L)
0100             WRITE(6,85) PJTITLE(L,1),(PJTITLE(L,K),K=2,8)
0101          48 CONTINUE
                 C
                 C INITIALIZE ARRAYS TO STORE PROGRAM
                 C SUMMARY DATA AND DISTRICT-WIDE SUMMARIES
                 C
0102          100   DO 54 I=1,KPRCGC
0103                DO 53 J=1,5
0104                DO 52 K=1,6
0105                IPRS(I,J,K)=0
0106             52 CONTINUE
0107             53 CONTINUE
0108             54 CONTINUE
0109                DO 58 I=1,9
0110                DO 56 K=1,6
0111                IDWSUM(I,K)=0
0112             56 CONTINUE
0113             58 CONTINUE
0114                DO 273 I=1,KSTACC
0115                DO 273 K=1,6
0116                CWSPST(I,K)=0.0
0117          273   CONTINUE
                 C
                 C ROUTINE FOR THE  CALCULATION
                 C OF COSTS FOR A PROGRAM
                 C
0118                DO 500 I=1,KPRCGC
                 C
                 C INITIALIZE COUNTERS AND ARRAYS TO STORE
                 C PLANNING UNIT CODES  IN A PROGRAM BY STATUS CODE
                 C
0119                NSLPP=0
0120                NPRJ=0
0121                NPCE=0
0122                DO 42 J=1,100
0123                ISLPP(J)=0
0124                INPPJT(J)=0
0125                INPCE(J)=0
0126             42 CONTINUE
                 C
                 C INITIALIZE FLAG TO INDICATE IF A PROGRAM
                 C HAS A PARTICULAR STAFF TYPE
```

```
C
      DO 59 J=1,15
      NSTTYP(J)=0
   59 CONTINUE
C
C INITIALIZE ARRAYS FOR AGGREGATING DATA FOR A PROGRAM(BASE CASE).
C NO.POSITIONS BY STAFF TYPE(PPPCNP), STAFF COSTS BY STAFF TYPE(IPPMN),
C AND COSTS BY COST TYPE(IPPPCC)
C
      DO 16 J=1,16
      DO 14 K=1,4
      PPPCNP(J,K)=0.0
      DO 12 L=1,3
      IPPMN(J,L,K)=0
   12 CONTINUE
   14 CONTINUE
   16 CONTINUE
      DO 18 J=1,8
      DO 17 K=1,6
      IPPPCC(J,K)=0
   17 CONTINUE
   18 CONTINUE
      CALL PROCST(2,1)
      IF(II.EQ.BASE) GO TO 41
      DO 204 J=1,16
      DO 203 K=1,4
      APNGEP(J,K)=0.0
      DO 202 L=1,3
      IAPMN(J,L,K)=0
  202 CONTINUE
  203 CONTINUE
  204 CONTINUE
      DO 206 J=1,8
      DO 207 K=1,6
      IAPPCC(J,K)=0
  207 CONTINUE
  206 CONTINUE
      CALL PROCST(4,II)
C
C SAVE ... COST,.. COST,GROSS COST,NET PLV,
C AND TOTAL COST FOR A PROGRAM.
C
   41 DO 212 J=1,5
      DO 211 K=1,6
      IPPS(I,J,K)=IPPPCC(J+1,K)
  211 CONTINUE
  212 CONTINUE
      DO 218 J=1,3
      DO 217 K=1,6
      IPKSUM(J,K)=IPKSUM(J,K)+IPPMN(16,J,K)
  217 CONTINUE
  218 CONTINUE
      DO 224 J=4,9
      DO 222 K=1,6
      IPKSUM(J,K)=IPKSUM(J,K) +IPPPCC(J-3,K)
  222 CONTINUE
  224 CONTINUE
C
C NUMBER OF POSITIONS BY STAFF TYPE FOR A CASE
C
      DO 2?? J=1,[illegible]
```

```
0175                DO 276 K=1,6
0176                DVNPST(J,K)=DVNPST(J,K)+EPPGNP(J,K)
0177          276   CONTINUE
0178                DO 278 J=1,NSTACC
0179                DO 278 K=1,6
0180                TOTHIP(J,K)=DVNPST(J,K)-(CUNPST(J,K-1)*(1.-DVNPR(J,1)))
0181          278   CONTINUE
0182                CALL PGPRNT(I)
0183          500 CONTINUE
                  C
                  C PRINT PROGRAM SUMMARY REPORT
                  C
0184                IPEPAG=IPEPAG+1
0185                IPG=IPG+1
0186                WRITE(6,226)(RTITLE(I),I=1,8),IREPNO
0187          226 FORMAT('1',10X,8A4,9X,'IREMICK SCHOOL DISTRICT',30X,'REPORT NO. 1
                 1P-PRM-',I4)
0188                WRITE(6,228) IPG
0189          228 FORMAT(' ',53X,'PROGRAM SUMMARY REPORT',31X,'PAGE ',I4)
0190                IF(III.NE.ALTE) GO TO 230
0191                WRITE(6,229) (PLNTLE(I),I=1,5)
0192          229 FORMAT(' ',10X,5A4)
0193          230 WRITE(6,231)
0194          231 FORMAT('0',' PROGRAM',34X,'CY',13X,'Y1',13X,'Y2',13X,'Y3',13X,
                 1'Y4',13X,'Y5')
0195                DO 400 I=1,NPROGG
0196                WRITE(6,232)(PTITLE(I,J),J=2,8)
0197          232 FORMAT(' ',5X,7A4)
0198                WRITE(6,233)(IPRS(I,1,K),K=1,6)
0199          233 FORMAT('0',9X,'TOTAL CURRENT EXPENSE',12X,IP,5(7X,I9))
0200                WRITE(6,234)(IPRS(I,2,K),K=1,6)
0201          234 FORMAT(' ',9X,'CAPITAL OUTLAY COST',14X,IP,5(7X,IP))
0202                WRITE(6,235)(IPRS(I,3,K),K=1,6)
0203          235 FORMAT(' ',9X,'EXCESS CY OF PROGRAM',12X,IP,5(7X,IP))
0204                WRITE(6,236)(IPRS(I,4,K),K=1,6)
0205          236 FORMAT(' ',9X,'LESS-CURRENT EXPENSE REVENUES',5X,IP,5(7X,IP))
0206                WRITE(6,237)(IPRS(I,5,K),K=1,6)
0207          237 FORMAT('0',9X,'NET(L.*CAL) PROGRAM COST',10X,IP,5(7X,IP))
0208                WRITE(6,238)
0209          238 FORMAT('0')
0210          400 CONTINUE
                  C
                  C PRINT SUMMARY REPORT OF DISTRICT-WIDE REQUIREMENTS
                  C
0211                IPEPAG=IPEPAG + 1
0212                IPG=IPG+1
0213                WRITE(6,226) (RTITLE(I),I=1,8),IREPNO
0214                WRITE(6,240)IPG
0215          240 FORMAT(' ',47X,'RESOURCE REQUIREMENTS SUMMARY REPORT',24X,'PAGE',
                 1I4)
0216                IF(III.NE.ALTE) GO TO 242
0217                WRITE(6,229) (PLNTLE(I),I=1,5)
0218          242 WRITE(6,243)
0219          243 FORMAT('0',' CUMULATIVE EXPENSE',24X,'CY',13X,'Y1',13X,'Y2',13X,'Y3',
                 113X,'Y4',13X,'Y5')
0220                WRITE(6,244)
0221          244 FORMAT(' ',2X,'STATE COSTS')
0222                WRITE(6,246) (TPC-DVT(I,K),K=1,6)
0223          245 FORMAT(' ',9X,'SALARY COST',23X,IP,5(7X,I8))
0224                WRITE(6,246) (IDWSUM(2,K),K=1,6)
0225          246 FORMAT(' ',9X,'INSURANCE BENEFIT COST',15X,IP,5(7X,I9))
```

```
0226          WRITE(6,247)  (IDWSUM(3,K),K=1,6)
0227      247 FORMAT(' ',5X,'STAFF COST',24X,I8,5(7X,I8))
0228          WRITE(6,248)  (IDWSUM(4,K),K=1,6)
0229      248 FORMAT('0',' TOTAL NSNIC COSTS',24X,I8,5(7X,I8))
0230          WRITE(6,249)  (IDWSUM(5,K),K=1,6)
0231      249 FORMAT('0','TOTAL CURRENT EXPENSE',22X,I8,5(7X,I8))
0232          WRITE(6,250)  (IDWSUM(6,K),K=1,6)
0233      250 FORMAT('0','CAPITAL-OUTLAY COST',24X,I8,5(7X,I8))
0234          WRITE(6,251) (IDWSUM(7,K),K=1,6)
0235      251 FORMAT('0','TOTAL GROSS COST(CE+CO)',20X,I8,5(7X,I8))
0236          WRITE(6,252) (IDWSUM(8,K),K=1,6)
0237      252 FORMAT('0','TOTAL NON-CURRENT EXPENSE REVENUE',5X,I8,5(7X,I8))
0238          WRITE(6,253) (IDWSUM(9,K),K=1,6)
0239      253 FORMAT('0','TOTAL NET(LOCAL) COST(GROSS-NCE REV)',7X,I8,5(7X,I8))
0240          WRITE(6,254)
0241      254 FORMAT('0',T2('-'))
0242          WRITE(6,255)
0243      255 FORMAT(' ',50X,'SUPPLEMENTARY DATA')
0244          WRITE(6,256) (XSIPC(J),J=1,4)
0245      256 FORMAT('0','INFLATION RATE FOR NONCE COST TYPE 1 TO 4',3X,4F8.3)
0246          WRITE(6,257) CLINER
0247      257 FORMAT('0','INFLATION RATE FOR CAPITAL OUTLAY COST',5X,F8.3)
0248          WRITE(6,258)
0249      258 FORMAT('0',40X,'EXPECTED',10X,'SALARY COST',10X,'FRINGE',7' ',40X,
         1'TUBE LVER',10X,'INFLATION',12X,'BENEFIT'/' ',40X,'RATE',16X,'PERCE
         2NT(CY)',10X,'PERCENT')
0250          DO 270  I=1,NSTACC
0251          WRITE(6,259) (NATIT(I,J),J=2,8),(TYPE(I,J),J=1,3)
0252      259 FORMAT(' ',2X,7A4,10X,F9.3,15X,F6.3,11X,F6.3)
0253      270 CONTINUE
    C
    C PRINT RANKCWEP REPORT FOR A CASE
    C
0254          IPEEACE=IPEEND+1
0255          IPG=IPG+1
0256          WRITE(6,226)(PTITLE(I),I=1,8),IPEENE
0257          WRITE(6,220) IPG
0258      220 FORMAT('1',53X,'DISTRICT MANPOWER REPORT',20X,'PAGE',I4)
0259          IF(I1.NE.ALTC) GO TO 283
0260          WRITE(6,225) (PENSLE(I),I=1,5)
0261          GO TO 284
0262      283 WRITE(6,281)
0263      281 FORMAT(' ',56X,'FOR THE BASE CASES')
0264      284 WRITE(6,285)
0265      285 FORMAT('0','STAFF TYPE',27X,'CY',12X,'Y1',13X,'Y2',12X,'Y3',12X,
         1'Y4',13X,'Y5')
0266          DO 450 J=1,NSTACD
0267          WRITE(6,286)(NATIT(J,K),K=2,8),(DWNPST(J,K),K=1,6)
0268      286 FORMAT('0',1X,7A4,'  POSITIONS   ',F6.1,5(9X,F7.1))
0269          WRITE(6,288)DMNPR(J,1),(TCTHIP(J,K),K=2,6)
0270      288 FORMAT(' ',4X,'TURNOVER RATE ',F6.2,8X,'HIRES',10X,5(9X,F6.1))
0271      450 CONTINUE
0272          IF(I1.EQ.PASE) GO TO 1000
0273          IF(NALC-NALTC) 1000,1000,500
0274     1000 STOP
0275          END
```

```
      SUBROUTINE PCPRNT(IK)
C
C THIS SUBROUTINE PRINTS
C PROGRAM DETAIL REPORT.
C
      REAL NSINF(4)
      INTEGER  PTITLE(8),STITLE(50,8), PTITLF(20,8),PJTITL(50,8),
     1PGTITL(150,8),B,C,BASE/'BASE'/,I9(18),PLACDF,PLNTYP,INPJ/'INPJ'/,
     2BLNK/'BLNK'/,PJCIP(10),FULL/'FULL'/,SUPP/'SUPP'/,PPCJ/'PPCJ'/,
     3PJDF/'PJDF'/,ALTF/'ALTF'/,PLNTLE(5),IPRS(20,5,6),IPRSUP(5,6)
      COMMON ASITEC,NSTACD,NPRCCC,APRJCD,APU,ATITLC,ICT,II,IPG,IREPNO,
     1STITLE,PNTITL(15,8),PTITLE,PJTITL,CCINFR,NNSINF,NSINF,PNC(15),
     2OMMPR(15,3),I8,I9,PLACDF,PLNTYP,APJIP,PJCIP,IIS,IPPWK(16,3,6),
     3IPPPCC(6,6),IPPGNP(16,6),IAPVA(16,3,6),IAPPGC(6,6),APPGNP(16,6),
     4NSUPP,APPJ,NPDF,ISUPP(100),INPRJ(100),INPDE(100),ASTTYP(15),PLNTLE
      COMMON PUTITL
      IREPNC=IREPNC+1
      IPG=IPG+1
      WRITE(6,1) IREPNC
    1 FORMAT('1',52X,'TRENTON SCHOOL DISTRICT',30X,'REPORT NC. ISD-PRW-'
     1,I4)
      WRITE(6,2) IPG
    2 FORMAT(' ',54X,'PROGRAM DETAIL REPORT',31X,'PAGE ',I4)
      WRITE(6,3)(PTITLE(IK,K),K=2,8), PTITLE(IK,1)
    3 FORMAT('0','PROGRAM TITLE:  ',7A4,5X,'PROGRAM CODE: ',I4)
      WRITE(6,4)
    4 FORMAT('0','CURRENT EXPENSE',34X,'CY',13X,'Y1',13X,'Y2',12X,'Y3',
     113X,'Y4',12X,'Y5')
      WRITE(6,5)
    5 FORMAT('0',2X,'STAFF POSITIONS AND COSTS BY STAFF TYPE')
C
C PRINT STAFF COSTS BY STAFF
C TYPE FOR A PROGRAM
      DO 15 L=1,15
      IF(NSTTYP(L).EQ.0) GO TO 15
      WRITE(6,7) (PNTITL(L,J),J=2,8)
    7 FORMAT('0',5X,7A4)
      WRITE(6,9) (PPRCNP(L,K),K=1,6)
    9 FORMAT('0',9X,'NUMBER OF POSITIONS',16X,F7.1,5(8X,F7.1))
      WRITE(6,10)(IPPWK(L,1,K),K=1,6)
   10 FORMAT(' ',9X,'SALARY COST',23X,I8,5(7X,I9))
      WRITE(6,11)(IPPWK(L,2,K),K=1,6)
   11 FORMAT(' ',9X,'FRINGE BENEFIT COST',15X,I8,5(7X,I8))
      WRITE(6,12)(IPPWK(L,3,K),K=1,6)
   12 FORMAT(' ',9X,'STAFF COST',24X,I8,5(7X,I8))
   15 CONTINUE
      WRITE(6,14)
   14 FORMAT('0',5X,'STAFF TOTALS FOR THE PROGRAM')
      WRITE(6,9) (PPRGNP(16,K),K=1,6)
      WRITE(6,10)(IPPWK(16,1,K),K=1,6)
      WRITE(6,11)(IPPWK(16,2,K),K=1,6)
      WRITE(6,12)(IPPWK(16,3,K),K=1,6)
C
C PRINT NSRCE COST
C
      WRITE(6,16)(IPPRCC(1,K),K=1,6)
   16 FORMAT('0',' TOTAL ASSOC COST',25X,I9,5(7X,I9))
      WRITE(6,18)(IPPRCC(2,K),K=1,6)
   18 FORMAT('0','TOTAL CURRENT EXPENSE',22X,I8,5(7X,I9))
      WRITE(6,19)
   19 FORMAT('0',131('-'))
```

```
0043          WRITE(6,20) (IPPRGC(3,K),K=1,6)
0044       20 FORMAT('0',3X,'CAPITAL OUTLAY COST',24X,I8,5(7X,I8))
0045          WRITE(6,21) (IPPRGC(4,K),K=1,6)
0046       21 FORMAT('0',3X,'OTHERS PROGRAM COST',22X,I8,5(7X,I8))
0047          WRITE(6,22)(IPPRGC(5,K),K=1,6)
0048       22 FORMAT('0',3X,'TOTAL NON-CAPITAL EXPENSE',17X,I8,5(7X,I8))
0049          WRITE(6,23)(IPPRGC(6,K),K=1,6)
0050       23 FORMAT('0',3X,'TOTAL LOCAL PROGRAM COST',19X,I8,5(7X,I8))
0051          WRITE(6,15)
0052          WRITE(6,24)
0053       24 FORMAT('1',50X,'SUBSIDIARY DATA')
0054          WRITE(6,25)
0055       25 FORMAT('0','PLANNING UNITS IN THE PROGRAM BY STATE CODE')
0056          WRITE(6,26)
0057       26 FORMAT('0',5X,'SUPPORTING STATE CODE')
0058          IF(NSPROG.EQ.0) GO TO 32
0059          DO 31 J=1,NSPROG
0060          IF(IPPRJ(J).EQ.0)GO TO 31
0061          CALL PUTINI(J,1,L)
0062          WRITE(6,28) (PUTITLE(L,I),(PUTITLE(L,K),K=2,5)
0063       28 FORMAT('0',10X,I4,5X,7A4)
0064       31 CONTINUE
0065          GO TO 33
0066       32 WRITE(6,34)
0067       34 FORMAT('0',10X,'NONE')
0068       33 WRITE(6,99)
0069       99 FORMAT('0',5X,'PROJECT STATUS CODE')
0070          IF(NSPRJ.EQ.0) GO TO 35
0071          DO 37 J=1,NSPRJ
0072          IF(IPPRJ(J).EQ.0) GO TO 37
0073          CALL PUTINI(J,2,L)
0074          WRITE(6,28)(PUTITLE(L,I),(PUTITLE(L,K),K=2,5)
0075       37 CONTINUE
0076          GO TO 47
0077       35 WRITE(6,36)
0078       47 WRITE(6,48)
0079       48 FORMAT('0',5X,'PROJECT DESIGN STATUS CODE')
0080          IF(NDPR.EQ.0) GO TO 49
0081          DO 52 J=1,NDPR
0082          IF(IPDPR(J).EQ.0) GO TO 52
0083          CALL PUTIND(J,3,L)
0084          WRITE(6,28) (PUTITLE(L,I),(PUTITLE(L,K),K=2,5)
0085       52 CONTINUE
0086          GO TO 70
0087       49 WRITE(6,36)
0088       70 RETURN
0089          END
```

```
      SUBROUTINE PRCCST(C,IP)
C
C CALCULATES COST BY COST TYPE OF A PROGRAM AS FOLLOWS:
C READS AS INPUT DATA SET 2 ONLY FOR A BASE CASE OR
C DATA SETS 2 AND 4 FOR AN ALTERNATIVE CASE; SELECTS ALL
C PLANNING UNIT RECORDS MATCHING A PROGRAM CODE IN PTITLE
C (PROGRAM COSTS ARE CALCULATED FOR EACH PROGRAM IN PTITLE
C BY MOVING THROUGH THE ARRAY SEQUENTIALLY), AND SUMS THE
C COSTS ACROSS ALL SELECTED PLC UNITS BY COST TYPE TO
C CALCULATE THE COST OF A PROGRAM.
C
      REAL ASINF(4),PGP(17,6)
      INTEGER PTITLE(9),STITLE(50,8), PTITLE(20,8),PJTITL(50,8),
     1PLTITL(150,8),BLC,BASE/'BASE'/,ISTIET,PLNCDE,PLNTYP,INPJ/'INPJ'/,
     2BLAK/'BLNK'/,EJCIP(50),FULL/'FULL'/,SUPP/'SUPP'/,PROJ/'PROJ'/,
     3PJCE/'PJCE'/,ALTE/'ALTE'/,PLNTLT(5),IPES(20,5,6),INSUP(9,6),CN,
     4QT,PUN(8),PLC,PLS,PUPP,PUPJ,PLST,ISTCST(17,3,5),IPENP(6),NCEPV(6),
     5TCO(6),NSC(5,7),INCPRT(15),NPFOP(17),PCCT,CT
      COMMON NSITEC,ASTACC,NPHCCC,NPRJCD,NPU,RTITLE,ICT,II,IPC,IPEPAC,
     1STITLE,MNTITL(15,8),PTITLE,PJTITL,CCTSTP,ANTINF,PSTNF,MNC(15),
     2CMNOP(15,3),IS,IS,PLNCDE,PLNTYP,NPJIP,PJCIP,IIS,IAPMN(16,3,6),
     3IPPPGC(6,6),NFNGKP(16,5),IAPKN(15,3,6),IAPPG(5,6),NFGGKP(16,6),
     4NSUAP,NPRJ,NPCE,ISUBP(100),IAPRJ(100),INPDE(100),ASTTYP(15),PLNTLE
      COMMON PUTITL
      REWIND C
      DO 300 JJ=1,NPU
      READ(C) CN,CT,PT,(PUN(K),K=1,8),PUC,PLS,PUPP,PUPJ,PLST,PCCF,
     1(IPFP(K),K=1,6),(NCEPV(K),K=1,6),(TCC(K),K=1,6),NNCC,NSC,NSTYP,
     2(INPK(K),K=1,15),NPFLC,PNP,ISTCST
      IF(PLNP.NE.PTITLE(IP,1))GO TO 300
      IF(PLST.NE.SUPP) GO TO 91
      NSUPP=NSUPP+1
      ISUBP(NSUPP)=PLC
      GO TO 90
   91 IF(PLST.NE.PROJ) GO TO 92
      NPRJ=NPRJ+1
      INPRJ(NPRJ)=PUC
      GO TO 90
   92 NPCE=NPCE+1
      INPCE(NPCE)=PUC
   90 IF(C.NE.2) GO TO 9
      DO 4 K=1,6
      DO 5 L=1,15
      IF(NPFC(L).EC.CT) GO TO 5
      ASTTYP(L)=1
C
C SALARY COST BY STAFF TYPE
C FOR A PROGRAM
C
      IAPMN(L,1,K)=IAPMN(L,1,K)+ISTCST(L,1,K)
C
C FRINGE BENEFITS BY STAFF
C TYPE FOR A PROGRAM
C
      IAPMN(L,2,K)=IAPMN(L,2,K)+ISTCST(L,2,K)
C
C   STAFF COST BY STAFF
C   TYPE FOR A PROGRAM
C
      IAPMN(L,3,K)=IAPMN(L,3,K)+ISTCST(L,3,K)
    5 CONTINUE
```

```
FORTRAN IV G LEVEL  20              PRCOST          DATE = 72173        11/05/43           PAGE 0010
                     C
                     C TOTAL SALARY COST FOR A PROGRAM
                     C
      0029                  IPRPRC(6,1,K)=IPRPRC(16,1,K)+ISTCST(IC,1,K)
                     C
                     C FRINGE BENEFIT COST FOR A PROGRAM
                     C
      0030                  IPRPRC(IZ,2,K)=IPRPRC(IZ,2,K)+ISTCST(IC,2,K)
                     C
                     C STAFF COST FOR A PROGRAM
                     C
      0031                  IPRPRC(IZ,3,K)=IPRPRC(IZ,3,K)+ISTCST(IC,3,K)
      0032              4 CONTINUE
      0033                DO 4 K=1,6
                     C
                     C SUPPORT COST FOR A PROGRAM
                     C
      0034                  IPRPRC(1,K)=IPRPRC(1,K)+ ACC(5,K+1)
                     C
                     C CURRENT EXPENSE COST
                     C
      0035                  IPRPRC(2,K)=IPRPRC(2,K)+ISTCST(17,1,K)
                     C
                     C CAPITAL OUTLAY COST FOR A PROGRAM
                     C
      0036                  IPRPRC(3,K)=IPRPRC(3,K)+ICF(K)
                     C
                     C GROSS COST(CE+CO)
                     C
      0037                  IPRPRC(4,K)=IPRPRC(4,K)+ISTCST(17,2,K)
                     C
                     C NON-CURRENT EXPENSE REVENUE
                     C
      0038                  IPRPRC(5,K)=IPRPRC(5,K)+NCEPVIZ)
                     C
                     C LOCAL COST(GROSS COST-NCERCV)
                     C
      0039                  IPRPRC(6,K)=IPRPRC(6,K)+ISTCST(17,3,K)
      0040              4 CONTINUE
                     C
                     C NUMBER OF POSITIONS BY
                     C STAFF TYPE FOR A PROGRAM
                     C FOR A BASE CASE
                     C
      0041                DO 10 K=1,6
      0042                DO 9 I=1,15
      0043                IF(NPFFG(I).FC.0) GO TO 9
      0044                PRPGNP(I,K)=PRPGNP(I,K)+FNP(I,K)
      0045              9 CONTINUE
                     C
                     C
                     C TOTAL NUMBER OF POSITIONS FOR A PROGRAM
                     C FOR A BASE CASE
                     C
                     C
      0046                PRPGNP(16,K)=PRPGNP(16,K)+PNP(16,K)
      0047             10 CONTINUE
      0048                GO TO 200
      0049              9 IF(PL.TYP.EQ.1) ... 11 21
      0050                DO 15 II=1,...
      0051                IF(PLPJ,..,...)) ... 15
```

```
0052            GO TO 21
0053         15 CONTINUE
0054            GO TO 300
                C
                C AGGREGATE ALTERNATIVE BASE PY COSTS
                C FOR A PROGRAM
                C
0055         21 DO 25 K=1,6
0056            DO 24 L=1,15
0057            IF(IAPPCR(L).EQ.0) GO TO 4
0058            NSTTYP(L)=1
                C SALARY COST BY STAFF TYPE
                C FOR A PROGRAM
                C
0059                  IAPMA(L,1,K)=IAPMN(L,1,K)+ISTCST(L,1,K)
                C
                C FRINGE BENEFITS BY STAFF
                C TYPE FOR A PROGRAM
                C
0060                  IAPMN(L,2,K)=IAPMN(L,2,K)+ISTCST(L,2,K)
                C
                C  STAFF COST BY STAFF
                C  TYPE FOR A PROGRAM
0061                  IAPMN(L,3,K)=IAPMN(L,1,K)+ISTCST(L,3,K)
0062         24 CONTINUE
                C
                C TOTAL SALARY COST FOR A PROGRAM
                C
0063                  IAPMA(16,1,K)=IAPMN(16,1,K)+ISTCST(16,1,K)
                C
                C FRINGE BENEFIT COST FOR A PROGRAM
                C
0064                  IAPMA(16,2,K)=IAPMN(16,2,K)+ISTCST(16,2,K)
                C
                C STAFF COST FOR A PROGRAM
                C
0065                  IAPMA(16,3,K)=IAPMN(16,3,K)+ISTCST(16,3,K)
0066         25 CONTINUE
0067            DO 26 K=1,6
                C
                C ASSOC COST FOR A PROGRAM
                C
0068                  IAPRCC(1,K)=IAPRGC(1,K)+ ASC(5,K+1)
                C
                C OE COST FOR A PROGRAM
                C
0069                  IAPRGC(1,K)=IAPRGC(2,K)+ISTCST(17,1,K)
                C
                C CAPITAL OUTLAY  COST FOR A PROGRAM
                C
0070                  IAPRGC(3,K)=IAPRGC(3,K)+ICC(K)
                C
                C GROSS COST(OE+CC)
                C
0071                  IAPRCC(4,K)=IAPRGC(4,K)+ISTCST(17,2,K)
                C
                C NON-CURRENT EXPENSE REVENUE
                C
0072                  IAPRCC(5,K)=IAPRGC(5,K)+NCERV(K)
                C
                C TOTAL COST(GROSS COST-NCERV(K)
```

```
      C
0073        IAPRCC(6,K)=IAPRCC(16,K)+TSTCST(17,3,K)
0074     25 CONTINUE
      C
      C
      C NUMBER OF POSITIONS BY STAFF
      C TYPE FOR A PROGRAM FOR AN ALTERNATIVE CASE
      C
      C
0075        DO29 K=1,6
0076        DO29 I=1,15
0077        IF(NEEDS(I).EQ.0) GO TO 29
0078        APRGNP(I,K)=APRGNP(I,K)+PNP(I,K)
0079     29 CONTINUE
      C
      C
      C TOTAL NUMBER OF POSITIONS FOR A
      C PROGRAM FOR AN ALTERNATIVE CASE
      C
      C
0080        APRGNP(16,K)=APRGNP(16,K)+PNP(16,K)
0081     28 CONTINUE
      C
      C SUM ALTERNATIVE CASE AND BASE CASE PROGRAM COSTS
      C
0082        DO 79 L=1,16
0083        DO 74 K=1,6
0084        IBPRMN(L,1,K)=IBPRMN(L,1,K) + IAPRMN(L,1,K)
0085        IBPRMN(L,2,K)=IBPRMN(L,2,K) + IAPRMN(L,2,K)
0086        IBPRMN(L,3,K)=IBPRMN(L,3,K) + IAPRMN(L,3,K)
0087        IBPRMN(16,1,K)=IBPRMN(16,1,K)+IAPRMN(16,1,K)
0088        IBPRMN(16,2,K)=IBPRMN(16,2,K)+IAPRMN(16,2,K)
0089        IBPRMN(16,3,K)=IBPRMN(16,3,K)+IAPRMN(16,3,K)
0090     74 CONTINUE
0091     79 CONTINUE
0092        DO 92 L=1,16
0093        DO 92 K=1,6
0094        IBPRCC(L,K)=IBPRCC(L,K)+IAPRCC(L,K)
0095     92 CONTINUE
0096     97 CONTINUE
0097        DO 99 I=1,15
0098        DO 99 K=1,6
0099        BPRGNP(I,K)=BPRGNP(I,K)+APRGNP(I,K)
0100     99 CONTINUE
0101        DO 39 K=1,6
0102        BPRGNP(16,K)=BPRGNP(16,K)+APRGNP(16,K)
0103     39 CONTINUE
0104    300 CONTINUE
0105        RETURN
0106        END
```

```
0001                SUBROUTINE PUFIND(J,IS,JJ)
              C
              C SEARCHES PLANNING UNIT ARRAY FOR MATCH ON PLANNING UNIT CODE
              C
              C
              C DECLARATION STATEMENTS
              C
0002                REAL KSINF(4)
0003                INTEGER  RTITLE(9),STITLE(50,8), PTITLE(20,8),PJTITL(50,8),
                   1PUTITL(150,8),B,C,BASE/'BASE'/,IS(16),PLNCDE,PLNTYP,INPJ/'INPJ'/,
                   2BLANK/'BLANK'/,PJCIP(50),FULL/'FULL'/,SUPP/'SUPP'/,PROJ/'PROJ'/,
                   3PJSF/'PJSF'/,ALTE/'ALTE'/,PLNTLE(5),IPRS(20,5,6),IPWSUP(5,6)
0004                COMMON NSITLC,NSTACD,NPROCC,NPRJCD,NPU,RTITLE,ICT,II,IPC,IREPNC,
                   1STITLE,NSTITL(15,8),PTITLE,PJTITL,CLINER,KKSINF,KSINF,MSC(15),
                   2NNNPR(15,3),IP,IR,PLNCDE,PLNTYP,NPJIP,PJCIP,IIS,IPPWR(16,3,6),
                   3IPRECC(6,6),IPPECNT(16,6),IAFEN(16,3,6),IAFECC(6,6),APPCNT(16,6),
                   4NCPUF,NPRJ,NPPF,ISUPP(100),INPRJ(100),INPLE(100),NSTTYP(15),PLNTLE
0005                COMMON PUTITL
0006                GO TO (1,2,3),IS
0007              1 DO 25 II=1,NPU
0008                IF(ISUPP(J).NE.PUTITL(II,1)) GO TO 25
0009                JJ=II
0010                GO TO 100
0011             25 CONTINUE
0012                GO TO 100
0013              2 DO 27 II=1,NPU
0014                IF(INPRJ(J).NE.PUTITL(II,1)) GO TO 26
0015                JJ=II
0016                GO TO 100
0017             26 CONTINUE
0018                GO TO 100
0019              3 DO 27 II=1,NPU
0020                IF(INPLE(J).NE.PUTITL(II,1)) GO TO 27
0021                JJ=II
0022                GO TO 100
0023             27 CONTINUE
0024            100 RETURN
0025                END
```

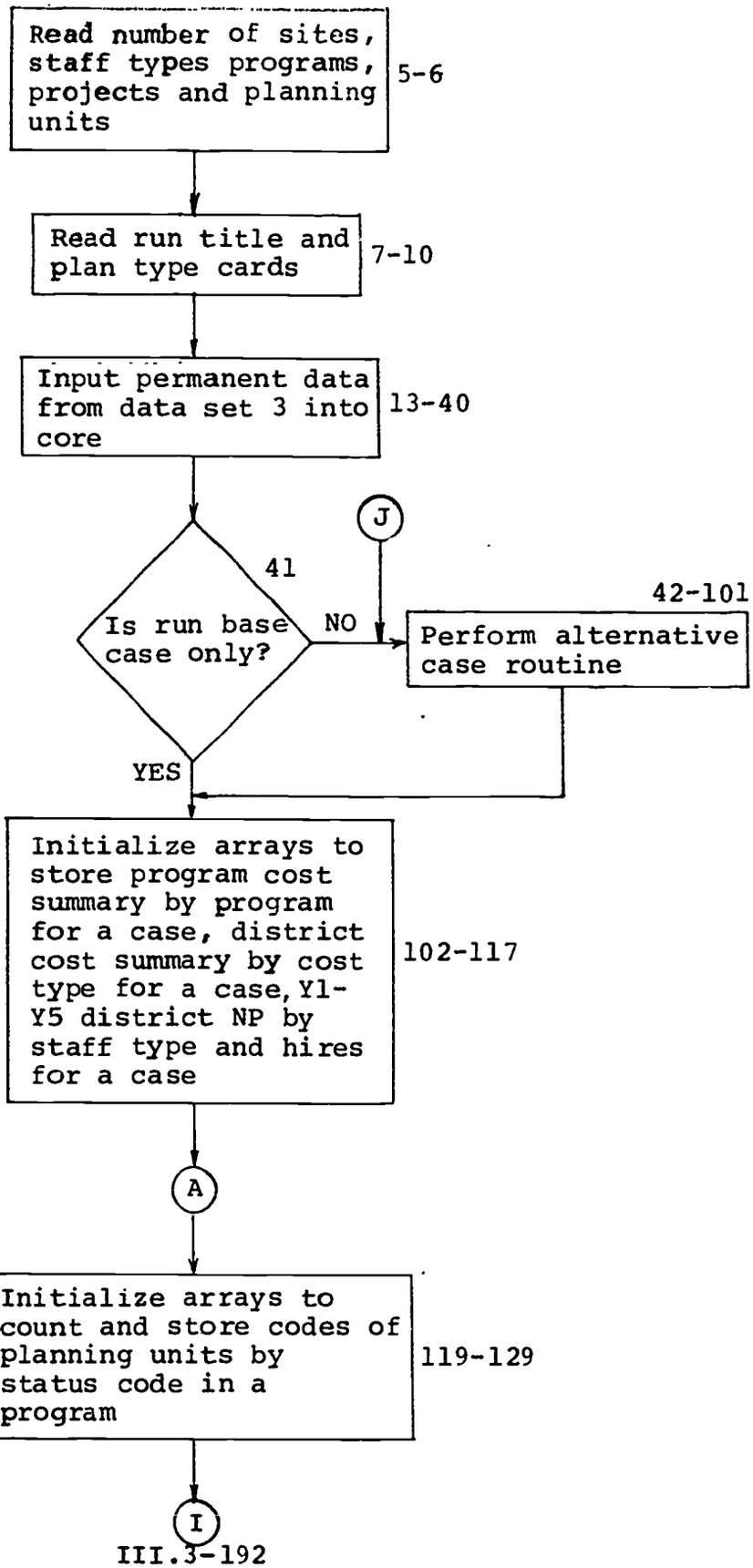
FLOWCHART OF

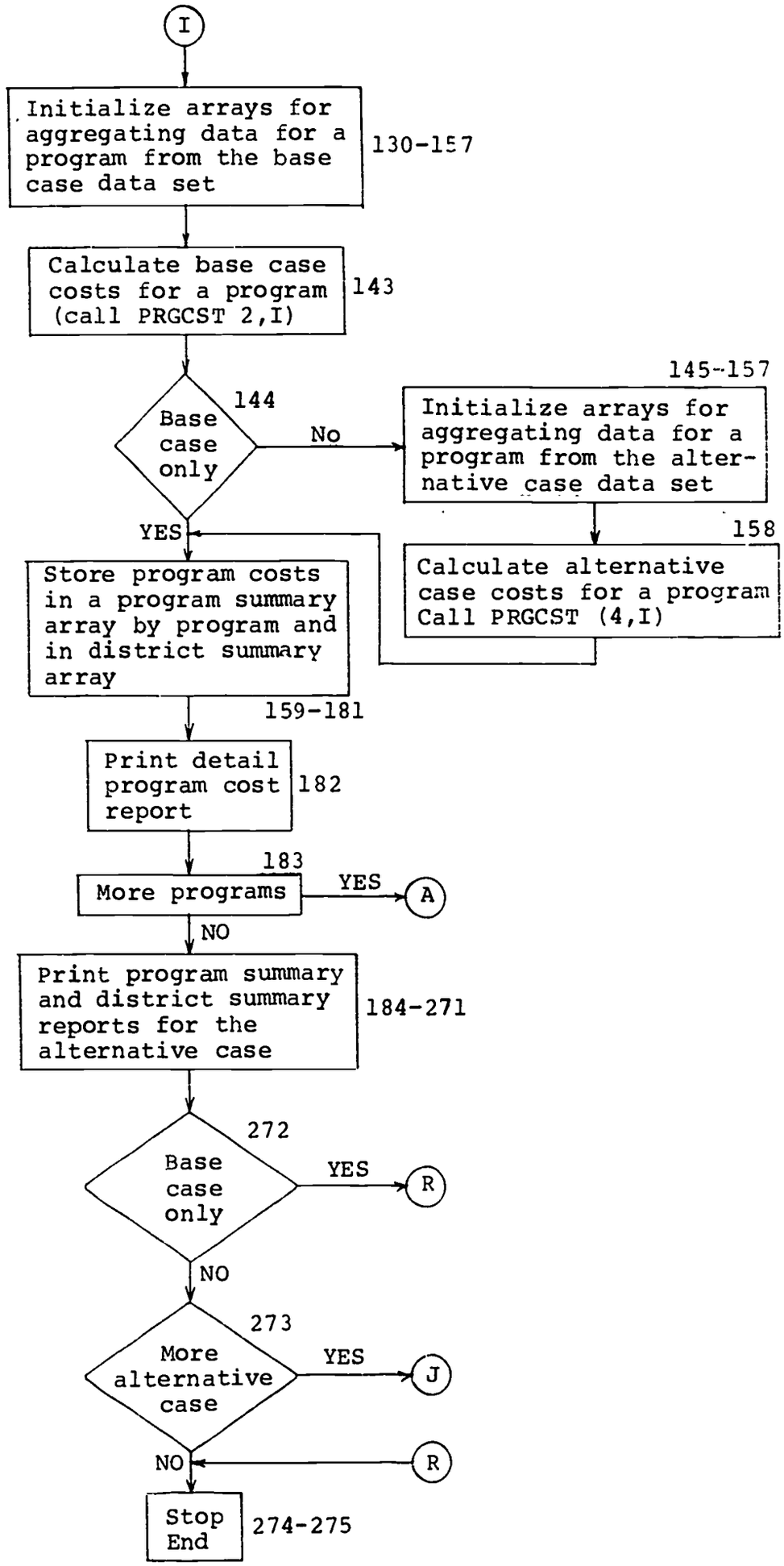
PROGRAM COST MODEL.

Chart III.3-7 presents a flowchart of the main routine of the Program Cost Model. The numbers to the right of each box of the chart correspond to the statement numbers in the left margin of the source computer program listing.

Chart III.3-7

Flowchart of the Program Cost Model of the Resource Requirement Module




I
Initialize arrays for aggregating data for a program from the base case data set
130-157
Calculate base case costs for a program (call PRGCST 2,I)
143
144
Base case only
No
145-157
Initialize arrays for aggregating data for a program from the alternative case data set
YES
158
Calculate alternative case costs for a program Call PRGCST (4,I)
Store program costs in a program summary array by program and in district summary array
159-181
Print detail program cost report
182
183
More programs
YES
A
NO
Print program summary and district summary reports for the alternative case
184-271
272
Base case only
YES
R
NO
273
More alternative case
YES
J
NO
R
Stop End
274-275

COMMENTARY ON ADAPTING PROGRAM

COST MODEL PROGRAM DECK

The Program Cost Model program deck is converted to a Site Cost Report Generator program deck and a Project Cost Report Generator program deck by replacing nine cards and adding five new cards to the original program deck.

The following changes are made to the Program Cost Model program deck:

a. Instructions are added (five new cards) to store site data or project data in the program cost arrays. This permits the use of the Program Cost Model program deck without wholesale changes.

b. Replace eight format statement cards to change report titles to reflect site and project titles.

c. Replace one conditional statement to compare planning unit site code or project code to a site or project code in the site title or project title arrays.

VARIABLE DICTIONARY OF THE RESOURCE

REQUIREMENTS MODULE COMPUTER PROGRAMS

The variable dictionary for the component computer programs of the Resource Requirements Module is presented below. A single variable dictionary is provided since many of the same variables are used across all programs. Furthermore, since the Program Cost Model is adapted to become the Site Cost Model, program variables are applicable to site cost data and project cost data for the Site Cost Model and Project Cost Model.

VARIABLE	DEFINITIONS
ALL	Variable to store the literal ALL signifying that a playback is required for both permanent and planning unit data input.
ALTE	Variable used to store the literal ALTE , indicating that a particular run is an alternative case computer run.
B	Variable name of a temporary data set for storing planning unit records.
BASE	Variable used to store the literal BASE , indicating that a particular computer run is a base case run.
BLANK	Variable to store the literal BLNK .
BPRGNP(J,K)	Number of positions by staff type for a program (for the base case). Subscript J ranges over staff types. Subscript K ranges over years.

C	Variable name of a data set for storing planning unit records (calculation results included). C=2 represents base case planning units. C=4 represents alternative case planning units.
CARD(I)	Temporary variable used for storing a data card input as a card image. Subscript I ranges over the characters necessary to store the card image.
CI	Card type indentifier of a data input card.
CN	Card type number of a data input card.
COINFR	District-wide inflation rate for capital outlay cost for the current year.
GORR	Variable to store the literal 'GORR' which indicates that the planning unit cost model is to be run.
CYCOPF	Capital outlay planning factor for the current year.
CYMS(I)	Mean salary for the current year. Subscript I ranges over staff types.
CYNSPF	Non-staff non-capital outlay planning factor for the current year for a planning unit.
DMNPR(I,J)	Working storage area used to store staff data used on a district-wide basis. Subscript I ranges over the staff types. Subscript J ranges over the following data by staff type: J=1 is the turnover rate; J=2 is the salary inflation percent; and J=3 is the fringe benefit percent.

DT	Date of planning unit data in the form MMYY, where MM= numeric form of the month and YY=last two digits of the year.
DWNPST(I,K)	Number of positions by staff type for the district. Subscript I ranges over staff types. Subscript K ranges over years.
FULL	Variable use to store the literal value FULL which indicates all projects are to be concluded in a case.
IAPMN(J,L,K)	Staff costs of a program associated with a particular set of projects in an alternative case. Subscript J ranges over staff types. Subscript L ranges over various staff costs as follows: L=1 represents salary cost for a program; L=2 represents fringe benefit cost for a program; and L=3 represents.
IAPRGC(J,K)	All other non-staff costs added to base case program costs as a result of running an alternative case. (See IBPRGC).
IBPMN(J,L,K)	Staff costs for a program for the base case. Subscript J ranges over staff types. Subscript L ranges over various staff costs as follows: L=1 represents salary cost for a program; L=2 represents fringe benefit cost for a program; and L=3 represents total staff cost for a program (salary plus fringe benefit). Subscript K ranges over years.
IBPRGC(J,K)	All other non-staff costs associated with a program (for a base case). Subscript J ranges over the following cost types:

	J=1 represents non-staff non-capital outlay cost for a program; J=2 represents capital outlay cost for a program; J=3 represents current expense costs (NSNCO plus staff cost) for a program; J=4 represents gross cost for a program (current expense plus capital outlay); J=5 represents non-current expense revenues for a program; and, J=6 represents local cost for a program (gross cost minus non-current expense revenues). Subscript K ranges over years.
ICI	Card type identifier of alternative case specification card.
ICN	Card number of alternative case specification card.
ICO(I)	Capital outlay cost for a planning unit. Subscript I ranges over years.
ICT	Card type identifier.
IDWSUM(J,K)	Cost summary for the district. Subscript J ranges over cost types. Subscript K ranges over years. Subscript J has the following representation: J=1 Salaries J=2 Fringe Benefit J=3 Staff Cost J=4 NSNCO J=5 Current expense cost J=6 Capital outlay J=7 Gross cost J=8 Non-current expense revenue J=9 Local cost
IFOR	Forecast option code for calculation of the number of positions of a staff type.
INPDE(I)	Codes of planning units in a program with the status code of PJDE (project design). Subscript I ranges over planning unit codes.

INPJ	Variable used to store the literal 'INPJ' which indicates projects to be included in an alternative case are to be input.
INPRJ(I)	Codes of planning units in a program with the status code of 'PROJ'. Subscript I ranges over planning unit codes.
IP	Temporary subscript used to indicate a program.
IPENR(J)	Planning unit enrollment. Subscript J ranges over years. J=1 represents the current year, J=2 represents Y1, J=3 represents Y2, and so on.
IPG	Page number.
IPRS(I,J,K)	Cost summary by program. Subscript I ranges over programs Subscript J ranges over various costs and subscript K over years. Subscript J has the following representations: J=1 is Capital outlay J=2 is Current expense cost J=3 is Gross cost J=4 is Non-current expense revenue J=5 is Local Costs
IREPNO	Report number.
ISAL	Temporary variable used to store the current year salary of a staff type.
ISTCST(I,J,K)	Planning unit staff costs. Subscript I ranges over staff types. Subscript J ranges over the following: J=1 represents planning unit salary cost; J=2 represents planning unit fringe benefit cost; and J=3 represents planning unit total cost. Subscript K ranges over years.

	Subscript I=16 represents total salary cost, total fringe benefit costs, and total staff costs for a planning unit as Subscript J ranges from 1 to 3, respectively. Subscript I=17 represents the following: ISTCST(17,1,K) is total current expense costs for a planning unit; ISTCST (17,2,K) is total planning unit costs (current expense plus capital outlay); ISTCST(17,3,K) is total local planning unit costs (total planning unit costs minus planning unit non-current expense revenues.)
ISUBP(I)	Codes of planning units in a program with the status code of 'SUBP' (sub-program). Subscript I ranges over planning unit codes.
IWORK(I)	Temporary variable used to store CY and Y1-Y5 NSNCO cost for a NSNCO cost type. Subscript I ranges over years.
IWORK1(I)	Temporary variable use to store the codes of staff types in a planning unit. Subscript I ranges over staff types.
I1	Plan type. The plan types are: BASE represents a base case computer run and ALTE represents an alternative case computer run.
I1S	Alternative case number of the previous alternative case.
I2	Playback option.
I3	Computer run option.
I8	Numeric code of an alternative case.

I9(I)	Temporary variable used to store CC 9-80 of an alternative case specification card. Subscript I ranges over the characters necessary to store the data in the data card. Subscript I=1,5 is the title of the alternative plan. Subscript I=6 is the plan type. Subscript I=7, 19 represents the project codes of those projects in the particular alternative case.
KALTC	Count of the number of alternative cases for which case specification cards are input in a particular computer run.
MNC(I)	Staff types. Subscript I ranges over the staff type.
MNT	Staff type code.
MNTITL(I,J)	Staff codes and titles. Subscript I ranges over the manpower type titles. Subscript J ranges over the characters necessary to store a staff code and a staff title. Subscript J=1 represents the staff code. Subscript J=2 to J=8 represent the characters necessary to store the staff title.
N	Total number of input cards consisting of permanent data cards, planning unit data cards, and data header and trailer cards (count of cards on temporary data set 1).
NALC	Number of alternative cases to be calculated in any one computer run.
NCERV(I)	Non-current expense revenues for a planning unit. Subscript I ranges over years.

NDMNPC	Number of district-wide staff data cards.
NMNTYP	Total number of staff types in a planning unit.
NNSCO	Total number of non-staff non-capital cost types for which NSNCO data will be input for a planning unit.
NNSINF	Total number of district-wide non-staff non-capital outlay cost types.
NPENR	Number of planning unit enrollment base data cards. (Card type number 11)
NPDE	Number of planning units in a program with a status code of project design.
NPFOR(I)	Forecast option code for calculating staff costs for a planning unit. Subscript I ranges over staff types.
NPJIP	Number of projects in an alternative case.
NPMNP	Number of planning unit staff information cards. (Card type number 16.)
NPNCE	Number of planning unit non-current expense revenue cards (card type number 12.)
NPNSC	Number of planning unit non-staff non-capital outlay cost cards (card type number 15.)
NPNSD	Number of planning unit non-staff non-capital outlay cost information cards.
NPRJ	Number of planning units in a program with a status code of project (status code is 'PROJ'.)

NPRJCD	Number of project title cards.
NPROGC	Number of program title cards.
NPU	Number of planning unit title cards.
NPUCO	Number of planning unit capital outlay cost cards (card type number 13.)
NPUDS	Number of planning unit descriptor cards (card type number 10.)
NPUNP	Number of planning unit staff type data cards (card type number 17.)
NSC(I,J)	Non-staff non-capital outlay costs for a planning unit. Subscript I ranges over the NSNCO cost types. Subscript I=5 represents the total NSNCO cost for a planning unit. Subscript J ranges over the following: NSC(I,1) = Forecast option code for NSNCO cost type I; NSC(I,2) = CY NSNCO cost for NSNCO cost type I; NSC(I,3) = Y1 NSNCO cost for NSNCO cost type I; NSC(I,4) = Y2 NSNCO cost for NSNCO cost type I, and so on.
NSCSTY	NSNCO cost type for a planning unit.
NSFORC	NSNCO forecast option code.
NSINF(I)	Non-staff non-capital outlay inflation rates for the current year. Subscript I ranges over NSNCO cost types.
NSITEC	Number of site title cards.
NSTACD	Number of staff title cards.

NSTTYP(J)	Variable used to indicate staff types in a program. Subscript J ranges over staff types.
NSUBP	Number of planning units in a program with a status code of subprogram.
OCI	Card identifier of previous planning unit record.
OCN	Card number of previous planning unit record.
ODT	Date of previous planning unit record.
OPUC	Planning unit code of previous planning unit record.
PCOF	Forecast calculation option code for the capital outlay costs of a planning unit as follows: 01 = input CY and Y1-Y5 capital outlay costs; 02 = input CY capital outlay costs only; and, 03 = input CY capital outlay costs only.
PHDR	Variable to store the card type 'PHDR' as a literal. This card type indicates a permanent data input header card.
PJCIP(I)	Codes of projects in an alternative case. Subscript I ranges over projects in the alternative case.
PJDE	Variable used to store the literal 'PJDE' which denotes the status code of a planning unit as a project design.

PJTITL(I,J)	Project codes and titles. Subscript I ranges over the project titles. Subscript J ranges over the characters necessary to store a project code and a project title. Subscript J=1 represents the project code, and Subscript J=2 to J=8 represents the project title.
PLNCDE	Numeric code of an alternative plan.
PLNTLE(I)	Alternative case title. Subscript I ranges over the characters necessary to store the alternative case title.
PLNTYP	Variable used to store literal which indicates if all projects are used in an alternative plan, or if only specific projects are to be used in an alternative plan (as input via the case specification card.)
PNP(I,J)	Number of positions by staff type for a planning unit. Subscript I ranges over staff types. Subscript J ranges over years. Subscript J=16 represents the total number of positions in a planning unit.
PROJ	Variable used to store the literal 'PROJ' which denotes that the status code for a planning unit is designated as project.
PTITLE(I,J)	Program codes and titles. Subscript I ranges over the program titles. Subscript J ranges over the characters necessary to store a program code and a program title. Subscript J=1 represents the program code, and Subscript J=2 to J=8 represents the program title.

PUC	Planning unit code.
PUN(I)	Planning unit name. Subscript I ranges over the characters necessary to store the name.
PUPJ	Project code for a planning unit.
PUPR	Program membership code for a planning unit.
PUS	Site code for a planning unit.
PUST	Status code for a planning unit as follows: SUBP represents a subprogram, PRJO represents an existing project, and PJDE represents a project design.
PUTITL(I,J)	Planning unit codes and titles. Subscript I ranges over the planning units. Subscript J ranges over the characters necessary to store a planning unit code and a planning unit name. Subscript J=1 represents the planning unit code, and J=2 to J=8 represents the characters in the planning unit title.
PWORK(I)	Temporary variable used to store number of positions of a staff type. Subscript I ranges over years.
RTITLE(I)	Title of the computer run. Subscript I ranges over the characters necessary to store the run title.
SSR(I)	Staff-student ratio. Subscript I ranges over staff types.
STITLE(I,J)	Site codes and titles. Subscript I ranges over the sites. Subscript J ranges over the characters necessary to store a site code and a site title. Subscript J=1 represents the site code, and J=2 to J=8 represents the characters in the site title.

SUBP	Variable used to store the literal 'SUBP' which denotes that the status code for a planning unit is designated as a subprogram.
T1(I)	Temporary variable used as a work area for storing data input. Subscript I ranges over the characters necessary to store the data input.
T2	CC 79-80 of card input stored on data set 1.
T3(I)	Header card title. Subscript I ranges over the characters necessary to store the header title.
VAR	Variable used to store the literal 'VAR', signifying that only playback reports for planning unit input data are to be printed.

REPORT DESCRIPTIONS

Introduction

The Resource Requirements Module computer program produce reports which can be grouped under the following three classifications:

- detail cost reports for each planning unit, for each program, and for each site
- summary cost reports for each program, for each site, and for each project
- and district summary report of costs by cost category (Staff, Capital Outlay, and Non-Staff Non-Capital Outlay Costs), and manpower requirements

Each of these reports is discussed in the paragraphs which follow. All sample reports are illustrative only.

PLANNING UNIT DETAIL REPORT

A Planning Unit Detail Report is produced for each planning unit included in the computer run.

Descriptive information about the planning unit, such as name, code, site name, program membership name, and status, were input and are displayed in the first part of the report.

Cost data is presented in the main section of the output. First, the CY and Y1-Y5 Salary Costs, Staff Costs (includes fringe benefits), and number of positions are calculated and displayed by staff type. The Cost Forecast Option Code is displayed beside each staff type to indicate the calculation method used for estimating Y1-Y5 data. Second, Non-Staff Non-Capital Outlay Costs (NSNCO) for the CY and Y1-Y5 and its cost forecast option code are shown. Total Current Expense Costs for Y1-Y5 are calculated as the sum of Staff and NSNCO costs. CY and Y1-Y5 Capital Outlay costs are determined, and both the cost forecast option for this cost detail line and CO costs are presented. CY and Y1-Y5 Total Planning Unit Cost is calculated as the sum of Total Current Expense Costs plus Capital Outlay Costs for the CY and Y1-Y5.

Total CY and Y1-Y5 Non-Current Expense Revenues were input. Total Local Cost for the CY and Y1-Y5 is calculated as Total Non-Current Expense Revenue from Total Planning Unit Costs.

Subsidiary data used in the cost calculations are printed. The CY and Y1-Y5 enrollment base of the planning unit was input. The number of positions by staff type for the current year and the total salary cost by staff type for the current year were input. Current year mean salary by staff type by planning unit is calculated as total salary by staff type divided by the total number of positions by staff type. The staff-student ratio for the current year by staff type equals the current year enrollment divided by the current year number of positions by staff type. Staff-student ratio is only calculated when the forecast option code is 3.

Refer to the cost calculation section above for a detailed discussion of the cost forecast option codes and the cost calculations.

PLANNING UNIT REPORT FOR BASE CASE

PLANNING UNIT NAME: BD OF ED ANNEX-REALIGNED ACF-ESCA CODE: 4371 SITE: ANNEX 456 E. STATE STREET

PROGRAM MEMBERSHIP: PRIMARY PLANNING UNIT STATUS: PROJ

CURRENT EXPENSE	CY	Y1	Y2	Y3	Y4	Y5
STAFF COSTS						
TEACHERS-PRIMARY						
FORECAST OPTION CODE = 3						
NUMBER OF POSITIONS	15.0	20.0	30.0	40.0	50.0	70.0
SALARY COST	126000	171200	274776	392013	524317	765420
FRINGE BENEFIT COST	10800	15408	24750	35281	47196	70830
STAFF COST	136800	186608	299500	427294	571513	836114
ADMINISTRATION-PRINCIPAL						
FORECAST OPTION CODE = 3						
NUMBER OF POSITIONS	1.0	1.3	2.0	2.7	3.3	4.7
SALARY COST	20000	27733	43264	59993	77990	113554
FRINGE BENEFIT COST	1600	2496	3894	5399	7019	10220
STAFF COST	21600	30229	47158	65392	85009	123774
UNIT TOTALS						
NUMBER OF POSITIONS	16.0	21.3	32.0	42.7	53.3	74.7
SALARY COST	146000	198933	318040	452006	602307	878974
FRINGE BENEFIT COST	12400	17904	28644	40680	54307	80950
STAFF COST	158400	216837	346684	492686	656614	959923
NONCD COST TYPE 1 FORECAST CODE = 2	6000	6130	6556	7164	8063	9347
TOTAL NONCD COSTS	6000	6130	6556	7164	8063	9347
TOTAL CURRENT EXPENSE	158800	223017	353220	499850	664677	969235
CAPITAL-OUTLAY COST-FORECAST OPTION= 2	200	210	232	269	327	417
TOTAL PLANNING UNIT COST	158800	223227	353452	500119	664904	969652
TOTAL NON-CURRENT EXPENSE REVENUE	50000	50000	50000	50000	50000	50000
TOTAL LOCAL PLANNING UNIT COST	108800	173227	303452	450119	614904	919652

SUBSIDIARY DATA

	CY	Y1	Y2	Y3	Y4	Y5
ENROLLMENT CASE	150	200	300	400	500	700
	CY MEAN SALARY		STUDENT-STAFF RATIO			
TEACHERS-PRIMARY	8000.00		10.00			
ADMINISTRATION-PRINCIPAL	20000.00		150.00			

PROGRAM DETAIL REPORT

A Program Unit Detail Report is automatically produced for each program during a computer run of the program cost model.

CY staff data by planning unit - number of positions, salary cost, and staff cost, each by staff type - was input. Y1-Y5 planning unit staff data was then calculated (Refer to Table III.3-a for details). Previously input by planning unit were CY Capital Outlay and NSNCO, and CY and Y1-Y5 non-current expense revenues. Y1-Y5 CO and NSNCO by planning unit were calculated. The program membership code for each planning unit was also input.

The number of staff positions and staff costs by staff type by program for the CY and Y1-Y5 is calculated by aggregating planning unit staff data by program by selecting the appropriate planning unit based upon the program membership code of the planning unit. CY and Y1-Y5 Staff totals for a program are calculated by aggregating these data across staff types in the program.

NSNCO by program for the CY and Y1-Y5 is calculated in the same way, i.e., by aggregating across planning units the CY and Y1-Y5 planning unit NSNCO costs by program based upon the program membership. The same process is repeated for aggregating CY and Y1-Y5 Capital Outlay and CY and Y1-Y5 Non-Current Expense Revenues by program.

Total Current Expense Cost for a program equals Staff Cost for the program plus NSNCO cost for the program for CY and Y1-Y5. The Total Gross Cost of a Program is calculated as the sum of CY and Y1-Y5 Total Current Expense Cost for the program and CY and Y1-Y5 Capital Outlay for the program. CY and Y1-Y5 Total Local Cost of a Program equals CY and Y1-Y5 Total Gross Cost of the Program minus CY and Y1-Y5 Non-Current Expense Revenues of the program.

The names of the planning units included in the program detail report are displayed by status identifier - subprogram, project, project design - under subsidiary data.

TRENTON SCHOOL DISTRICT
PROGRAM DETAIL REPORT

REPORT NO. TSD-RRM-3030
PAGE 3

PROGRAM TITLE: PRIMARY PROGRAM CODE: 83

CURRENT EXPENSE	CY	Y1	Y2	Y3	Y4	Y5
STAFF POSITIONS AND COSTS BY STAFF TYPE						
TEACHERS-PRIMARY						
NUMBER OF POSITIONS	24.2	29.6	39.9	50.2	60.5	80.8
SALARY COST	196000	255615	368111	495103	638070	910830
FRINGE BENEFIT COST	17640	23005	33130	44559	57426	81974
STAFF COST	213640	278620	401241	539662	695496	992804
ADMINISTRATION-PRINCIPAL						
NUMBER OF POSITIONS	1.0	1.3	2.0	2.7	3.3	4.7
SALARY COST	20000	27733	43264	59993	77956	113554
FRINGE BENEFIT COST	1800	2496	3894	5399	7016	10220
STAFF COST	21800	30229	47158	65392	85007	123774
STAFF TOTALS FOR THE PROGRAM						
NUMBER OF POSITIONS	25.2	30.9	41.9	52.9	63.8	85.5
SALARY COST	216000	283348	411375	555096	716066	1024384
FRINGE BENEFIT COST	19440	25501	37024	49958	64445	92194
STAFF COST	235440	308849	448399	605054	780505	1116578
TOTAL NONSTAFF COST	21000	24180	26556	32164	38063	43347
TOTAL CURRENT EXPENSE	256440	333029	474955	637218	818568	1159925
CAPITAL OUTLAY COST	700	735	811	939	1141	1436
GROSS PROGRAM COST(CE+CO)	257140	333764	475766	638157	819709	1161361
TOTAL NON-CURRENT EXPENSE REVENUE	50000	50000	50000	50000	50000	50000
TOTAL LOCAL PROGRAM COST	207140	283764	425766	588157	769709	1111361

SUBSIDIARY DATA

PLANNING UNITS IN THE PROGRAM BY STATUS CODE

SUPPROGRAM STATUS CODE
5030 ROBBINS-ELEMENTARY PLG UNIT

PROJECT STATUS CODE
4271 ANNEX-READING ACP ESEA TI

PROJECT DESIGN STATUS CODE
ONE

Summary Report By Program

CY and Y1-Y5 Current Expense Cost, Capital Outlay, Total Gross Cost, Total Non-Current Expense Revenues, and Net Local Program Costs, all by program, were previously calculated and are displayed in this summary report.

PROGRAM	CY	Y1	Y2	Y3	Y4	Y5
EARLY CHILDHOOD						
TOTAL CURRENT EXPENSE	35520	41774	43919	46349	49117	57871
CAPITAL OUTLAY COST	1000	1500	1500	1500	3000	0
GROSS COST OF PROGRAM	36520	43274	45419	47849	52117	57871
NON-CURRENT EXPENSE REVENUES	0	0	0	0	0	0
NET(LOCAL) PROGRAM COST	36520	43274	45419	47849	52117	57871
ELEMENTARY						
TOTAL CURRENT EXPENSE	95016	106404	113771	130181	142678	157950
CAPITAL OUTLAY COST	9000	5250	5788	6700	8144	10394
GROSS COST OF PROGRAM	104016	111654	119559	136881	150822	167924
NON-CURRENT EXPENSE REVENUES	0	0	0	0	0	0
NET(LOCAL) PROGRAM COST	104016	111654	119559	136881	150822	167924
SECONDARY						
TOTAL CURRENT EXPENSE	256446	333069	474955	637218	816908	1159465
CAPITAL OUTLAY COST	700	735	811	939	1141	1456
GROSS COST OF PROGRAM	257146	333804	475766	638157	818049	1160921
NON-CURRENT EXPENSE REVENUES	50000	50000	50000	50000	50000	50000
NET(LOCAL) PROGRAM COST	207146	283804	425766	588157	768049	1110921
SUPPORT SERVICES						
TOTAL CURRENT EXPENSE	0	0	0	0	0	0
CAPITAL OUTLAY COST	0	0	0	0	0	0
GROSS COST OF PROGRAM	0	0	0	0	0	0
NON-CURRENT EXPENSE REVENUES	0	0	0	0	0	0
NET(LOCAL) PROGRAM COST	0	0	0	0	0	0

SITE DETAIL REPORT

A SITE DETAIL REPORT for a site is produced during the computer run of the site cost model. A site report is produced for each site included in a case.

CY Staff Data by planning unit, CY Capital Outlay by planning unit, and CY NSNCO by planning unit were previously input, as were CY and Y1-Y5 Non-Current Expense Revenues by planning unit. Y1-Y5 costs by planning unit for each of the above cost categories was previously calculated. The site membership code for each planning unit was also input.

Planning unit staff, CO, and NSNCO costs and Non-Current Expense Revenues for CY and Y1-Y5 are summed by site code across all appropriate planning units which were selected based upon the site membership code and the SITE SPECIFICATION card data input.

Total Current Expense Cost for a site equals Staff Cost for the site plus NSNCO cost for the site for CY and Y1-Y5. The Total Site Cost of a Site is equal to the sum of CY and Y1-Y5 Total Current Expense Cost for the Site and CY and Y1-Y5 Capital Outlay for the Site. Total CY and Y1-Y5 Local Site Cost is calculated as CY and Y1-Y5 Total Non-Current Expense Revenues from CY and Y1-Y5 Total Site Cost.

The names of the planning units included in the site report are displayed.

TRENTON SCHOOL DISTRICT — REPORT NO. TSD-RRM-3000

SITE DETAIL REPORT — PAGE 1

SITE TITLE: REGGINS SCHOOL — SITE CODE: 14

CURRENT EXPENSE

STAFF POSITIONS AND COSTS BY STAFF TYPE

	CY	Y1	Y2	Y3	Y4	Y5
TEACHERS-EARLY CHILDHOOD						
NUMBER OF POSITIONS	3.5	4.0	4.0	4.0	4.0	4.0
SALARY COST	25000	35000	35280	37044	38896	45946
FRINGE BENEFIT COST	4926	3024	3175	3334	3501	4135
STAFF COST	30320	38024	38455	40378	42397	50081
TEACHERS-PRIMARY						
NUMBER OF POSITIONS	9.2	9.6	9.9	10.2	10.5	10.8
SALARY COST	70011	84419	93339	103596	114759	129464
FRINGE BENEFIT COST	6346	7597	8400	9278	10256	11206
STAFF COST	76346	92012	101739	112866	124991	136656
TEACHERS-ELEMENTARY						
NUMBER OF POSITIONS	10.3	10.3	10.3	11.1	11.4	11.8
SALARY COST	82400	88168	94546	108784	117544	132468
FRINGE BENEFIT COST	7416	7935	8491	9790	10579	11916
STAFF COST	89816	96103	103231	118574	130063	144316
STAFF TOTALS FOR THE SITE						
NUMBER OF POSITIONS	23.0	23.9	24.2	25.3	25.9	27.1
SALARY COST	180411	208183	222955	249318	271193	307578
FRINGE BENEFIT COST	18776	18556	20066	22402	24436	27357
STAFF COST	203176	226739	243021	271720	295691	334967
TOTAL NONCO COST	36000	53451	56404	62976	69093	55004
TOTAL CURRENT EXPENSE	239176	280190	299425	334696	364784	389971
CAPITAL OUTLAY COST	6500	7275	7667	8870	11950	11453
GROSS SITE COST(CE+CO)	245676	287465	307092	343566	376734	401424
TOTAL NON-CURRENT EXPENSE REVENUE	0	0	0	0	0	0
TOTAL LOCAL SITE COST	245676	287465	307092	343566	376734	401424

SUBSIDIARY DATA

PLANNING UNITS AT THE SITE BY STATES CODE

SUBPROGRAM STATES CODE

11GE	REGGINS-EARLY CHILDHOOD PU
11SC	REGGINS-PRIMARY PLG UNIT
11GE	REGGINS-ELEMENTARY PLG UNIT

PROJECT STATES CODE

NONE

PROJECT DETAIL REPORT

A Project Detail Report for a project is produced during the computer run of the project cost model. A project report is produced for each project included in a case, as appropriate.

CY Staff Data by planning unit, CY Capital Outlay for planning unit, and CY NSNCO by planning unit were previously input, as were CY and Y1-Y5 Non-Current Expense Revenues by planning unit. Y1-Y5 costs by planning unit for each of the above cost categories was previously calculated. The project membership code for each planning uni was also input.

Planning unit staff, CO, and NSNCO costs and Non-Current Expense Revenues for CY and Y1-Y5 are summed by project code across all appropriate planning units which were selected based upon the project membership code and the CASE SPECIFICATION card data input.

Total Current Expense Cost for a project equals Staff Cost for the project plus NSNCO cost for the project for CY and Y1-Y5. The Total Project Cost is equal to the sum of CY and Y1-Y5 Total Current Cost for the Project and CY and Y1-Y5 Capital Outlay for the Project. Total CY and Y1-Y5 Local Project Cost is calculated as CY and Y1-Y5 Total Non-Current Expense Revenues from CY and Y1-Y5 Total Project Cost.

The names of the planning units included in the project report are displayed.

BASE CASE: Run I - Oct. 9, 1972 Report No. TSD-RRM xxxx

TRENTON SCHOOL DISTRICT
DETAIL PROJECT COSTS

PROJECT NAME: CY Y1 Y2 Y3 Y4 Y5

Current Expense:

Staff Positions and Staff Costs

Teachers - Early Childhood
Positions
Salary Cost
Staff Cost

Teachers - Primary
Positions
Salary Cost
Staff Cost

Teachers - Elementary
Positions
Salary Cost
Staff Cost

Principals
Positions
Salary Cost
Staff Cost

Instructional Specialists
Positions
Salary Cost
Staff Cost

Clerical
Positions
Salary Cost
Staff Cost

Staff Totals
Positions
Salary Cost
Staff Cost

NON-STAFF NON-CAPITAL OUTLAY COST
TOTAL CURRENT EXPENSE

CAPITAL OUTLAY
TOTAL SITE COST
TOTAL NON-CURRENT EXPENSE REVENUES
TOTAL LOCAL SITE COST

PLANNING UNIT TO SITE NAME LIST

DISTRICT RESOURCE REQUIREMENTS SUMMARY REPORT

CY cost data by planning unit was previously input, and Y1-Y5 costs - Salary, Staff, NSNCO, CO, Total Planning Unit, and Local Planning Unit - by planning unit were calculated. CY and Y1-Y5 Non-Current Expense Revenues by planning unit were input.

CY and Y1-Y5 cost data is summed across all planning units for each type of planning unit cost and position types to determine Total Number of Positions, Total Salary Cost, Total Staff Cost, Total NSNCO, and Total CO for the district. CY and Y1-Y5 Staff Fringe Benefits is equal to CY and Y1-Y5 Total Staff Cost minus CY and Y1-Y5 Total Salary Cost. Total Current Expense Cost for CY and Y1-Y5 equals Staff Cost plus NSNCO for CY, Y1-Y5.

Total Gross Cost for the CY and Y1-Y5 is calculated as the sum of CY and Y1-Y5 Total Current Expense plus Capital Outlay. Total Local Cost for CY and Y1-Y5 equals CY and Y1-Y5 Total Gross Cost minus CY and Y1-Y5 Total Non-Current Expense Revenue.

Inflation rates for NSNCO cost by cost type and capital outlay were previously input. Expected Turnover Rate by Staff Type, Salary Inflation Percent by Staff Type, and Fringe Benefit Percent by Staff Type were previously input.

CURRENT EXPENSE	CY	Y1	Y2	Y3	Y4	Y5
STAFF COSTS						
SALARY COST	326400	405116	540995	700924	874500	1202730
FRINGE BENEFIT COST	29370	36460	48690	63082	78705	108245
STAFF COST	355770	441576	589685	764006	953205	1310975
TOTAL NONSTAFF COSTS	36000	39631	42960	49742	57158	64351
TOTAL CURRENT EXPENSE	391770	481207	632645	813748	1010363	1375326
CAPITAL-OUTLAY COST	6706	7485	8099	9139	12285	11850
TOTAL GROSS COST(CE+CO)	398476	488692	640744	822887	1022648	1387176
TOTAL NON-CURRENT EXPENSE REVENUES	50000	50000	50000	50000	50000	50000
TOTAL NET(ECONAL) COST(GROSS-NCE REV)	348476	438692	590744	772887	972648	1337176

SUBSIDIARY DATA

INFLATION RATE FOR NONCO COST TYPE 1 TO 4 0.03 0.05 0.05 0.05

INFLATION RATE FOR CAPITAL OUTLAY COST 0.05

	EXPECTED TURNOVER RATE	SALARY COST INFLATION PERCENT(CY)	FRINGE BENEFIT PERCENT
TEACHERS-EARLY CHILDHOOD	0.20	0.05	0.09
TEACHERS-PRIMARY	0.15	0.07	0.09
TEACHERS-SECONDARY	0.12	0.07	0.09
ADMINISTRATION-PRINCIPAL	0.02	0.04	0.09

MANPOWER REPORT

CY number of positions (P) by staff type by planning unit are input. Y1-Y5 number of positions by staff type by planning unit are calculated. Refer to Table III.3-a for the calculation detail procedures.

The number of positions by staff type for the CY and Y1-Y5 is summed by staff type across all planning units to determine the total number of positions by staff type for the district as a whole.

The turnover rate by staff type was previously input. Hires by staff type occurs because of staff separations or turnover. Y1-Y5 hires by staff type equals the number of positions by staff type multiplied by the turnover rate by staff type.

BASE CASE PROGRAM RUN-10/1771

TRENTON SCHOOL DISTRICT
DISTRICT MANPOWER REPORT
FOR THE BASE CASE

REPORT NO. TSD-KRM-3033
PAGE 7

STAFF TYPE		CY	Y1	Y2	Y3	Y4	Y5
TEACHERS-EARLY CHILDHOOD	POSITIONS	3.5	4.0	4.0	4.0	4.0	4.5
TURNOVER RATE 0.20	HIRES		1.2	0.8	0.8	0.8	1.3
TEACHERS-PRIMARY	POSITIONS	44.2	41.6	39.9	50.2	60.5	80.8
TURNOVER RATE 0.25	HIRES		9.0	14.8	16.3	17.0	29.4
TEACHERS-ELEMENTARY	POSITIONS	10.3	10.3	10.3	11.1	11.4	11.8
TURNOVER RATE 0.14	HIRES		1.4	1.2	2.0	1.6	1.8
ADMINISTRATION-PRINCIPAL	POSITIONS	1.0	1.3	2.6	4.7	3.3	4.7
TURNOVER RATE 0.02	HIRES		0.4	0.7	0.7	0.7	1.4

SYSTEM FOR TRENTON's EDUCATIONAL PLANNING

REVENUE MODULE

USERS MANUAL

INTRODUCTION

GENERAL

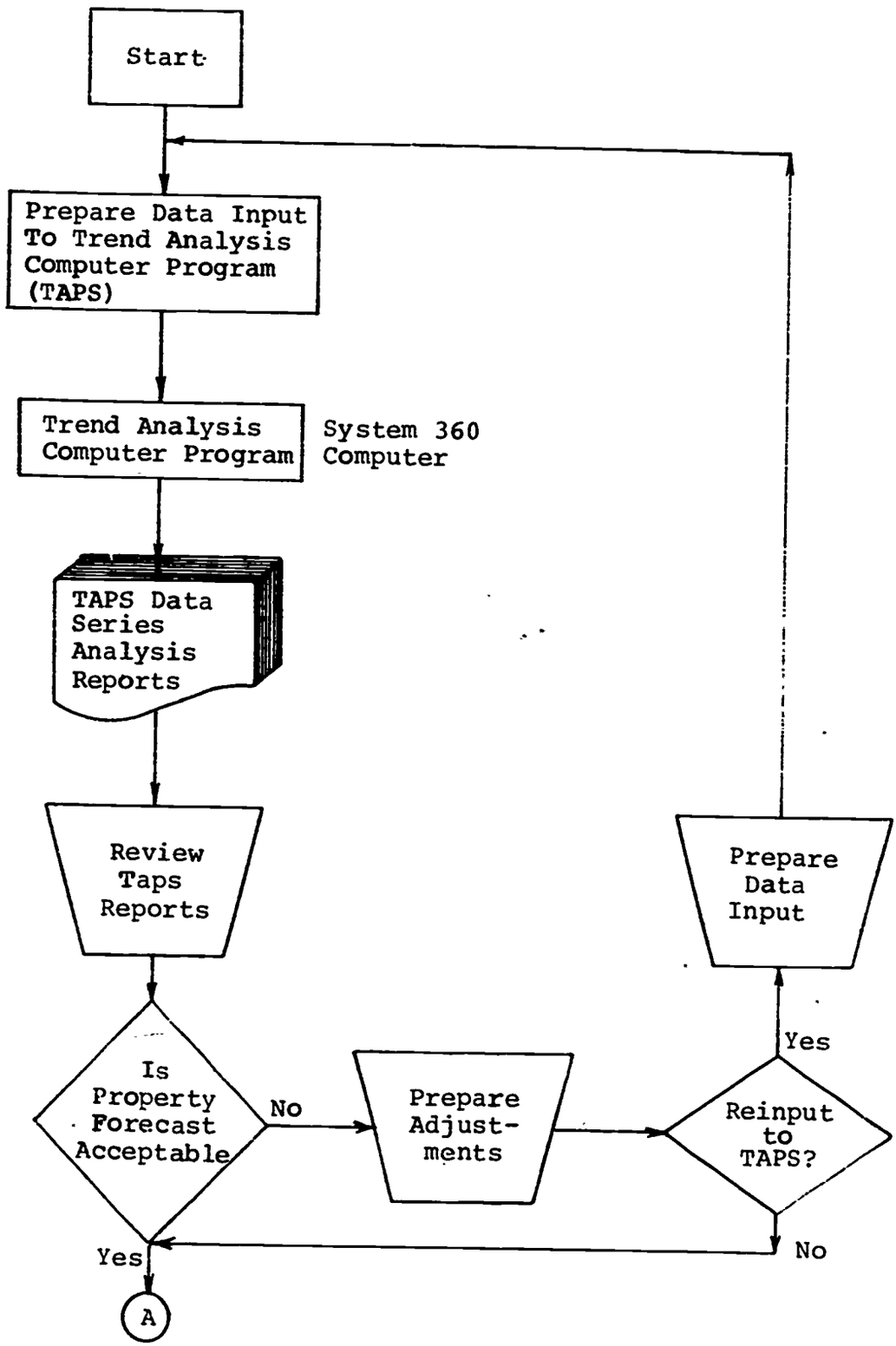
The Users Manual for the Revenue Module of the System for Trenton's Educational Planning (STEP) details the instructions for data estimation and preparation of the data input cards for the computer simulation of projected revenues.

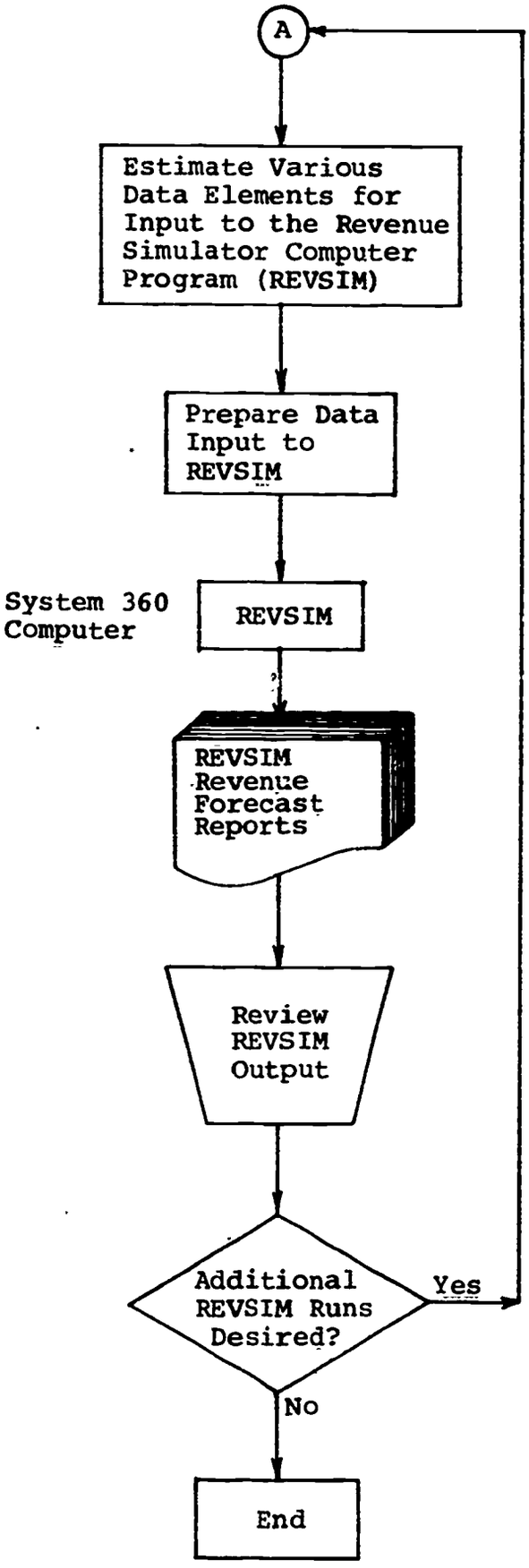
The Revenue Module consists of a combination of automated and manual processing stages. The automated phase consists of running two computer programs, the Trend Analysis (TAPS) computer program and the Revenue Simulator (REVSIM) computer program, at different points in the system flow. The manual phase of the module can be generally defined under the areas of data collection, reviewing data (both historical and projected) for possible adjustment, estimating the values of data elements used in the system, the preparation of input card decks, and the establishment and maintenance of various hard copy files (for the preservation of information used in revenue estimation). Chart III. 4-1 is a flowchart of the overall steps involved in the Revenue Module.

COMPUTER PROGRAM DEFINITION

The TAPS computer program, on the basis of historical data, projects the values of a data series into the future, calculates an upper and lower limit for each future value,

Chart III.4-1 FLOWCHART OF REVENUE MODULE PROCEDURAL STEPS.




A
Estimate Various Data Elements for Input to the Revenue Simulator Computer Program (REVSIM)
Prepare Data Input to REVSIM
System 360 Computer
REVSIM
REVSIM Revenue Forecast Reports
Review REVSIM Output
Additional REVSIM Runs Desired?
Yes
No
End

and tests the statistical significance of the trend. For each revenue source identified by district planners, the REVSIM computer program projects future revenues for each source for each year of a five year planning period, using various classes of data to be described below, and tests the revenue feasibility of a district program based upon the availability of Y1-Y5 expected revenues to cover Y1-Y5 expected costs.

REVENUE SOURCES

A study of district income sources reported in the district's annual budget and discussion with district personnel, provided the basis for identifying major revenue sources. The revenue classification schema used in REVSIM is to estimate funds by revenue type for each major revenue source. The district's three major revenue sources are: local, State, and Federal. In Table III.4-a, current expense revenue items from which district income is derived, are identified according to source - local, State, or Federal. Revenues from State and Federal sources are further classified in REVSIM into current expense revenues and non-current expense or categorical revenues. Current expense revenues are those funds used to finance the day to day operating (current expense) costs of the district, while categorical funds are used to pay for special projects and programs and not considered part of the regular school program. Revenues from local sources are assumed to be current expense revenues.

Table III.4-a Revenue by Source for the Trenton School District, 1966-67 through 1971-72

State:	Actual 1966-67	Actual 1967-68	Actual 1968-69	Actual 1969-70	Actual 1970-71	Budget 1971-72
Formula Aid	3751008	3818043	3714140	3605969	3534889	5256383
Transportation	21665	28900	133880	163360	202825	239375
Atypical Pupil	217993	231222	410330	511367	542092	618032
Emergency Aid	25000	----	----	----	----	----
Foreign Born	2877	3493	5000	5000	5000	5000
Evening Vocational	10000	10000	1000	15138	----	----
Vocational Day	----	----	20160	22535	60000	50000
Adult Education	17533	9800	10600	11000	12000	12000
Dept. of Transportation	----	10709	5133	5413	----	----
Chapter 301 PL 1968	----	----	----	426300	423875	----
Demonstration School	30450	37800	64500	----	----	----
Law Enforcement	----	----	22351	100204	84000	85000
Building Aid	190354	106289	55565	87937	86601	1 4611
Total-State Aid	4266880	4256256	4451659	4954223	4951282	6380401
Federal:						
Evening Vocational	23610	23481	14901	8755	----	----
Vocational Day	20585	36172	16610	74741	60000	50000
NDEA III & V	17791	28775	8977	11527	5000	----
P.L. 874	----	57479	42531	91121	87084	----
Total-Federal	61986	145907	83019	186144	152084	50000
Local:						
Tuition	118105	48685	54671	59638	65000	70000
Other	63232	30830	36948	53320	39400	46800
Surplus Appropriated	145000	145000	128000	44566	214106	----
Total-Misc.	326337	224515	219619	157524	318506	116800

Total Current Expenses	11008846	11941563	13248781	15284680	16547009	18244587
Total Funds (State, Federal, Local)	4655203	4726678	4754297	5297891	5421422	6547201
City Appropriation	6353643	7214885	8494484	9986789	11125137	11696886

Source: (1) Income Data for 1966-67 through from Business Department, Trenton School District, March, 1971.

(2) Income Data for 1971-72 from Trenton School District Budget Document, 1971-72.

Comment: (1) Starred (*) revenue sources have been discontinued.

(2) Formula Aid amount for the 1971-1972 Budget includes Bateman and Chapter 301 PL 1968 allocations.

The REVSIM computer program therefore simulates Y1-Y5 revenues by major source by current expense/non-current expense category. Table III.4-b lists the output reports of REVISM.

DATA REQUIREMENTS OF REVENUE MODULE

The data elements input to the REVENUE MODULE computer programs to simulate Y1-Y5 expected revenues can be grouped into three categories: initial conditions, parametric values, and predictions of uncontrollable factors. Data elements in the first category are those which indicate actual conditions during past years. The second grouping is composed of data elements estimated by the user for use in aid formulae. These data can vary by year at the discretion of the user or can be set at a constant level over the planning period, (for example, the user can use current year levels) but which have a definite impact on the calculated results of the formulae. The data elements in the final group include those items which must be projected into the future. Table III.4-c lists the data elements by classification.

PURPOSE OF REVENUE MODULE

The REVENUE MODULE is not intended to provide exact annual amounts of expected funds, but rather to give some tentative statements made under assumed conditions with regard to the revenue implications of educational decisions. Furthermore, the procedures involved require the systematic identification

Table III.4-b

Output Reports Generated by REVENUE SIMULATOR Program

1.	Y1-Y5	Real Estate Tax Revenues At CY Rate
2.	Y1-Y5	Special Education Aid Forecast
3.	Y1-Y5	Transportation Aid Forecast
4.	Y1-Y5	Formula Aid Forecast
5.	Y1-Y5	Equalized Tax Rate for Computing Incentive-Equalization Aid
6.	Y1-Y5	Incentive- Equalization Aid Forecast
7.	Y1-Y5	Total Revenues from Local Sources
8.	Y1-Y5	Total Revenues, Current Expense Revenues, and Categorical Revenues from Federal Sources Forecast
9.	Y1-Y5	Enrollment Forecast
10.	Y1-Y5	Total Revenues, Current Expense Revenues, and Categorical Revenues from State Sources Forecast
11.	Y1-Y5	Total Revenue (Summary) Forecast
12.	Y1-Y5	Revenue Feasibility (Current Expense)
13.	Y1-Y5	Revenue Feasibility (Non-Current Expense)

Table III.4-c

REVENUE MODULE DATA INPUTS BY CLASSIFICATION TYPE

A. INITIAL CONDITIONS

1. Market value of property in the district by property type for the last five years
2. Number of years of consecutive past data available and number of years to be forecast
3. Special Education Program Costs for CY-1 and CY
4. Transportation Program Costs for CY
5. Resident Enrollment for CY by student weight categories and total
6. Student weight categories and corresponding weights
7. CY actual revenue surplus, if any (if deficit, surplus is 0.0)
8. District classification assumption (determines guaranteed valuation per weighted pupil and minimum support rate per weighted pupil used in Incentive-Equalization Aid calculations for TPS)
9. CY real estate tax rate (for school purposes)
10. CY assessment ratio
11. CY collection percent

B. PARAMETRIC VALUES

1. State policy rates and factors
   a. Reimbursement percent for Special Education and Transportation Program costs
   b. CY foundation rate per resident pupil
   c. CY millage rate
   d. CY minimum aid rate per resident pupil
   e. CY CH301 aid rate per resident pupil
   f. Guaranteed Valuation per weighted pupil

g. Minimum Support aid rate per weighted pupil

h. Incentive-Equalization Aid payment percent

C. PREDICTION OF UNCONTROLLABLE FACTORS USED IN REVENUE FORECASTER (for Y1-Y5)

1. Market value of real property by property type

2. Enrollment forecast by student weight category and total by year

3. Transportation program costs

4. Special Education program costs

5. Current expense local revenues (estimate subjectively based upon past data or use straight-line trend of past data)

6. Current expense federal revenues (estimate subjectively - forecast Y1-Y5 input factors and input to formula calculation)

7. Categorical federal revenues (estimate subjectively x federal source - applicable law, federal agency, and year)

8. Other current expense State revenues (excluding Incentive-Equalization Aid, Transportation Aid and Special Education Aid). Estimate subjectively based upon past data or use straight line trend of past data

9. Categorical State revenues (estimate subjectively x state source - applicable law, state agency, and year)

10. Current expense and categorical program costs

11. Estimates of the assessment ratio, collection percent, and various state policy rates

of sources and Y1-Y5 estimation plus explicit notation of all assumptions regarding the revenue estimates. Therefore as the revenue module is used annually, and a body of data is collected and analyzed over the years, a better understanding of revenue behavior and more accurate estimates will result.

In the case of STEP, revenue forecasting performs a vital function in the system. Besides clarifying the changes in population and economic status within a community, facilitating continuing budget decisions, and assisting in the evaluation of the results of past decisions, revenue projections yield a more accurate configuration of revenue and expenditure balances for future dates, and document the use of new and old revenue sources.

PRESENTATION OF THE USERS PROCEDURES

The Revenue Forecasting Procedures are presented as follows:

- General instructions for recording data and preparing input cards.
- Data Estimation and Data Input Procedures for the Trend Analysis Program and the Revenue Simulator Program, respectively - instructions for the collection and estimation of data elements input to the respective programs, and the preparation of data input (in appropriate format) to these programs.

- Computer Program Documentation for each computer program - provides flowcharts of each computer program, program listings, variable dictionaries, and examples of print-outs from each computer program.

INPUT CARD TYPES-PURPOSES AND FORMAT

General Description of Input Card Format

The data deck for input to TAPS consists of a set of 80 column keypunch cards of two different types, while the REVSIM input data deck consists of 35 different card types.

In general, a data input card is formatted as follows: cc 1-2, a card type field; cc 3-4 base case or alternative case identifier field, cc 5-8 an English language abbreviation of the data element for identification purposes; and, cc 9-80 the fields for entering data element values. The card type code is a unique two-character numeric code which has been assigned to every data element inputted to the system. However, several data elements require a set of input cards of the same type, in which case only the one card type code is used. For example, card type code 15 is assigned to each input card for recording Y1-Y5 student enrollment by each weight category. Similarly, a set of input cards of card type 20 is required for each local revenue item for which revenues are being estimated.

Instructions for the preparation of input data cards for TAPS and REVSIM are detailed below.

General Instructions for Recording Input Data

a. Record input data on either IBM Form X20-8030-03 UM/025, General Purpose Card Punching Form, or IBM Form GX28-7327-6 U/M050, FØRTRAN Coding Form. Examples of each of these forms is shown in Exhibit III-4-i and Exhibit III-4-ii, respectively.

(1) Use one line per card.

b. Enter the program title "TAPS" (Trend Analysis Program) or "REVSIM" (Revenue Simulation Program), as appropriate, the name of the person completing the input cards, and the preparation date (retain actual sources of data and/or name of data source for future reference) in the spaces provided.

c. A data card consists of a number of fields. Each field is a consecutive set of columns on an 80 column card. There are two types of fields: numeric and alpha-numeric. The general form of data field specifications or formats are the numeric forms nIw and nFw.d, and the alpha-numeric form nAw. The field format notation has the following meaning:

Specification	Type of Field
Iw	integer (numeric)
Fw.d	real number (without an exponent) - (numeric)
Aw	alpha-numeric

(1) w is the width of the whole field (total number of columns in the field including a decimal point, if the specification is F)

(2) d is the number of digits to the right of the decimal point

(3) the decimal point is annotated in a block, and is included in the width specification

(4) where successive input or output fields are identical in format, an unsigned integer constant preceding one format specification, indicates the number of times that specification is repeated (F6.2, F6.2 is equivalent to 2F6.2).

(5) Spacing is indicated by the general form nX, which causes n spaces or blanks to be inputted.

(6) Several examples will illustrate how data is to be recorded based on the card format specifications using the above definitions. Numeric

fields are to contain numbers which are either numeric codes such as card format types or numeric quantities such as program costs, student weights, or expected revenues, etc. For every integer type numeric field a decimal point is not written in the field and the numbers should be right justified. For example, the number 1,789 written for a field specified as I8 would look like this: | | | | | 1 | 7 | 8 | 9 |. For a real number type numeric field, a decimal point is written in the field preceding the number of places to the right of the decimal point and the number should be right-justified. For example, the percent 50.8(%) written for a field specified as F5.3 would look like this: | | . | 5 | 0 | 8 | , and 202837.00 written for a field specified as F10.0 would look like:

| | | | 2 | 0 | 2 | 8 | 3 | 7 | . |

Alpha-numeric fields are to contain titles, e.g., titles of the student weight categories, school district name, project titles, etc. Titles consist of alphabetic and numeric characters and blank spaces. Since what is written in the field is printed "as is" on output reports, titles should be left justified to improve the appearance and

clarity of reports. If the format of an alpha-numeric field is 6A4 (24 columns) and the title kindergarten is to be recorded, it should look like this:

K	I	N	D	E	R	G	A	R	T	E	N												

If the format specified for an input card is 3F10.0, and the nubmers to be recorded are 178,671, 328,765, and 487,651.25, the data would be written as:

			1	7	8	6	7	1	.			3	2	8	7	6	5	.			4	8	7	6	5	1	.

Note that for the last number the decimals were dropped.

d. Chart III-4-2 and Chart III-4-3, in flowchart format, present the steps to be followed in completing the data cards for TAPS and REVSIM, respectively.

CHART III-4-2

FLOWCHART OF STEPS FOR RECORDING DATA CARDS FOR TREND ANALYSIS COMPUTER PROGRAM

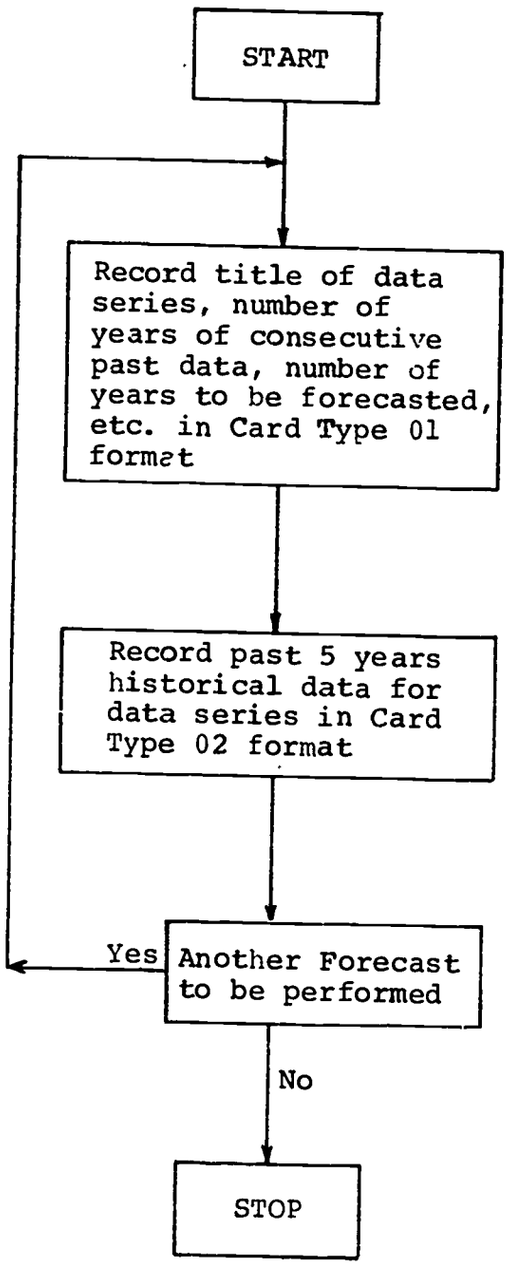
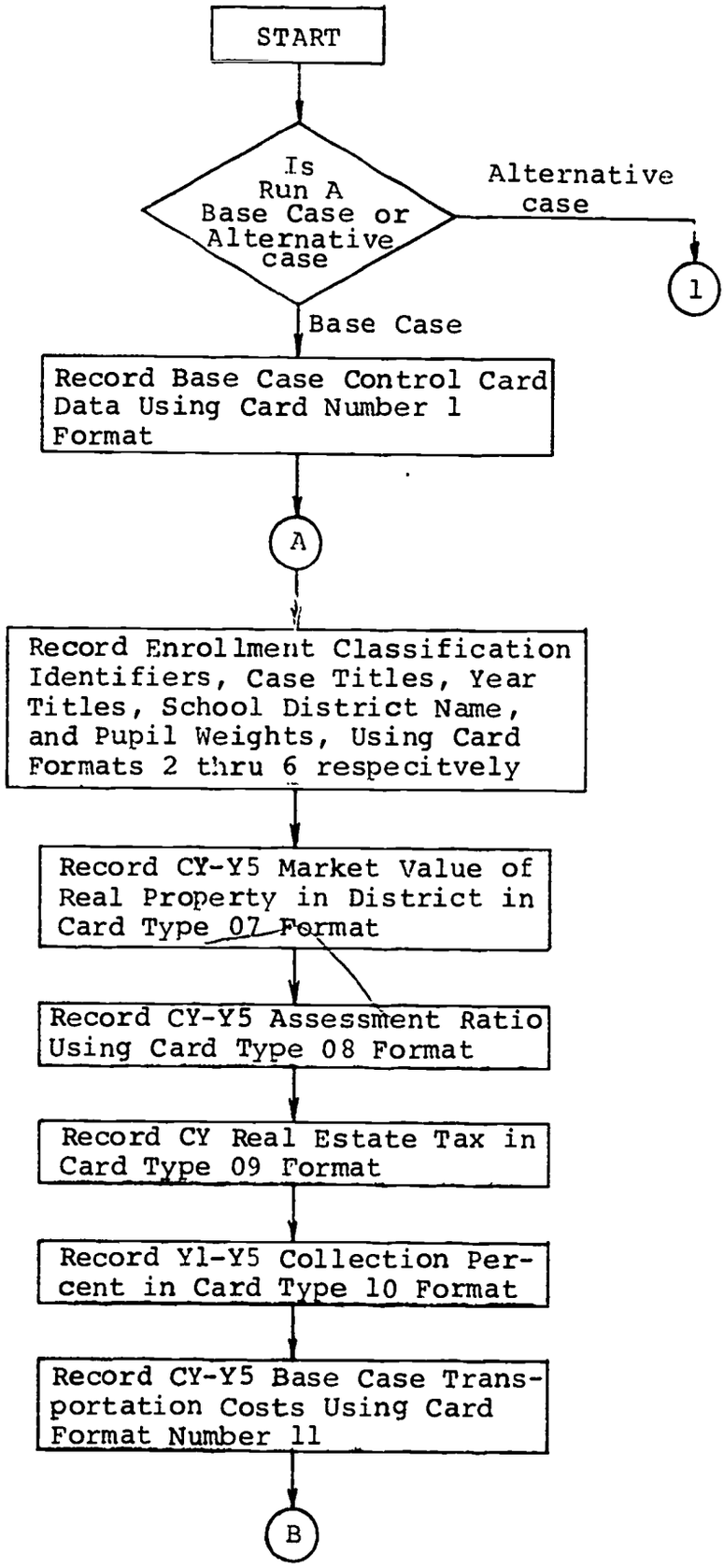
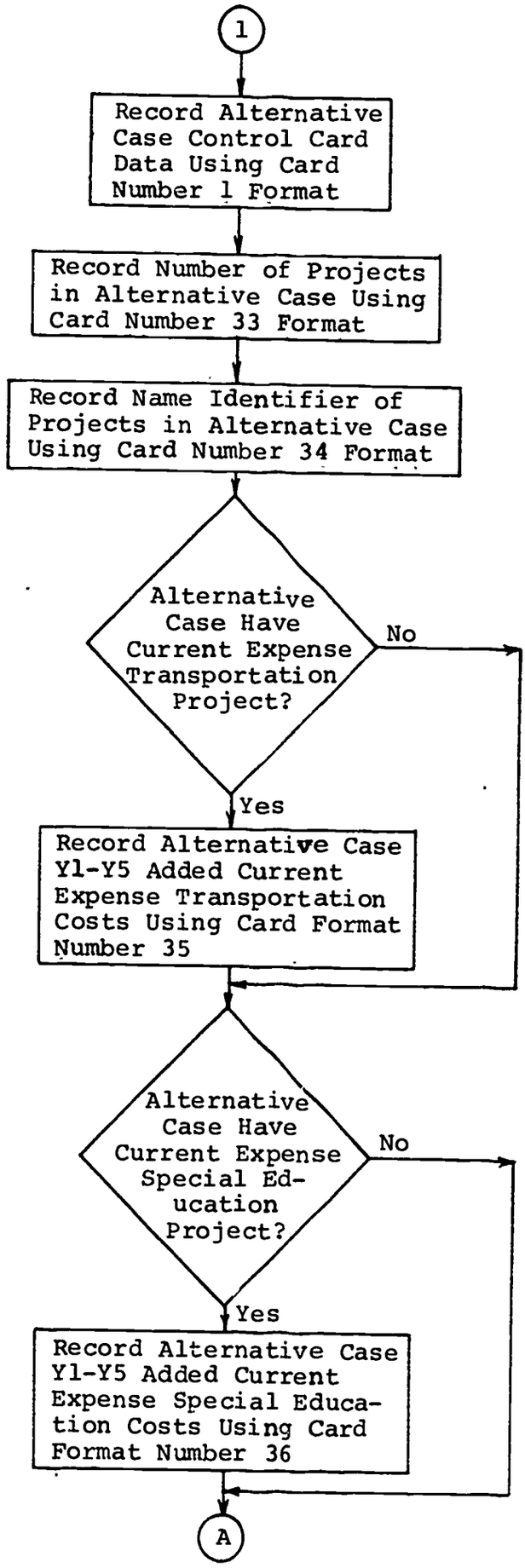
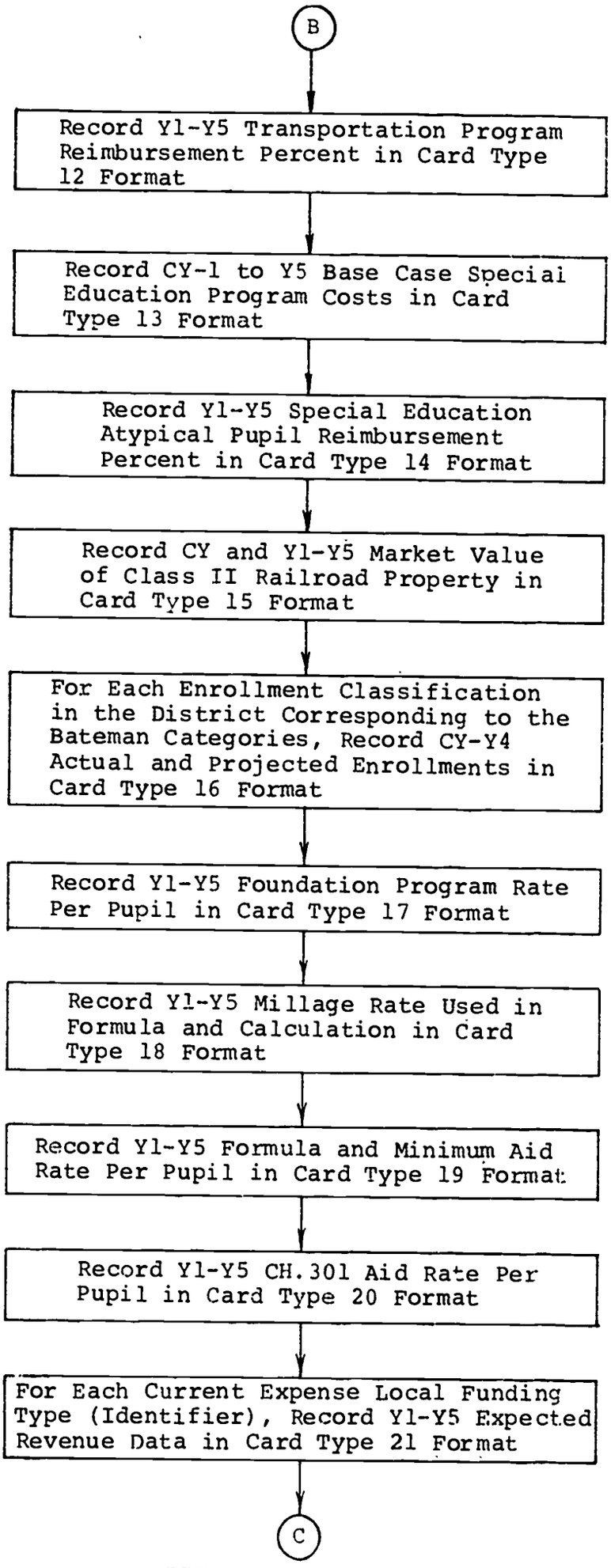


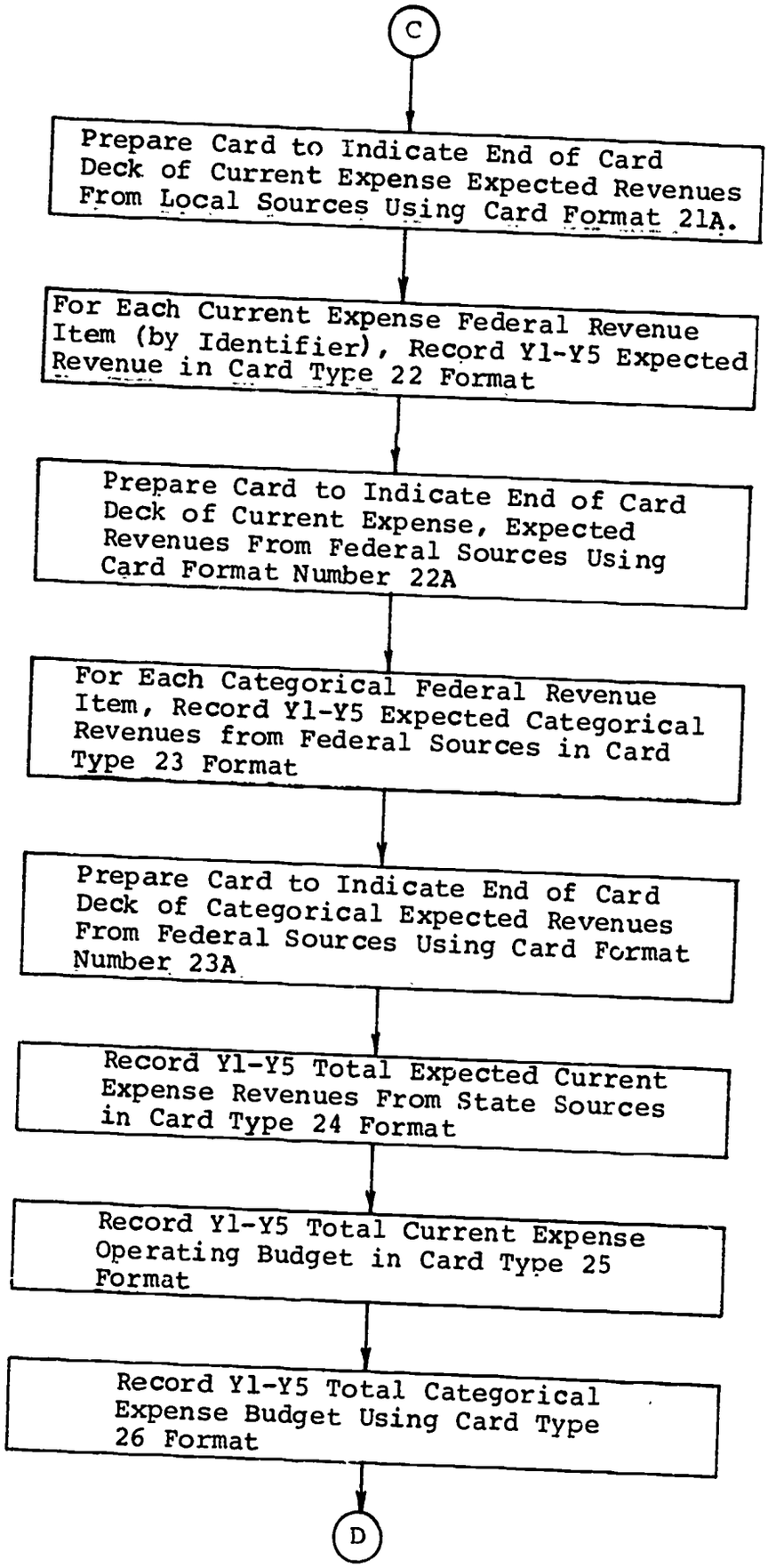
CHART III-4-3

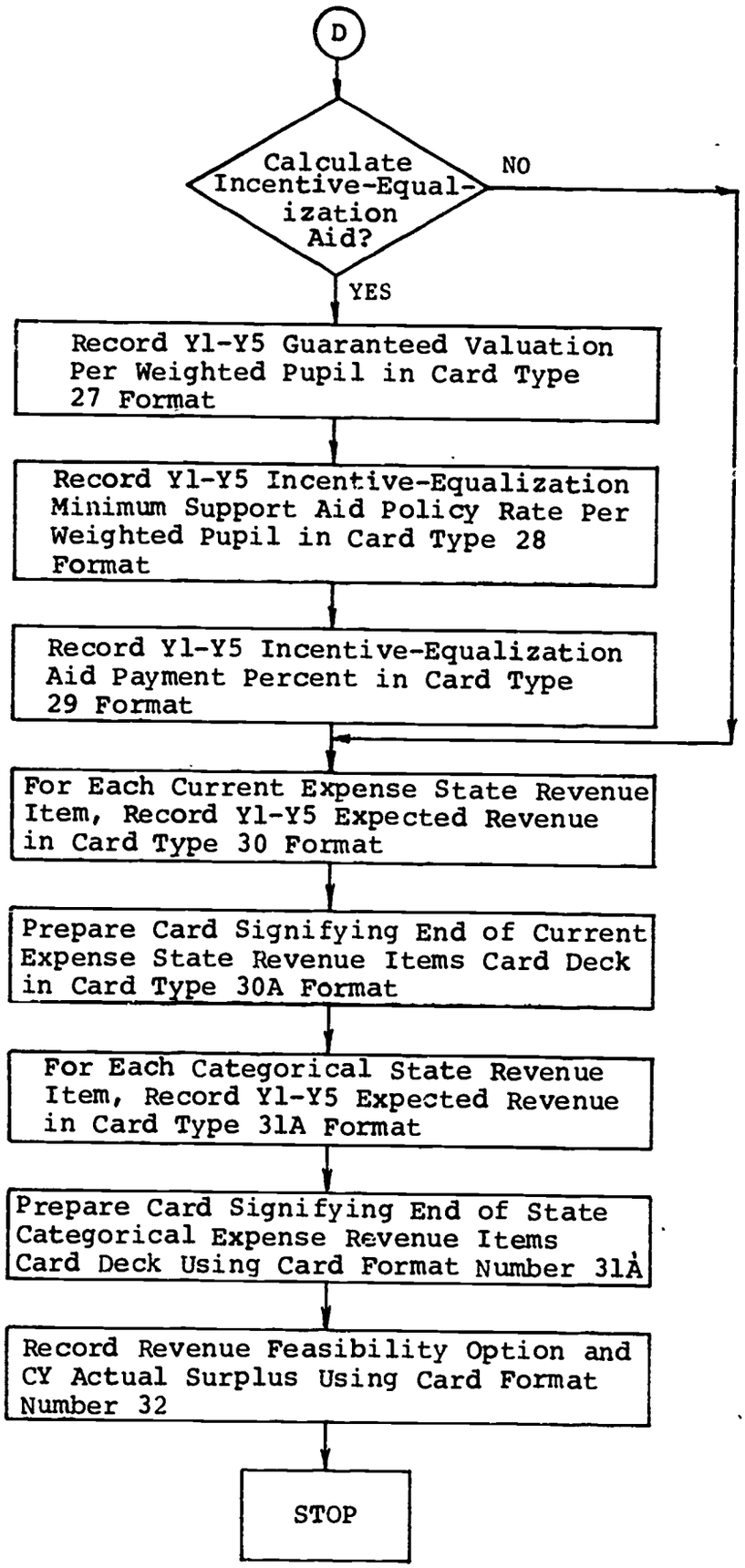
FLOWCHART OF STEPS FOR RECORDING DATA CARDS FOR REVENUE SIMULATOR COMPUTER PROGRAM




1
Record Alternative Case Control Card Data Using Card Number 1 Format
Record Number of Projects in Alternative Case Using Card Number 33 Format
Record Name Identifier of Projects in Alternative Case Using Card Number 34 Format
Alternative Case Have Current Expense Transportation Project?
No
Yes
Record Alternative Case Y1-Y5 Added Current Expense Transportation Costs Using Card Format Number 35
Alternative Case Have Current Expense Special Education Project?
No
Yes
Record Alternative Case Y1-Y5 Added Current Expense Special Education Costs Using Card Format Number 36
A


B
Record Y1-Y5 Transportation Program Reimbursement Percent in Card Type 12 Format
Record CY-1 to Y5 Base Case Special Education Program Costs in Card Type 13 Format
Record Y1-Y5 Special Education Atypical Pupil Reimbursement Percent in Card Type 14 Format
Record CY and Y1-Y5 Market Value of Class II Railroad Property in Card Type 15 Format
For Each Enrollment Classification in the District Corresponding to the Bateman Categories, Record CY-Y4 Actual and Projected Enrollments in Card Type 16 Format
Record Y1-Y5 Foundation Program Rate Per Pupil in Card Type 17 Format
Record Y1-Y5 Millage Rate Used in Formula and Calculation in Card Type 18 Format
Record Y1-Y5 Formula and Minimum Aid Rate Per Pupil in Card Type 19 Format
Record Y1-Y5 CH.301 Aid Rate Per Pupil in Card Type 20 Format
For Each Current Expense Local Funding Type (Identifier), Record Y1-Y5 Expected Revenue Data in Card Type 21 Format
C


C
Prepare Card to Indicate End of Card Deck of Current Expense Expected Revenues From Local Sources Using Card Format 21A.
For Each Current Expense Federal Revenue Item (by Identifier), Record Y1-Y5 Expected Revenue in Card Type 22 Format
Prepare Card to Indicate End of Card Deck of Current Expense, Expected Revenues From Federal Sources Using Card Format Number 22A
For Each Categorical Federal Revenue Item, Record Y1-Y5 Expected Categorical Revenues from Federal Sources in Card Type 23 Format
Prepare Card to Indicate End of Card Deck of Categorical Expected Revenues From Federal Sources Using Card Format Number 23A
Record Y1-Y5 Total Expected Current Expense Revenues From State Sources in Card Type 24 Format
Record Y1-Y5 Total Current Expense Operating Budget in Card Type 25 Format
Record Y1-Y5 Total Categorical Expense Budget Using Card Type 26 Format
D


D
Calculate Incentive-Equal-ization Aid?
NO
YES
Record Y1-Y5 Guaranteed Valuation Per Weighted Pupil in Card Type 27 Format
Record Y1-Y5 Incentive-Equalization Minimum Support Aid Policy Rate Per Weighted Pupil in Card Type 28 Format
Record Y1-Y5 Incentive-Equalization Aid Payment Percent in Card Type 29 Format
For Each Current Expense State Revenue Item, Record Y1-Y5 Expected Revenue in Card Type 30 Format
Prepare Card Signifying End of Current Expense State Revenue Items Card Deck in Card Type 30A Format
For Each Categorical State Revenue Item, Record Y1-Y5 Expected Revenue in Card Type 31A Format
Prepare Card Signifying End of State Categorical Expense Revenue Items Card Deck Using Card Format Number 31A
Record Revenue Feasibility Option and CY Actual Surplus Using Card Format Number 32
STOP

IBM GENERAL PURPOSE CARD PUNCHING FORM

Exhibit III.4-i

JOB	
BY	DATE

PUNCHING INSTRUCTIONS

WRITTEN AS.												
PUNCH AS.												

NOTES

FIELD IDENTIFICATION

1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80
1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0	1 2 3 4 5 6 7 8 9 0

1
2
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16
17
18
19
20

Printed in U.S.A. X20-8030-03 UM/025

PAGE ___ OF ___

IBM

EXHIBIT III.4-ii

FORTRAN Coding Form

PROGRAM		PUNCHING INSTRUCTIONS	GRAPHIC
PROGRAMMER	DATE		PUNCH

GX28-7327-6 U/M 050
Printed in U.S.A.

C (COMMENT)	STATEMENT NUMBER	CONT.	FORTRAN STATEMENT
1	2 3 4 5	6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

*A standard card form, IBM electro 888157 is available for punching statements from this form

EXHIBIT III.4-ii

FORTRAN Coding Form

28-7327-6 U/M 050** Printed in U.S.A.

		PUNCHING INSTRUCTIONS	GRAPHIC									PAGE OF
	DATE		PUNCH									CARD ELECTRO NUMBER*

FORTRAN STATEMENT	IDENTIFICATION SEQUENCE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72	73 74 75 76 77 78 79 80

*Available for punching statements from this form

**Number of forms per pad may vary slightly

Forecast of Market Value of Property

1. For each property type (land, improvements, business personalty, and class II railroad property) taxed at the local level for school purposes or used by the State in calculating State aid:

   a. Prepare a RUN CONTROL card in CARD TYPE 01 format as described in the section on input card purposes and formats for TAPS.

   b. Record at least five years past data (if appropriate) of market value for the property type in CARD TYPE 02 format, as described in the section on input card purposes and formats for TAPS.

      (1) Use the IBM General Purpose Coding Sheet or the IBM FORTRAN Coding Sheet.

         (a) Use a line for the RUN CONTROL data, and a line for the DATA SERIES values.

COMMENT: Behind straight-line projections lies the comparatively simple hypothesis that all the factors which influenced revenue during a base period will continue to operate in the future. This applies to both general forces and those unique to a particular tax source, although the probability that all forces would recur equally is unlikely. Only time is significant in this basic form. When straight-line projections are to be made, it is particularly important to scrutinize the data series and adjust it for changes in the definition of the tax base, to account for other unusual movements in the data series, and to take into consideration the tax rate which is levied. To summarize, the following criteria are important when employing straight-line methods to extrapolate time series data:

(2) An absolute minimum of five years of data should be available before straight-line methods are used;

(3) All necessary adjustments should be made so that the particular years for which revenue data are presented should represent the revenue behavior or experience of the tax source;

(4) A reasonably significant proportion of your total revenue yield should be provided by the specific revenue source or tax being projected; and

(5) For reliable straight-line projections, either alterations in the rate of a tax or changes in a revenue source must be identified and taken into account.

c. Published data sources for property tax data may be obtained from the County Abstract of Ratables, Annual Report of the Division of Taxation, N.J. Department of the Treasury, the Annual Report, of the Bureau of Local Finance, N.J. Department of Community Affairs, and Financial Statistics of New Jersey Local Government Annual Report published by the New Jersey Taxpayers Association.

(1) Each of the aforementioned publications includes the following data required in the real estate revenue calculations: either market value or taxable valuation of property by property type, assessment ratio (equalization percent), tax rate by purpose (total, school, municipal, county, and exemptions), taxes levied and collection percent.

(2) Market value can be obtained as the quotient of taxable or assessed valuation divided by the assessment percent.

d. Card type 2 format specifications limit a field to 8 characters, including a decimal point, therefore round property values in thousands, as appropriate.

2. Keypunch each line as coded on the coding sheet.
3. Prepare input stream and run the Trend Analysis program. The general overall order of the input program deck and data deck are as follows:

   - JCL for TAPS (written in FORTRAN) - as required by computer center being used
   - TAPS program card deck
   - JCL to signal end of program deck and start of data deck
   - Set of data input cards for data series being analyzed. Each data series input is composed of a RUN CONTROL card and a data card containing values of a past data of the time series
   - /* card
   - // card

a. Refer to Exhibit III.4-vi for an example of the overall order of the TAPS program card deck.

4. Documentation for the Trend Analysis Program, including flow chart of the TAPS computer program, a program listing (object deck), and variable dictionary are presented below.

Review of TAPS Output Report

1. Exhibit III.4-iii is an example of an output report generated by TAPS for a data series input to the program. The data series analyzed on the sample printout is class II Railroad Property.

2. Review the output report for each property type to determine if the forecast of future years is acceptable (valid). It is recommended that the following factors be considered when analyzing the TAPS printout, and adjustments be made accordingly:

   a. Determine if revenue base in the future will change as a result of new construction (in terms of property classes under construction, and by public-private split), decrease in ratables (demolitions, increased property exemptions, decline in economic activity, etc.), the rate of reassessment of existing property, the distribution of reassessments among property types, or changes in the tax laws. Various city agencies, such as the Department of Planning and Development, Department of Redevelopment, the Assessor's Office, and Public Housing Agency, and the N.J. Departments

of Community Affairs, and Labor and Industry are excellent sources of information relative to future directions of the municipality.

b. Knowledge of any changes in current administrative practices relative to the assessment of property, i.e., are assessments keeping pace with market values, are reassessments made on existing properties, etc.

c. If the test for statistical significance (part 4 of the printout) indicates the probability of no straight-line trend is less than or equal to 10%, use the straight line trend to project the market value of the property class (either the forecast of future years, or some acceptable value between the lower and upper limits for each forecast value). Otherwise, use the average or some acceptable value within the lower and upper ranges of the mean distribution as the forecast for each year of the planning period.

3. Annotate any adjustments next to the applicable forecast year, or re-enter adjusted past data into TAPS, as necessary, repeating the procedures detailed in the Paragraph entitled "Forecast of Market Value of Property," above.

4. Use Worksheet 1.0 (refer to Exhibit III.4-iv) to summarize the market value of property as follows:

   a. Write the name of the analyst, the date of the trend analysis review, and the forecast period years, in the spaces provided.

   b. Enter property class name and the Y1-Y5 market value forecasts for land, improvements, and business personalty. Class II Railroad Property forecast is excluded, since it is not used in the calculation of real estate tax revenues.

   c. Enter in the COMMENTS space remarks pertaining to the review performed on the data series print-outs, and the reasons for selecting the forecasted value, as well as attaching any backup reports or information.

   d. Attach the TAPS output to WORKSHEET 1.0.

   e. Prepare a folder entitled "MARKET VALUE OF PROPERTY PROJECTIONS", and file WORKSHEET 1.0 with addenda for future reference.

EXHIBIT III.4-iii TREND ANALYSIS PROGRAM OUTPUT REPORT

Exhibit III.4-iii TREND ANALYSIS AND FORECASTING SYSTEM

DATA SERIES IS MKT VALUE CLASS II PP PROPERTY 1967-71

CORRESPONDENCE BETWEEN THE ACTUAL DATA
AND WHAT A STRAIGHT-LINE TREND WOULD HAVE PREDICTED AS THE ACTUAL DATA

YEAR	ACTUAL DATA	TREND PREDICTION	ACTUAL - TREND	PERCENT ACTUAL - TREND IS OF ACTUAL
1	3196073.00	3201603.00	-5530.00	-0.17
2	3196095.00	3183143.00	12952.00	0.41
3	3162143.00	3164682.00	-2539.00	-0.08
4	3134551.00	3146222.00	-11671.00	-0.37
5	3134551.00	3127761.00	6790.00	0.22

YEAR	FORECAST OF FUTURE YEARS
6	3109301.00
7	3090840.00
8	3072380.00
9	3053919.00
10	3035459.00

RANGE OF PROBABLE VARIATION IN FORECAST OF FUTURE YEARS

THERE IS A 95.0 PERCENT CHANCE THE ACTUAL FUTURE VALUE WILL FALL
BETWEEN THE LOWER AND UPPER FORECASTS SHOWN BELOW

YEAR	LOWER FORECAST	FORECAST	UPPER FORECAST	UPPER - LOWER
6	3058060.00	3109301.00	3160541.00	102480.69
7	3031572.00	3090840.00	3150007.00	118334.50
8	3004365.00	3072380.00	3140394.00	136029.50
9	2976450.00	3053919.00	3131387.00	154936.25
10	2948128.00	3035459.00	3122789.00	174661.50

THERE IS A 1.3 PERCENT CHANCE THE ACTUAL DATA HAVE NO SIGNIFICANT (STRAIGHT-LINE) TREND.
IT IS CONSIDERED HAZARDOUS TO PROJECT USING THE TREND WHEN THE PERCENT CHANCE OF NO SIGNIFICANT TREND EXCEEDS 20.

Exhibit III.4-iii

CONFIDENCE INTERVAL ESTIMATE OF MEAN

95.% CONFIDENCE INTERVAL

LOWER LIMIT	MEAN	UPPER LIMIT
3079351.00	3164682.00	3250012.00

DEGREES OF FREEDOM: 4 EST. STD ERROR OF MEAN: 30733.65 T-STATISTIC: 2.7764

EXHIBIT III.4-iv SAMPLE OF WORKSHEET 1.0

WORKSHEET 1.0 SUMMARY OF Y1-Y5 MARKET VALUE OF PROPERTY FØRECASTS

NAME: _____

DATE OF ANALYSIS: _____

FORECAST PERIOD: _____

MARKET VALUE OF PROPERTY

PROPERTY TYPE	Y1	Y2	Y3	Y4	Y5
1.					
2.					
3.					
4.					
5.					
6.					
TOTAL					

COMMENTS:

TREND ANALYSIS COMPUTER PROGRAM - INPUT CARD PURPOSES AND FORMATS

Introduction

This chapter details data card preparation instructions for the Trend Analysis Program. The purpose of each data card is presented first, followed by the card preparation procedures.

A set of two input cards, consisting of a RUN CONTROL card and a DATA SERIES VALUE card, is required for each data series which the user wishes to input to TAPS for analysis. There is no limitation on the number of data series which can be input to TAPS during a single run. Each set of input cards is placed one behind the other. Chart III.4-4 indicates the overall order of the input cards for the Trend Analysis Program. Chart III.4-2 previously presented the recording steps for TAPS data cards in flowchart format.

Chart III.4-4

Overall Order of Data Cards for Trend Analysis Program (TAPS)

- RUN CONTROL card to identify the data series for which forecasts are to be computed

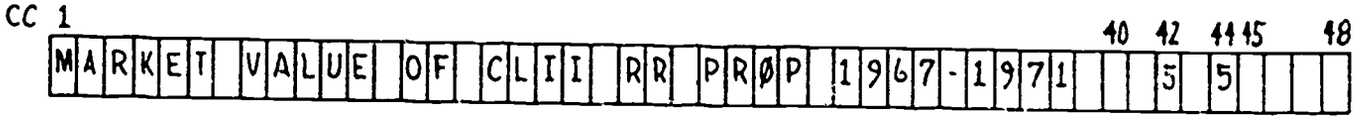
- Card to input data about the data series being forecasted

TAPS Run Control Card

The RUN CONTROL card labels the data deck, but more importantly identifies the data series being input. It also signals to TAPS the number of years of past data being entered, the number of years to be forecasted, and the probability that the actual future values will fall between the lower and upper forecasted values (default probability is 90%). The title used to identify the data series is used to label the output report.

The RUN CONTROL Card is mandatory.

CARD TYPE 01 - RUN CONTROL CARD (Format 10A4, 2I2, F4.0)



Card Columns	Data To Be Entered
CC1-40	Title of data series.
CC41-42	Number of years of consecutive past data.
CC43-44	Number of years to be forecasted.
CC45-48	Probability that the actual future value will fall between the lower and upper forecasts. Decimal point placed in CC48. If a probability is not assigned (zero), the default is 90%.

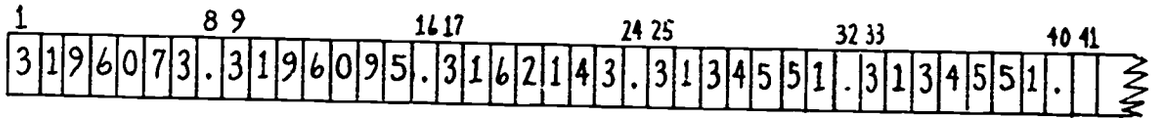
TAPS Data Series Input Card

The data series input card is used to input the consecutive years past data to TAPS. The number of fields of data entered on the data series card must be equal to the number of years of consecutive past data indicated on the RUN CONTROL card.

As many data series as desired can be input to TAPS during a single run, provided each data series data set consists of the RUN CONTROL card and the data card.

CARD TYPE 02 - HISTORICAL DATA FOR DATA SERIES (Format-10F8.0)

Sample for recording data as prescribed by the Format (for Class II RR Property in example):



Card Columns	Data To Be Entered
CC1-8	Past year historical data for data series.
CC9-16	Past year historical data for data series.
CC17-24	Past year historical data for data series.
CC25-32	Past year historical data for data series.
CC33-40	Past year historical data for data series.
CC41-48	Past year historical data for data series.
CC49-56	Past year historical data for data series.
CC57-64	Past year historical data for data series.
CC65-72	Past year historical data for data series.
CC73-80	Past year historical data for data series.

1. Record data values starting in CC1 with the earliest year for which you have obtained data for the data series to the most recent year.

2. The data series input card is formatted to contain a maximum of ten years of past data. However, if only 5 years of past data are to be input, only CC1-50 need be used, while CC51-80 remain blank.

REVENUE SIMULATOR COMPUTER PROGRAM -
DATA ESTIMATION PROCEDURES

A. General

1. REVSIM requires the input of 32 different input card types for a base case run, and as many as 4 additional card types for an alternative case run. Much of the data read as input are historical data, which must be collected and recorded. Another category of data elements are generally fixed and known. Such data elements are parametric values like student weights, which are set by law, and are used to calculate weighted enrollment, or other input, such as year, case, and school district titles which identify and format output reports. The remaining category of data input must be estimated. Table III.4-c partial list of data requirements for REVSIM.

2. This chapter provides procedures for the estimation and/or preparation of input cards to REVSIM for all categories of data input. Procedures are provided for a base case run and an alternative case run separately. Data cards are discussed in the overall input order to the respective type of run. See Table III.4-d for a summary of the overall order of data card input.

Table III.4-d

Overall Order of Data Cards for the
Revenue Simulator Program (REVSIM)

- Run Control card to identify the computer run
- An alternative plan card to input the number of projects in a proposed alternative plan
- A set of input data cards to input the names of the alternative plan projects
- Student Weight Category Title cards to input titles of student weight categories
- Case Title cards to input the titles of cases
- Year Title card to input the years in the forecast period
- School District Title card to input the name of the school district
- Pupil weight cards to input the weights by student weight category
- Data card to input the Y1-Y5 market value of real property
- Data card to input assessment ratio
- Data card to input real estate tax
- Data card to input real estate tax collection percent

- Data card to input Transportation Program costs

- Data card to input Transportation Program reimbursement percent

- Data card to input added current expense Transportation Program costs ~~(if run~~ is alternative case with current expense Transportation project)

- Data card to input Atypical Pupil (Special Education) Program costs

- Data card to input Atypical Pupil Reimbursement percent

- Data card to input added current expense Atypical Pupil Program costs (if run is alternative case with current expense Special Education project)

- Data card to input market value of Class II Railroad Property

- Set of cards to input enrollment data by student weight category

- Data card to input foundation rate per pupil used in Formula Aid calculation

- Data card to input millage rate used in computation of local fair share relative to Formula Aid

- Data card to input minimum aid rate per student

- Data card to input CH.301 aid rate per student

- Set of cards to input expected current expense revenues by local source identifier

- Data card to input Transportation Program costs

- Data card to input Transportation Program reimbursement percent

- Data card to input added current expense Transportation Program costs (if run is alternative case with current expense Transportation project)

- Data card to input Atypical Pupil (Special Education) Program costs

- Data card to input Atypical Pupil Reimbursement percent

- Data card to input added current expense Atypical Pupil Program costs (if run is alternative case with current expense Special Education project)

- Set of cards to input enrollment data by student weight category.

- Data card to input foundation rate per pupil used in Formula Aid calculation

- Data card to input millage rate used in computation of local fair share relative to Formula Aid

- Data card to input minimum aid rate per student

- Data card to input CH.301 aid rate per student

- Set of cards to input expected current expense revenues by local source identifier

- An end card (B in cc 5) to identify the end of the data cards about expected current expense revenues from local sources

- Set of cards to input expected current expense revenues by federal source identifier

- An end card (B in cc 5) to identify the end of the data cards about expected current expense revenues from federal sources

- Set of cards to input expected categorical revenues by federal source identifier

- An end card (N in cc 5) to identify the end of the data cards about expected categorical revenues from federal sources

- Data card to input total expected other current expense revenues from state sources

- Data card to input total current expense program costs (operating budget)

- Data card to input total categorical costs

- Data card to input guarnateed valuation per weighted pupil (for use in the Incentive-Equalization Aid Formula)

- Data card to input minimum support aid rate per weighted pupil

- Data card to input Incentive-Equalization Aid payment percent

- Set of data cards to input expected current expense revenues by State source identifier

- An end card (B in cc 5) to identify the end of the data cards about expected current expense revenues from State sources

- Set of data cards to input expected categorical revenues by State source identifier

- An end card (N in cc 5) to identify the end of the data cards about expected categorical revenues from State sources

- Revenue Feasibility Option Control Card to input the selected revenue feasibility option, and to input current year actual surplus

3. Refer to the general instructions on data preparation to review data recording instructions, and the section below for details on the REVSIM card type formats.

B. For Base Case

1. Prepare RUN CONTROL card for a base case run in accordance with CARD TYPE 01 format.

2. Prepare a set of ENROLLMENT TITLE cards in accordance with CARD TYPE 02 format. Select the titles applicable to your district from the approved list in Table III.4-2, Part A.

3. Prepare a set of CASE TITLE cards in accordance with CARD TYPE 03 format. Table III.4-f lists the case, and year titles.

4. Prepare YEAR TITLE card as prescribed for CARD TYPE 04 format.

5. Prepare SCHOOL DISTRICT TITLE card in accordance with CARD TYPE 05 format.

6. Prepare a PUPIL WEIGHT card in accordance with CARD TYPE 06 format. Select the weights corresponding to your district's weight categories from the list in Table III.4-e, Part B.

TABLE III.4-e

Incentive-Equalization Aid (Bateman) Student Weight
Category Identifiers and Pupil Weights

Part A - STUDENT WEIGHT CATEGORY IDENTIFIERS

CC	(1) (24)
1.	KINDERGARTEN
2.	GRADES 1-6
3.	7-8(NOT IN APPR MID/JHS)
4.	GRADES 7-9
5.	5-6YR HS PUPILS
6.	GRADES 10-12
7.	VOCATIONAL SCHOOL PUPILS
8.	EVENING SCHOOL PUPILS
9.	ACCR EVENHS-POST HS
10.	AFDC CHILDREN(AGES 5-17)
	TOTAL ENROLLMENT

Part B - STUDENT WEIGHTS BY CATEGORY

CC	(1)	(7)	(13)	(19)	(25)	(31)	(37)	(43)	(49)	(55)
	00.750	01.000	01.150	01.250	01.275	01.300	02.000	01.000	01.300	00.500

Part C - STUDENT WEIGHT CATEGORY IDENTIFIERS - ABBREVIATIONS

CC	(1) (6)
1.	KINDER
2.	G1-6
3.	7-8
4.	G7-9
5.	5-6 HS
6.	G10-12
7.	VØCED
8.	EVENSC
9.	AEPHS
10.	AFDC
11.	TØTAL

TABLE III.4-f

Case, Year, and School District Titles

CASE TITLES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
0	3	B	A	S	E	C	A	S	E																

Base Case (cc 3-11)
Alternative Case Number (cc 3-25)
Revenue Forecast (cc 6-21)
Revenue Feasibility (cc 6-24)

YEAR TITLES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
0	4	C	Y			Y	1			Y	2			Y	3			Y	4			Y	5

7. Real Estate Tax Data Estimation

a. Prepare an input data card for MARKET VALUE OF PROPERTY using CARD TYPE 07, recording actual CY market value and the Y1-Y5 projected total market value calculated on WORKSHEET 1.0.

b. Assessment ratio estimates

(1) Prepare CARD TYPE 08 entering the actual CY and Y1-Y5 assessment ratio estimates. The assessment ratio or percent is defined as the proportion of assessed or taxable valuation to market value.

(2) Project the assessment ratio for Y1-Y5 based on any of the following assumptions:

(a) Set at the CY level i.e., the ratio of assessed to market value remains unchanged.

(b) Assume continuation of past trends either at a constant percent rate or a constant amount of increase or decrease.

(c) Set as average of several years past assessment ratios.

(d) Set a one percent increase for each 1% increase in personal income.

(e) Impending change in assessment procedures or a general reassessment of property will take place, thereby increasing or decreasing the assessment percent.

c. Real Estate Tax Estimates (for school purposes only)

(1) Prepare CARD TYPE 09 entering the actual CY real estate tax in mills and the estimates of the Y1-Y5 real estate tax in mills. To be consistent with STEP, the Y1-Y5 real estate tax rate should be zero, since revenue feasibility involves calculation of the future tax rate required to meet projected expenditures. However, the user can estimate Y1-Y5 rates to simulate their impact.

(2) The real estate tax rate is calculated based upon $100 of assessed valuation, however, the real estate tax must be recorded in mills. The real estate tax rate in mills (rate per dollar of valuation) is calculated as follows:

Real Estate Tax Rate in Mills = Tax rate in cents per thousand dollars of assessed valuation.

(3) The real estate tax for Y1-Y5 can be projected based on any of the following assumptions:

(a) Set at the CY level.

(b) Set as an average of several years of past real estate tax rates.

(c) Set at constant percentage rate or amount of increase or decrease, taking into account the ratio of real estate tax rate for school purposes to the total real estate tax.

(d) Set at a level based upon knowledge of changes in assessment procedures, changes in the tax base, or impending changes in the tax laws, etc.

d. Collection Percent Estimates

(1) The Collection percent is defined as the proportion of the total annual tax levy collected during a fiscal year.

(2) Prepare CARD TYPE 10, entering the actual CY collection percent and the estimates of the Y1-Y5 collection percent (State law requires that a collection percent be no lower than that of the current year).

(3) The Y1-Y5 collection percent can be estimated, based on any of the following assumptions:

(a) Set at the CY level for the entire period, assuming no change in the collection percent.

(b) Set as the average of several years of past data.

(c) Set at a constant percentage rate or amount of increase or decrease.

8. Transportation Aid Forecast

a. Transportation Program Cost Estimates

(1) Refer to the Resource Requirements Module for the Y1-Y5 estimates of Transportation Program Costs, and the Statement of Income and Sources in the School District Budget document or other relative documents to obtain an estimate of CY Transportation Program costs.

(2) Review the Y1-Y5 estimates in view of past transportation costs, any future trends or conditions, and last year's analysis and estimates of Y1-Y5 TRANSPORTATION Aid.

(3) Prepare TRANSPORTATION PROGRAM COSTS card as prescribed in the input card preparation instructions for CARD TYPE 11.

(a) Document your reasons for revising the estimates provided by the model (include model estimates, your estimates, difference, reasons for change, date and name).

b. Transportation Program Costs Reimbursement Percent

(1) Estimate the Y1-Y5 reimbursement percent, using any of the following criteria:

(a) Use the current percent, as set by the State, for each year of the planning period.

(b) Increase or decrease the percent by some constant absolute amount or rate in order to observe or determine the impact on Transportation Aid.

(2) Document your reasons for any revisions from the current rate as set by the State (cite current rate, revised rates, reasons for revision, date and name).

c. Prepare a folder entitled TRANSPORTATION AID FORECAST BACKUP DATA.

(1) File all data source documents, and documentation sheets relating estimate changes.

(2) Label all documentation relative to preparation date and five year planning period (keep all backup material separated by the five year planning period with which it is associated).

(3) Retain files for future reference and analysis.

9. Special Education Aid Forecast

a. Special Education Program Cost Estimates

(1) Refer to the Resource Requirements Module for the Y1-Y5 estimates of Special Education Program costs, and the Statement of Income and Sources in the School District Budget document, or other pertinent sources, to obtain the most recent two years of past actual Special Education Program costs.

(2) Review the Y1-Y5 estimates in view of past cost data, assumptions concerning the estimates, any future trends or directions with respect to Special Education programs in the district, and an analysis of last year's assumptions and predictions.

(3) Prepare SPECIAL EDUCATION PROGRAM COSTS card as prescribed for CARD TYPE 12 of the card preparation instructions.

(a) Document your reasons for revising the model estimates (include in your statement the Y1-Y5 model estimates, your revised estimates, the differences between the estimates, reasons for the change, the date, and your name).

b. Special Education Program Costs Reimbursement Percent

(1) Estimate the Y1-Y5 reimbursement percent using any of the following criteria:

(a) Use the current percent, as set by the State, for each year of the planning period.

(b) Increase or decrease the percent by some constant absolute amount or rate.

(2) Document reasons for any revisions from the current rate set by the State (cite the current policy rate, revised rates, reasons for the revisions, date and name).

c. Retention of Backup Data for Special Education Aid Forecast

(1) Prepare a folder entitled SPECIAL EDUCATION AID FORECAST BACKUP DATA.

(2) File all data source documents and documentation sheets relating estimate changes in the file folder.

(3) Keep documentation separate and identified by the appropriate five year planning period to which it is applicable.

(4) Retain backup file for future reference and analysis.

10. Formula Aid Forecast

a. Enrollment Estimates by Student Weight Category

(1) Aggregate current enrollment by the appropriate student weight categories as selected in the preparation of CARD TYPE 02.

(2) Refer to the Enrollment Forecaster Module, Report Number TSD ENR-1036, for the Y1-Y5 "scrubbed" estimates of enrollment by student weight category (i.e., enrollment estimates previously reviewed, analyzed, and adjusted as necessary).

(3) Prepare a set of ENROLLMENT FORECAST data input cards in accordance with CARD TYPE 15 preparation instructions.

(a) Prepare one card for each student weight category for which enrollments have been forecasted.

b. Foundation Rate Per Pupil Estimate

(1) Estimate the Y1-Y5 foundation rate per pupil used in the Formula Aid calculation as follows:

(a) Use the current rate of $400.00 as set by the State (law) for each year of the forecast period.

(b) Increase or decrease the rate by some constant absolute amount or proportion (i.e., based on average per pupil cost and proportion supported by the State).

(2) Document reasons for any revisions from the current rate set by the State. Cite the current policy rate, revised rates, reasons for all revisions, date and name.

(3) Prepare a FOUNDATION RATE PER PUPIL card as prescribed by CARD TYPE 16 preparation instructions.

c. Millage Rate Estimates

(1) Estimate the Y1-Y5 millage rate used to calculate Formula Aid as follows:

(a) Use the current policy rate of .01050 mills as set by the State (law) for each year of the forecast.

(b) Increase or decrease the millage rate by some constant absolute amount or proportion.

(2) Document all reasons for any revisions from the current State rate, citing current rate, revisions, reasons for change, date and name.

(3) Prepare a MILLAGE RATE card in accordance with CARD TYPE 17 preparation instructions.

d. Minimum Aid Rate Estimates

(1) Estimate the Y1-Y5 minimum aid rate per student for Formula Aid as follows:

(a) Use the current policy rate of $75.00 as set by State law for each year of the forecast period.

(b) Increase or decrease the minimum aid rates by some constant absolute amount or proportion.

(2) Document all reasons for any revisions from the current State rate, citing the current and revised rates by year, reasons for change (assumptions and conditions), date and name.

(3) Prepare MINIMUM AID RATE card in accordance with CARD TYPE 18 instructions.

e. CH301 Aid Rate

(1) Estimate the Y1-Y5 CH301 Aid Rate as indicated in Paragraphs 10 d(1) to 10 d(2) above (CH301 Aid Rate is currently set at $25.00 per pupil).

(2) Prepare CH301 Aid Rate card in accordance with CARD TYPE 19 data preparation instructions.

11. Estimates of Revenue Items from Local Funding Sources

a. Table III.4-g identifies several possible local sources of revenue.

b. In general, projection of the items shown in Table III.4-g, may be done by:

(1) Straight-line trend using the TREND ANALYSIS PROGRAM as detailed in the sections for using TAPS.

(2) By projection of base and rate factors for specific revenue items (e.g., for TUITION, projection of the number of pupils attending the school district from other school districts and the estimated tuition charges; earnings on temporary deposits, estimation based on anticipated level of deposits and interest rate).

(3) Your judgment.

Table III .4-g

List of Local Funding Sources

Tuition

Use of Buildings and Gounds

Janitorial Service

Forfeited Deposits

Sale of Materials and Supplies

Gasoline Tax Refund

Textbook Fines

Interest on Deposits

Gifts, Requests and Endownment

Sale of Real Estate and Equipment

Other Miscellaneous Items

c. Revenue yield from sale of equipment, real estate, and gifts are episodic, however, sales yields should be relatively predictable.

d. For each revenue item, write a narrative explaining all assumptions underlying your estimates, retain all backup documents (such as any TAPS printouts), sign and date the data sheet.

e. Prepare a data card in CARD TYPE 20 format for each local revenue item for which revenues are estimated.

f. Retention of Backup Data for Local Revenue Estimation.

(1) Prepare a folder entitled LOCAL REVENUE ITEMS FORECAST - BACKUP DATA

(2) Identify all backup documents by writing the appropriate five year planning period on every paper to which it is applicable.

(3) File documents by planning period identification date.

(4) Retain backup file for future reference and analysis.

12. Estimates of Revenues from Federal Funding Sources

a. General

(1) Prepare separate estimates of federal current expense revenue items and federal categorical revenue items.

(a) Federal current expense revenues may be available for a district's vocational school program in the case where federal activities (property and personnel) have a significant impact on a district's program, and from the National Defense Education Act, etc. See Table III.4-a for a list of federal current expense sources.

(b) Categorical revenues may be available under various Federal education programs, each requiring specific application procedures for applying for the money. (See Table III.4-h for a list of current federally funded projects.)

(2) The knowledge of potential program expansion, contraction or termination, and the magnitude of appropriations is critical.

(a) Information relative to the expectation and duration of federal grants may be obtained through contact with the appropriate State officials.

Table III.4-h

FEDERAL/STATE CURRENTLY FUNDED PROJECTS

	1968-69 Budget	1969-70 Budget	1970-71 Budget
Title I	796,677.	1,300,609.	1,706,325.
Title II - Regular	17,121.	14,211.	17,856.
Title II - Special	1,745.	----	----
Title III - Grant Demonstration	217,987.	38,113.	----
Outward Action Bound	48,500.	92,237.	----
Title VI - Year Round	33,150.	24,905.	22,505.
Title VIII - Planning	19,005.	19,005.	----
Summer Head Start	137,596.	142,234.	----
Follow Through	113,605.	268,111.	452,607.
Jr. #1 Community School	9,370.	1,208.	----
Pre-Kindergarten	211,205.	230,807.	343,774.
Adult Basic Education	21,660.	25,000.	29,371.
ABE Summer	----	9,800.	----
WIN - GED	10,709.	11,500.	16,392.
WIN - GED Summer	----	1,000.	----
WIN - ABE	28,923.	29,000.	43,749.
WIN - ABE Summer	----	5,799.	----
Technology for Children	----	52,950.	----
Special Ed. Service Project	140.	----	----
EPDA	----	68,000.	----
21 - 201 Nurses Aide	5,837.	----	----
Adult Literacy Program	24,937.	43,837.	42,159.
G-32 Placement Coordinator	9,500.	14,000.	----
Follow Through Newsletter	----	200.	400.
21.7 Card Punch Opr.	10,872.	----	----
21.109 Vocational Occ. Ed.	6,506.	5,000.	3,145.
Summer Employment Orientation	10,000.	24,450.	30,600.
Summer Work Study	15,000.	25,000.	38,400.
Coop Industrial Education	----	600.	----
G-6 Counselor Retraining	2,500.	1,250.	----
G-37/38 Development Program	4,772.	2,386.	----
Teacher Innovation:			
Wyrough	1,000.	671.	----
Delaney	----	1,000.	----
Freeman	1,000.	1,000.	----
Costello	----	980.	----
Cappelli	1,000.	817.	----
Heisler-Hencheck	----	1,000.	----
National Teacher Corps - Temple	34,858.	----	----
National Teacher Corps - State	54,942.	204,185.	----

Table III.4-h (cont'd)

	1968-69 Budget	1969-70 Budget	1970-71 Budget
Pilot Study - Jr. #5	11,737.	1,162.	----
Research for Better Schools	60,100.	74,100.	53,000.
Operation Insight	5,000.	----	----
Community Schools	3,756.	2,771.	----
High School Equivalency	----	20,267.	39,652.
Distributive Education	----	600.	----
Trenton State Project	----	69,000.	48,964.
Pre-Vocational	29,929.	----	----
Consumer Learning Center	----	30,724.	48,433.
Model Cities Reading Program	----	96,000.	67,630.
Program Development	----	3,482.	----
Career Opportunities Program	----	160,250.	118,620.
Title III Co-op Systems	----	2,350.	----
Pilot Program Assistance Recipients	----	20,605.	----
Consumer Workshop 21.510 A-13	----	10,610.	12,952.
Family Life Center	----	30,724.	----
21.5210 Vocational Program	----	48,887.	13,580.
Model Cities Guidance	----	115,402.	65,402.
Model Cities Follow Through	----	2,262.	----
J.O.B.S. Switlick	----	17,283.	----
J.O.B.S. Circle F	----	19,163.	----
Title III Planning	----	63,200.	65,550.
Ohio State Project	800.	----	----
Umbrella I	143,977.	----	----
Umbrella II	274,218.	----	----
Umbrella III	----	176,896.	----
NDEA Title III	----	10,446.	20,000.
NDEA Title V	----	1,081.	----
Umbrella IV MDTA			
Operating & Administration	191,465.	123,061.	----
Basic Education	43,568.	65,419.	----
Pre-Vocational	13,024.	23,814.	----
Auto Mechanic	15,151.	18,744.	----
Clerk Typist	20,407.	22,407.	----
Clerk-Stenographer	20,746.	24,255.	----
Cook	9,330.	----	----
Electrical Repairman	15,997.	----	----
Machine Operator	13,928.	19,324.	----
Nurses Aide	14,036.	18,922.	----
Welding	15,117.	21,507.	----
Auto Body	----	23,813.	----
Electronic	----	32,283.	----

Table III.4-h (cont'd)

	1968-69 Budget	1969-70 Budget	1970-71 Budget
Umbrella IV CEP			
Basic Education	-----	27,664.	-----
Auto Mechanics	-----	14,003.	-----
Clerk Typist	-----	16,972.	-----
Clerk-Stenographer	-----	17,982.	-----
Machine Operator	-----	14,018.	-----
Nurses Aide	-----	14,365.	-----
Welder	-----	16,358.	-----
TOTAL	2,752,405.	4,153,041.	
Bi-Lingual			
Model Cities Mini-Center			24,425.
Week About Training			50,000.
Teacher Innovation - Simonson			10,420.
			1,000.
			3,386,911.

Source: Business Department, Trenton School District, Spring, 1971.

(3) For every federal source of funds you have identified as an expected source of revenue, prepare Y1-Y5 estimates on the basis of some assumptions about the continued level of expenditures, and/or on the basis of the projection of base and rate factors, where applicable.

(4) Prepare a card in CARD TYPE 21 format for each federal current expense item for which revenues are estimated.

(a) Prepare and insert the appropriate END card (CARD TYPE 21A) after the last CARD TYPE 21 input card.

(5) Prepare a card in CARD TYPE 22 format for each federal categorical item for which revenues are estimated.

COMMENT: For purposes of input to REVSIM, a revenue item may be identified simply by the name of the Federal law, or by a more detailed classification such as law and fiscal year, or law, project identifier and year, etc. The major consideration is to first identify a source and estimate total revenues from that source for the appropriate year in the planning cycle when the revenues can be expected. Accordingly, only two cards for estimating revenues

from Federal sources need be entered to REVSIM, a card for Y1-Y5 estimates of total current expense federal revenues, and a card for Y1-Y5 estimates of total categorical revenues. (The appropriate END card would be required after the total current expense estimate and after the total categorical estimate.)

(6) Establish and maintain records by revenue item, detailing the Y1-Y5 estimates and the assumptions underlying these estimates, the date, and name of the analyst.

(7) Retain all backup data and sources, and file in a folder entitled "FEDERAL REVENUE ESTIMATES," in accordance with the procedures in 11f (2) through 11f (4) above.

13. Estimates of Revenue from State Funding Sources

a. Prepare separate estimates for State current expense revenue items and State categorical revenue items.

(1) Current expense revenue items from State sources are listed in Table III.4-i. However, estimates for Transportation Aid and Atypical Pupil are not required since these were calculated previously.

Table III.4-i

Current Expense Revenue Items From State Sources

Public School Law Enforcement Aid

Vocational Day School Aid

Evening School for Foreign Born Residents

Adult Education

*Transportation Aid

*Atypical Pupil Aid

*Incentive-Equalization Aid

*Not included in Card Type 30 set of input cards.

(2) Estimates of State current expense items may be done on the basis of:

(a) Straight-line trend using the TAPS program procedures detailed in Chapter II.

(b) By projection of base and rate factors for specific revenue items (e.g., law enforcement, projection of number of school security officers for so many projected enrollees and the estimated salary costs).

(c) Your judgment (e.g., Evening School for Foreign Born, State provides maximum of $5,000.00 depending on the amount of matching funds raised locally).

(3) Estimate State categorical revenue items in accordance with procedures discussed for federal categorical items in Paragraph 12a (2) and 12a (3).

b. Prepare a card in CARD TYPE 23 format for the aggregation of all current expense revenues from State current expense sources.

c. Prepare a card in CARD TYPE 29 format and CARD TYPE 30 format for each State current expense and for each State categorical expense item, respectively, for which revenues are estimated.

(1) Prepare and insert an appropriate END card (CARD TYPE 29A and CARD TYPE 30A, respectively) after the last CARD TYPE 29 input card and the last CARD TYPE 30 input card.

(2) Refer to the comment Paragraph 12a (5) for instructions relative to the number of CARD TYPE 29 and 30 cards required.

d. Paragraphs 12a (6) and 12a (7) also apply to documenting all revenue estimates and maintaining a backup file of "STATE REVENUE ESTIMATES."

14. Current Expense Budget Forecast

a. Refer to the Resource Requirements Module for the Y1-Y5 estimates of total current expense costs.

b. Review the estimates in view of past total costs, analysis and estimates of Y1-Y5 total costs, and the various factors comprising the cost calculation.

c. Prepare CURRENT EXPENSE BUDGET FORECAST card as described in the input preparation instructions for CARD TYPE 24.

d. Document reasons and assumptions underlying any adjustment to the model estimate of total costs, including the model estimates, your revised quantities, date and name, and file in a "CURRENT EXPENSE BUDGET FORECAST" folder.

15. Categorical Budget Forecast

a. Repeat the procedures described under Paragraph 14 above, but for CATEGORICAL BUDGET FORECAST, and prepare a CATEGORICAL EXPENSE BUDGET card as described in the input preparation instructions for CARD TYPE 25.

16. Guaranteed Valuation Per Weighted Pupil Estimates

a. Estimate the Y1-Y5 guaranteed valuation rate as follows:

(1) Assume present classification unchanged and use corresponding rate assigned to classification.

(2) Assume classification assumption changes during planning period, and select the corresponding rate (as currently set), or some revised amount.

b. Table III.4-j lists the district classification titles and the corresponding guaranteed value rates and minimum support rates.

c. Document all reasons for any adjustments to your district's current classification assumption, citing in addition, the old and new classification titles and rates, date and name.

(1) Prepare a "GUARANTEED VALUATION RATE" folder and file all documentation for future reference.

d. Prepare a GUARANTEED VALUATION PER WEIGHTED PUPIL card in accordance with CARD TYPE 26 preparation instructions.

17. Minimum Support Aid Policy Rate Estimates

a. Estimate the Y1-Y5 minimum support aid policy rate as prescribed in Paragraph 16a (1) and 16a (2) above. District classification selection must correspond to that for guaranteed valuation rate, as shown in Table III.4-j.

b. Document all reasons for any adjustments to your district's classification assumption, citing old and new classification titles and rates, date and name.

Table III.4-3

Guaranteed Valuation Rates and Minimum Support Aid Rates by District Classification

District Classification	State Policy Rates Per Weighted Pupil	
	Minimum Support Aid	Guaranteed Valuation
Non-operating	$100.00	-----
Basic	110.00	30,000.00
Limited	122.50	33,750.00
Intermediate	135.00	37,500.00
Pre-comprehensive	147.50	41,250.00
Comprehensive	160.00	45,000.00

(1) Prepare a "Minimum Support Aid Rate" folder and file all documentation for future reference.

c. Prepare a MINIMUM SUPPORT AID POLICY RATE card in accordance with CARD TYPE 27 preparation instructions.

18. Incentive-Equalization Aid Payment Percent Estimates

a. Estimate the Y1-Y5 State payment percent for Incentive-Equalization Aid as follows:

(1) Assume payment percent will not change.

(2) Your judgment as to what rate will be to simulate impact on revenues and revenue feasibility.

b. Prepare a PAYMENT PERCENT card in accordance with CARD TYPE 28 preparation instructions.

19. Revenue Feasibility Option and Current Year Surplus

a. Prepare a REVENUE FEASIBILITY OPTION card in accordance with CARD TYPE 31 preparation instructions selecting one of the following revenue options:

Code	Explanation
0	Only actual current year surplus is carried forward to Y1 (any other estimated surpluses are ignored) and the tax rate fluctuates.
1	All surpluses carried forward and the tax rate does not decrease.
2	All surpluses carried forward and the tax rate fluctuates.

C. Alternative Case

1. General

a. An alternative case is defined as the addition to or deletion from the base case of a set of projects. Projects, as designed by various project groups, are considered in many possible combinations to form project sets to determine the implications of such combinations. Thus, projects may cause increases or decreases to the district's base case costs and possibly change expected revenues.

b. Accordingly, the alternative case card deck includes four new CARD TYPES and the base case CARD TYPES, specific cards in the latter group being adjusted to reflect the added/decreased alternative case costs and revenues.

c. An alternative case requires the following new card types:

(1) CARD TYPE 32 - Alternative Case Identifier Card

(2) CARD TYPE 33 - Alternative Case Project Title Card

(3) CARD TYPE 34 - Alternative Case Added Current Expense Transportation Costs Card

(4) CARD TYPE 35 - Alternative Case Added Current Expense Special Education Program Costs Card

d. An alternative case requires the complete set of base case cards. Only those base case CARD TYPES requiring possible adjustments or inclusion to reflect the alternative case data are indicated below:

(1) CARD TYPE 01 - RUN CONTROL Card

(2) CARD TYPE 20 - Y1-Y5 REVENUE ITEMS FROM LOCAL CURRENT EXPENSE SOURCES Card

(3) CARD TYPE 21 - Y1-Y5 REVENUE ITEMS FROM FEDERAL CURRENT EXPENSE SOURCES Card

(4) CARD TYPE 22 - Y1-Y5 REVENUE ITEMS FROM FEDERAL CATEGORICAL EXPENSE SOURCE Card

(5) CARD TYPE 23 - TOTAL OTHER CURRENT EXPENSE REVENUES FROM STATE SOURCES Card

(6) CARD TYPE 24 - Y1-Y5 CURRENT EXPENSE BUDGET Card

(7) CARD TYPE 25 - Y1-Y5 CATEGORICAL EXPENSE BUDGET Card

(8) CARD TYPE 29 - Y1-Y5 REVENUE ITEMS FROM STATE CURRENT EXPENSE SOURCES Card

(9) CARD TYPE 30 - Y1-Y5 REVENUE ITEMS FROM STATE CATEGORICAL SOURCES

e. CARD TYPES 20, 21, 22, 23, 29, and 30 require the estimation of additional expected revenues from local, state and federal sources (both categorical and current expense) associated with the alternative case (if any).

f. CARD TYPES 24 and 25 require the adjustment of base case current expense and non-current expense costs to reflect added alternative case costs.

g. CARD TYPE 01 is used to input various data to identify the alternative case run and to set various option indicators.

2. Alternative Case Data Estimation

a. Prepare a RUN CONTROL Card for an alternative case run as described in the data preparation instructions for CARD TYPE 01.

b. Prepare an ALTERNATIVE CASE PROJECT card in accordance with CARD TYPE 32 format.

c. Prepare a set of ALTERNATIVE CASE PROJECT TITLE cards in accordance with CARD TYPE 33 format.

(1) One PROJECT TITLE card is prepared for each project in the project set.

d. Reproduce from the base case card deck the following card types: 02-06, 12, 14-19, 20A, 21A, 22A, 27-29, and 30A.

(1) The aforementioned CARD TYPES do not generally change for an alternative case run. However, you can adjust various policy rates input via these CARD TYPES to simulate effect on revenues.

e. Reproduce from the base case card deck CARD TYPES 07-11, 13 and 31, make changes as necessary in CC 3-4.

f. Added Alternative Case Transportation Costs

(1) If the alternative case project set contains a current expense transportation project, refer to the Resource Requirements Module and Paragraph B above. for procedures to estimate Y1-Y5 added transportation costs for an alternative case.

(2) Prepare an ALTERNATIVE CASE ADDED CURRENT EXPENSE TRANSPORTATION COSTS Card in CARD TYPE 34 format.

g. Added Alternative Case Special Education Costs

(1) If the alternative case project set contains a current expense, Special Education project, refer to the Resource Requirements Module and Paragraph B above, for procedures to estimate Y1-Y5 added special education costs for an alternative case.

(2) Prepare an ALTERNATIVE CASE ADDED CURRENT EXPENSE SPECIAL EDUCATION COSTS Card in CARD TYPE 35 format.

h. Estimation of Alternative Case Added Revenues

(1) Any additional revenues estimated for a project set must be input into REVSIM along with the base case revenue estimates.

(a) Estimate any expected revenues for the alternative case project set by source (local, federal, or state) and by type (current expense or categorical) as indicated in Paragraphs B11, B12, and B13 for local federal, and state revenues items, respectively.

1) Prepare the appropriate card type (CARD TYPE 20 for local revenue item, CARD TYPES 21 and 22 for current expense and categorical revenue items, and CARD TYPES 23, 29, and 30 for state current expense and categorical revenue item) for each revenue item estimated for the alternative case, or for the total revenues by source, by type for the alternative case.

2) Insert alternative case revenue item card types into their respective revenue item data sets immediately following the last base case revenue item and before the end card.

i. Estimation of Alternative Case Added Costs

(1) Refer to the Resource Requirements Module and Paragraphs B14 and B15 for procedures for estimating Y1-Y5 costs for the project set.

(2) Adjust base case Y1-Y5 total current expense costs and total categorical costs, as necessary, and prepare a card in CARD TYPE 24 format and a card in CARD TYPE 25 format to reflect total alternative case current expense and categorical expense costs.

j. Overall Order of Alternative Case Input Card Deck

(1) Refer to Table III.4-d for a list of the overall order of the data card input. Card type format instructions are also given in the order of the input card deck.

D. Keypunch Instructions

1. Upon completing the preparation of data card input on either of the standard IBM coding sheets shown in Exhibit III.4-i and Exhibit III.4-ii, keypunch each line as coded on the coding sheets. An example of a set of completed coding sheets for data input to REVSIM for a base case run is shown in Exhibit III.4-v.

E. Overall Order of REVSIM Card Deck

1. The overall order of the REVSIM card deck for a base case run or an alternative case run is:

- JCL for REVSIM as required by your computer facility for a FORTRAN program.
- REVSIM program deck.
- JCL to signal end of program deck and start of data deck.
- Set of REVSIM data input cards. Refer to Table III.4-d to obtain the overall order of the data cards.
- /* card.
- // card.

NOTE: Run the base case simulation and the alternative case simulation as separate jobs or steps.

a. Refer to Exhibit III.4-vii (in the program documentation section) for an example of the overall order of the REVSIM card deck.

2. Read REVSIM card deck into computer.

3. Documentation for the Revenue Simulation Computer Program, including flowchart of the REVSIM computer program, program listing, and variable dictionary are presented in the program documentation section.

EXHIBIT III.4-v

Completed Coding Sheets for Data Input To

REVSIM for a Base Case Run

IBM FORTRAN Coding Form

EXHIBIT III-1

GX28-7327-6 U/M 050** Printed in U.S.A.

PROGRAM	REVENUE SIMULATOR - BASE CASE	PUNCHING INSTRUCTIONS	GRAPHIC / PUNCH
PROGRAMMER	JOE SMITH	DATE	OCT 10, 1971
PAGE	1 OF 5	CARD ELECTRO NUMBER*	

```
01000CT. 10, 1971 16 9 E 0 0 C 0 5 0                      4X, 3A4, I1, 8I2
02KINDERGARTEN                                            2X, 6A4
02GRADES 1 TO 6
02GRADES 7 TO 9
02GRADES 10 TO 12
02VOCATIONAL DAY
02SHARED TIME A.V.T.S
02SPECIAL CLASSES
02AFDC
02TOTAL ENROLLMENT

02BASE CASE                                               2X, 6A4
02ALTERNATIVE CASE NUMBER
02REVENUE FORECAST
02REVENUE FEASIBILITY

04CY  Y1  Y2  Y3  Y4  Y5
                                                          2X, 6A4
05TRENTON SCHOOL DISTRICT
                                                          2X, 6A4
0      .750 1.000 1.250 1.300 2.000 1.000 1.000 .750
                                                          2X, 10F6.3
07>0MKTV364464650.35657960 0.35765840 0.35861200 0.35949280 0.36013290 10.   8X, 6F10.0
```

*A standard card form, IBM electro 888157, is available for punching statements from this form.

**Number of forms per pad may vary slightly

IBM FORTRAN Coding Form

GX28-7327-6 U/M 050** Printed in U.S.A.

PROGRAM | PROGRAMMER | DATE | PUNCHING INSTRUCTIONS: GRAPHIC / PUNCH | PAGE 2 OF 5 | CARD ELECTRO NUMBER*

```
0800ASSP  .508   .508    .508    .508    .508    .508                    8X,6F5.3
0900RETX  54.90  0.0     0.0     0.0     0.0     0.0                     8X,6F6.2
1000CØLL  92.00  92.00   92.00   92.00   92.00   92.00                   8X,6F6.2
1100TRAN  270433.  319166.  323154.  327634.  330397.  463597.           8X,6F9.0
12TRP     75.00  75.00   75.00   75.00   75.00                           5X,5F6.2
1300SPED  820660.  1022734.  1084184.  1236062.  1573422.  1723563.  1873678.  2X,7F9.0
14SPE     50.00  50.00   50.00   50.00   50.00                           5X,5F6.2
1500CL2RR  3134551.  3109301.  3090840.  3072380.  3053919.  3035459.   4X,6F10.0
1601KIND  1401.  1440.   1464.   1448.   1494.                           10X,5F7.0
1602GI-6  8474.  8930.   9172.   9337.   9238.
1603G7-9  3690.  3889.   3987.   4046.   3990.
1604G10-12  1810.  2530.  2565.  2588.  2529.
1605VØCED  245.  250.    258.    263.    280.
1606AVTS  77.    77.     80.     80.     80.
1607SPCL  660.   660.    660.    660.    660.
1608AFDC  200.   225.    250.    275.    300.
```

*A standard card form, IBM electro 888157, is available for punching statements from this form

**Number of forms per pad may vary slightly

IBM FORTRAN Coding Form

GX28-7327-6 U/M 050**
Printed in U.S.A.

PROGRAM		PUNCHING INSTRUCTIONS	GRAPHIC		PAGE 3 OF 5
PROGRAMMER	DATE		PUNCH		CARD ELECTRO NUMBER*

```
1609 TØTAL   16557.  18001.  18444.  18697.  18541.
17 FNR  400.00  400.00  400.00  400.00  400.00                      5X,5F7.2
18 MILGR  .01050  .01050  .01050  .01050  .01050                    7X,5F7.5
19 MIN   75.00   75.00   75.00   75.00   75.00                      5X,5F7.2
20 301   25.00   25.00   25.00   25.00   25.00                      5X,5F7.2
2100R TUITIØN-ØTHER PAYMTS      65000.     70000.     70000.     75000.     80000.
2100R SURPLUS APPRØPRIATED          0.         0.         0.         .          0.
2100R INTEREST ØN DEPØSITS       5392.      4500.      5000.      5000.      5000.
2100R REAL ESTATE SALES          5000.      5000.      1000.         .          0.
2100R EQUIPMENT SALES            1000.      2000.      1000.         .          0.
2100R SALE ØF SUPPLIES/MAT      10000.      6000.         0.         .          0.
2100R RENTALS                   12000.     12000.     12000.     10000.     10000.
2100R MISCELLAEØUS RECEIPT      20000.     15000.     10000.      8000.      4000.
21AB
2200R VØCATIØNAL DAY AID        50000.     50000.     50000.     50000.     50000.
2200R P.L. 874                      0.         0.         0.         0.         0.
2200R ØTHER FEDERAL CE AID          0.         0.         0.         0.         0.
22AB
```

* A standard card form, IBM electro 888157, is available for punching statements from this form

**Number of forms per pad may vary slightly

IBM FORTRAN Coding Form

GX28-7327-6 U/M 050** Printed in U.S.A.

PROGRAM | PROGRAMMER | DATE | PUNCHING INSTRUCTIONS | GRAPHIC | PUNCH | PAGE 4 OF 5 | CARD ELECTRO NUMBER*

```
2300CESEA TITLE I PROJTS     1090178.  1210368.  1375658.  1375000.  1000000.
2300CESEA TITLE III           212000.   150000.   100300.    50000.        0.
2300CMDTA                     100000.   150000.   187500.   200000.   200000.
2300CMODEL CITIES             300000.   500000.   750000.   800000.  1500000.
 23AN
2400SCERVN   238937.   238601.   266611.   272000.   287000.          10X,5F10.0
2500CEBUD. 13248781. 15284680. 16547009. 18274587. 18768736. 19108511. 9X,6F10.0
2600CAPUD   1483560.   1902178.   2260368.   2763458.   2825006.   3100000.  9X,6F10.0
27GVALU 30000.00 30000.00 30000.00 35000.00 [illegible].00          7X,5F9.2
28IEMIN110.00110.00110.00110.00110.00                              7X,5F6.2
29PAYPKT  40.00  40.00  40.00  40.00  40.00                          9X,5F6.2
3000RFOREIGN LANG              5000.     5000.     5000.     5000.     [illegible]
3000RVOCATIONAL [illegible]    50000.    50000.    [illegible]  [illegible]  [illegible]
3000RADULT EDUCATION           12000.    12000.    12000.    [illegible]   12000.
[illegible]RLAW ENFORCEMENT AID 84000.   85000.    85000.    85000.    85000.
3000RBUILDING AID              87737.    86601.   114111.   120000.   135000.
 SGAD
```

*A standard card form, IBM electro 888157, is available for punching statements from this form.

**Number of forms per pad may vary slightly

IBM FORTRAN Coding Form

GX28-7327-6 U/M 050**
Printed in U.S.A.

PROGRAM		PUNCHING INSTRUCTIONS	GRAPHIC		PAGE 5 OF 5
PROGRAMMER	DATE		PUNCH		CARD ELECTRO NUMBER*

FORTRAN STATEMENT

```
2100CODEØ PROJECTS          5000.     10000.     15000.     20000.     20000.
2100CMODEL CITIES PROJS    15000.     15000.     20000.     20000.     20000.
    3IAN
3200TEASØPTO        0.0
```

*A standard card form, IBM electro 888157, is available for punching statements from this form.

**Number of forms per pad may vary slightly

REVENUE SIMULATOR PROGRAM -
CARD INPUT - TYPES AND PURPOSES

Introduction

This chapter details data card preparation instructions for the Revenue Simulator Program. The purpose of each data card is presented followed by the input card preparation instructions.

The input cards are discussed in the order in which they are to appear in the card deck. Table III.4-d summarizes the identification and overall order of the input cards for the Revenue Simulator Program. Refer to Chart III.4-3 for a presentation in flow chart format of the recording steps for REVSIM data cards.

Procedure for estimating values of data elements input to REVSIM were discussed in the previous section. A review and understanding of the aforementioned procedures is necessary before the data input cards are prepared.

RUN CONTROL Card - Purpose

The RUN CONTROL card labels the data deck as either a base case run or an alternative case run, and inputs the date of the computer run. In addition, various subscript values, which define the looping in various computer program processes, and various option flags, which control the branching (order of execution) within the program, are input to REVSIM via the RUN CONTROL card.

Subscript values which control looping are:

Number of years in the planning horizon (set equal to 6-CC17) - e.g., sets number of years for which variable values read or written.

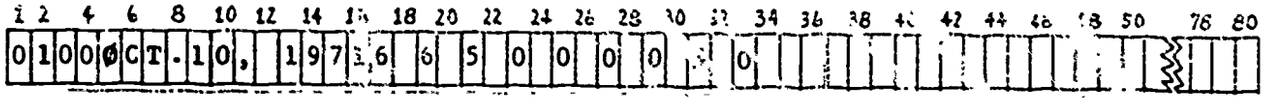
Number of student weight categories (CC18-19) - e.g., sets number of student weight categories to be read.

Number of years to be forecast (CC20-21) - set the number of times through a loop relative to forecasting values for each year of the planning period (equals 5).

The option flags include the following items which are explained under card entry information for CARD TYPE 01: Case Indicator, Alternative Case Current Expense Transportation Project Flag, Alternative Case Current Expense Special Education Project Flag, and the Incentive - Equalization Aid Option Flag.

The run date can be entered in any date format not to exceed twelve characters.

CARD TYPE 01 - RUN CONTROL CARD - FORMAT 4X,34A,I1,2I2
SAMPLE DATA ENTRY (BASE CASE)



CARD COLUMN	DATA ENTRY
CC 1-2	CARD TYPE - 01.
CC 3-4	00 for base case or alternative case number.
CC 5-16	Date of the run.
CC 17	Number of years in planning horizon plus CY (usually equals 6).
CC 18-19	Number of student weight categories corresponding to the Incentive Equalization Aid classifications plus one (for totals), e.g. if school district enrollment is classified into 5 categories, then 06 is entered.
CC 20-21	Number of years to be forecast.
CC 22-23	Alternative Case Indicator. Enter 0 for base case or 1 for alternative case.
CC 24-25	Number of the alternative case. Enter the number identifier of the alternative case for which the revenue module is being run.
CC 26-27	Alternative Case Current Expense Transportation Project Flag. Enter 0 for base case run or alternative case run without a current expense transportation project. If alternative case has current expense transportation project enter 1.
CC 28-29	Alternative Case Current Expense Special Education Project Flag. Same as CC 26-27 except for Specia Education Project.

CARD COLUMN	DATA ENTRY
CC 30-31	Number of forecast years.
CC 32-33	Incentive - Equalization Aid Option Flag. Enter 1 if Incentive - Equalization is not to be calculated (computes only Present Aid) or 0 if Incentive - Equalization Aid is to be computed.

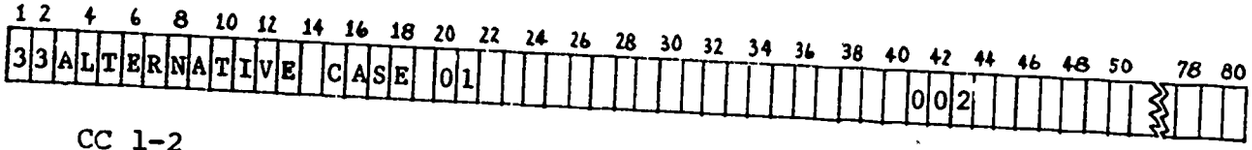
NOTE: If computer run is an alternative case run, prepare a card in CARD FORMAT Number 33, and as many input cards in format number 34 as appropriate, and insert these cards immediately following card format number 1. If the run is a base case run skip to card number 2 format.

ALTERNATIVE CASE PROJECT TOTAL Card - Purpose

The ALTERNATIVE CASE PROJECT Card is used to input a three character number representing the total number of projects included in the alternative case. The number of projects is used to set the maximum size of an array to store alternative case project titles.

The ALTERNATIVE CASE PROJECT TOTAL Card is mandatory for an Alternative case run.

CARD TYPE 33 - ALTERNATIVE CASE PROJECT CARD - FORMAT 40X,I3



CC 1-2

CARD TYPE 33.

CC 3-40

Insert the card identifier ALTERNATIVE CASE NN, where NN is replaced by the actual alternative case number.

CC 41-43

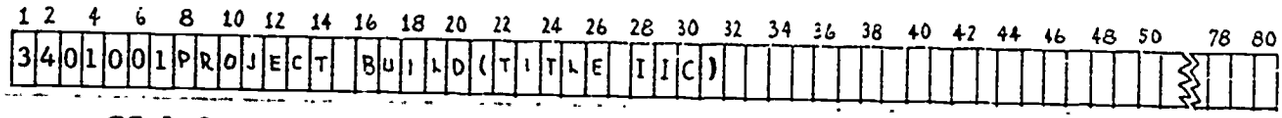
Total number of identified projects plus program changes in the alternative case for which added revenues and costs have been identified.

ALTERNATIVE CASE PROJECT TITLE Card - Purpose

The ALTERNATIVE CASE PROJECT TITLE Card is used to input the name of an Alternative Case project. The complete set of project names is printed on a cover sheet for the alternative case reports to identify those projects in the Alternative Case.

A set of ALTERNATIVE CASE PROJECT TITLE CARDS is mandatory for an alternative case run.

CARD TYPE 34 - ALTERNATIVE CASE PROJECT TITLE CARD - FORMAT 7X, 8A4



CC 1-2	CARD TYPE 34.
CC 3-4	Enter the alternative case number applicable.
CC 5-7	Enter the number identifier of the project or program change.
CC 8-39	Name identifier of project or program change (Number in CC 5-7 of last project identifier cards must equal number in CC 41-43 of card format 32).

A control card in 1 format is prepared for Base Case and each alternative case.

ENROLLMENT TITLE Card - Purpose

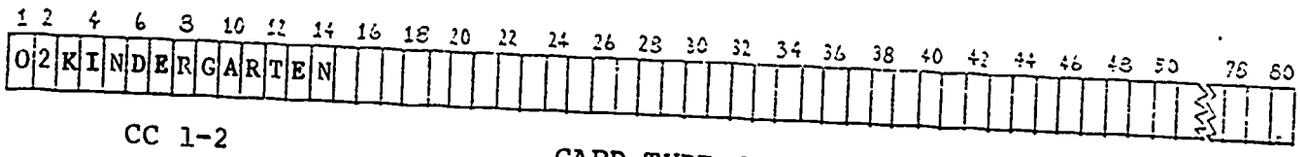
The ENROLLMENT TITLE Card is used to input the titles of the student weight categories, and are used as labels on an output report which concerns itself with enrollment forecast by student weight category.

An ENROLLMENT TITLE card is prepared for each student weight category selected by the district as an enrollment classification for purposes of calculating Incentive-Equalization Aid. In addition, an ENROLLMENT TITLE card is prepared with the title TOTAL ENROLLMENT for purposes of inputting this identifier and then using the label on output reports. The TOTAL ENROLLMENT card is always the last card in the set of ENROLLMENT TITLE cards. The total number of ENROLLMENT TITLE cards (including the TOTAL ENROLLMENT card) must equal the value entered in CC18-19 of the RUN CONTROL card.

The enrollment classifications currently listed in the Bateman Act are presented in Table III.4-e. These identifiers are in abbreviated form to conform to the 24 character restriction per enrollment classification indicated for CARD TYPE 02, and which must be used in this form in REVSIM.

A set of ENROLLMENT TITLE cards is mandatory.

CARD TYPE 02 - ENROLLMENT TITLE CARD - FORMAT 2x,6A4



CC 1-2	CARD TYPE 02.
CC 3-26	Enrollment title (student weight category identifier).

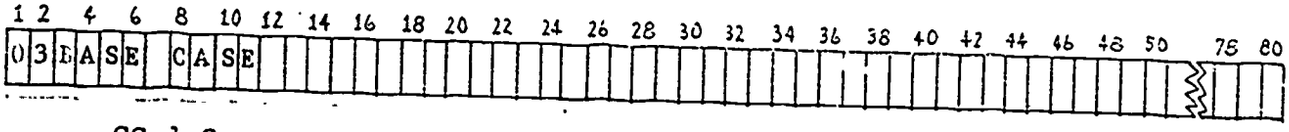
CASE TITLE Card - Purpose

The CASE TITLE Card inputs the case identifier and the type of report identifier. These identifiers serve to label the output reports as a BASE CASE or ALTERNATIVE CASE and as a REVENUE FORECAST or REVENUE FEASIBILITY report.

A CASE TITLE Card is prepared for each title listed in TABLE III.4-f.

A set of CASE TITLE cards are mandatory.

CARD TYPE 03 - CASE TITLE CARD - FORMAT 2x,6A4



CC 1-2 CARD TYPE - 03.

CC 3-26 Case title.

YEAR TITLE Card - Purpose

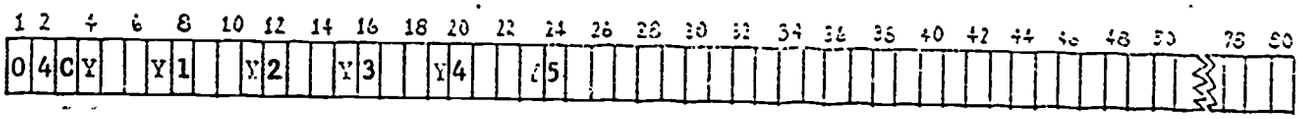
The YEAR TITLE Card is used to input the year identifiers for the years in the planning period and for the current year. The year identifiers are used to label various data fields on every output report of REVSIM.

The number of year identifiers must correspond to the numerical value in CC17 of the RUN CONTROL card.

Table III.4-f illustrates the year titles used in REVSIM.

A YEAR TITLE card is mandatory.

CARD TYPE 04 - YEAR TITLE CARD - FORMAT 2X,6A4



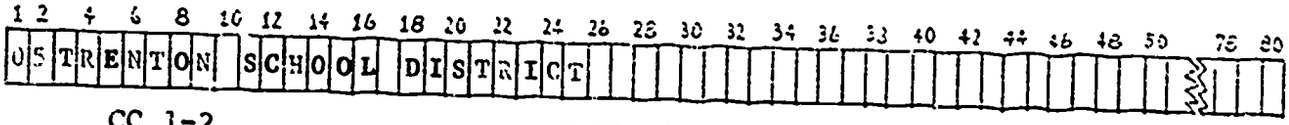
CC 1-2	CARD TYPE 04.
CC 3-6	Current year title.
CC 7-10	Forecast Year 1 title.
CC 11-14	Forecast year 2 title.
CC 15-18	Forecast year 3 title.
CC 19-22	Forecast year 4 title.
CC 23-26	Forecast year 5 title.

SCHOOL DISTRICT TITLE Card - Purpose

The SCHOOL DISTRICT TITLE card is used to input the name of the school district running REVSIM, and to label all output reports.

The SCHOOL DISTRICT TITLE card is mandatory for all runs.

CARD TYPE 05 SCHOOL DISTRICT TITLE CARD - FORMAT 2X, 6A4



CC 1-2 CARD TYPE - 05.

CC 3-26 School district name.

PUPIL WEIGHT Card - Purpose

The PUPIL WEIGHT card is used to input a pupil weight for each student weight category defined by an ENROLLMENT TITLE Card, with the exception of the TOTAL ENROLLMENT card. The student weights are used within the program to calculate weighted enrollment by student category.

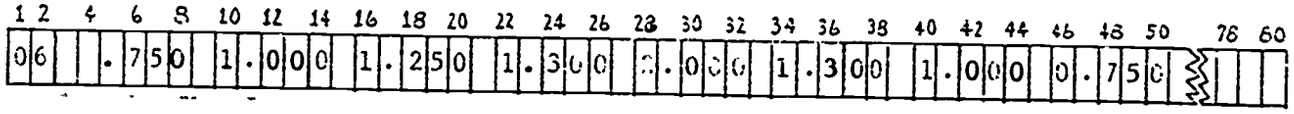
The student weights recorded on the PUPIL WEIGHT card must correspond in order to the ENROLLMENT TITLE cards, otherwise an invalid weight will be used to calculate weighted enrollment for a particular student category.

The number of student weight category entries on the PUPIL WEIGHT card must equal the difference between the value in CC 18-19 of the RUN CONTROL card minus 1.

Every student weight by student weight category, as defined by the Bateman Act, are listed in Table III.4-e, Part B and correspond in order to the categories in Table III.4-e, Part A

The PUPIL WEIGHT Card is mandatory for all runs.

CARD TYPE 06 - PUPIL WEIGHT CARD - FORMAT 2X,10F6.3



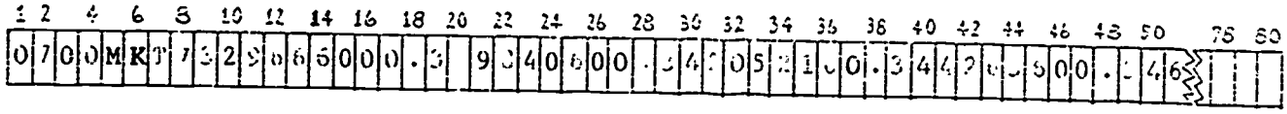
CC 1-2	CARD TYPE 06.
CC 3-8	Pupil weight for the first student weight category.
CC 9-14	Pupil weight for the second student weight category.
CC 15-20	Pupil weight for the third student weight category.
CC 21-26	Pupil weight for the fourth student weight category.
CC 27-32	Pupil weight for the fifth student weight category.
CC 33-38	Pupil weight for the sixth student weight category.
CC 39-44	Pupil weight for the seventh student weight category.
CC 45-50	Pupil weight for the eight student weight category.
CC 51-56	Pupil weight for the ninth student weight category.
CC 57-62	Pupil weight for the tenth student weight category.

MARKET VALUE OF PROPERTY Card - Purpose

The MARKET VALUE OF PROPERTY card is used to input the CY and Y1-Y5 projected market value of property in the school district taxed for school purposes.

The projected market value of property is then used as the basis for calculating estimated revenues from real estate taxes, and is used in the formulae for calculating the forecast of Present or Formula Aid and Incentive-Equalization Aid the school district might expect from the State.

CARD TYPE 07 - MARKET VALUE OF REAL ESTATE - FORMAT 8X,6F10.0

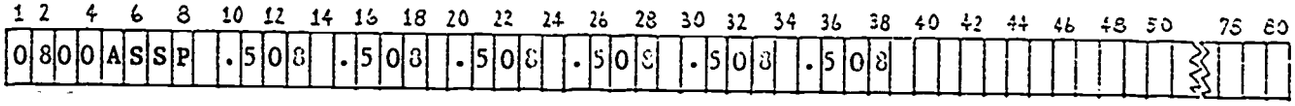


CC 1-2	CARD TYPE 07.
CC 3-4	Enter 00 for base case run or the alternative case number.
CC 5-8	Enter 'MKTV'.
CC 9-18	CY market value of real property (excluding class II RR property). Refer to the trend analysis computer program for instructions on data collection and calculating the information for card type 7.
CC 19-28	Y1 district real property market value.
CC 29-38	Y2 district real property market value.
CC 39-48	Y3 district real property market value.
CC 48-58	Y4 district real property market value.
CC 59-68	Y5 district real property market value.
	Enter the decimal point in the right most character of each field.

ASSESSMENT RATIO Card - Purpose

The ASSESSMENT RATIO card is used to input actual CY and Y1-Y5 estimates of the assessment ratio. The assessment ratio is used in the projection of real estate tax revenues for calculating assessed valuation (product of market value times the assessment ratio).

CARD TYPE 08 - ASSESSMENT RATIO CARD - FORMAT 8x



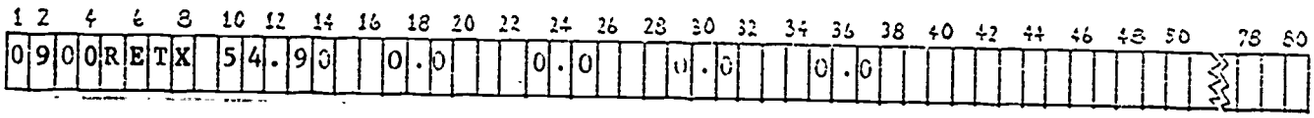
CC 1-2	CARD TYPE 08.
CC 3-4	Enter 00 for base case run or the alternative case number.
CC 5-8	Enter ASSP.
CC 9-13	CY assessment ratio.
CC 14-18	Y1 assessment ratio.
CC 19-23	Y2 assessment ratio.
CC 24-28	Y3 assessment ratio.
CC 29-33	Y4 assessment ratio.
CC 34-38	Y5 assessment ratio.

REAL ESTATE TAX RATE Card - Purpose

The REAL ESTATE TAX RATE card is used to input CY and Y1-Y5 estimated real estate tax rate for school purposes.

The estimates of the real estate tax rate is used in the real estate tax projection calculation to compute real estate tax levied as the product of assessed or taxable valuation of property times the real estate tax rate.

CARD TYPE 09 - REAL ESTATE TAX CARD - FORMAT 8X,6F6.2



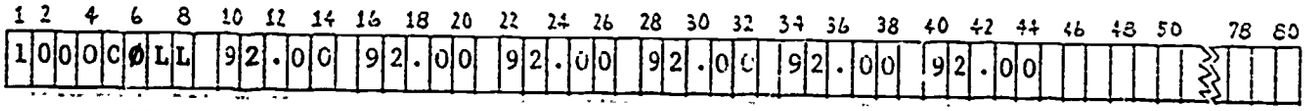
CC 1-2	CARD TYPE 09.
CC 3-4	Enter 00 for base case or the alternative case number.
CC 5-8	Enter 'RETX'.
CC 9-14	CY Real estate tax rate in mills.
CC 15-20	Y1 real estate tax rate (to be calculated). Enter 0.00.
CC 21-26	Y2 real estate tax rate (to be calculated). Enter 0.00.
CC 27-32	Y3 real estate tax rate (to be calculated). Enter 0.00.
CC 33-38	Y4 real estate tax rate (to be calculated). Enter 0.00.
CC 39-44	Y5 real estate tax rate (to be calculated). Enter 0.00.

REAL ESTATE TAX COLLECTION PERCENT Card - Purpose

The REAL ESTATE TAX COLLECTION PERCENT card is used to input CY and Y1-Y5 estimated percent of taxes collected.

The estimates of the real estate tax collection percent is used in the real estate tax projection calculation to compute actual real estate tax revenues collected as the product of real estate taxes levied times the collection percent.

CARD TYPE 10 - R.E. TAX COLLECTION PERCENT CARD - FORMAT 8X,6F6.2



CC 1-2	CARD TYPE 10.
CC 3-4	Enter 00 for base case or the alternative case number.
CC 5-8	Enter COLL.
CC 9-14	CY real estate tax collection percent.
CC 15-20	Y1 real estate tax collection percent.
CC 21-26	Y2 real estate tax collection percent.
CC 27-32	Y3 real estate tax collection percent.
CC 33-38	Y4 real estate tax collection percent.
CC 39-44	Y5 real estate tax collection percent.

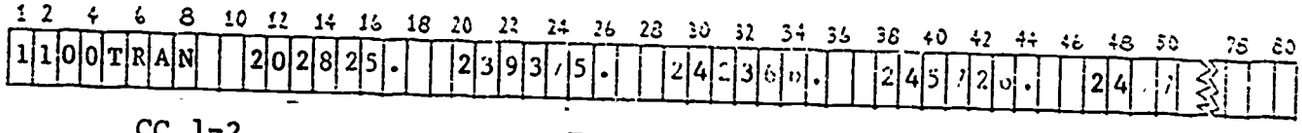
TRANSPORTATION PROGRAM COSTS Card - Purpose

The TRANSPORTATION PROGRAM COSTS Card is used to input the current year and Y1-Y5 Transportation Program costs. The computer program factors the annual estimated Transportation Program costs by a reinbursement percent, while also taking into account a one year time lag in payment, to calculate Y1-Y5 estimates of Transportation Aid. The Y1-Y5 Transportation Aid estimates are also used in the procedure for computing the equalized tax rate (as a percent) in the Incentive -Equalization Aid formula.

Transportation Aid is classified as a current expense revenue since it is used to finance the current expense operating budget.

The TRANSPORTATION PROGRAM COSTS card is mandatory.

CARD TYPE 11 - TRANSPORTATION PROGRAM COSTS - FORMAT 8x,6F8.0



CC 1-2 — Enter the CARD TYPE 11.

CC 3-4 — Enter 00 for a base case run, or the alternative case number.

CC 5-8 — Enter the card identifier TRAN.

CC 9-17 — CY Total transportation program costs.

CC 18-26 — Y1 Total transportation program costs. Refer to the Resource Requirements Module, for further instructions on determining Y1-Y5 transportation program costs.

CC 27-35 — Y2 Total transportation program costs.

CC 36-44 — Y3 Total transportation program costs.

CC 45-53 — Y4 Total transportation program costs.

CC 54-62 — Y5 Total transportation program costs.

Note: Place a decimal point in the last card column of each cost field (CC 17, 26, 35, 44, 53, and 62).

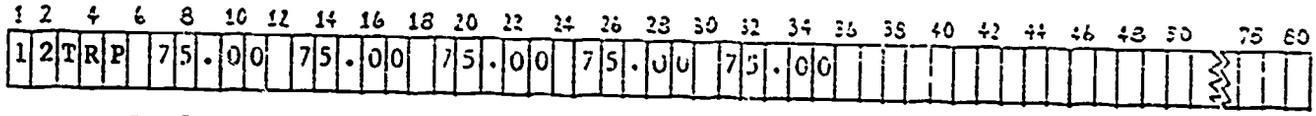
TRANSPORTATION PROGRAM COSTS REIMBURSEMENT PERCENT Card - Purpose

The TRANSPORTATION PROGRAM COSTS REIMBURSEMENT PERCENT Card is used to input an annual reimbursement percent for each year in the planning period for the purpose of calculating annual estimated Transportation Aid.

The reimbursement percent is set by the State. However, school district administrators have the option of varying the reimbursement percent to simulate the impact of a particular revision.

The TRANSPORTATION PROGRAM COSTS REIMBURSEMENT PERCENT Card is mandatory.

CARD TYPE 12 - TRANSPORTATION PROGRAM COSTS REIMBURSEMENT PERCENT - FORMAT 5x,5F6.2



CC 1-2	CARD TYPE 12.
CC 3-5	Enter identifier 'TRP' for identification purposes to denote Transportation program reimbursement percent input card.
CC 6-11	Y1 Transportation Program reimbursement percent (Provide two decimals places, e.g. 075.00.
CC 12-17	Y2 Transportation Program reimbursement percent.
CC 18-23	Y3 Transportation Program reimbursement percent.
CC 24-29	Y4 Transportation Program reimbursement percent.
CC 30-35	Y5 Transportation Program reimbursement percent.

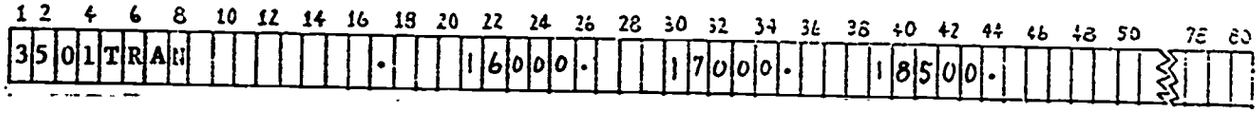
NOTE: If computer run is an alternative case which includes additional current expense transportation costs in the form of added project (or program changes), prepare a data card in format number 35, and insert in the input card deck immediately following card format number 12. If run is a base case or alternative case not affecting current expense transportation program costs, skip to card format number 13.

ADDED CURRENT EXPENSE TRANSPORTATION COSTS (ALTERNATIVE CASE) Card - Purpose

The ADDED CURRENT EXPENSE TRANSPORTATION COST Card is used to input added transportation costs as the result of a CURRENT expense transportation project included in the alternative case. The added costs are used to calculate the additional TRANSPORTATION AID that can be expected from the State to cover the additional costs.

The ADDED CURRENT EXPENSE TRANSPORTATION COSTS card is required only if the run is an alternative case run (CC22-23 of RUN CONTROL card equals 01) and the transportation flag indicator is on (CC 26-27 of RUN CONTROL card equals 01), i.e. a current expense transportation project is included in the project set.

CARD TYPE 35 - ALTERNATIVE CASE ADDED CURRENT EXPENSE TRANSPORTATION COSTS - FORMAT 8x,5F9.0



CC 1-2 — CARD TYPE 35.

CC 3-4 — Enter the alternative case number.

CC 5-8 — Enter the mnemonic 'TRAN' for identification purposes to denote Transportation Program Costs.

CC 9-17 — Y1 Added Alternative Case current expense transportation costs. Refer to the Resource Requirements Module, for further instructions on determining Y1-Y5 transportation program costs.

CC 18-26 — Y2 Added Alternative Case CE transportation costs.

CC 27-35 — Y3 Added Alternative Case CE transportation costs.

CC 36-44 — Y4 Added Alternative Case CE transportation costs.

CC 45-53 — Y5 Added Alternative Case CE transportation costs.

Note: Place a decimal point in the last card column of each cost field (CC 17, 26, 35, 44, and 53).

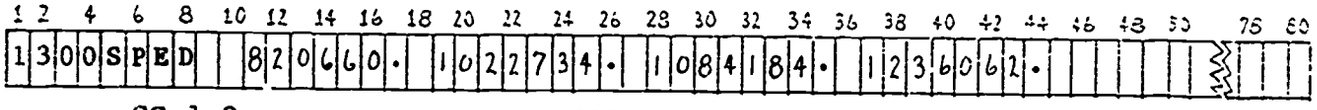
SPECIAL EDUCATION PROGRAM COSTS Card - Purpose

The SPECIAL EDUCATION PROGRAM Costs Card is used to input two years of past data (actuals) and Y1-Y5 estimates of Special Education Program costs. The computer program factors the annual cost figures by a reimbursement percent, while also taking into account a two year time lag in payment to calculate Y1-Y5 estimates of Special Education (ATYPICAL PUPIL) Aid. The Y1-Y5 Special Education Aid estimates are also used in the procedure for computing the equalized tax rate (as a percent) in the Incentive - Equalization Aid formula.

Special Education Aid is classified as a current expense revenue item since it is used to finance the district's current operating budget.

The SPECIAL EDUCATION PROGRAM COSTS Card is mandatory.

CARD TYPE 13 - SPECIAL EDUCATION PROGRAM COSTS - FORMAT 8X,7F9.0



CC 1-2	CARD TYPE 13.
CC 3-4	Enter 00 for base case, or the alternative case number.
CC 5-8	Enter the card identifier 'SPED'.
CC 9-17	CY-1 Special Education Program costs
CC 18-26	CY Special Education Program costs.
CC 27-35	Y1 Total base case current expense Special Education program costs. Refer to the Resource Requirements Users Manual, for instructions on determining Y1-Y5 base case current expense Special Education Program Costs.
CC 36-44	Y2 Total base case current expense Special Education program costs.
CC 45-53	Y3 Total base case current expense Special Education program costs.
CC 54-62	Y4 Total base case current expense Speial Education program costs.
CC 63-71	Y5 Total base case current expense Special Education program costs.

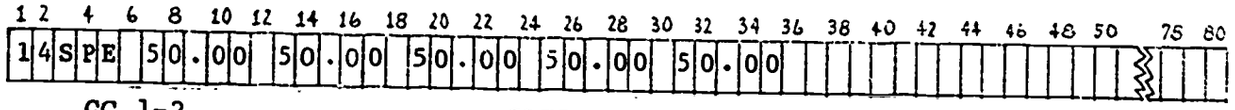
SPECIAL EDUCATION AID REIMBURSEMENT PERCENT Card - Purpose

The SPECIAL EDUCATION AID REIMBURSEMENT PERCENT Card is used to input an annual reimbursement percent for each year in the planning period for the purpose of calculating Y1-Y5 estimates of Special Education Aid.

The reimbursement percent is a policy rate set by the State. However, administrators have the option of varying the reimbursement percent to simulate the impact of a particular revision.

The SPECIAL EDUCATION AID REIMBURSEMENT PERCENT Card is mandatory.

CARD TYPE 14 - SPECIAL EDUCATION PROGRAM COSTS REIMBURSEMENT PERCENT - FORMAT 5x,5F6.2



CC 1-2	CARD TYPE 14.
CC 3-5	Enter mnemonic 'SPE' for user identification purposes to identify Special Education program reimbursement percent input card.
CC 6-11	Y1 Special Education Aid reimbursement percent (Enter percent with two decimals, e.g., 150.00).
CC 12-17	Y2 Special Education Aid reimbursement percent.
CC 18-23	Y3 Special Education Aid reimbursement percent.
CC 24-29	Y4 Special Education Aid reimbursement percent.
CC 30-35	Y5 Special Education Aid reimbursement percent.

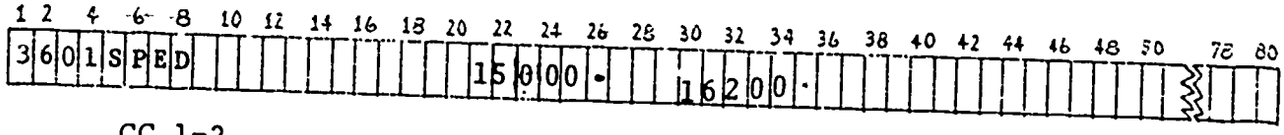
NOTE: If computer run is an alternative case which includes additional current expense special education costs reflected by new projects or program changes or both, prepare a data card in card number 36 format, and insert this card in the input card deck immediately following card format 14 (Atypical Pupil Aid Reimbursement Percent). If the run is a base case or alternative case not affecting current expense special education program costs, skip to card number 15 format.

ADDED CURRENT EXPENSE SPECIAL EDUCATION COSTS Card - Purpose

The ADDED CURRENT EXPENSE SPECIAL EDUCATION COSTS Card is used to input added special education costs as the result of a current expense special education project included in the alternative case. The added costs are used to calculate the additional ATYPICAL PUPIL AID that can be expected from the State to cover the added Special Education costs.

The ADDED CURRENT EXPENSE SPECIAL EDUCATION Card is required only if the run is an alternative case run (CC 22-23 of the RUN CONTROL card equals 01) and the special education flag (CC 28-29 of the RUN CONTROL card equals 01) is on, i.e. a current expense Special Education project is included in the project set.

CARD TYPE 36 - ALTERNATIVE CASE ADDED CURRENT EXPENSE SPECIAL EDUCATION PROGRAM COSTS - FORMAT 8x,5F9.0



CC 1-2 CARD TYPE 36.

CC 3-4 Enter the alternative Case number.

CC 5-8 Enter the mnemonic 'SPED' for identification purposes to denote an input card for special education program costs.

CC 9-17 Blank

CC 18-26 Y1 Alternative Case added current expense Special Education program costs. Refer to the Resource Requirements Users Manual, for instructions on determining Y1-Y5 alternative case current expense Special Education costs.

CC 27-35 Y2 added current expense Special Education program costs for the Alternative Case.

CC 36-44 Y3 added current expense Special Education program costs for the alternative Case.

CC 45-53 Y4 added current expense Special Education program costs for the alternative case.

CC 54-62 Y5 added current expense Special Education program costs for the alternative case.

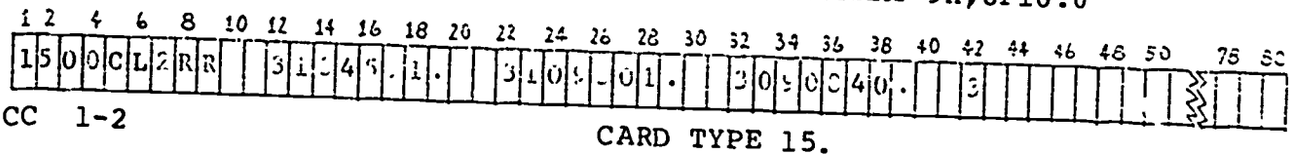
Note: Place decimal point in last card column of each cost field (CC 17, 26, 35, 44, and 53).

CLASS II RAILROAD PROPERTY Card - Purpose

The CLASS II RAILROAD PROPERTY card is used to input CY and Y1-Y5 market value of Class II Railroad Property. Y1-Y5 total district market value of property is calculated as the sum of Class II Railroad Property plus the market value of real estate (CARD TYPE 07). The Y1-Y5 total figure is used as one of the factors in calculating State Aid.

The CLASS II RAILROAD PROPERTY CARD is mandatory.

CARD TYPE 15 - CLASS II RAILROAD PROPERTY - FORMAT 9X,6F10.0



CC 1-2	CARD TYPE 15.
CC 3-4	Base Case is 00 or Alternative Case number.
CC 5-9	Enter 'CL2RR'
CC 10-19	CY market value of Class II Railroad Property.
CC 20-29	Y1 market value of Class II Railroad Property.
CC 30-39	Y2 market value of Class II Railroad Property.
CC 40-49	Y3 market value of Class II Railroad Property.
CC 50-59	Y4 market value of Class II Railroad Property.
CC 60-69	Y5 market value of Class II Railroad Property.

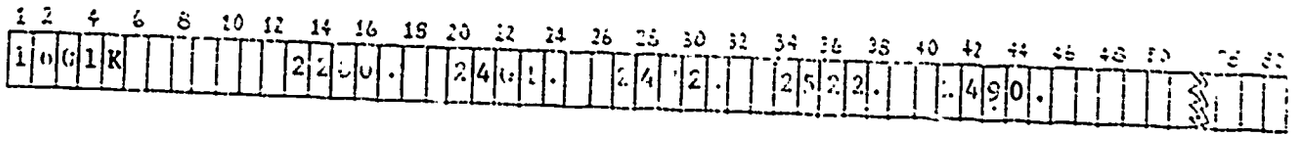
ENROLLMENT FORECAST Card - Purpose

The set of ENROLLMENT FORECAST data cards is used to input Y1-Y5 enrollment estimates by student weight category, and Y1-Y5 total enrollment estimates. The enrollment data is used to calculate the Y1-Y5 Foundation Program amounts and to compute weighted enrollment for use in the Incentive Equalization Aid formula.

The number of input cards in the ENROLLMENT FORECAST data deck must equal the number of enrollment classifications indicated in CC 18-19 of the RUN CONTROL card.

The set of ENROLLMENT FORECAST data cards is mandatory.

CARD TYPE 16 - ENROLLMENT DATA (BY STUDENT WEIGHT CATEGORY) - FORMAT 10X,5F7.0



CC 1-2	CARD TYPE 16.
CC 3-4	Number denoting order of the data card in the set of enrcll-ment data input cards.
CC 5-10	Student weight category identifier abbreviation.
CC 11-17	CY enrollment.
CC 18-24	Y1 enrollment for a student weight category.
CC 25-31	Y2 enrollment for a student weight category.
CC 32-38	Y3 enrollment for a student weight category.
CC 39-45	Y4 enrollment for a student weight category.

FOUNDATION RATE PER PUPIL Card - Purpose

The FOUNDATION RATE PER PUPIL card is used to input the Y1-Y5 estimates of the foundation rate per pupil. The foundation rate is applied to annual total resident enrollment for each year of the planning period to obtain the foundation program amount.

The user has the option of using the current State established policy rate or some other estimated rate to simulate the impact of a rate change on expected revenue in the form of Formula Aid and Incentive Equalization Aid from the State.

The FOUNDATION RATE PER PUPIL CARD is mandatory.

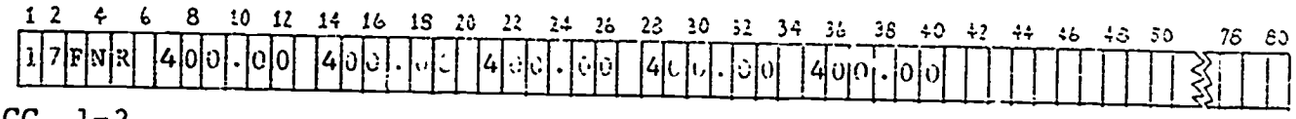
FOUNDATION RATE PER PUPIL Card - Purpose

The FOUNDATION RATE PER PUPIL card is used to input the Y1-Y5 estimates of the foundation rate per pupil. The foundation rate is applied to annual total resident enrollment for each year of the planning period to obtain the foundation program amount.

The user has the option of using the current State established policy rate or some other estimated rate to simulate the impact of a rate change on expected revenue in the form of Formula Aid and Incentive Equalization Aid from the State.

The FOUNDATION RATE PER PUPIL CARD is mandatory.

CARD TYPE 17 - FOUNDATION RATE PER PUPIL - FORMAT 5X,5F7.2



CC 1-2	CARD TYPE 17.
CC 3-5	Enter 'FNR' for user identification purposes to denote foundation rate per pupil.
CC 6-12	Y1 foundation rate per resident pupil.
CC 13-19	Y2 foundation rate per resident pupil.
CC 20-26	Y3 foundation rate per resident pupil.
CC 27-33	Y4 foundation rate per resident pupil.
CC 34-40	Y5 foundation rate per resident pupil.

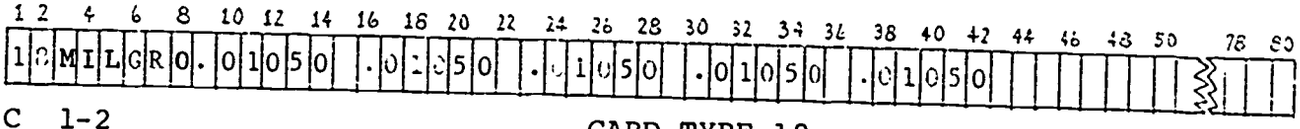
MILLAGE RATE Card - Purpose

The MILLAGE RATE Card is used to input the Y1-Y5 millage rate. The millage rate is used in the Formula Aid calculation to compute an annual local fair share estimate (product of market value times millage rate).

The user has the option of inputting for Y1-Y5 the current State established millage rate (by assuming the rate will not change) or revised Y1-Y5 rates to simulate the impact on expected revenues of a millage rate change in combination with changes of other variables in the formula for Formula Aid.

The MILLAGE RATE card is mandatory.

CARD TYPE 18 - MILLAGE RATE - FORMAT 7X,5F7.5



CC 1-2	CARD TYPE 18.
CC 3-7	Enter 'MILER' for user identification purposes to denote millage used in local fair share calculation.
CC 8-14	Y1 millage rate.
CC 15-21	Y2 millage rate.
CC 22-28	Y3 millage rate.
CC 29-35	Y4 millage rate.
CC 36-42	Y5 millage rate.

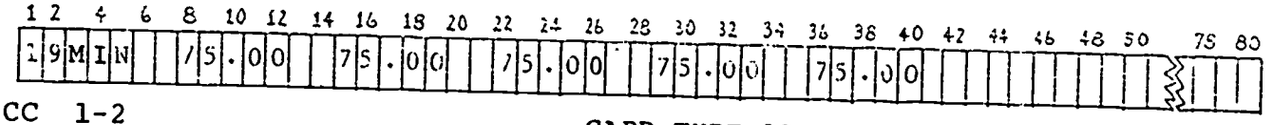
MINIMUM AID RATE Card - Purpose

The MINIMUM AID RATE card is used to input the Y1-Y5 minimum aid rate per pupil estimates. The minimum aid rate is applied against Y1-Y5 enrollment estimates to obtain Y1-Y5 Minimum Aid amounts.

The user has the option to input for Y1-Y5 the current State minimum aid rate or revised Y1-Y5 rates to simulate the impact on expected revenues of a minimum aid rate change in combination with changes of other variables in the formula for Formula Aid.

The MINIMUM AID RATES Card is mandatory.

CARD TYPE 19 - MINIMUM AID RATE (FOR FORMULA AID) - FORMAT 5X,5F7.2



CC 1-2	CARD TYPE 19.
CC 3-5	Enter 'MIN' for user identification to denote minimum aid rate per student for Formula Aid.
CC 6-12	Y1 minimum aid rate per pupil.
CC 13-19	Y2 minimum aid rate per pupil.
CC 20-26	Y3 minimum aid rate per pupil.
CC 27-33	Y4 minimum aid rate per pupil.
CC 34-40	Y5 minimum aid rate per pupil.

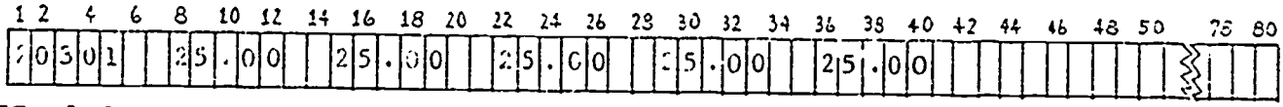
CH301 AID RATE Card - Purpose

The CH301 AID RATE card is used to input the Y1-Y5 estimates of the CH 301 aid rate per student. The CH 301 Aid Rate is applied to Y1-Y5 total enrollment to compute Y1-Y5 CH301 Aid.

The user has the option to input for Y1-Y5 the current State CH301 aid rate or revised Y1-Y5 rates to simulate the impact on expected revenues of a CH301 aid rate change in combination with changes of other variables in the Formula Aid calculation.

The CH301 AID RATE Card is mandatory.

CARD TYPE 20 - CH301 AID RATE - FORMAT 5X,5F7.2



CC 1-2	CARD TYPE 20.
CC 3-5	Enter '301' for user identification purposes to denote CH301, L.1968 aid rate per student data input card.
CC 6-12	Y1 CH301 aid rate per student.
CC 13-19	Y2 CH301 aid rate per student.
CC 20-26	Y3 CH301 aid rate per student.
CC 27-33	Y4 CH301 aid rate per student.
CC 34-40	Y5 CH301 aid rate per student.

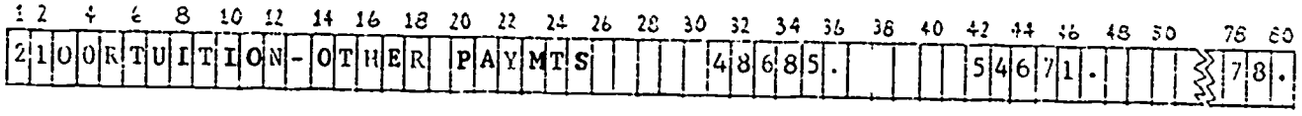
LOCAL CURRENT EXPENSE REVENUE ITEM Card - Purpose

The LOCAL CURRENT EXPENSE REVENUE ITEM card is used to input the title of the local revenue source and Y1-Y5 estimated revenues from the source. All local sources are assumed to be current expense revenues to be applied against the operating budget. One card is input for each local source for which revenues are identified. Revenues from the real estate tax are included as a local revenue for purposes of this input card. Table III.4-g suggests several revenue sources which are local in nature.

The estimated Y1-Y5 total revenues from local sources are used in the Incentive-Equalization Aid formula for computing an equalized tax rate (percent).

A set of LOCAL CURRENT EXPENSE REVENUE ITEM cards is optional relative to the running of the REVSIM program. However, if local revenues are not estimated and a set is not input, revenues from local sources (excluding real estate tax revenues) will be zero, thereby having a direct effect on the district's Y1-Y5 equalized tax rate as well as the local real estate tax rate as calculated during the revenue feasibility portion of the program.

CARD TYPE 21 - Y1-Y5 REVENUE ITEMS FROM LOCAL CURRENT EXPENSE SOURCES FORMAT 4x,A1,5A4,5F,11.0



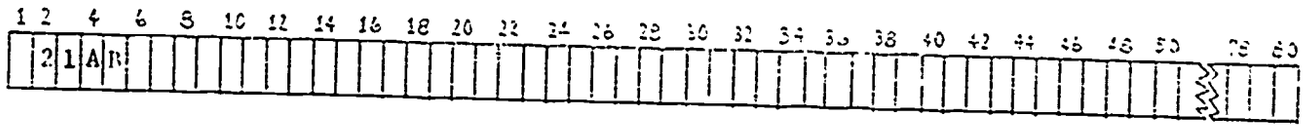
CC 1-2	CARD TYPE 21.
CC 3-4	Base case is 00 or alternative number.
CC 5	R to identify a current expense local revenue item.
CC 6-25	Name identifier of current expense local revenue item.
CC 26-36	Y1 expected current expense revenue from local funding source identified in CC 2-25.
CC 37-47	Y2 expected current expense revenue from local funding source identified in CC 2-25.
CC 48-58	Y3 expected current expense revenue from local funding source identified in CC 2-25.
CC 59-69	Y4 expected current expense revenue from local funding source identified in CC 2-25.
CC 70-80	Y5 expected current expense revenue from local funding source identified in CC 2-25.

END Card (for LOCAL CURRENT EXPENSE REVENUE ITEMS) - Purpose

The END card is used to identify the end of the data input deck consisting of estimates of revenue items from local current expense funding sources.

The END card following the local current expense revenue items data deck is mandatory.

CARD TYPE 21A - END CARD (LOCAL CURRENT EXPENSE REVENUE ITEMS) - FORMAT 4x,A1



CC 1-4	CARD TYPE 21A.
CC 5	Enter B (the remainder of the card is blank). This card is placed after the last local revenue item data input card to signal the end of the card deck.

CARD TYPE 21A is mandatory.

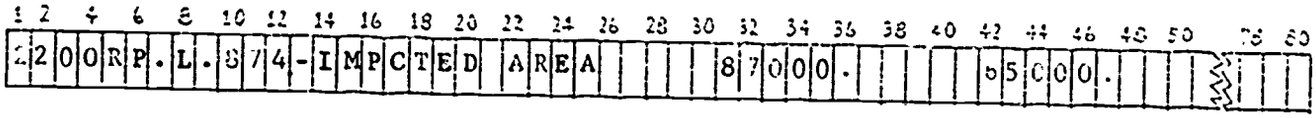
FEDERAL CURRENT EXPENSE REVENUE ITEM Card - Purpose

The FEDERAL CURRENT EXPENSE REVENUE ITEM card is used to input the title of and Y1-Y5 estimated revenues from Federal current expense sources. One card is input for each Federal current expense source for which revenues are estimated.

The estimated Y1-Y5 total revenues from Federal current expense sources are used in the Incentive-Equalization Aid formula for computing an equalized school district tax rate (percent).

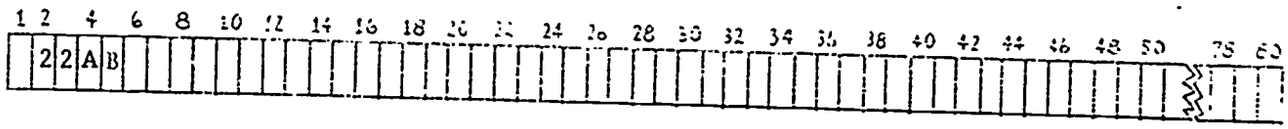
A set of FEDERAL CURRENT EXPENSE REVENUE ITEM cards is optional. However, zero estimates will be reflected in the values calculated for the district's Y1-Y5 equalized tax rate (used in the Incentive-Equalization Aid formula) and in the district's real estate tax rate required to cover any revenue deficits.

CARD TYPE 22 - Y1-Y5 REVENUE ITEMS FROM FEDERAL CURRENT EXPENSE SOURCES - FORMAT 4x,A1,5A4,5F11.0



CC 1-2	CARD TYPE 22.
CC 3-4	Base case is 00 or the alternative case number.
CC 5	Enter R to identify a current expense revenue item.
CC 6-25	Name identifier of current expense federal revenue item.
CC 26-36	Y1 expected current expense revenues from federal funding source identified in CC 2-25.
CC 37-47	Y2 expected current expense revenues from federal funding source identified in CC 2-25.
CC 48-58	Y3 expected current expense revenues from federal funding source identified in CC 2-25.
CC 59-69	Y4 expected current expense revenues from federal funding source identified in CC 2-25.
CC 70-80	Y5 expected current expense revenues from federal funding source identified in CC 2-25.

CARD TYPE 22A - END Card For (FEDERAL CURRENT EXPENSE REVENUE ITEMS DATA DECK) - FORMAT 4x,A1



CC 1-4	CARD TYPE 22A.
CC 5	Enter B (the remainder of the card is blank). This card is placed after the last federal current expense revenue item input card. This card signals the end of data input cards of federal current expense revenue items.

CARD TYPE 22A is mandatory.

END Card (for FEDERAL CURRENT EXPENSE REVENUE ITEMS DATA DECK)-Purpose

The END card is used to identify the end of the data deck consisting of estimates of revenue items from federal current expense funding sources.

The END card is mandatory, and is required whether or not there is a set of federal current expense revenue item data cards. The END card follows the last input card in the set, when federal current expense revenue input cards are present, or CARD TYPE 21A, if not estimated.

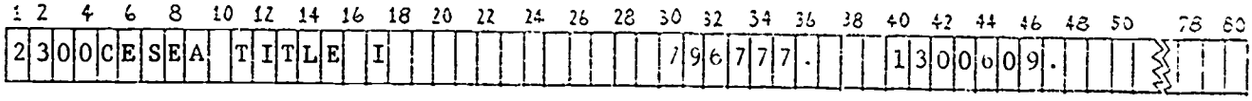
FEDERAL CATEGORICAL REVENUE ITEM Card - Purpose

The FEDERAL CATEGORICAL REVENUE ITEM card is used to input the title of an the estimated Y1-Y5 revenues from Federal categorical sources, i.e. Federal funds which are received based on federally approved funding applications for carrying out specific projects and their objectives, and which legally cannot be used to defray the costs of the district's continuing, on-going program (as detailed in the current expense budget).

The estimated Y1-Y5 total revenues from Federal categorical sources are used to determine revenue feasibility of non-current expense (categorical) costs.

A set of FEDERAL CATEGORICAL REVENUE ITEM cards is optional relative to the running of the REVSIM computer program.

CARD TYPE 23 - Y1-Y5 REVENUE ITEMS FROM FEDERAL CATEGORICAL SOURCES - FORMAT 4x,A1,5A4,5F11.0



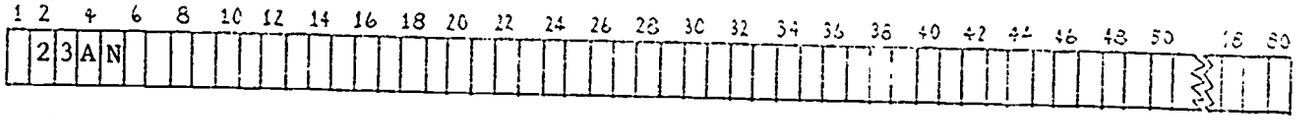
CC 1-2	CARD TYPE 23.
CC 3-4	Base case is 00 or alternative case number.
CC 5	Enter C to identify the revenue item data card as a categorical revenue item.
CC 6-25	Name identifier of categorical federal revenue item.
CC 26-36	Y1 expected categorical revenues from federal funding source identified in CC 2-25.
CC 37-47	Y2 expected categorical revenues from federal funding source identified in CC 2-25.
CC 48-58	Y3 expected categorical revenues from federal funding source identified in CC 2-25.
CC 59-69	Y4 expected categorical revenues from federal funding source identified in CC 2-25.
CC 70-80	Y5 expected categorical revenues from federal funding source identified in CC 2-25.

END Card (for FEDERAL CATEGORICAL REVENUE ITEMS)- Purpose

The END card is used to identify the end of the data input deck consisting of estimates of revenue items from federal categorical funding sources.

The END card is mandatory, and is required whether or not there is a set of federal categorical revenues item data cards. The END card follows the last input card in the set, when federal categorical expense revenue input cards are present, or CARD TYPE 22A, if federal categorical revenue cards are not input.

CARD TYPE 23A - END CARD (FOR FEDERAL CATEGORICAL REVENUE ITEMS DATA DECK) - FORMAT 4x,A1



CC 1-4

CARD TYPE 23A.

CC 5

Enter N (remainder of the card is blank). This card is placed after the last input card in the deck of cards comprising categorical revenue items from federal sources. This card signals the end of the data input card deck of federal categorical revenue items.

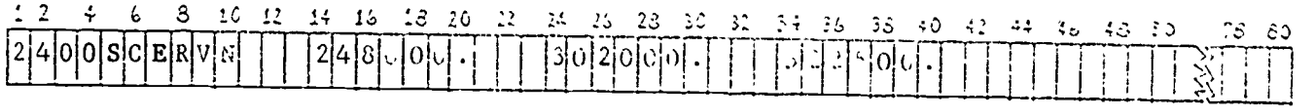
TOTAL OTHER CURRENT EXPENSE REVENUES FROM OTHER STATE SOURCES Card Purpose

A TOTAL OTHER CURRENT EXPENSE REVENUES FROM STATE SOURCES card is used to input the estimated Y1-Y5 aggregated amount of current expense revenues from State sources, excluding revenues from Transportation Aid, Atypical Pupil Aid, and Incentive-Equalization Aid. The Y1-Y5 aggregated revenues must equal the estimated revenues summed by year over the set if Y1-Y5 REVENUE ITEMS FROM STATE CURRENT EXPENSE SOURCES cards (CARD TYPE 30).

The estimated Y1-Y5 total other current expense revenues from State sources is used in the Incentive-Equalization Aid formula for computing an equalized tax rate for the district.

A TOTAL OTHER CURRENT EXPENSE REVENUES FROM STATE SOURCES card is mandatory (if Y1-Y5 estimates are zero, enter on the card).

CARD TYPE 24 - TOTAL OTHER CURRENT EXPENSE REVENUES FROM STATE SOURCES - FORMAT 10x,5F10.0



CC 1-2	CARD TYPE 24.
CC 3-4	Enter 00 for a base case run, on the alternative case number.
CC 5-10	Enter the card identifier 'SCERVN'.
CC 11-20	Y1 current expense revenues from State sources (excludes Atypical Pupil Aid, Transportation Aid, and Incentive-Equalization Aid).
CC 21-30	Y2 current expense revenues from State sources.
CC 31-40	Y3 current expense revenues from State sources.
CC 41-50	Y4 current expense revenues from State sources.
CC 51-60	Y5 current expense revenues from State sources.

ESTIMATED CURRENT EXPENSE BUDGET FORECAST Card - Purpose

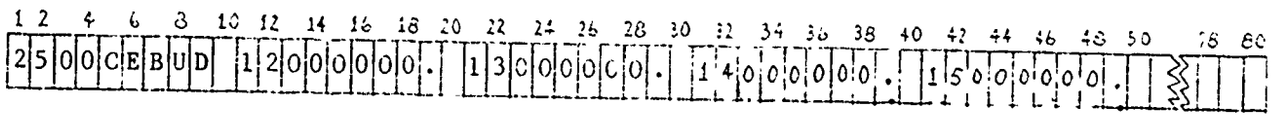
The ESTIMATED CURRENT EXPENSE BUDGET FORECAST card is used to input the Y1-Y5 estimated operating costs of the school district's program (base case program or alternative case program as appropriate).

The Y1-Y5 estimated operating expenses are used in the Incentive-Equalization Aid formula for computing the school district's equalized tax rate.

The user has the option of estimating any magnitude of costs in order to simulate the effect on revenue feasibility during the planning period.

A CURRENT EXPENSE BUDGET FORECAST Card is mandatory.

CARD TYPE 25 - Y1-Y5 CURRENT EXPENSE BUDGET - FORMAT 9x,6F10.0



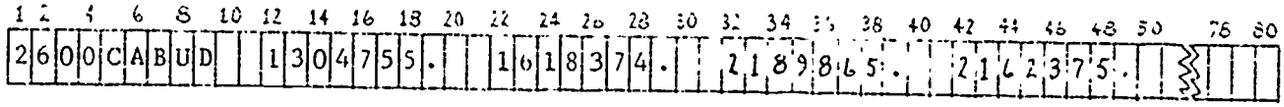
CC 1-2	CARD TYPE 25.
CC 3-4	Enter 00 for a base case, on the alternative case number.
CC 5-9	Enter the card identifier 'CEBUD.'
CC 10-19	CY current expense operating budget.
CC 20-29	Y1 current expense operating buget. Refer to the Resource Requirements Manual for procedures for calculating Y1-Y5 total current expense program costs.
CC 30-39	Y2 current expense operating budget.
CC 40-49	Y3 current expense operating budget.
CC 50-59	Y4 current expense operating budget.
CC 60-69	Y5 current expense operating budget.

ESTIMATED CATEGORICAL BUDGET FORECAST Card - Purpose

The ESTIMATED CATEGORICAL BUDGET FORECAST Card is used to input the Y1-Y5 estimated categorical (non-current) expenses of the school district's program.

NOTE: Complete CARD TYPE 26. If Incentive-Equalization Aid is not to be calculated (IBFLAG = 1), skip to CARD TYPE 30, otherwise continue with CARD TYPE 27.

CARD TYPE 26 - Y1-Y5 CATEGORICAL EXPENSE BUDGET - FORMAT 9x,6F10.0



CC 1-2	CARD TYPE 26.
CC 3-4	Enter 00 for a base case run or the alternative case number.
CC 5-9	Enter the card identifier 'CABUD.'
CC 10-19	Y1 categorical operating budget.
CC 20-29	Y1 categorical expense operating budget. Refer to the Resource Requirements Manual for procedures for calculating Y1-Y5 total categorical program costs.
CC 30-39	Y2 categorical expense operating budget.
CC 40-49	Y3 categorical expense operating budget.
CC 50-59	Y4 categorical expense operating budget.
CC 60-69	Y5 categorical expense operating budget.

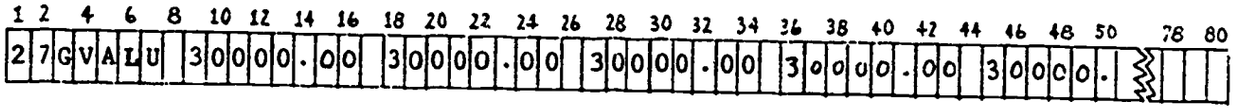
GUARANTEED VALUATION PER WEIGHTED PUPIL Card - Purpose

The GUARANTEED VALUATION PER WEIGHTED PUPIL card is used to input the estimated Y1-Y5 guaranteed valuation per weighted pupil based upon the district's classification assumption. The guaranteed valuation rate is used in the Incentive-Equalization Aid calculation to compute total guaranteed valuations (product of weighted enrollment times guaranteed valuation rate).

The district has the option of assuming no change in its current classification, thereby using the current rate for that classification, or it can assume some movement up the classification ladder during the planning period and use the corresponding guaranteed valuation rate. Table III.4-j lists the current schedule of Guaranteed Valuation per Weighted Pupil by district classification.

The GUARANTEED VALUATION PER WEIGHTED PUPIL Card is mandatory.

CARD TYPE 27 - GUARANTEED VALUATION PER WEIGHTED PUPIL - FORMAT 7x,5F9.2



CC 1-2	CARD TYPE 27.
CC 3-7	Enter card identifier 'GVALU' as an English language card identifier.
CC 8-16	Y1 guaranteed valuation per weighted pupil.
CC 17-25	Y2 guaranteed valuation per weighted pupil.
CC 26-34	Y3 guaranteed valuation per weighted pupil.
CC 35-43	Y4 guaranteed valuation per weighted pupil.
CC 44-52	Y5 guaranteed valuation per weighted pupil.

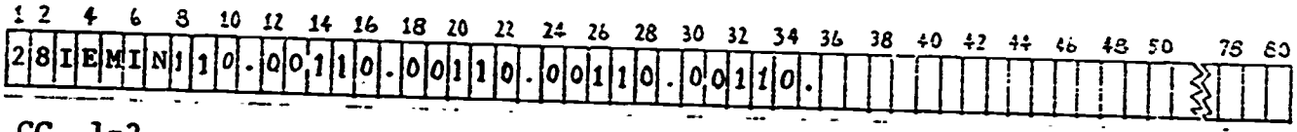
MINIMUM SUPPORT AID POLICY RATE Card - Purpose

The MINIMUM SUPPORT AID POLICY RATE Card is used to input the estimated Y1-Y5 minimum support aid rate. The minimum support rate is used in the Incentive-Equalization Aid calculation to compute Incentive-Equalization Minimum Support (weighted enrollment times minimum support rate per weighted pupil).

The user has the option of inputting for Y1-Y5 the district's current minimum support rate (assuming district classification will not change) or revised Y1-Y5 rates (based upon changing classification assumption during the planning period) to simulate the impact on expected revenues (especially State Aid) of a minimum support aid rate change in combination with variation of other variables in the Incentive-Equalization aid formula. Table III-4 lists current Minimum Support Rates Per Weighted Pupil by district classification.

The MINIMUM SUPPORT AID POLICY RATE Card is mandatory.

CARD TYPE 28 - MINIMUM SUPPORT AID POLICY RATE PER WEIGHTED PUPIL - FORMAT 7x,5F9.2



CC 1-2	CARD TYPE 28.
CC 3-7	Enter card identifier 'IEMIN' as an English language card name for easy user identification.
CC 8-16	Y1 minimum support aid policy rate per weight pupil.
CC 17-25	Y2 minimum support aid policy rate per weight pupil.
CC 26-34	Y3 minimum support aid policy rate per weight pupil.
CC 35-43	Y4 minimum support aid policy rate per weight pupil.
CC 44-52	Y5 minimum support aid policy rate per weight pupil.

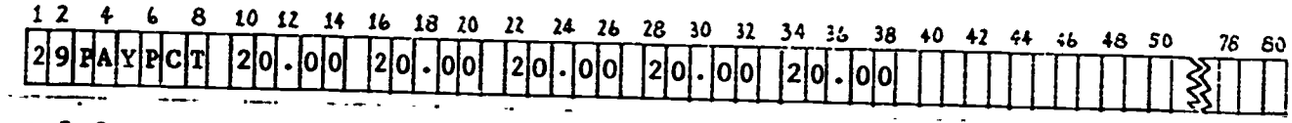
INCENTIVE-EQUALIZATION AID PAYMENT PERCENT Card - Purpose

The Incentive-Equalization Aid Payment card is used to input the Y1-Y5 estimate of the State payment percent for Incentive-Equalization Aid.

The user has the option of inputting for Y1-Y5 current State payment percent (assuming the rate will not change) or revised Y1-Y5 rates to simulate the impact on expected revenues and revenue feasibility of a change in payment percent with changes in the values of other sensitive variables in the Incentive-Equalization Aid formula.

The PAYMENT PERCENT card is mandatory.

CARD TYPE 29 - INCENTIVE-EQUALIZATION AID PAYMENT PERCENT - FORMAT 8x,5F6.2



cc 1-2	CARD TYPE 29.
cc 3-8	Enter card identifier PAYPCT as an English language card name for easy user identification.
cc 9-14	Y1 State policy payment percent for Incentive-Equalization Aid.
cc 15-20	Y2 State policy payment percent for Incentive-Equalization Aid.
cc 21-26	Y3 State policy payment percent for Incentive-Equalization Aid.
cc 27-32	Y4 State policy payment percent for Incentive-Equalization Aid.
cc 33-38	Y5 State policy payment percent for Incentive-Equalization Aid.

STATE CURRENT EXPENSE REVENUE ITEM Card - Purpose

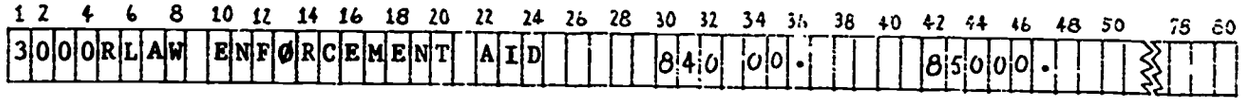
The STATE CURRENT EXPENSE REVENUE ITEM card is used to input the title of and the Y1-Y5 estimated revenues from State current expense sources. One card is input for each State current expense source for which revenues are estimated. Table III.4-i suggests several current expense revenues items from the State.

The sum of estimated Y1-Y5 revenues indicated on the set of STATE CURRENT EXPENSE REVENUE ITEM cards must equal the totals by year annotated for the TOTAL OTHER CURRENT EXPENSE REVENUES FROM STATE SOURCES card (Card Type 23).

The estimated Y1-Y5 total other revenues from State current expense sources are used in the Incentive-Equalization Aid formula for computing an equalized school district tax rate (percent).

A set of STATE CURRENT EXPENSE REVENUE ITEM cards is optional relative to running the REVSIM computer program.

CARD TYPE 30 - Y1-Y5 REVENUE ITEMS FROM STATE CURRENT EXPENSE SOURCES - FORMAT 4x,A1,5A4,5F11.0



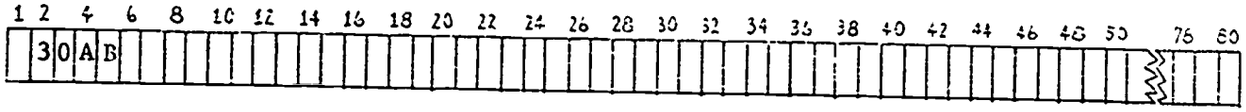
cc 1-2	CARD TYPE 30.
cc 3-4	Base case is 00 or alternative case number. Enter R to identify the data card as a current expense revenue item.
cc 5	Enter R to identify the data card as a current expense revenue item.
cc 6-25	Name identifier of the revenue item from a State current expense source.
cc 26-36	Y1 expected current expense revenues from the State source identified in cc 6-25.
cc 37-47	Y2 expected current expense revenues from the State source identified in cc 6-25.
cc 48-58	Y3 expected current expense revenues from the State source identified in cc 6-25.
cc 59-69	Y4 expected current expense revenues from the State source identified in cc 6-25.
cc 70-80	Y5 expected current expense revenues from the State source identified in cc 6-25.

END Card (for STATE CURRENT EXPENSE REVENUE ITEMS) - Purpose

The END card is used to identify the end of the data input deck consisting of estimates of revenue items from State current expense funding sources.

The END card following the State current expense revenue items data deck is mandatory, if the aforementioned deck is present, or follows CARD TYPE 29, if not present.

CARD TYPE 30A - END CARD (FOR STATE CURRENT EXPENSE REVENUE ITEMS DATA DECK) - FORMAT 4x,A1



cc 1-4	CARD TYPE 30A.
cc 5	Enter B (remainder of the card is blank). This card is placed after the last input card in the deck of cards comprising current revenue items from state sources. This card signals the end of the data input card deck of state current expense revenue items.

Card Type 30A is mandatory.

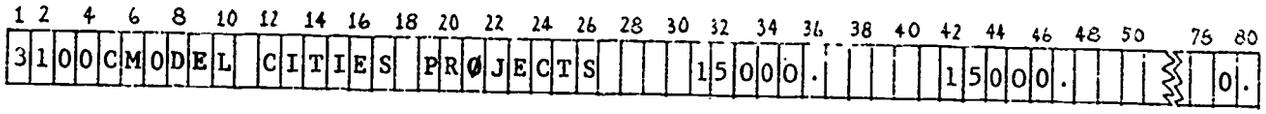
STATE CATEGORICAL SOURCES REVENUE ITEM Card - Purpose

The STATE CATEGORICAL SOURCES REVENUE ITEM card is used to input the title of and the estimated Y1-Y5 revenues from State categorical sources.

The estimated Y1-Y5 total revenues from State categorical sources are used to determine revenue feasibility of non-current expense (categorical) costs.

A set of STATE CATEGORICAL REVENUE ITEM cards is optional relative to the running of the REVSIM computer program.

CARD TYPE 31 - Y1-Y5 REVENUE ITEMS FROM STATE CATEGORICAL SOURCES - FORMAT - 4x,A1,5A4,5F11.0



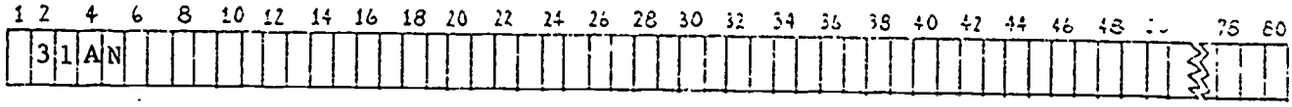
CC 1-2	CARD TYPE 31.
CC 3-4	Base case is 00 or the alternative case number. Enter C to identify the data card as a categorical expense revenue item.
CC 5	Enter C to identify the data card as a categorical expense revenue item.
CC 6-25	Name identifier of the revenue item from a State categorical source.
CC 26-36	Y1 expected categorical revenues from the State source identified in CC 6-25.
CC 37-47	Y2 expected categorical revenues from the State source identified in CC 6-25.
CC 48-58	Y3 expected categorical revenues from the State source identified in CC 6-25.
CC 59-69	Y4 expected categorical revenues from the State source identified in CC 6-25.
CC 70-80	Y5 expected categorical revenues from the State source identified in CC 6-25.

END Card (for STATE CATEGORICAL EXPENSE ITEMS) - Purpose

The END card is used to identify the end of the data input deck consisting of estimates of revenue items from State categorical funding sources.

The END card following the State categorical expense revenue items data deck is mandatory.

CARD TYPE 31A - END CARD (FOR STATE CATEGORICAL EXPENSE REVENUE ITEMS DATA DECK) - FORMAT 4x,A1



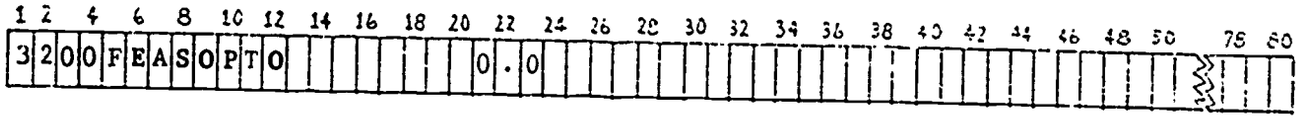
cc 1-4	CARD TYPE 31A.
cc 5	Enter N (remainder of the card is blank). This card is placed after last state categorical revenue item input card. This card signals both the end of categorical revenue items from State sources, and revenue items from all State sources.

REVENUE FEASIBILITY OPTION Card - Purpose

The REVENUE FEASIBILITY OPTION Card is used to input to the system the revenue feasibility version to be calculated by REVSIM, and to input the actual current year surplus.

The REVENUE FEASIBILITY OPTION Card is optional, the default option being Option 1 (only CY Surplus (actual) carried forward to Y1, and the real estate tax rate is permitted to fluctuate).

CARD TYPE 32 - REVENUE FEASIBILITY OPTION CARD - FORMAT 11x,I1,F12.2



cc 1-2	CARD TYPE 32.
cc 3-4	Enter 00 for base case, or the alternative case number.
cc 5-11	Enter card identifier FEASØPT as an English language card name, denoting the Revenue Feasibility Option Type Input card, for easu user identification.
cc 12	Enter appropriate revenue feasibility option number 0, 1, or 2.
cc 13-24	Actual CY surplus to be carried forward to Y1.

COMPUTER PROGRAM DOCUMENTATION

INTRODUCTION

Documentation for each program consists of a computer program flowchart, a listing of the computer program, a variable dictionary of the computer program, sample output reports with commentary, and the overall order of the input deck for each program.

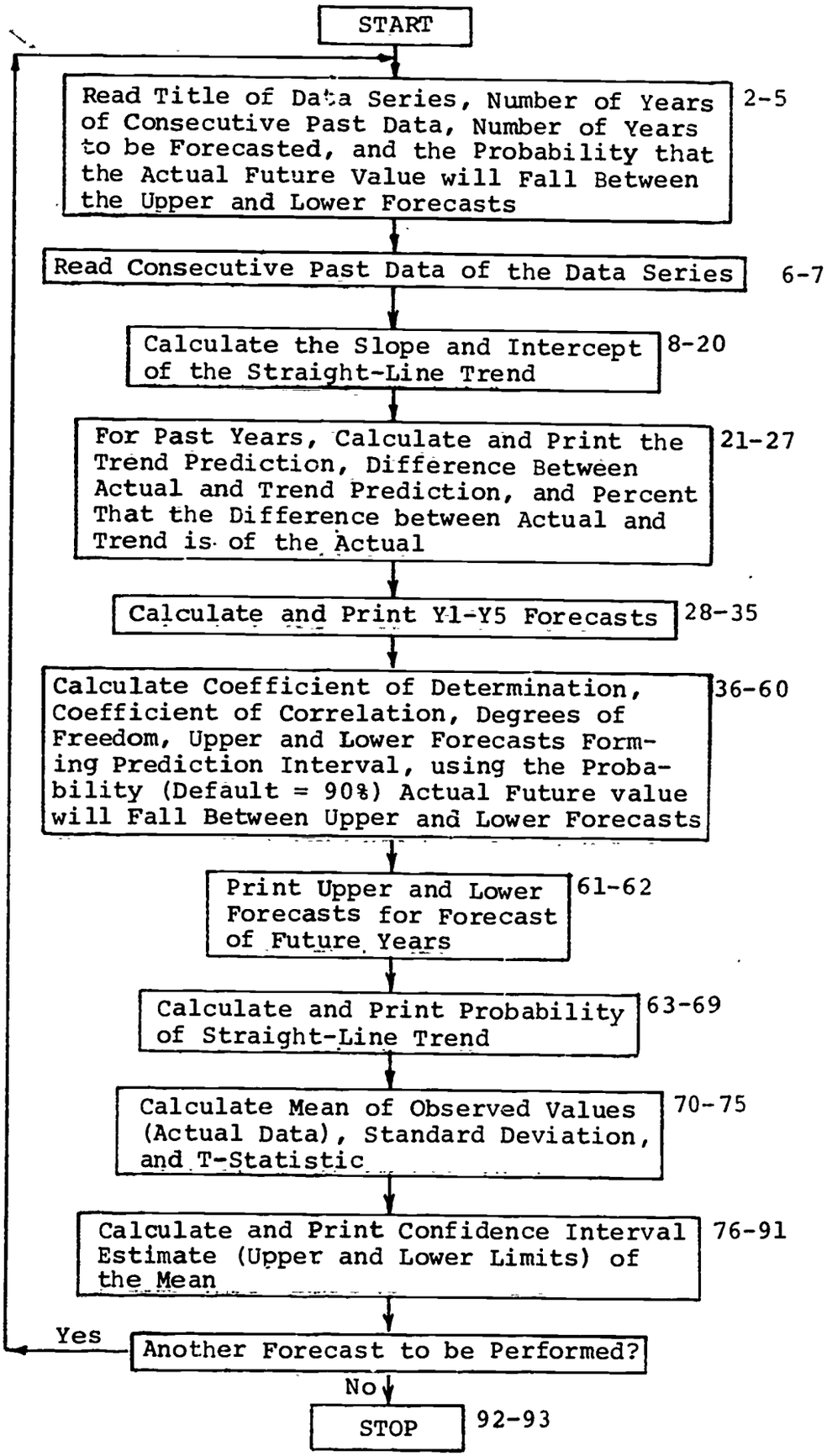
Documentation for the Trend Analysis Program is presented first, followed by the Revenue Simulation Program description.

DOCUMENTATION OF THE TREND ANALYSIS PROGRAM

Chart III.4-5 is a flowchart of the Trend Analysis Computer Program. The numbers to the right of each box of the chart refer to the FORTRAN internal statement numbers on the left margin of the TAPS computer program listing following this flowchart.

Chart III.4-5

FLOWCHART OF TREND ANALYSIS
COMPUTER PROGRAM



Listing of the Trend Analysis Computer Program

The TAPS computer program listing written in the FORTRAN IV programming language, is provided below. A variable dictionary follows the listing.

```
                C
                C     TREND ANALYSIS AND FORECASTING SYSTEM
                C
0001                  DIMENSION TITLE(10),Y(50),X(3)
                C     READ TITLE OF DATA SERIES, NUMBER OF YEARS OF CONSECUTIVE PAST
                C          DATA, NUMBER OF YEARS TO BE FORECASTED, AND THE PROBABILITY
                C          USED TO CALCULATE THE LOWER AND UPPER FORECASTS. PBETWN IS
                C          THE PROBABILITY THAT THE ACTUAL FUTURE VALUE WILL FALL
                C          BETWEEN THE LOWER AND UPPER FORECASTS. IF A PROBABILITY IS
                C          NOT INPUTED, A 90 PERCENT PROBABILITY IS ASSUMED.
0002            1     READ(5,2,END=100)(TITLE(I),I=1,10),NC,NF,PBETWN
0003                2 FORMAT(10A4,2I2,F4.0)
                C     IF THE NUMBER OF YEARS OF PAST DATA IS ZERO, STOP. TO STOP THE
                C          PROGRAM, MAKE THE LAST CARD IN THE INPUT DATA DECK A BLANK
                C          CARD.
0004                  WRITE(6,3)(TITLE(I),I=1,10)
0005                3 FORMAT(1H1,25X,37HTREND ANALYSIS AND FORECASTING SYSTEM/1HO,16X,
                    115HDATA SERIES IS ,10A4/1HO,131(1H-)/1HO,24X,38HCORRESPONDENCE BET
                    2WEEN THE ACTUAL DATA/1H ,8X,70HAND WHAT A STRAIGHT-LINE TREND WOUL
                    3D HAVE PREDICTED AS THE ACTUAL DATA/1HO,70X,22HPERCENT ACTUAL - TR
                    4END/1H ,5X,4HYEAR,5X,11HACTUAL DATA,5X,16HTREND PREDICTION,5X,14HA
                    5CTUAL - TREND,10X,12HIS OF ACTUAL)
                C     READ THE CONSECUTIVE PAST DATA.
0006                  READ(5,4)(Y(I),I=1,NC)
0007                4 FORMAT(10F8.0)
                C     CALCULATE THE SLOPE AND THE INTERCEPT OF THE STRAIGHT-LINE TREND.
                C          THE FIRST ITEM IN THE PAST DATA CORRESPONDS TO YEAR 1, THE
                C          SECOND ITEM TO YEAR 2, ETC.
0008                  SY=0.0
0009                  SY2=0.0
0010                  SIY=0.0
0011                  DO 5 I=1,NC
0012                  SY=SY+Y(I)
0013                  SY2=SY2+Y(I)**2
0014                  RI=I
0015                5 SIY=SIY+RI*Y(I)
0016                  RNC=NC
0017                  SI=(RNC*(RNC+1.))/2.
0018                  SI2=(SI*(2.*RNC+1.))/3.
                C     FOR THE FORMULAS, SEE PAGE 152 OF EDWIN L. CROW, FRANCIS A. DAVIS,
                C          AND MARGARET W. MAXFIELD, STATISTICS MANUAL.
0019                  B=(RNC*SIY-SI*SY)/(RNC*SI2-(SI**2))
0020                  A=(SY-B*SI)/RNC
                C     FOR THE PAST YEARS, CALCULATE THE TREND PREDICTION, ACTUAL - TREND
                C          PREDICTION, AND PERCENT ACTUAL - TREND PREDICTION IS OF
                C          ACTUAL AND PRINT.
0021                  DO 6 I=1,NC
0022                  RI=I
0023                  X(1)=A+B*RI
0024                  X(2)=Y(I)-X(1)
0025                  X(3)=(X(2)/Y(I))*100.
0026                6 WRITE(6,7)I,Y(I),(X(J),J=1,3)
0027                7 FORMAT(1HO,7X,I2,4X,F12.2,9X,F12.2,7X,F12.2,7X,F12.2)
0028                  WRITE(6,8)
0029                8 FORMAT(1HO,131(1H-)/1HO,5X,4HYEAR,5X,24HFORECAST OF FUTURE YEARS)
                C     CALCULATE AND PRINT FORECASTS.
0030                  DO 9 I=1,NF
```

```
0031              J=NC+1
0032              RI=J
0033              X(1)=A+B*RI
0034            9 WRITE(6,10)J,X(1)

0035           10 FORMAT(1HO,7X,I2,17X,F12.2)
                C     CALCULATE COEFICIENT OF DETERMINATION (COEFICIENT OF CORRELATION
                C          SQUARED) USING FORMULAS ON PAGES 13 AND 158 OF STATISTICS
                C          MANUAL.
0036              VI=(RNC*SI2-(SI**2))/(RNC*(RNC-1.))
0037              VY=(RNC*SY2-(SY**2))/(RNC*(RNC-1.))
0038              R2=((B**2)*VI)/VY
                C     CALCULATE NUMBER OF DEGREES OF FREEDOM.
0039              NDF=NC-2
                C     IF NO PROBABILITY WAS SPECIFIED, USE 90 PERCENT AS THE PROBABILITY
                C          ACTUAL FUTURE VALUE WILL FALL BETWEEN LOWER AND UPPER
                C          FORECASTS.
0040              IF(PBETWN.EQ.0.0)PBETWN=90.0
                C     CALCULATE THE PROBABILITY IN THE TAILS.
0041              PTAILS=1.-(PBETWN/100.)
                C     FIND THE T VALUE CORRESPONDING TO THE PROBABILITY IN THE TAILS
                C          AND THE DEGREES OF FREEDOM.
0042              CALL TDIST(I,NDF,T,PTAILS,KER)
                C     IF KER IS 1, THERE WAS TROUBLE IN FINDING THE T VALUE.
0043              IF(KER.EQ.1)GO TO 11
0044              WRITE(6,12)
0045           12 FORMAT(1HO,5X,39HTROUBLE IN FINDING T-DISTRIBUTION VALUE/1HO,5X,
                  165HSKIPPING COMPUTATION OF LOWER AND UPPER FORECASTS OF FUTURE YEA
                  2RS)
0046              GO TO 16
                C     PRINT THE PROBABILITY.
0047           11 WRITE(6,13)PBETWN
0048           13 FORMAT(1HO,I3)(1H-)/1HO,12X,55HRANGE OF PROBABLE VARIATION IN FORE
                  1CAST OF FUTURE YEARS/1HO, 6X,10HTHERE IS A,F5.1,   49H PERCENT CHA
                  2NCE THE ACTUAL FUTURE VALUE WILL FALL/1H ,15X,49HBETWEEN THE LOWER
                  3 AND UPPER FORECASTS SHOWN BELOW/1HO,5X,4HYEAR,5X,14HLOWER FORECAS
                  4T,5X,8HFORECAST,5X,14HUPPER FORECAST,5X,13HUPPER - LOWER)
                C     CALCULATE AND PRINT THE LOWER AND UPPER FORECASTS FORMING THE SO
                C          CALLED PREDICTION INTERVAL FOR AN INDIVIDUAL VALUE OF Y. SEE
                C          THE FORMULAS ON PAGES 156 AND 163 OF THE STATISTICS MANUAL.
0049              VYGI=((RNC-1.)*VY*(1.-R2))/(RNC-2.)
0050              TMP1=T*SQRT(VYGI)
0051              AI=(RNC+1.)/2.
0052              DO 14 I=1,NF
0053              J=NC+I
0054              RI=J
0055              X(2)=A+B*RI
0056              TMP2=1.+(1./RNC)+((RI-AI)**2)/((RNC-1.)*VI)
0057              TMP2=TMP1*SQRT(TMP2)
0058              X(1)=X(2)-TMP2
0059              X(3)=X(2)+TMP2
0060              TMP2=2.*TMP2
0061           14 WRITE(6,15)J,(X(K),K=1,3),TMP2
0062           15 FORMAT(1HO,7X,I2,7X,F12.2,1X,F12.2,7X,F12.2,6X,F12.2)
                C     TEST THE STATISTICAL SIGNIFICANCE OF THE COEFICIENT OF
                C          DETERMINATION (OR COEFICIENT OF CORRELATION). SEE PAGE 33 OF
                C          J. JOHNSTON, ECONOMETRIC METHODS, FOR THE STATISTICAL TEST
                C          AND FORMULAS.
```

```
0063          16 R=SQRT(R2)
        C        CALCULATE THE VALUE OF T.
0064             T=(R*SQRT(RNC-2.))/SQRT(1.-R2)
        C        CALCULATE THE PROBABILITY OF BEING IN THE TAILS, I.E., THE
        C              PROBABILITY OF NO SIGNIFICANT STRAIGHT-LINE TREND.
0065             CALL TDIST(0,NDF,T,PTAILS,KER)
0066             PTAILS=PTAILS*100.
0067             PCUT=20.0
        C        PRINT THE PROBABILITY OF NO SIGNIFICANT STRAIGHT-LINE TREND AND
        C              THE WARNING PROBABILITY.
0068             WRITE(6,17)PTAILS,PCUT
0069          17 FORMAT(1H0,13I(1H-)/1H0, 5X,10HTHERE IS A,F5.1,     74H PERCENT CH
              1ANCE THE ACTUAL DATA HAVE NO SIGNIFICANT (STRAIGHT-LINE) TREND./
              21H ,5X,109HIT IS CONSIDERED HAZARDOUS TO PROJECT USING THE TREND W
              3HEN THE PERCENT CHANCE OF NO SIGNIFICANT TREND EXCEEDS,F4.0)
        C
        C COMPUTE CONFIDENCE INTERVAL ESTIMATE OF MEAN T-DISTRIBUTION
        C
0070             YBAR=SY/RNC
        C
        C CALCULATE STANDARD DEVIATION
        C
0071             SDY=SQRT(VY)
        C
        C CALCULATE T-STATISTIC
        C
0072             NDF=NC-1
0073             PTAILS=1.-(PBETWN/100.)
0074             CALL TDIST(1,NDF,T,PTAILS,KER)
0075             TSAVE=T
        C
        C CALCULATE LOWER AND UPPER LIMITS
        C
0076             FL=YBAR-TSAVE*SDY
0077             FU=YBAR+TSAVE*SDY
        C
        C PRINT CONFIDENCE INTERVAL LIMITS
        C
0078             WRITE(6,260)
0079         260 FORMAT('1','CONFIDENCE INTERVAL ESTIMATE OF MEAN')
0080             WRITE(6,205) PBETWN
0081         205 FORMAT('0',F4.0,'% CONFIDENCE INTERVAL')
0082             WRITE(6,210)
0083         210 FORMAT('0')
0084             WRITE(6,215)
0085         215 FORMAT('0',11X,'LOWER LIMIT',13X,'MEAN',6X,'UPPER LIMIT')
0086             WRITE(6,220) FL,YBAR,FU
0087         220 FORMAT('0',10X,F12.2,2(5X,F12.2))
0088             WRITE(6,210)
0089             WRITE(6,225) NDF,SDY,TSAVE
0090         225 FORMAT('0','  DEGREES OF FREEDOM:',I4,3X,'EST. STD ERROR OF MEAN:
              1 ',F12.2,4X,'T-STATISTIC:',F7.4)
        C        GO TO THE NEXT DATA SERIES.
0091             GO TO 1
0092         100 STOP
0093             END
```

```
0001          SUBROUTINE TDIST(KEY,NX,TX,PX,KONV)
              C     THIS SUBROUTINE PERFORMS THE FOLLOWING TWO FUNCTIONS. ASSUMING T
              C     IS DISTRIBUTED AS STUDENTS T,
              C          (1) FIND THE PROBABILITY THAT THE ABSOLUTE VALUE OF T IS
              C          GREATER THAN THE ABSOLUTE VALUE OF TX.
              C          (2) FIND THE VALUE OF TX WHEN THE PROBABILITY THAT THE
              C          ABSOLUTE VALUE OF T IS GREATER THAN THE ABSOLUTE VALUE OF TX
              C          IS GIVEN.
              C     KEY = 0 FIND PX GIVEN N AND TX
              C     KEY = 1 FIND TX GIVEN N AND PX
              C     N = THE NUMBER OF DEGREES OF FREEDOM
              C     TX = THE INDEPENDENT VARIABLE
              C     PX = THE PROBABILITY THAT THE ABSOLUTE VALUE OF T IS GREATER THAN
              C          THE ABSOLUTE VALUE OF TX
              C     KONV = 1 NO ERROR IN COMPUTATION
              C     KONV = 2 N IS LESS THAN 1
              C     KONV = 3 PX IS LESS THAN .00001 WHEN KEY = 1
              C     KONV = 4 PX IS GREATER THAN 1 WHEN KEY = 1
              C     KONV = 5 NO CONVERGENCE OF NEWTONS METHOD AFTER 100 ITERATIONS
              C              WHEN KEY = 1
0002          N=NX
0003          IF(N-1)31,32,32
0004       31 KONV=2
0005          GO TO 26
0006       32 M=N/2
0007          K=N-2*M
0008          V=FLOAT(N)
0009          SV=SQRT(V)
0010          KONV=1
0011          IF(KEY)2,1,2
0012        1 T=ABS(TX)
0013       23 IF(K)4,3,4
0014        3 FNO=-1.
0015          GO TO 5
0016        4 FNO=0.
0017        5 FN=FNO
0018          F=1.
0019          TS=T**2
0020          XO=V/(TS+V)
0021          X=1.
0022          S=0.
0023          IF(M)11,11,29
0024       29 DO 6 I=1,M
0025          S=S+F*X
0026          FN=FN+2.
0027          F=(F/(FN+1.))*FN
0028        6 X=X*XO
0029          IF(K)11,10,11
0030       10 P=-SQRT(TS/(TS+V))*S+1.
0031       14 IF(KEY)22,30,22
0032       30 PX=P
```

```
0033          26 RETURN
0034          11 TR=T/SV
0035             P=-.6366197*(ATAN(TR)+TR*XO*SV+1.
0036             GO TO 14
0037           2 T=0.
0038             IF(PX-.00001)33,35,35
0039          35 IF(PX-1.)34,34,36
0040          36 KONV=4
0041             GO TO 26
0042          33 KONV=3

0043             GO TO 26
0044          34 KOUNT=0
0045             SLF=1.2533*(1.+.5/V)
0046             GO TO 23
0047          22 TN=AMAX1(0.,T+(P-PX)*SLF/(X*SQRT(XO)**(K+1)))
0048             IF(ABS(P-PX)-2.E-6)24,24,25
0049          25 KOUNT=KOUNT+1
0050             IF(KOUNT-100)28,28,27
0051          27 KONV=5
0052          24 TX=TN
0053             GO TO 26
0054          28 T=TN
0055             GO TO 5
0056             END
```

VARIABLE DICTIONARY FOR TREND ANALYSIS COMPUTER PROGRAM

Variable	Definition
A	Intercept on the Y axis of the line.
AI	Temporary variable used in calculating prediction interval for individual values of Y.
B	Slope of the line.
FL	Lower limit of confidence interval of the Mean.
FU	Upper limit of a confidence interval of the Mean.
I	Temporary index.
J	Temporary index used to calculate forecast year.
K	Temporary index.
NC	Number of years of consecutive past data
NDF	Number of degrees of freedom.
NF	Number of years to be forecasted.
PBETWN	Probability actual future value will fall between the lower and upper forecasts.

Variable	Definition
PCUT	Probability selected as cutoff in determining applicability of straight-line trend to data series.
PTAILS	Probability of being in the tail of a T-distribution.
SDY	Standard deviation of data series of a particular number of observations.
SI	Sum of the years.
SIY	Sum of the product of dependent variable times years.
SI2	Sum of the years squared.
SY	Sum of the dependent variable.
SY2	Sum of the dependent variable squared.
R	Coefficient of correlation.
R2	Coefficient of determination.
T	T-value corresponding to the probability of being in the tails of the distribution and the number of degrees of freedom.
TITLE(I)	Title of data series being entered into TAPS for trend analysis. Subscript I ranges over the storage locations necessary to store the characters in the name.

Variable	Definition
TMP1	Temporary variable needed in the calculation of the prediction interval (lower and upper range) for individual values of Y (dependent variable).
TMP2	Temporary variable required to perform various calculations as follows: (1) Computes data needed in the calculation of the prediction interval for individual values of Y; (2) and the actual prediction interval increment.
TSAVE	Temporary variable used to store T value.
VI	Variance in the independent variable.
VY	Variance in the dependent variable.
VYGI	Variation about the dependent variable given the independent variable.
X(1)	Temporary variable used to make the following calculations (1) Future year forecast (2) Lower limit of a prediction interval for forecaster value of Y.
X(2)	Temporary variable used to perform various calculations such as: (1) Difference between actual data and forecast. (2) Future year forecast.

Variable	Definition
X(3)	Temporary variable used to make the following calculations: (1) Percent that the actual-trend prediction is of the actual data value. (2) Upper limit of a prediction interval for forecasted value of Y.
YBAR	Mean value of data series.
Y(I)	Data series being analyzed. Subscript I ranges over number of years of past data.

TREND ANALYSIS COMPUTER PROGRAM SAMPLE OUTPUT REPORT

The sample output report shown and discussed in this chapter is based upon actual data for the City of Trenton and is intended for illustrative purposes.

TREND ANALYSIS DATA SERIES FORECAST REPORT

The title of the data series, the number of years of past data to be input, and the number of years to be forecasted are input. The data series title is used as a header line of the output report.

Historical data by year for the number of years of past data input is printed. The trend prediction for the past years, the difference between the actual data and the trend prediction, and the percent the difference is to the actual data are calculated and printed.

The data series forecast by year for the number of years to be forecasted is computed and printed.

The range of probable variation in the upper and lower limits are calculated. The statistical significance of the straight line trend for the data series is calculated.

The mean and the confidence interval of the mean are calculated.

TREND ANALYSIS AND FORECASTING SYSTEM

DATA SERIES IS MKT VALUE CLASS II RR PROPERTY 1967-71

CORRESPONDENCE BETWEEN THE ACTUAL DATA
AND WHAT A STRAIGHT-LINE TREND WOULD HAVE PREDICTED AS THE ACTUAL DATA

YEAR	ACTUAL DATA	TREND PREDICTION	ACTUAL - TREND	PERCENT ACTUAL - TREND IS OF ACTUAL
1	3196073.00	3201603.00	-5530.00	-0.17
2	3196095.00	3183143.00	12952.00	0.41
3	3162143.00	3164682.00	-2539.00	-0.08
4	3134551.00	3146222.00	-11671.00	-0.37
5	3134551.00	3127761.00	6790.00	0.22

YEAR	FORECAST OF FUTURE YEARS
6	3109301.00
7	3090840.00
8	3072380.00
9	3053919.00
10	3035459.00

RANGE OF PROBABLE VARIATION IN FORECAST OF FUTURE YEARS

THERE IS A 95.0 PERCENT CHANCE THE ACTUAL FUTURE VALUE WILL FALL
BETWEEN THE LOWER AND UPPER FORECASTS SHOWN BELOW

YEAR	LOWER FORECAST	FORECAST	UPPER FORECAST	UPPER - LOWER
6	3058060.00	3109301.00	3160541.00	102480.69
7	3031672.00	3090840.00	3150007.00	118334.50
8	3004365.00	3072380.00	3140394.00	136029.50
9	2976450.00	3053919.00	3131387.00	154936.25
10	2948128.00	3035459.00	3122789.00	174661.50

THERE IS A 1.3 PERCENT CHANCE THE ACTUAL DATA HAVE NO SIGNIFICANT (STRAIGHT-LINE) TREND.
IT IS CONSIDERED HAZARDOUS TO PROJECT USING THE TREND WHEN THE PERCENT CHANCE OF NO SIGNIFICANT TREND EXCEEDS 20.

CONFIDENCE INTERVAL ESTIMATE OF MEAN

95.% CONFIDENCE INTERVAL

LOWER LIMIT	MEAN	UPPER LIMIT
3079351.00	3164682.00	3250012.00

DEGREES OF FREEDOM: 4 EST. STD ERROR OF MEAN: 30733.65 T-STATISTIC: 2.7764

III.4+206

Overall Order of Card Deck For TAPS

Exhibit III.4-vi OVERALL ORDER OF TAPS CARD DECK

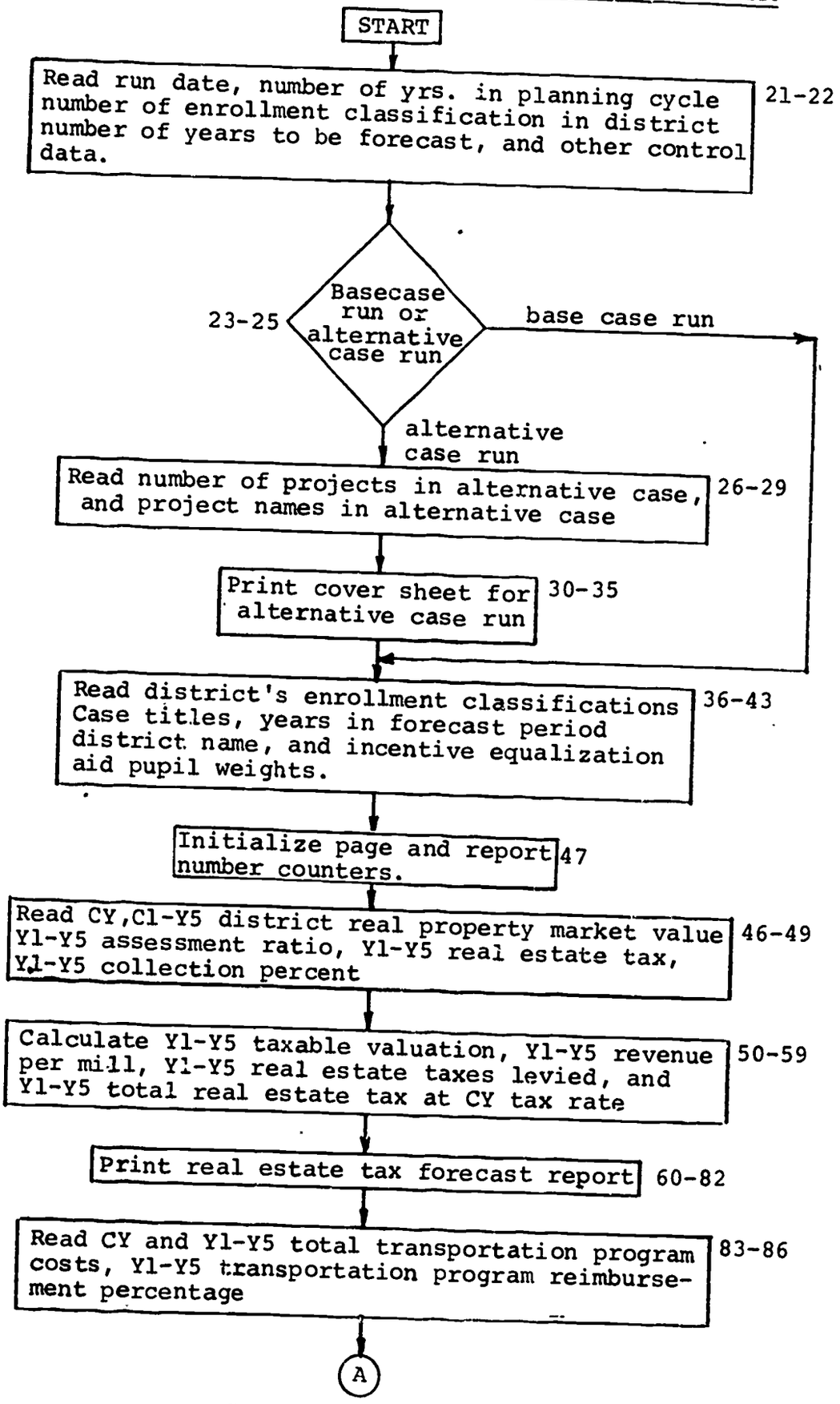
```
JOB CONTROL LANGUAGE(JCL)
// JOB etc.
// EXEC FORTGOG
//GO.SOURCE DD *

INSERT TAPS PROGRAM DECK
/*
//GO.SYSIN DD *
SET OF DATA INPUT CARDS FOR EACH DATA SERIES
CARD TYPE 01 FOLLOWED BY CARD TYPE 02

MKT VALUE OF LAND(IN THOUSANDS) 1965-71  7 5 95.

 71422.  67563.  71535.  72295.  74370.  75221.  71565.

MKT VALUE-IMPROVEMENTS(THOUSANDS) 65-71  7 5

278116. 244781. 252465. 264315. 262023. 267948. 257110.

MKT VALUE PERSONALTY(THOUSANDS) 1968-71  4 5

 14914.  15923.  19821.  20573.

TOTAL MKT VALUE-LAND,IMPROV,PERS.1968-71 4 5 95.

343434. 352222. 362009. 349260.

MKT VALUE CLASS II OR PROPERTY 1967-71  5 5 95.

3196479.3196095.3162143.3134651.3134651.

/*
//
```

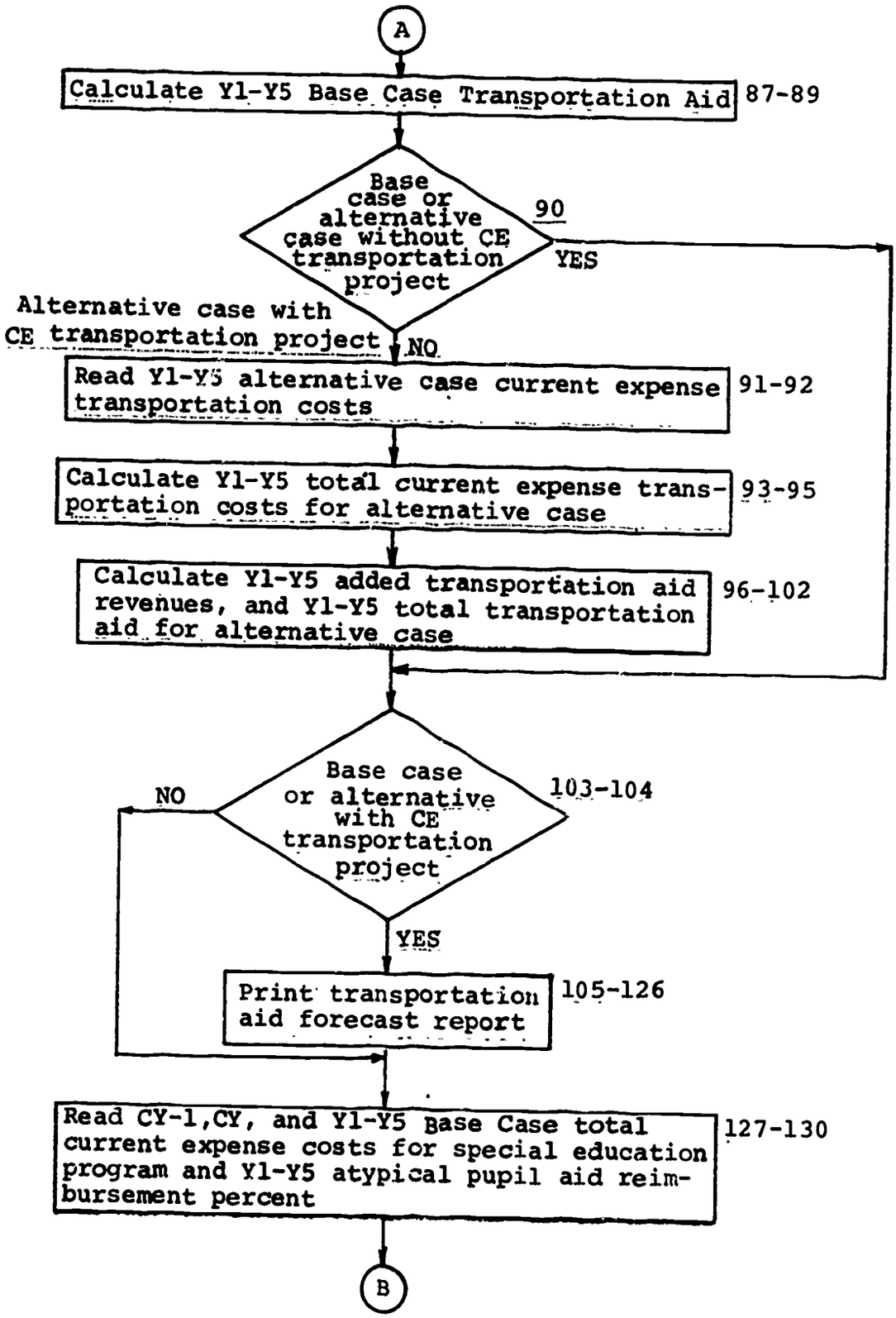
Documentation of the Revenue Simulator Computer Program

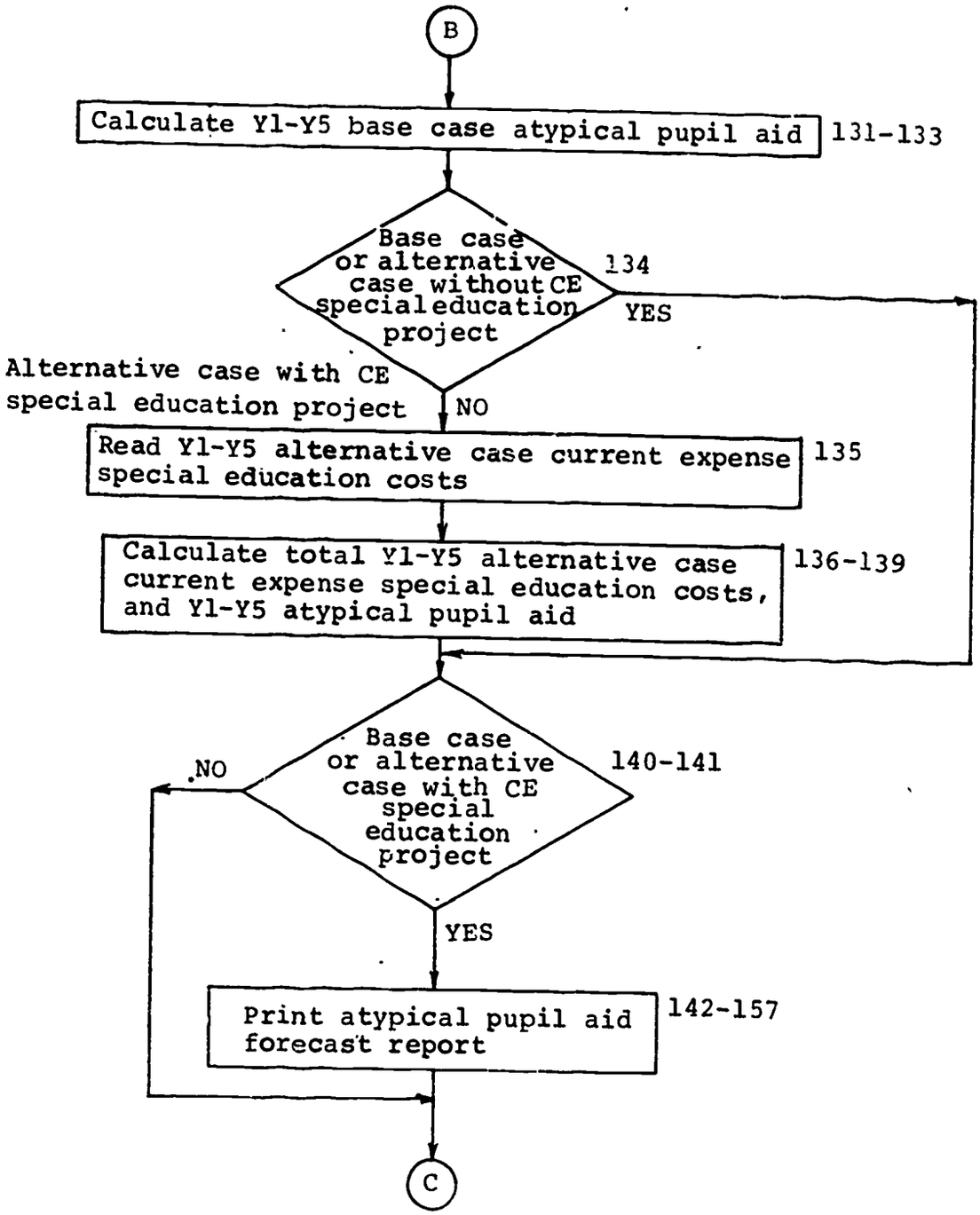
Chart III.4-6 is a flowchart of the Revenue Simulator Computer Program. The numbers to the right of each box of the chart refers to the statement numbers on the left margin of the REVSIM computer program listing following this flowchart.

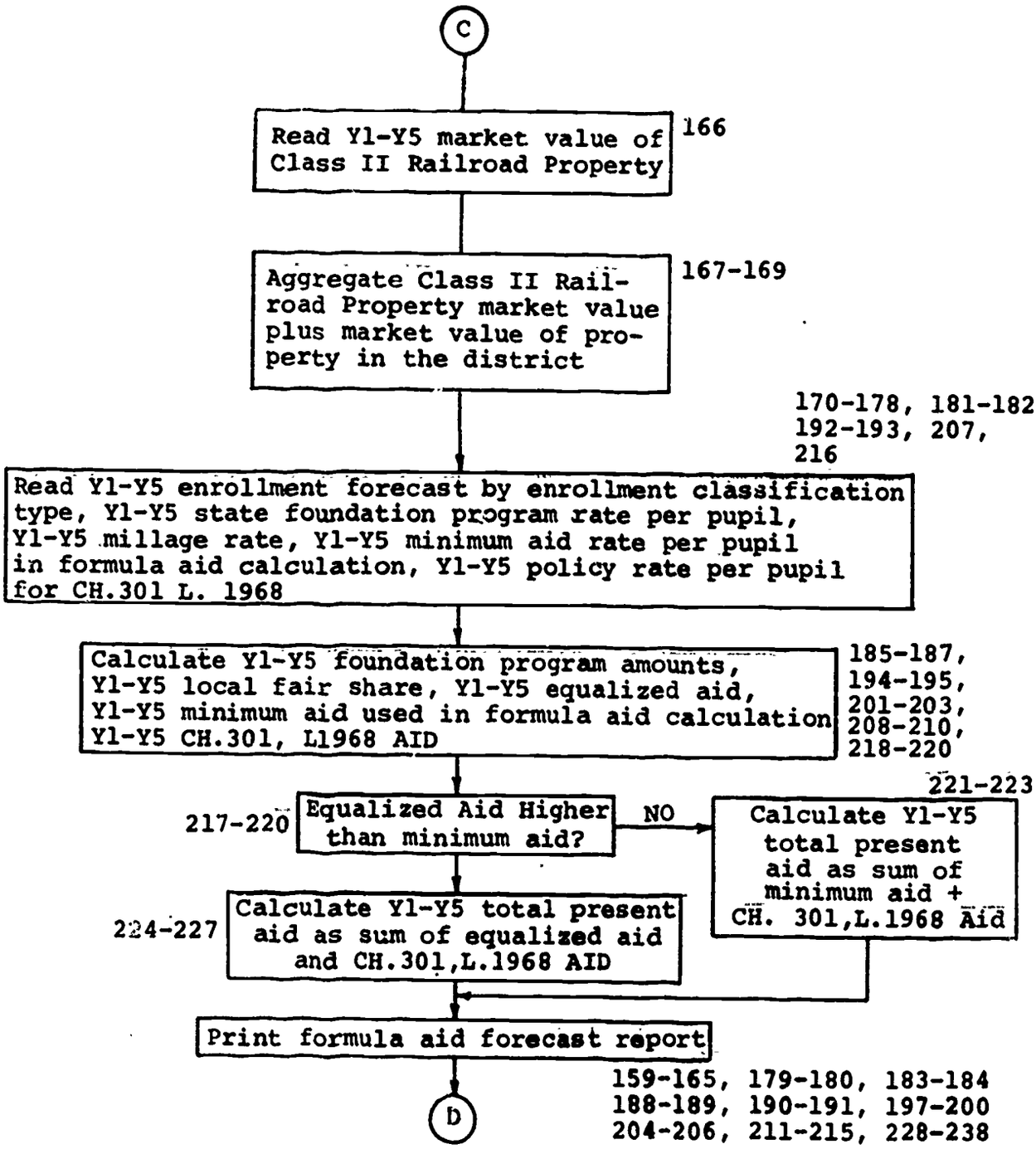
Chart III.4-6

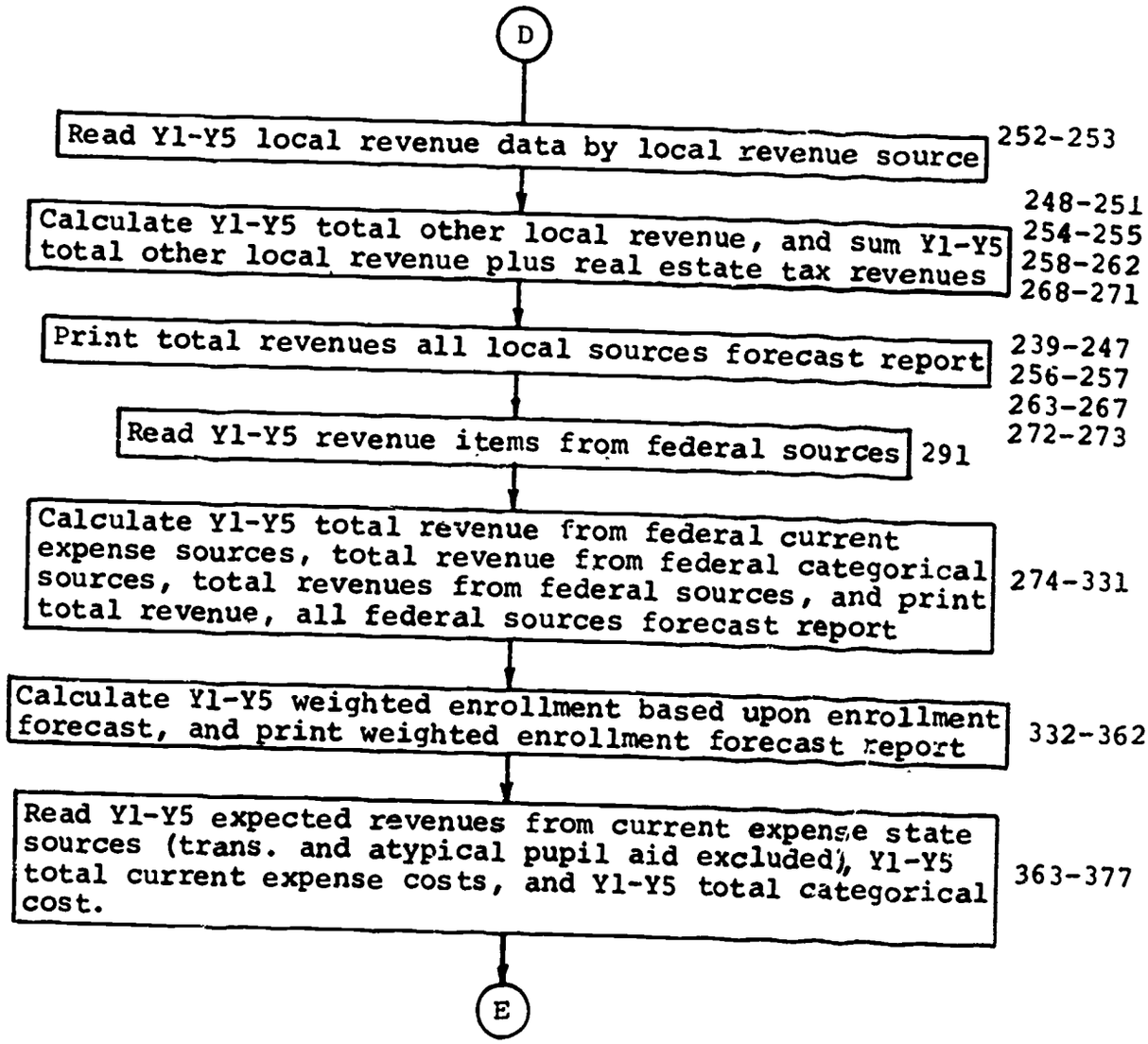
FLOWCHART OF THE REVENUE FORECASTER COMPUTER PROGRAM

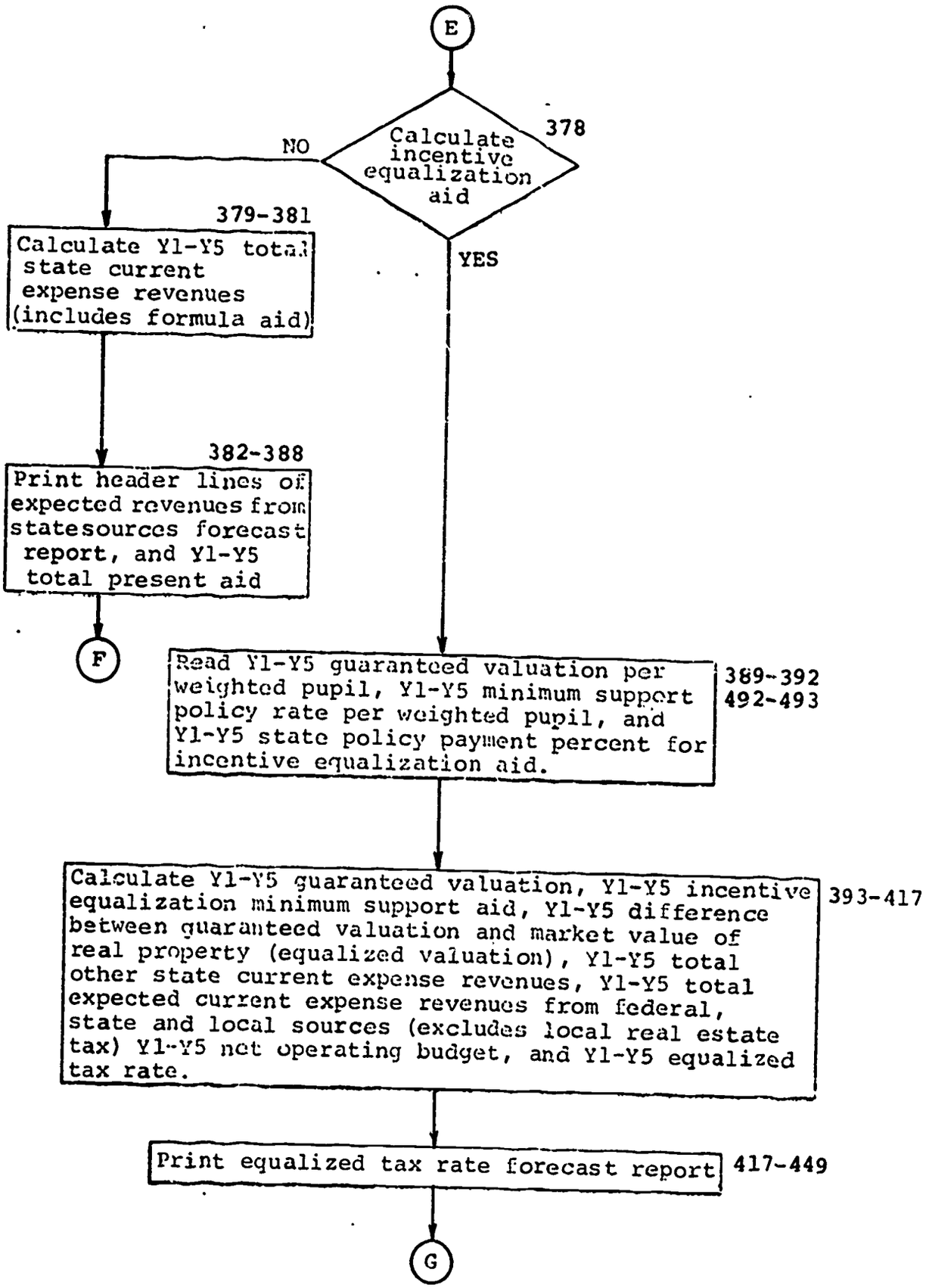


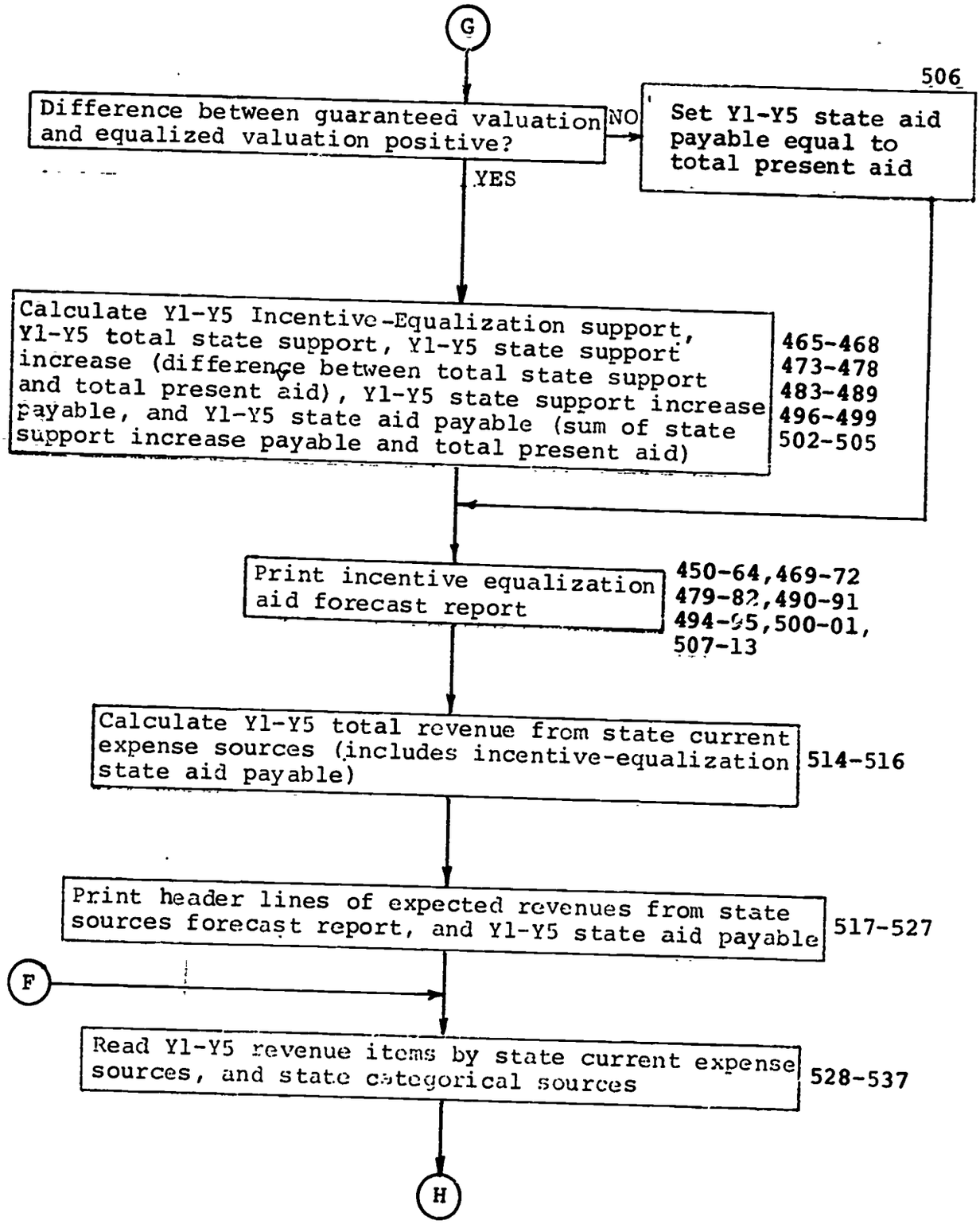

A
Calculate Y1-Y5 Base Case Transportation Aid
87-89
Base case or alternative case without CE transportation project
90
YES
Alternative case with CE transportation project
NO
Read Y1-Y5 alternative case current expense transportation costs
91-92
Calculate Y1-Y5 total current expense transportation costs for alternative case
93-95
Calculate Y1-Y5 added transportation aid revenues, and Y1-Y5 total transportation aid for alternative case
96-102
Base case or alternative with CE transportation project
103-104
NO
YES
Print transportation aid forecast report
105-126
Read CY-1,CY, and Y1-Y5 Base Case total current expense costs for special education program and Y1-Y5 atypical pupil aid reimbursement percent
127-130
B

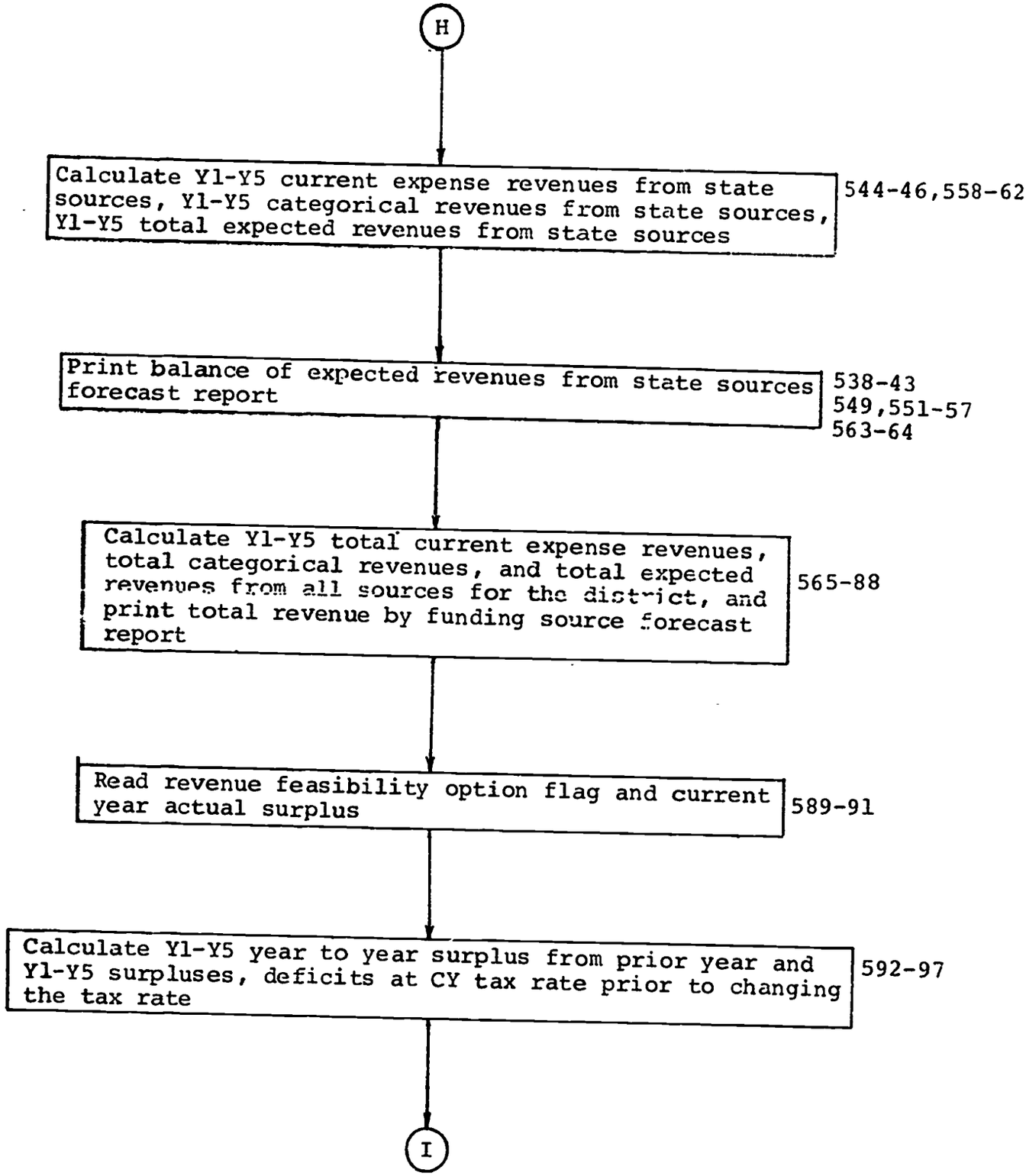

B
Calculate Y1-Y5 base case atypical pupil aid
131-133
Base case or alternative case without CE special education project
134
YES
Alternative case with CE special education project
NO
Read Y1-Y5 alternative case current expense special education costs
135
Calculate total Y1-Y5 alternative case current expense special education costs, and Y1-Y5 atypical pupil aid
136-139
Base case or alternative case with CE special education project
140-141
NO
YES
Print atypical pupil aid forecast report
142-157
C

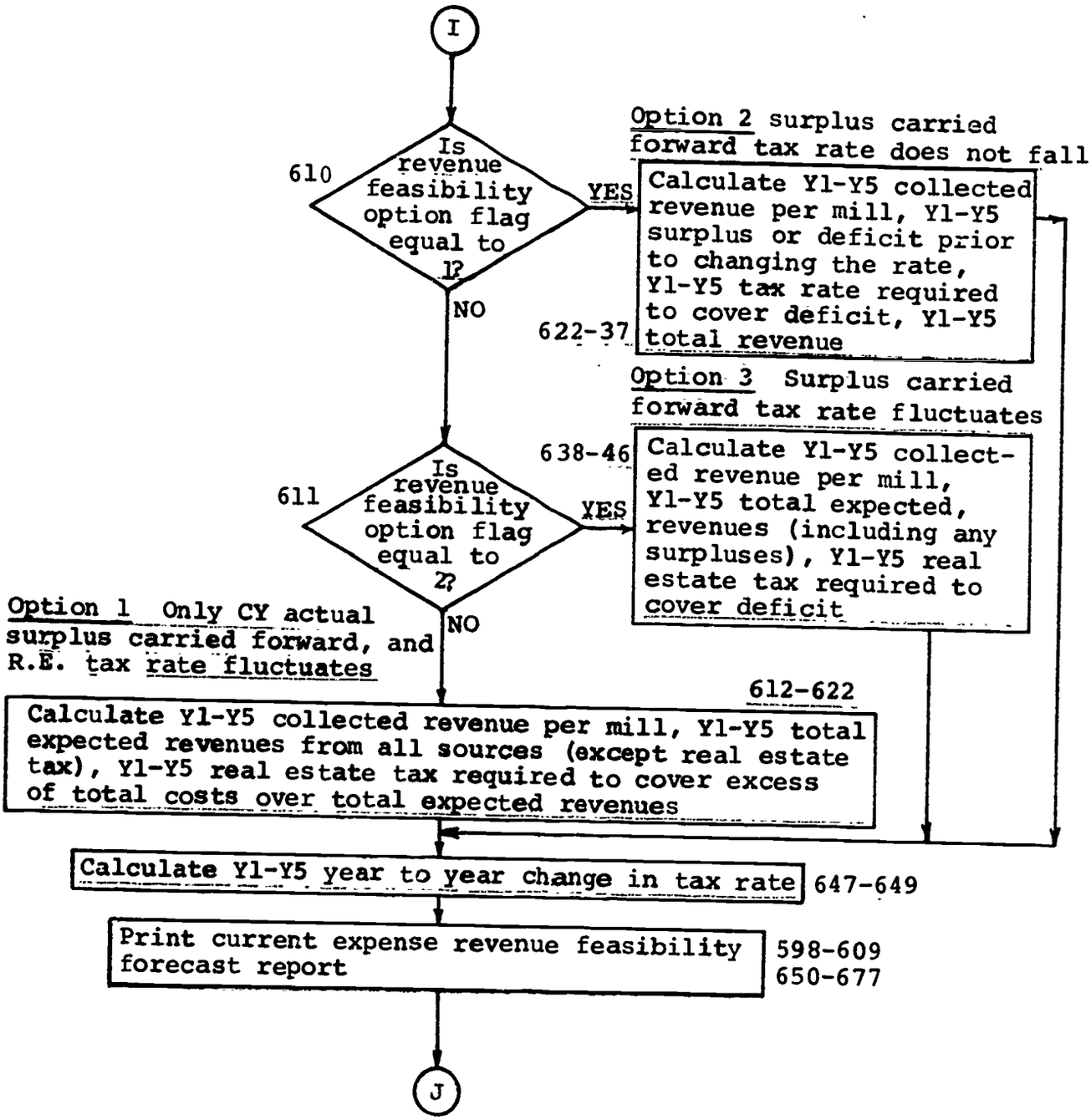

C
Read Y1-Y5 market value of Class II Railroad Property
166
Aggregate Class II Railroad Property market value plus market value of property in the district
167-169
170-178, 181-182
192-193, 207,
216
Read Y1-Y5 enrollment forecast by enrollment classification type, Y1-Y5 state foundation program rate per pupil, Y1-Y5 millage rate, Y1-Y5 minimum aid rate per pupil in formula aid calculation, Y1-Y5 policy rate per pupil for CH.301 L. 1968
Calculate Y1-Y5 foundation program amounts, Y1-Y5 local fair share, Y1-Y5 equalized aid, Y1-Y5 minimum aid used in formula aid calculation Y1-Y5 CH.301, L1968 AID
185-187,
194-195,
201-203,
208-210,
218-220
217-220
Equalized Aid Higher than minimum aid?
NO
221-223
Calculate Y1-Y5 total present aid as sum of minimum aid + CH. 301,L.1968 Aid
224-227
Calculate Y1-Y5 total present aid as sum of equalized aid and CH.301,L.1968 AID
Print formula aid forecast report
159-165, 179-180, 183-184
188-189, 190-191, 197-200
204-206, 211-215, 228-238
D

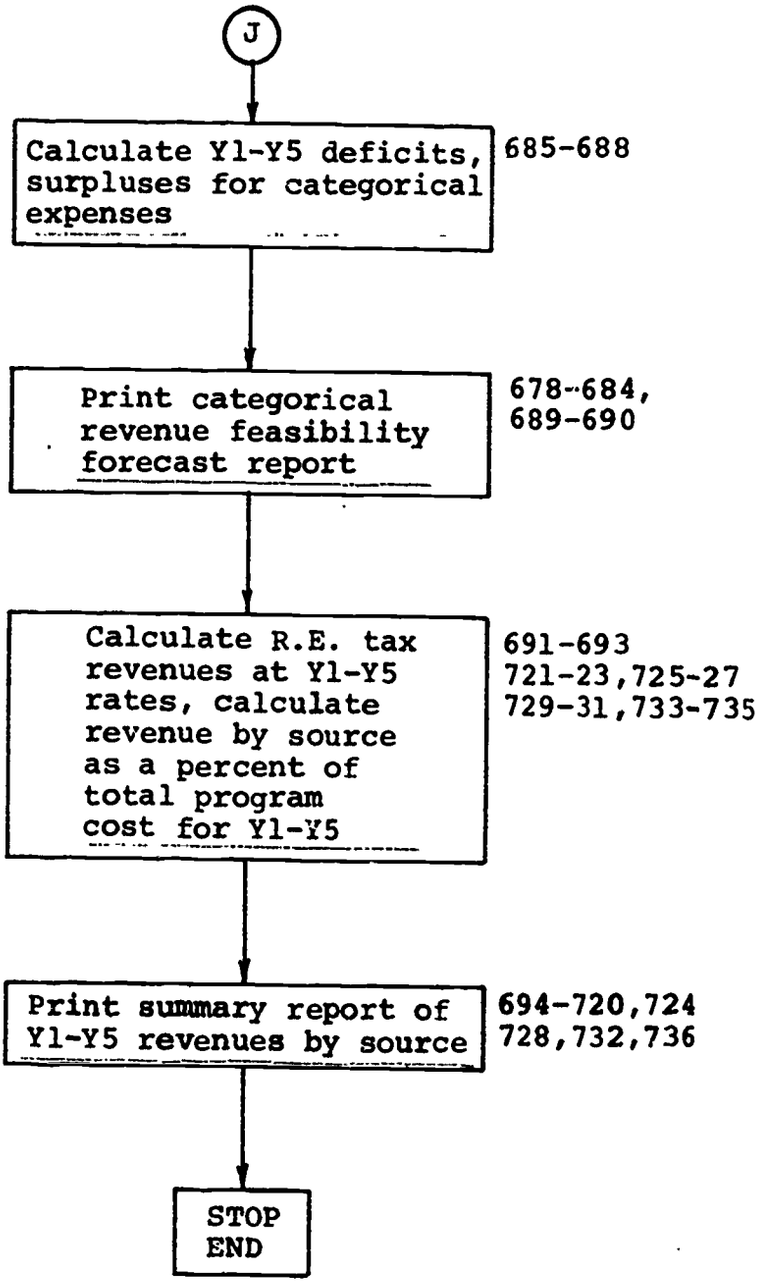

D
Read Y1-Y5 local revenue data by local revenue source
252-253
Calculate Y1-Y5 total other local revenue, and sum Y1-Y5 total other local revenue plus real estate tax revenues
248-251
254-255
258-262
268-271
Print total revenues all local sources forecast report
239-247
256-257
263-267
272-273
Read Y1-Y5 revenue items from federal sources
291
Calculate Y1-Y5 total revenue from federal current expense sources, total revenue from federal categorical sources, total revenues from federal sources, and print total revenue, all federal sources forecast report
274-331
Calculate Y1-Y5 weighted enrollment based upon enrollment forecast, and print weighted enrollment forecast report
332-362
Read Y1-Y5 expected revenues from current expense state sources (trans. and atypical pupil aid excluded), Y1-Y5 total current expense costs, and Y1-Y5 total categorical cost.
363-377
E


E
Calculate incentive equalization aid
378
NO
YES
379-381
Calculate Y1-Y5 total state current expense revenues (includes formula aid)
382-388
Print header lines of expected revenues from statesources forecast report, and Y1-Y5 total present aid
F
Read Y1-Y5 guaranteed valuation per weighted pupil, Y1-Y5 minimum support policy rate per weighted pupil, and Y1-Y5 state policy payment percent for incentive equalization aid.
389-392
492-493
Calculate Y1-Y5 guaranteed valuation, Y1-Y5 incentive equalization minimum support aid, Y1-Y5 difference between guaranteed valuation and market value of real property (equalized valuation), Y1-Y5 total other state current expense revenues, Y1-Y5 total expected current expense revenues from federal, state and local sources (excludes local real estate tax) Y1-Y5 net operating budget, and Y1-Y5 equalized tax rate.
393-417
Print equalized tax rate forecast report
417-449
G


G
Difference between guaranteed valuation and equalized valuation positive?
NO
506
Set Y1-Y5 state aid payable equal to total present aid
YES
Calculate Y1-Y5 Incentive-Equalization support, Y1-Y5 total state support, Y1-Y5 state support increase (difference between total state support and total present aid), Y1-Y5 state support increase payable, and Y1-Y5 state aid payable (sum of state support increase payable and total present aid)
465-468
473-478
483-489
496-499
502-505
Print incentive equalization aid forecast report
450-64,469-72
479-82,490-91
494-95,500-01,
507-13
Calculate Y1-Y5 total revenue from state current expense sources (includes incentive-equalization state aid payable)
514-516
Print header lines of expected revenues from state sources forecast report, and Y1-Y5 state aid payable
517-527
F
Read Y1-Y5 revenue items by state current expense sources, and state categorical sources
528-537
H


H
Calculate Y1-Y5 current expense revenues from state sources, Y1-Y5 categorical revenues from state sources, Y1-Y5 total expected revenues from state sources
544-46,558-62
Print balance of expected revenues from state sources forecast report
538-43
549,551-57
563-64
Calculate Y1-Y5 total current expense revenues, total categorical revenues, and total expected revenues from all sources for the district, and print total revenue by funding source forecast report
565-88
Read revenue feasibility option flag and current year actual surplus
589-91
Calculate Y1-Y5 year to year surplus from prior year and Y1-Y5 surpluses, deficits at CY tax rate prior to changing the tax rate
592-97
I


I
610
Is revenue feasibility option flag equal to 1?
YES
Option 2 surplus carried forward tax rate does not fall
Calculate Y1-Y5 collected revenue per mill, Y1-Y5 surplus or deficit prior to changing the rate, Y1-Y5 tax rate required to cover deficit, Y1-Y5 total revenue
622-37
NO
Option 3 Surplus carried forward tax rate fluctuates
638-46
Calculate Y1-Y5 collected revenue per mill, Y1-Y5 total expected, revenues (including any surpluses), Y1-Y5 real estate tax required to cover deficit
611
Is revenue feasibility option flag equal to 2?
YES
NO
Option 1 Only CY actual surplus carried forward, and R.E. tax rate fluctuates
612-622
Calculate Y1-Y5 collected revenue per mill, Y1-Y5 total expected revenues from all sources (except real estate tax), Y1-Y5 real estate tax required to cover excess of total costs over total expected revenues
Calculate Y1-Y5 year to year change in tax rate
647-649
Print current expense revenue feasibility forecast report
598-609
650-677
J


J
Calculate Y1-Y5 deficits, surpluses for categorical expenses
685-688
Print categorical revenue feasibility forecast report
678-684, 689-690
Calculate R.E. tax revenues at Y1-Y5 rates, calculate revenue by source as a percent of total program cost for Y1-Y5
691-693 721-23,725-27 729-31,733-735
Print summary report of Y1-Y5 revenues by source
694-720,724 728,732,736
STOP END

LISTING OF THE REVENUE SIMULATOR COMPUTER PROGRAM

The REVSIM computer program listing, written in the FORTRAN IV programming language, is provided below. A variable dictionary follows the listing.

```
C
C THIS PROGRAM PROJECTS REVENUES BY SOURCE FOR EACH YEAR OF A FIVE YEAR PLANNING
C HORIZON, AND AGGREGATES PROJECTED REVENUES BY SOURCE TO OBTAIN TOTAL REVENUES.
C AND PRINTS REVENUE REPORTS BY SOURCE.
C
C
C DECLARATION STATEMENTS
C
0001          REAL MVERSP(6)
0002          REAL TERMIN(5)
0003          DIMENSION YTITLE(11,6),YTITLE(6),PUPWGT(10),ASSPCT(6)
0004          DIMENSION EVPRLL(6),SESTTX(6),COLPCT(6),EVERUE(2,6)
0005          DIMENSION TXVALU(6),TEVE(6),TEVP1(6),PROJVN(10,8),TXLEVD(6)
0006          DIMENSION TRUPC(5),WKPCT(5),SPERPC(5),TOTPAT(5),SPEC(7)
0007          DIMENSION PUPILS(9,6),IPUPIL(9,5),FORMLA(3),WORK1(5)
0008          DIMENSION KUNIT(5),TITLE(4),EVALUE(6),OLCRVN(5),TEEVN(3,6)
0009          DIMENSION POLCY8(2,6),GVAL(2,6),TSEVN(3,6),EQTAX(5),TOTREV(3,5)
0010          DIMENSION TOTCST(3,6),DEFICIT(2,6),COLFML(6),TAXCHG(6),OTHREV(6)
0011          DIMENSION TEMP2(6)
0012          COMMON QTITLE(6),CTITLE(4,6),IREPNO,RUNDT(3),IPGE,NALTC,NAFLAG
0013          INTEGER H,T,F,CT
0014          INTEGER ALPHA(4)/'B','C','N','E'/
C
C
C PRINT TITLE SHEET
C
C
C
0015          WRITE(6,1)
0016        1 FORMAT('1',12(' '),' ',57X,'REVENUE SIMULATION'/' ',41X,'SYSTEM F
           1OR TRENTON''S EDUCATIONAL PLANNING(STEP)'/)
0017          WRITE(6,2)
0018        2 FORMAT(12('0'/),' ',59X,'PREPARED BY'/' ',59X,'GOVERNMENT STUDIES
           -AND SYSTEMS, INC.'/' ',59X,'2401 MARKET STREET'/' ',59X,'PHILADELP
           -HIA, PENNSYLVANIA 19104'/)
0019          WRITE(6,3)
0020        3 FORMAT(' ',59X,'THIS PROJECT IS SUPPORTED THROUGH A GRANT BY'/' ',
           -59X,'THE U.S. OFFICE OF EDUCATION,'/' ',59X,'NEW JERSEY DEPARTMENT
           - OF EDUCATION'/' ',59X,'UNDER TITLE III, ESEA'/)
C
C
C
C
C READ IN, DATE,NO. OF YEARS IN PLANNING PERIOD, NO. OF
C ENROLLMENT CLASSIFICATIONS,NO. OF YEARS IN THE FORECAST PERIOD.
C SET NAFLAG(BASE CASE IS 0, ALTERNATIVE CASE IS 1)
C SET NALTC(NUMBER ASSIGNED TO ALTERNATIVE CASE).
C SET NP(IS 0 IF BASE CASE OR ALTERNATIVE CASE WITHOUT A
C CURRENT EXPENSE TRANSPORTATION PROJECT,IF ALTERNATIVE
C WITH TRANSPORTATION PROJECT IS 1).
C SET NC(SAME AS NP, EXCEPT APPLIES TO SPECIAL ED. OF PROJECTS).
```

III.4-216

```
C SET K EQUAL TO THE NUMBER OF YEARS TO BE FORECASTED.
C SET I B FLAG (0=CALCULATE INCENTIVE=EQUALIZATION PID)
C
C
C
0021        READ(5,25) RUNDT,H,NECL,NF,NAFLAG,NALTC,NT,NS,K,IBFLAG
0022     25 FORMAT(4X,3A4,11,8I2)
C
C
C
C IF RUN IS BASE CASE SKIP TO STATEMENT 7. IF RUN
C IS ALTERNATIVE CASE, READ TOTAL NUMBER AND NAMES
C PROJECTS IN THE ALTERNATIVE CASE.
C
C
C
0023        IF (NAFLAG.EQ.0) GO TO 7
0024        READ(5,9) NP
0025     9 FORMAT(40X,I2)
C
C
C READ IN ALTERNATIVE CASE PROJECT NAMES
C
C
0026        DO 12 N=1,NP
0027        READ(5,14)(PROJNM(N,J),J=1,8)
0028     14 FORMAT(7X,8A4)
0029     12 CONTINUE
C
C
C PRINT COVER SHEET FOR ALTERNATIVE CASE
C
C
0030        WRITE(6,1015) NALTC
0031     1015 FORMAT('1','ALTERNATIVE CASE ',I2,
            1' INCLUDES THE FOLLOWING PROJECTS:')
0032        DO 1025 N=1,NP
0033        WRITE(6,1020)(PROJNM(N,J),J=1,8)
0034     1020 FORMAT('0',8A4)
0035     1025 CONTINUE
C
C READ ENROLLMENT TITLES
C
0036        7 READ(5,5)((ETITLE(I,J),J=1,6),I=1,NECL)
0037        5 FORMAT(2X,6A4)
C
C READ CASE TITLES
C
0038        READ(5,5) ((CTITLE(I,J),J=1,6),I=1,4)
C
C READ YEAR TITLES
```

```
                C
                C
0039                  READ(5,5)  (YTITLE(J),J=1,6)
                C READ DISTRICT NAME
                C
0040                  READ(5,5)  (DTITLE(I),I=1,6)
                C
                C READ PUPIL WEIGHTS(ORDER CORRESPONDS TO ORDER IN WHICH
                C  STITLE CARDS INPUT)
                C
0041                  L=NFCL-1
0042                  READ(5,20) (PUPWGT(I),I=1,L)
0043               20 FORMAT(2X,10F6.3)
                C
                C
0044                  IPGE=0
0045                  ICEPNO=999
                C
                C
                C READ CY TO Y5 DISTRICT MARKET VALUE OF REAL PROPERTY
                C AND Y1-Y5 ASSESSMENT RATIOS
                C
                C
0046                  READ(5,45)(MVRPRP(T),T=1,H),(ASSPCT(T),T=1,H)
0047               45 FORMAT(8X,6F10.0/8X,6F5.2)
                C
                C
                C READ CY REAL ESTATE TAX, COLLECTION PCT
                C
0048                  READ(5,70)(RESTTX(T),T=1,H),(COLPCT(T),T=1,H)
0049               70 FORMAT(8X,6F6.2/8X,6F6.2)
                C
                C CALCULATE  TAXABLE ASSESSED VALUE
                C
0050                  DO 60 T=2,H
0051                  TXVALU(T)=ASSPCT(T)*MVRPRP(T)
0052               60 CONTINUE
                C
                C CALCULATE REVENUE PER MILL
                C
0053                  DO 75 T=2,H
0054                  RVPMLL(T)=TXVALU(T)/1000.
                C
                C CALCULATE R.E. TAXES LEVIED
                C
0055                  TXLEVD(T)=RVPMLL(T)*RESTTX(I)
0056               75 CONTINUE
                C
                C
```

```
FORTRAN IV G LEVEL  19                 MAIN              DATE = 72062        11/13/56              PAGE 0004
      C CALCULATE TOTAL REAL ESTATE TAX
      C
            DO 95 T=2,H
            RVENUE(1,T)=(COLPCT(T)/100.)*TXLEVD(T)
         95 CONTINUE
      C
      C
      C PRINT REAL ESTATE TAX FORECAST REPORT
      C
      C
            CALL TEST(3)
            WRITE(6,30)
         30 FORMAT(' ',53X,'TOTAL REAL ESTATE TAX')
            WRITE(6,35)
         35 FORMAT('0')
            WRITE(6,40)(YTITLE(T),T=2,H)
         40 FORMAT('0',55X,A4,4(13X,A4))
            WRITE(6,50) (MVRPRP(T),T=2,H)
         50 FORMAT('0','DIST. REAL PROPERTY MARKET VALUE',13X,F12.2,
           14(5X,F12.2))
            WRITE(6,55) (ASSPCT(T),T=2,H)
         55 FORMAT('0','ASSESSMENT RATIO',36X,F5.3,4(12X,F5.3))
            WRITE(6,65) (TXVALU(T),T=2,H)
         65 FORMAT('0','TAXABLE ASSESSED VALUE',23X,F12.2,4(5X,F12.2))
      C
      C PRINT REVENUE PER MILL,CY TAX RATE,AND ASSESSED TAXES
      C
            WRITE(6,80)(RVPMLL(T),T=2,H)
         80 FORMAT('0','REVENUE PER MILL',29X,F12.2,4(5X,F12.2))
            WRITE(6,85) RESTTX(1)
         85 FORMAT('0','CY R.E. TAX RATE IN MILLS',4X,F7.2)
            WRITE(6,90)(TXLEVD(T),T=2,H)
         90 FORMAT('0','TAXES LEVIED',33X,F12.2,4(5X,F12.2))
            WRITE(6,100)(COLPCT(T),T=2,H)
        100 FORMAT('0','COLLECTION PERCENT',27X,F12.2,4(5X,F12.2))
            WRITE(6,105)(RVENUE(1,T),T=2,H)
        105 FORMAT('0','TOTAL REAL ESTATE TAX AT C.Y. TAX RATE',7X,F12.2,
           14(5X,F12.2))
      C
      C
      C READ CY AND Y1-Y5 TOTAL RC TRANSPORTATION COSTS INTO TEMP.
      C ONE YEAR TIME LAG IN REIMBURSEMENT OF TRANSPORTATION EXPENSES
      C
      C
        103 READ(5,120)(TEMP(T),T=1,H)
        120 FORMAT(8X,6F .0)
      C
      C
      C READ TRANSPORTATION REIMB. PCT,SAVE IN WKPCT(T).
      C
      C
```

```
0085              READ(5,130)(WKPCT(T),T=1,NF)
0086          130 FORMAT(5X,5F5.2)
                  C
                  C
                  C CALCULATE Y1-Y5 TRANSPORTATION AID REVENUES.
                  C
                  C
0087              DO 140 T=1,NF
0088              TRNPC(T)=(WKPCT(T)/100.)*TEMP(T)
0089          140 CONTINUE
                  C
                  C DETERMINE IF ALT. CASE HAS TRANSP. CE PROJECT.
                  C
0090              IF(NT.EQ.0) GO TO 109
                  C
                  C READ ALT. CASE TRANSP. COSTS INTO TEMP1.
                  C
0091              READ(5,92)(TEMP1(T),T=2,H)
0092           92 FORMAT(8X,6F9.0)
                  C
                  C AGGREGATE Y1-Y5 BC AND ALT. CASE CE TRANSP. COSTS
                  C SAVE RESULTS IN TEMP.
                  C
0093              DO 107 T=2,H
0094              TEMP(T)=TEMP(T)+TEMP1(T)
0095          107 CONTINUE
                  C
                  C CALCULATE ALT. CASE ADDED REVENUE, IF TRANSP. EXPENSES
                  C BEGIN IN YEAR T, EXPECTED TRANSP. AID REVENUES
                  C OCCUR STARTING IN YEAR T+1(T=2 IS Y1)
                  C
                  C
0096              DO 168 T=2,H
0097              TEMP2(T)=TEMP1(T-1)*(WKPCT(T-1)/100.)
0098          168 CONTINUE
                  C
                  C CALCULATE Y1-Y5 TOTAL TRANSP. AID.
                  C
0099              TEMP2(2)=0.0
0100              DO 169 T=2,H
0101              TRNPC(T-1)=TRNPC(T-1)+TEMP2(T)
0102          169 CONTINUE

                  C
                  C
                  C WRITE TRANSPORTATION AID FORECAST REPORT
                  C
                  C
0103              IF(NT.EQ.1.AND.NAFLAG.EQ.1) GOTO 117
0104          120 IF(NAFLAG.EQ.1) GO TO 121
0105              CALL PTITLE(1,2)
0106              GO TO 122
```

```
0107        117 CALL RTITLE(2,3)
0108        123 WRITE(6,110)
0109        110 FORMAT(' ',56X,'TRANSPORTATION AID')
0110            WRITE(6,35)
0111            WRITE(6,43)(YTITLE(T),T=1,H)
0112         43 FORMAT('0',39X,A4,5(12X,A4))
0113            WRITE(6,125)(TEMP(T),T=1,H)
0114        125 FORMAT('0','TOTAL TRANSPORTATION COSTS',2X,F12.2,5X,F12.2,
               14(5X,F12.2))
0115            WRITE(6,135)(WKPCT(T),T=1,NF)
0116        135 FORMAT('0','REIMBURSEMENT PERCENTAGE',21X,5(F12.2,5X))
0117            WRITE(6,145)(TEMP1(T),T=1,NF)
0118        145 FORMAT('0','EXPECTED TRANSPORTATION AID *',16X,5(F12.2,5X))
0119            WRITE(6,44)
0120         44 FORMAT('0','*EXPECTED REVENUE BASED UPON ONE YEAR')
0121            WRITE(6,46)
0122         46 FORMAT(' ','LAG FOR REIMBURSEMENT OF EXPENSES')
0123            DO 2000 T=1,H
0124            TEMP(T)= .0
0125            TEMP1(T)=0.0
0126       2000 CONTINUE
          C
          C
          C READ BASE CASE OF SPECIAL EDUCATION COSTS FOR
          C CY-1,CY,Y1-Y5. TWO YEAR TIME LAG IN REIMBURSEMENT
          C OF EXPENSES FOR SPECIAL EDUCATION.
          C
          C
0127        121 II=H+1
0128            READ(5,2050)(SPEC(T),T=1,II)
0129       2050 FORMAT(8X,7F9.0)
          C
          C READ SPECIAL ED. REIMB. PCT.SAVE IN WKPCT(T).
          C
0130            READ(5,130)(WKPCT(T),T=1,NF)
          C
          C
          C CALCULATE Y1 TO Y5 BASE CASE ATYPICAL PUPIL AID.
          C
          C
0131            DO 160 T=1,NF
0132            SPEDPC(T)=(WKPCT(T)/100.)*SPEC(T)
0133        160 CONTINUE
          C
          C
          C DETERMINE IF ALT. CASE HAS OF SPEC. ED. PROJECT
          C
          C
0134            IF(NS.EQ.0) GO TO 124
          C
          C READ Y1-Y5 ALT. CASE OF SPEC ED PROJECT COSTS.
          C
```

```
0135                READ(5,92)(TEMP1(T),T=2,H)
                    C
                    C ADD BASE CASE COSTS TO ALT. CASE COSTS, CALCULATE
                    C Y1-Y5 ALT. CASE ATYPICAL PUPIL AID
                    C
0136                DO 127 T=3,11
0137                SPEC(T)=SPEC(T)+TEMP1(T-1)
0138                SPEDPC(T-2)=SPEC(T-2)*(WKPCT(T-2)/100.)
0139              127 CONTINUE
0140                IF(NS.EQ.1.AND.NAFLAG.EQ.1) GO TO 129
0141              124 IF (NAFLAG.EQ.1) GO TO 139
0142                CALL PTITLE(1,3)
0143                GO TO 133
0144              129 CALL PTITLE(2,3)
                    C
                    C PRINT ATYPICAL PUPIL AID FORECAST REPORT
                    C
0145              133 WRITE(6,150)
0146              150 FORMAT('1',50X,'ATYPICAL PUPIL AID')
0147                WRITE(6,35)
0148                WRITE(6,40)(YTITLE(T),T=2,H)
0149                WRITE(6,155)(SPEC(T),T=3,11)
0150              155 FORMAT('0','TOTAL SPECIAL EDUCATION PROGRAM COSTS',8X,
                   15(F12.2,5X))
0151                WRITE(6,135)(WKPCT(T),T=1,NF)
0152                WRITE(6,165)(SPEDPC(T),T=1,NF)
0153              165 FORMAT('0','EXPECTED ATYPICAL PUPIL AID%',17X,5(F12.2,5X))
0154                WRITE(6,166)
0155              166 FORMAT('0','*EXPECTED ATYPICAL PUPIL AID IN Y1-Y5')
0156                WRITE(6,167)
0157              167 FORMAT('1','CORRESPOND TO PROGRAM COSTS IN CY-1,CY,Y1-Y3.')
                    C
                    C
                    C WRITE TITLE LINE 1-4 FOR FORMULA AID PROJECTION REPORT
                    C
0158                IF(NAFLAG.EQ.1) GO TO 139
0159                CALL PTITLE(1,3)
0160                GO TO 141
0161              139 CALL PTITLE(2,3)
0162              141 WRITE(6,170)
0163              170 FORMAT('1',44X,'FORMULA AID CALCULATION-STATE SUBSIDY')
0164                WRITE(6,35)
0165                WRITE(6,40)(YTITLE(T),T=2,H)
                    C
                    C
                    C
                    C READ Y1-Y5 MARKET VALUE OF
                    C CLASS II RAILROAD PROPERTY.
                    C
                    C
0166                READ(5,405) (TEMP1(T),T=1,H)
```

```
                C
                C AGGREGATE CLASS II RR PROPERTY MARKET VALUE AND
                C MARKET VALUE OF LAND, IMPROVEMENTS, AND BUSINESS
                C PERSONALITY FOR USE IN STATE AID CALCULATIONS.
                C
0167                    DO 214 T=1,M
0168                    MVRPRP(T)=MVRPRP(T)+TEMP1(T)
0169              214 CONTINUE
                C READ AND PRINT CY AND Y1 TO Y4 PROJECTED ENROLLMENTS BY TYPE BY YR AND
                C
0170                    DO 185 E=1,NECL
0171                    READ(5,175)(PUPILS(E,T),T=1,K)
0172              175 FORMAT(10X,5F7.0)
0173              180 CONTINUE
0174                    DO 185 T=1,K
0175                    DO 183 E=1,NECL
0176                    IPUPIL(E,T)=PUPILS(E,T)
0177              183 CONTINUE
0178              185 CONTINUE
0179                    WRITE(6,190)(IPUPIL(NECL,T),T=1,K)
0180              190 FORMAT('0',' 1.  RESIDENT ENROLLMENT(RE) ',20X,I8,4(9X,I8))
                C
                C
                C READ FOUNDATION RATE PER STUDENT.
                C
                C
0181                    READ(5,195) (WKPCT(T),T=1,K)
0182              195 FORMAT(5X,5F7.2)
0183                    WRITE(6,200)(WKPCT(T),T=1,K)
0184              200 FORMAT('0',' 2.  FOUNDATION RATE PER PUPIL',19X,F8.2,4(9X,F8.2))
                C
                C CALCULATE AND PRINT FOUNDATION PROGRAM AMTS FOR Y1 TO Y5.
                C
0185                    DO 205 T=1,K
0186                    FPGML(T)= PUPILS(NECL,T) * WKPCT(T)
0187              205 CONTINUE
0188                    WRITE(6,210)(FPGMLA(T),T=1,K)
0189              210 FORMAT('0',' 3.  FOUNDATION PROGRAM(ITEM 1 X ITEM 2)',5X,F12.2,
                     1(5X,F12.2))
                C
                C PRINT MKT VALUE OF REAL PROPERTY FOR CY AND Y1 TO Y4.
                C
0190                    WRITE(6,215)(MVRPRP(T),T=1,K)
0191              215 FORMAT('0',' 4.  EQUALIZED VALUE OF REAL PROPERTY',8X,F12.2,
                     1(5X,F12.2))
                C
                C READ MILLAGE RATE FOR Y1 TO Y5.
                C
0192                    READ(5,220)(WKPCT(T),T=1,K)
0193              220 FORMAT(7X,5F7.5)
                C
```

```
C CALCULATE AND PRINT LOCAL FAIR SHARE FOR Y1 TO Y5. PRINT MILLAGE RATE.
C
      DO 225 T=1,K
      WORK1(T)=MVPERP(T)*WKPCT(T)
  225 CONTINUE
      WRITE(6,230) (WKPCT(T),T=1,K)
  230 FORMAT('0',' 5.  MILLAGE RATE  ',26X,F12.5,4(5X,F12.5))
      WRITE(6,235) (WORK1(T),T=1,K)
  235 FORMAT('0',' 6.  LOCAL FAIR SHARE(ITEM 4 X ITEM 5)',7X,F12.2,
     14(5X,F12.2))
C
C CALCULATE AND PRINT EQUALIZED AID FOR Y1 TO Y5 AS DIFFERENCE BETWEEN
C FOUNDATION PROGRAM AND LOCAL FAIR SHARE.
C
      DO 240 T=1,K
      WORK1(T)=FORMULA(T)-WORK1(T)
  240 CONTINUE
      WRITE(6,35)
      WRITE(6,245) (WORK1(T),T=1,K)
  245 FORMAT('0',' 7.  EQUALIZED AID(ITEM3-ITEM6)',14X,F12.2,
     14(5X,F12.2))
C
C READ AND PRINT MINIMUM AID RATE PER PUPIL. CALCULATE AND PRINT MINIMUM AID.
C 910.
      READ(5,105)(WKPCT(T),T=1,K)
      DO 250 T=1,K
      FORMULA(T)=PUPILS(NECL,T)* WKPCT(T)
  250 CONTINUE
      WRITE(6,35)
      WRITE(6,255)(WKPCT(T),T=1,K)
  255 FORMAT('0',' 8.  POLICY RATE/PUPIL FOR MINIMUM AID',7X,F12.2,
     1(5X,F12.2))
      WRITE(6,260)(FORMULA(T),T=1,K)
  260 FORMAT('0',' 9.  MINIMUM AID(ITEM 1 X ITEM 8)',12X,F12.2,
     14(5X,F12.2))
C
C READ POLICY RATE PER PUPIL FOR CH. 301, L. 1965.
C
      READ(5,105)(WKPCT(T),T=1,K)
C
C TEST FOR FORMULA AID ANTECEDENTS OF EQUALIZED AID OR MINIMUM AID
C
      DO 275 T=1,K
      IF(WORK1(T)-FORMULA(T)) 270,275,275
  270 FORMULA(T)=WORK1(T)
  275 CONTINUE
C
C CALCULATE CH. 301 ADDITIVE.
C
      DO 280 T=1,K
      WORK1(T)=PUPILS(NECL,T) * WKPCT(T)
```

```
0223         285 CONTINUE
             C
             C CALCULATE TOTAL PRESENT AID AS SUM OF FORMULA AID AND CH 301 ADDITIVE.
             C
0224             DO 295 I=1,K
0225             TOTPA(I)=0.0
0226             TOTPA(I)=FORMLA(I) + WORK1(I)
0227         295 CONTINUE
             C
             C PRINT FORMULA AID
             C
0228             WRITE(6,35)
0229             WRITE(6,290) (FORMLA(I),I=1,K)
0230         290 FORMAT('0',' 10. FORMULA AID(HIGHER OF ITEM 7 OR 9)',6X,F12.2,
                1 4(5X,F12.2))
             C
             C PRINT CH. 301  PER PUPIL POLICY RATE.
             C
0231             WRITE(6,35)
0232             WRITE(6,295)(WKPCT(I),I=1,K)
0233         295 FORMAT('0',' 11. POLICY RATE/PUPIL FOR CH. 301, L.1968',3X,F12.2,
                1 4(5X,F12.2))
             C
             C PRINT CH. 301 ADDITIVE
             C
0234             WRITE(6,300) (WORK1(I),I=1,K)
0235         300 FORMAT('0',' 12. ITEM 1 X ITEM 11', 24X,F12.2,4(5X,F12.2))
0236             WRITE(6,35)
             C
             C
             C PRINT TOTAL PRESENT AID FORECAST LINE.
             C
             C
0237             WRITE(6,305) (TOTPA(I),I=1,K)
0238         305 FORMAT('0',' 13. TOTAL PRESENT AID(ITEM 10 + ITEM 12)',4X,F12.2,
                1 4(5X,F12.2))
             C
             C
             C TEST IF REVENUE FORECAST RUN IS BASE CASE
             C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
             C
             C
0239             CALL TEST(4)
0240             WRITE(6,310)
0241         310 FORMAT('1',46X,'TOTAL REVENUE, ALL LOCAL SOURCES')
0242             WRITE(6,35)
0243             WRITE(6,60)(YTITLE(I),I=2,H)
0244             WRITE(6,320) (RVENUE(1,I),I=2,H)
0245         320 FORMAT('0',' TOTAL REAL ESTATE TAX',23X,F12.2,4(5X,F12.2))
0246             WRITE(6,325)
0247         325 FORMAT('0',' OTHER LOCAL SOURCES')
```

```
C
C INITIALIZE CARD COUNTER FOR NO OF LOCAL SOURCE ITEMS READ.
C
0248        KOUNT(I)=0
C
C INITIALIZE OLCRVN(T) ARRAY.
C
0249        DO 327 T=1,K
0250        OLCRVN(T)=0.0
0251      327 CONTINUE
C
C READ LOCAL REVENUE DATA FOR Y1 TO Y5 BY SOURCE.
0252      330 READ(5,335) CT,(TITLE(I),I=1,5),(PVALUE(T),T=1,K)
0253      335 FORMAT(4X,A1,5A4,5F11.0)
0254        IF(CT.EQ.ALPHA(I)) GO TO 350
0255        KOUNT(I)=KOUNT(I)+1
0256        WRITE(6,340) (TITLE(I),I=1,5),(PVALUE(T),T=1,K)
0257      340 FORMAT('0',3X,5A4,22X,F12.2,4(5X,F12.2))
C
C
C KEEP RUNNING TOTAL OF OTHER LOCAL REVENUE FOR Y1 TO Y5. EXCLUDES REVENUE
C FROM REAL ESTATE TAX.
C
0258        DO 345 T=1,K
0259        OLCRVN(T)=OLCRVN(T) + PVALUE(T)
0260      345 CONTINUE
0261        GO TO 330
0262      350 IF(KOUNT(I).GT.0) GO TO 352
0263        WRITE(6,351)
0264      351 FORMAT('0',14X,'NO OTHER LOCAL REVENUE ITEMS ESTIMATED')
0265        GO TO 355
0266      352 WRITE(6,353)(OLCRVN(T),T=1,K)
0267      353 FORMAT('0',' TOTAL OTHER LOCAL SOURCES',10X,F12.2,4(5X,F12.2))
C
C CALCULATE SUM OF TOTAL RE EST TAX AND TOTAL OTHER LOCAL SOURCES.
C
0268      355 DO 360 T=1,K
0269        WORK1(T)=0.0
0270        WORK1(T)=PVENUE(I,T+1)+OLCRVN(T)
0271      360 CONTINUE
C
C PRINT TOTAL REVENUE, ALL LOCAL SOURCES
C
0272        WRITE(6,345) (WORK1(T),T=1,K)
0273      345 FORMAT('0',' TOTAL REVENUE, ALL LOCAL SOURCES',12X,F12.2,
           1 4(5X,F12.2))
C
C INITIALIZE IF(V(T) ARRAY.
C
0274        DO 365 T=1,K
0275        DO 367 I=1,2
```

```
0276            TERVN(I,T)=0.0
0277        367 CONTINUE
0278        369 CONTINUE
      C
      C
      C TEST IF REVENUE FORECAST RUN IS BASE CASE
      C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
      C
      C
0279            CALL TEST(3)
      C
      C
      C WRITE LINES 1 TO 6 FOR REPORT OF FEDERAL FUNDS PROJECTIONS
      C
      C
0280            WRITE(6,370)
0281        370 FORMAT(' ',50X,'TOTAL REVENUE ALL FEDERAL SOURCES')
0282            WRITE(6,35)
0283            WRITE(6,40)(YTITLE(T),T=2,H)
0284            WRITE(6,375)
0285        375 FORMAT('0',' CURRENT EXPENSE SOURCES')
      C
      C INITIALIZE CARD COUNTER FOR NO. OF FEDERAL CURRENT EXPENSE REV. ITEMS
      C AND NO OF FEDERAL CATEGORICAL REVENUE ITEMS
0286            KOUNT(2)=0
0287            KOUNT(3)=0
      C ZERO RVALUE(T) ARRAY IN PREPARATION FOR READING CE FEDERAL REV. ITEMS
      C
0288        377 DO 380 T=1,K
0289            RVALUE(T)=0.0
0290        380 CONTINUE
      C
      C READ FEDERAL CE REVENUE CARDS (CT=R)
      C
0291        385 READ(5,355)CT,(TITLE(I),I=1,5),(RVALUE(T),T=1,K)
0292            IF(CT.EQ.ALPHA(3)) GO TO 505
0293            IF(CT.EQ.ALPHA(1)) GO TO 415
0294            IF(CT.EQ.ALPHA(2)) GO TO 405
      C MAINTAIN COUNT OF CE FED FUND CARDS AND PRINT CE FEDERAL FUND ITEM.
0295            KOUNT(2) = KOUNT(2) + 1
0296            WRITE(6,340)(TITLE(I),I=1,5),(RVALUE(T),T=1,K)
      C
      C KEEP RUNNING TOTAL OF CE FEDERAL FUNDS FOR Y1 TO Y5
      C
0297            DO 400 T=1,K
0298            TERVN(1,T)=TERVN(1,T)+RVALUE(T)
0299        400 CONTINUE
0300            GO TO 377
      C
      C MAINTAIN COUNT OF CATEGORICAL FED REV. ITEMS AND PRINT.
      C
```

```
0301          405 IF(KOUNT(3).NE.0) GO TO 408
0302              WRITE(6,406)
0303          406 FORMAT('0',' CATEGORICAL FUNDS')
0304          408 KOUNT(3)=KOUNT(3)+1
0305              WRITE(6,340) (TITLE(I),I=1,5),(FVALUE(T),T=1,K)
                  C
                  C KEEP RUNNING TOTAL OF CATEGORICAL FEDERAL FUNDS FOR Y1 TO Y5.
                  C
0306              DO 410 T=1,K
0307              TERVN(2,T)=TERVN(2,T)+FVALUE(T)
0308          410 CONTINUE
0309              GO TO 377
                  C
                  C PRINT TOTAL OF FEDERAL FUNDS FOR Y1 TO Y5.
                  C
0310          415 IF (KOUNT(2).GT.0) GO TO 417
0311              WRITE (6,402)
0312          402 FORMAT ('0', 10X,'NO CURRENT EXPENSE REVENUE ITEMS ESTIMATED')
0313              GO TO 377
0314          417 WRITE(6,420)(TERVN(1,T),T=1,K)
0315          420 FORMAT('0',' TOTAL, CURRENT EXPENSE FUNDS',16X,F12.2,4(5X,F12.2))
0316              GO TO 377
0317          505 IF (KOUNT(3).GT.0) GO TO 422
0318              WRITE (6,406)
0319              WRITE (6,412)
0320          412 FORMAT ('0',10X,'NO CATEGORICAL REVENUE ITEMS ESTIMATED')
0321              GO TO 444
                  C
                  C PRINT TOTAL CATEGORICAL FEDERAL FUNDS FOR Y1 TO Y5.
                  C
0322          422 WRITE(6,430) (TERVN(2,T),T=1,K)
0323          430 FORMAT('0',' TOTAL CATEGORICAL FUNDS',21X,F12.2,4(5X,F12.2))
                  C
                  C CALCULATE AND PRINT SUM OF FEDERAL CURRENT EXPENSE AND CATEGORICAL REVENUES
                  C
0324          444 DO 446 T=1,K
0325              DO 440 I=1,2
0326              TERVN(3,T)=TERVN(3,T)+TERVN(I,T)
0327          440 CONTINUE
0328          446 CONTINUE
                  C
                  C
                  C PRINT REVENUE TOTAL FROM ALL FEDERAL SOURCES FOR Y1 TO Y5.
                  C
                  C
0329              WRITE(6,35)
0330              WRITE(6,450) (TERVN(3,T),T=1,K)
0331          450 FORMAT('0',' TOTAL REVENUE, ALL FEDERAL SOURCES',10X,F12.2,
                 14(5X,F12.2))
                  C
                  C
                  C CALCULATE WEIGHTED ENROLLMENT BY ENROLLMENT TYPE.ZERO OUT PUPILS(NECL,T).
```

```
C
C
      DO 496 T=1,K
      DO 496 E=1,L
      PUPILS(E,T) = PUPILS(E,T) * PUPWGT(E)
  496 CONTINUE
      PUPILS(NECL,T)=0.0
  495 CONTINUE

C
C
C AGGREGATE WEIGHTED ENROLLMENT BY FORECAST YEAR
C
C
      DO 495 T=1,K
      DO 496 E=1,L
      PUPILS(NECL,T)=PUPILS(NECL,T)+PUPILS(E,T)
  496 CONTINUE
  495 CONTINUE
C
C
C
C TEST IF REVENUE FORECAST RUN IS BASE CASE
C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
C
C
      CALL TEST(3)
      GO TO(5,455)
  455 FORMAT('0',' ENROLLMENT DATA USED AS INPUT TO FORMULA AND INCENTIVE
     1-EQUALIZATION CALCULATIONS')
      WRITE(6,35)
      WRITE(6,460)
      WRITE(6,47) (YTITLE(T),T=2,8)
  460 FORMAT('0',42X,'ENROLLMENT FORECAST BY ENROLLMENT TYPE BY YEAR')
      WRITE(6,465)
  465 FORMAT('0',' ENROLLMENT TYPE')
C
C PRINT ENROLLMENT INPUT DATA BY ENROLLMENT TYPE(NATMAN CLASSIFICATIONS).
C
      DO 475 E=1,NECL
      WRITE(6,470) (ETITLE(E,J),J=1,5),(PUPILS(E,T),T=1,K)
  470 FORMAT('0',3X,4A4,2X,F8.2,4(9X,F8.2))
  475 CONTINUE
C
C PRINT WEIGHTED ENROLLMENT BY TYPE BY YEAR.
C
      WRITE(6,595)
  595 FORMAT('0',42X,'WEIGHTED ENROLLMENT BY ENROLLMENT TYPE BY YEAR')
      WRITE (6,47)(YTITLE(T),T=2,8)
      DO 610 E=1,NECL
      WRITE(6,615)(ETITLE(E,J),J=1,5),(PUPILS(E,T),T=1,K)
  615 FORMAT('0',3X,4A4,2X,F8.2,4(9X,F8.2))
```

```
0362          515 CONTINUE
              C
              C INITIALIZE TSRVN(I,T) ARRAY
              C
0363                DO 555 T=1,K
0364                DO 555 I=1,3
0365                TSRVN(I,T)=0.0
0366          555 CONTINUE
0367          565 CONTINUE
              C
              C READ TOTAL OTHER OR STATE SOURCES FOR Y1 TO Y5.
              C EXCLUDE TRANSP. AID AND ATYPICAL PUPIL AID
              C
0368                READ(5,565) (TSRVN(I,T),T=1,K)
0369          565   FORMAT (10X,5F10.0)
              C
              C INITIALIZE ARRAY TO SAVE TOTAL COST DATA FOR CURRENT
              C EXPENSE(1,T),CATEGORICAL(2,T), AND TOTAL COST(3,T)
              C
              C
0370                DO 602 T=1,H
0371                DO 601 I=1,3
0372                TOTCST(I,T)=0.0
0373          601 CONTINUE
0374          602 CONTINUE
              C
              C READ OPERATING BUDGET(CURRENT EXPENSE COSTS) FOR Y1-Y5.
              C COSTS ARE Y1-Y5 BASE CASE COSTS FOR BC RUN, OR SUM OF BC AND AC COSTS,
              C ALTERNATIVE CASE RUN, WHICHEVER IS APPROPRIATE.
              C
              C
0375                READ(5,605)(TOTCST(1,T),T=1,H)
0376          605 FORMAT(8X,5F10.0)
              C
              C INPUT Y1-Y5 TOTAL CATEGORICAL COSTS
              C COSTS ARE FOR BC, OR SUM OF BC AND AC COSTS
              C IF RUN IS ALTERNATIVE CASE, AS APPROPRIATE.
              C
0377                READ(5,606) (TOTCST(2,T),T=1,H)
              C
              C
              C TEST IF INCENTIVE-EQUALIZATION AID IS TO BE COMPUTED(IEFLAG=0)
              C
              C
0378                IF(IEFLAG.EQ.0) GO TO 616
              C
              C CALCULATE SUM OF OF STATE AID.
              C
              C
```

```
0379                  DO 542 T=1,NF
0380                  TSRVN(1,T)=TSRVN(1,T)+TOTPA(T)+TONPC(T)+SPEDPC(T)
0381                542 CONTINUE
                    C
                    C TEST IF REVENUE FORECAST RUN IS BASE CASE
                    C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
                    C
0382                  CALL TEST(3)
                    C
                    C WRITE STATE REVENUE FORECAST REPORT
                    C
0383                  WRITE(6,775)
0384                  WRITE(6,40)
0385                  WRITE(6,775)
0386                  WRITE(6,781) (TOTPA(T),T=1,NF)
0387                781 FORMAT(1H0,'   TOTAL PRESENT AID',25X,F12.2,4(5X,F12.2))
0388                  GO TO 782
                    C
                    C READ IN GUARANTEED VALUATION PER WGHTD PUPIL FOR Y1 TO Y5.
                    C BASED UPON CLASSIFICATION ASSUMPTION FOR Y1 TO Y5.
                    C
0389                516 READ(5,517) (POLCYR(1,T),T=1,K)
0390                517 FORMAT(7X,5F6.2)
                    C
                    C READ IN MINIMUM SUPPORT AID POLICY RATE
                    C
0391                  READ(5,518) (POLCYR(2,T),T=1,K)
0392                518 FORMAT(7X,5F6.2)
                    C
                    C CALCULATE GUARANTEED VALUATION FOR Y1 TO Y5
                    C
0393                  DO 521 T=1,K
0394                  GVAL(1,T)=PUPILS(NECL,T) * POLCYR(1,T)
0395                521 CONTINUE
                    C
                    C CALCULATE MINIMUM SUPPORT AID
                    C
0396                  DO 523 T=1,K
0397                  TEMP(T)= PUPILS(NECL,T)* POLCYR(2,T)
0398                523 CONTINUE
                    C
                    C CALCULATE DIFFERENCE BETWEEN GUARANTEED
                    C VALUATION AND EQUALIZED VALUATION FOR Y1 TO Y5.
                    C
0399                  DO 527 T=1,K
0400                  GVAL(2,T)=GVAL(1,T)-WVEPPP(T)
0401                527 CONTINUE
                    C
                    C DETERMINE IF GVAL(2,T) IS NEGATIVE,
                    C ZERO, OR POSITIVE
                    C
```

```
0402          DO 531 T=1,K
0403          IF(GVAL(2,T))529,529,531
0404        529 GVAL(2,T)=0.0
0405        531 CONTINUE
            C
            C CALCULATE TOTAL STATE CE REVENUES,
            C EXCLUDING REVENUE FROM LOCAL TAXES.
            C
0406          DO 570 T=1,K
0407          TSREVN(2,T)=TSREVN(1,T)+TRNPC(T)+SPCRPC(T)
0408        570 CONTINUE
            C
            C CALCULATE SUM OF MINIMUM SUPPORT AND CE REVENUES FROM LOCAL
            C STATE, AND FEDERAL SOURCES.LOCAL TAX REVENUES EXCLUDED.
            C
0409          DO 575 T=1,K
0410          WORK1(T)=TMINSP(T)+GLCREVN(T)+TSREVN(1,T)+TFREVN(1,T)
0411        575 CONTINUE
            C
            C CALCULATE NET OPERATING
            C BUDGET FOR Y1 TO Y5.
            C
0412          DO 615 T=1,NF
0413          TVALUE(T)=TOTCST(1,T+1)-WORK1(T)
0414        615 CONTINUE
            C
            C CALCULATE EQUALIZED
            C TAX RATE FOR Y1 TO Y5.
            C
0415          DO 640 T=1,K
0416          ETAX(T)=(TVALUE(T)/(GVAL(1,T)/100.))
0417        640 CONTINUE
            C
            C TEST IF REVENUE FORECAST RUN IS BASE CASE
            C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
            C
0418          CALL TEST(3)
            C
            C PRINT TITLE LINES FOR EQUALIZED TAX RATE REPORT.
            C
0419          WRITE(6,630)
0420        630 FORMAT(' ',35X,'EQUALIZED SCHOOL TAX RATE - STATE INCENTIVE-EQUALI
           1ZATION PLAN')
0421          WRITE(6,99)
0422          WRITE(6,40)(YTITLE(T),T=2,6)
            C
            C PRINT TOTAL WEIGHTED ENROLLMENT FOR Y1 TO Y5.
            C
0423          WRITE(6,625)(PUPILS(NECL,T),T=1,K)
0424        625 FORMAT('0',' 1. WEIGHTED ENROLLMENT',23X,F10.2,4(7X,F10.2))
            C
```

```
C PRINT IF MINIMUM SUPPORT AID POLICY
C RATE PER WEIGHTED PUPIL.
C
      WRITE(6,535) (POLCYR(2,T),T=1,K)
  535 FORMAT('0',' 2. POLICY RATE PER WEIGHTED PUPIL',16X,F6.2,
     14(11X,F6.2))
      WRITE(6,540)
  540 FORMAT('0',' EXPECTED REVENUE(CURRENT EXPENSE SOURCES):')
C
C PRINT MINIMUM SUPPORT AID.
C
      WRITE(6,550) (ITEMIN(T),T=1,K)
  550 FORMAT('0',' MINIMUM SUPPORT(ITEM 1 X ITEM 2)',10X,F10.2,
     14(7X,F10.2))
C
C PRINT CURRENT EXPENSE REVENUES BY TYPE FOR Y1 TO Y5.
C PRINT TOTAL CURRENT EXPENSE REVENUES FOR Y1 TO Y5.
C
      WRITE(6,580) (OLCEVN(T),T=1,K)
  580 FORMAT(' ',' LOCAL FUNDS(EXCEPT LOCAL TAX REVENUES)',4X,F10.2,
     14(7X,F10.2))
      WRITE(6,585) (TFEVN(1,T),T=1,K)
  585 FORMAT(' ',' FEDERAL FUNDS',27X,F12.2,4(5X,F12.2))
      WRITE(6,590) (TSEVN(1,T),T=1,K)
  590 FORMAT(' ',' STATE FUNDS',29X,F12.2,4(5X,F12.2))
      WRITE(6,595)(WORK1(T),T=1,K)
  595 FORMAT('0',' 3. TOTAL',35X,F12.2,4(5X,F12.2))
      WRITE(6,600)
  600 FORMAT('0',' TAX RATE COMPUTATION:')
      WRITE(6,610)(TOTCST(1,T),T=2,4)
  610 FORMAT('0',' 4. CURRENT EXPENSE BUDGET',18X,F12.2,4(5X,F12.2))
      WRITE(6,620)(SVALUE(T),T=1,K)
  620 FORMAT('0',' 5. NET OPERATING BUDGET(ITEM4-ITEM3)',7X,F12.2,
     14(5X,F12.2))
C
C PRINT GUARANTEED VALUATION FOR Y1 TO Y5.
C
      WRITE(6,635) (GVAL(1,T),T=1,K)
  635 FORMAT('0',' 6. GUARANTEED VALUATION',20X,F12.2,4(5X,F12.2))
      WRITE(6,35)
      WRITE(6,645)(EQTAX(T),T=1,K)
  645 FORMAT('0',' 7. DISTRICT'S EQUALIZED TAX RATE-PCT(5/6)',4X,
     1F10.2,4(7X,F10.2))
C
C TEST IF REVENUE FORECAST RUN IS BASE CASE
C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
C
      CALL TEST(3)

C
C PRINT INCENTIVE-EQUALIZATION AID
C PRINT TITLE LINES.
```

```
0451                C
                          WRITE(6,650)
0452                650 FORMAT('1',40X,'STATE INCENTIVE-EQUALIZATION AID')
0453                      WRITE(6,40)(YTITLE(T),T=2,H)
                    C
                    C PRINT FOLLOWING:WEIGHTED ENROLLMENT, VALUATION/PUPIL,GUARANTEED
                    C VALUATION,GV-FV, AND EQUALIZED TAX RATE.
                    C
0454                      WRITE(6,525)(PUPILS(NSCL,T),T=1,K)
0455                      WRITE(6,655)(POLCYR(1,T),T=1,K)
0456                655 FORMAT('0','  2. VALUATION/PUPIL ASSUMPTION',17X,F9.2,4(8X,F9.2))
0457                      WRITE(6,660)(GVAL(1),T),T=1,K)
0458                660 FORMAT('0','  3. GUARANTEED VALUATION(ITEM1 X ITEM2)',5X,F12.2,
                         14(5X,F12.2))
0459                      WRITE(6,665)(VVEPPP(T),T=1,K)
0460                665 FORMAT('0','  4. EQUALIZED VALUATION',21X,F12.2,4(5X,F12.2))
0461                      WRITE(6,670)(GVAL(2,T),T=1,K)
0462                670 FORMAT('0','  5. EXCESS OF GV OVER FV(ITEM3 - ITEM4)',5X,F12.2,
                         14(5X,F12.2))
0463                      WRITE(6,675)(EQTAX(T),T=1,K)
0464                675 FORMAT('0','  6. EQUALIZED TAX RATE',27X,F7.2,4(10X,F7.2))
                    C
                    C CALCULATE AND PRINT INCENTIVE
                    C EQUALIZATION AID.
                    C
0465                      DO 680 T=1,K
0466                      IF(GVAL(2,T)) 680,680,677
0467                677 GVAL(2,T)=(EQTAX(T)/100.)*GVAL(2,T)
0468                680 CONTINUE
0469                      WRITE(6,685)(GVAL(2,T),T=1,K)
0470                685 FORMAT('0','  7. INCENTIVE-EQUALIZATION SUPPORT(6X5)',5X,
                         1F12.2,4(5X,F12.2))
                    C
                    C PRINT MINIMUM SUPPORT AID
                    C
0471                      WRITE(6,690)(IEMIN(T),T=1,K)
0472                690 FORMAT('0','  8. MINIMUM STATE SUPPORT AID',15X,F12.2,4(5X,F12.2))
                    C
                    C CLEAR WORK1(T) FOR USE AS ACCUMULATOR.
                    C
0473                      DO 695 T=1,K
0474                      WORK1(T)=0.0
0475                695 CONTINUE
                    C
                    C CALCULATE TOTAL STATE SUPPORT AS THE
                    C SUM OF GVAL(2,T) AND IEMIN(T)
                    C
0476                      DO 700 T=1,K
0477                      WORK1(T)=GVAL(2,T)+IEMIN(T)
0478                700 CONTINUE
                    C
                    C PRINT TOTAL STATE SUPPORT STORED IN WORK1(T)
                    C AND TOTAL PRESENT AID.
                    C
```

```
0479           WRITE(6,705) (WORK1(T),T=1,K)
0480       705 FORMAT('0',' 9. TOTAL STATE SUPPORT(ITEM7 + ITEM8)',4X,F12.2,
              14(5X,F12.2))
0481           WRITE(6,710) (TOTPA(T),T=1,K)
0482       710 FORMAT('0',' 10.TOTAL PRESENT AID(REPORT REV1003)',7X,F12.2,
              14(5X,F12.2))
         C
         C CLEAR OUT PVALUE(T) TO USE AS SAVE AREA FOR DIFFERENCE BETWEEN
         C      TOTAL STATE SUPPORT(WORK1(T)) AND  TOT. PRESENT AID
         C
         C
0483           DO 715 T=1,K
0484           PVALUE(T)=0.0
0485       715 CONTINUE
         C
         C CALCULATE DIFFERENCE BETWEEN TOTAL STATE SUPPORT(WORK1)
         C AND TOTAL PRESENT AID(TOTPA) TO DETERMINE STATE SUPPORT INCREASE
         C
0486           DO 720 T=1,K
0487           IF(SVAL(2,T)) 720,720,717
0488       717 PVALUE(T)=WORK1(T)-TOTPA(T)
0489       720 CONTINUE
         C
         C PRINT STATE SUPPORT INCREASE
         C
0490           WRITE(6,725) (PVALUE(T),T=1,K)
0491       725 FORMAT('0',' 11.STATE SUPPORT INCREASE(ITEM9 - ITEM10)',2X,
              1F12.2,4(5X,F12.2))
         C
         C READ STATE POLICY PAYMENT PERCENT INTO WORK1
         C
0492           READ(5,730) (WORK1(T),T=1,K)
0493       730 FORMAT(8X,5F6.2)
         C
         C PRINT POLICY PAYMENT PERCENT
         C
0494           WRITE(6,735) (WORK1(T),T=1,K)
0495       735 FORMAT('0',' 12.STATE POLICY PAYMENT PERCENT',18X,F6.2,
              14(11X,F6.2))
         C
         C CALCULATE PAYABLE STATE SUPPORT EQUAL TO PAYMENT PCT TIMES
         C STATE SUPPORT INCREASE(PVALUE(T)) IF PVALUE NOT ZERO
         C
0496           DO 740 T=1,K
0497           IF(PVALUE(T).EQ.0.0) GO TO 740
0498           PVALUE(T)=PVALUE(T) *(WORK1(T)/100.)
0499       740 CONTINUE
         C
         C [illegible] STATE SUPPORT INCREASE
         C
```

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0500          WRITE(6,745)(RVALUE(T),T=1,K)
0501        745 FORMAT('0',' 13.PAYABLE STATE SUPPORT INCREASE(11X12)',2X,
                 1F12.2,4(5X,F12.2))
                C
                C CALCULATE STATE AID PAYABLE
                C
0502          DO 755 T=1,K
0503          IF(RVALUE(T).EQ.0.0) GO TO 750
0504          RVALUE(T)=RVALUE(T)+TOTPA(T)
0505          GO TO 755
                C
                C
                C IF EQUALIZED VALUATIONS OR GUARANTEED VALUATIONS,
                C IT IS ASSUMED THAT STATE AID EQUALS TOTAL PRESENT AID(FORMULA+BSE)
                C
                C
0506        750 RVALUE(T)=TOTPA(T)
0507        755 CONTINUE
0508          WRITE(6,760) (RVALUE(T),T=1,K)
0509        760 FORMAT('0',' 14.STATE AID PAYABLE*',22X,F12.2,4(5X,F12.2))
0510          WRITE(6,765)
0511        765 FORMAT('0',' EQUALS ITEM 12 + ITEM 13 IF ITEM 5 IS POSITIVE')
0512          WRITE(6,770)
0513        770 FORMAT(' ',' OR ITEM 12 IF ITEM 5 IS NOT POSITIVE')
                C
                C ADD STATE AID PAYABLE TO TOTAL STATE OF REVENUES.
                C
0514          DO 777 T=1,K
0515          TSREV(1,T)=TSREV(1,T)+RVALUE(T)
0516        777 CONTINUE
                C
                C TEST TO SEPARATE FORECAST RUN IS BASE CASE
                C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
                C
0517          CALL TEST(2)
                C
                C WRITE STATE REVENUE REPORT HEADER LINES.
                C
0518          WRITE(6,775)
0519        775 FORMAT('1',47X,'TOTAL REVENUE, ALL STATE SOURCES')
0520          WRITE(6,50)(XTITLE(T),T=2,4)
0521          WRITE(6,776)
                C
                C PRINT STATE AID PAYABLE, FLAGGED, AID, AND TYPICAL PUPIL AID.
                C
0522          WRITE(6,780)(RVALUE(T),T=1,K)
0523        780 FORMAT('0',' STATE AID PAYABLE(REPORT REV-100B)',2X,F12.2,
                 1(5X,F12.2))
0524          WRITE(6,785)(TOTPP(T),T=1,K)
0525        785 FORMAT('0',' EQUALIZATION AID',24X,F12.2,4(5X,F12.2))
0526          WRITE(6,50)(EQAIDC(T),T=1,K)
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0527          790 FORMAT('1','   ATYPICAL PUPIL AID',24X,F12.2,4(5X,F12.2))
                  C
                  C INITIALIZE COUNTER FOR CF AND CAT. STATE REVENUES
                  C
0528                  KOUNT(4)=0
0529                  KOUNT(5)=0
                  C
                  C CLEAR RVALUE ARRAY.
                  C
0530              792 DO 795 T=1,K
0531                  RVALUE(T)=0.0
0532              795 CONTINUE
                  C
                  C READ STATE CF REVENUE ITEMS(CT=R). TSRVN(1,T) CONTAINS
                  C SUM OF ALL STATE CF REVENUE ITEMS.
                  C
0533              800 READ(5,805)CT,(TITLE(I),I=1,5),(RVALUE(T),T=1,K)
0534                  IF(CT.EQ.ALPHA(3)) GO TO 875
0535                  IF(CT.EQ.ALPHA(1)) GO TO 810
0536                  IF(CT.EQ.ALPHA(2)) GO TO 825
                  C
                  C COUNT AND PRINT STATE CF REVENUE ITEMS.
                  C
0537                  KOUNT(4)=KOUNT(4)+1
0538                  WRITE(6,740)(TITLE(I),I=1,5),(RVALUE(T),T=1,K)
0539                  GO TO 743
                  C
                  C COUNT AND PRINT STATE CATEGORICAL REVENUE ITEMS.
                  C
0540              825 IF(KOUNT(5).NE.0) GO TO 829
0541                  WRITE(6,826)
0542              826 KOUNT(5)=KOUNT(5)+1
0543                  WRITE(6,740)(TITLE(I),I=1,5),(RVALUE(T),T=1,K)
                  C
                  C KEEP RUNNING TOTAL OF CATEGORICAL
                  C STATE REVENUE ITEMS FOR Y1 TO Y5.
                  C
0544                  DO 835 T=1,K
0545                  TSRVN(2,T)=TSRVN(2,T)+RVALUE(T)
0546              835 CONTINUE
0547                  GO TO 793
0548              830 IF (KOUNT (4).GT.0) GO TO 835
0549                  WRITE (6,420) (TSRVN(1,I),T=1,K)
0550                  GO TO 793
                  C
                  C PRINT TOTAL OF STATE FUNDS FOR Y1 TO Y5.
                  C
0551              835 WRITE (6,420)(TSRVN(I,T),T=1,K)
0552                  GO TO 793
0553              875 IF (KOUNT(5).GT.0) GO TO 876
0554                  WRITE (6,826)
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0555          WRITE (6,412)
0556          GO TO 852
      C
      C PRINT TOTAL CATEGORICAL STATE FUNDS FOR Y1 TO Y5.
      C
0557    876 WRITE(6,430) (TSRVN(2,T),T=1,K)
      C
      C CALCULATE AND PRINT SUM OF STATE
      C CE AND CATEGORICAL REVENUES.
      C
0558  852   DO 845 T=1,K
0559          DO 840 I=1,2
0560          TSRVN(3,T)=TSRVN(3,T)+TSRVN(I,T)
0561    840 CONTINUE
0562    845 CONTINUE
0563          WRITE(6,850) (TSRVN(3,T),T=1,K)
0564    850 FORMAT('0',' TOTAL REVENUE, ALL STATE SOURCES',12X,F12.2,
           14(5X,F12.2))
      C
      C
      C TEST IF REVENUE FORECAST RUN IS BASE CASE
      C OR ALTERNATIVE CASE, AND PRINT APPROPRIATE TITLES
      C
      C
0565          CALL TEST(3)
      C
      C
      C PRINT HEADER LINES FOR
      C TOTAL REVENUE REPORT
      C
      C
0566          WRITE(6,855)
0567    855 FORMAT(' ',58X,'TOTAL REVENUE')
0568          WRITE(6,400)(YTITLE(T),T=2,M)

0569          WRITE(6,375)
      C
      C INITIALIZE TOTREV ARRAY. I=1 CE REVENUE.
      C I=2 CATEGORICAL REVENUES.
      C
0570          DO 865 T=1,K
0571          DO 860 I=1,2
0572          TOTREV(I,T)=0.0
0573    860 CONTINUE
0574    865 CONTINUE
      C
      C CALCULATE CURRENT EXPENSE REVENUES,
      C TOTAL CATEGORICAL, AND TOTAL REVENUES
      C
0575          DO 870 T=1,K
0576          TOTREV(1,T)=REVNUE(1,T+1)+OLCRVN(T)+TSRVN(1,T)+TFEVN(1,T)
0577          TOTREV(2,T)=TSRVN(2,T)+TFRVN(2,T)
```

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0579                TOTREV(3,T)=TOTREV(1,T)+TOTREV(2,T)
0580              370 CONTINUE
                  C
                  C PRINT EXPECTED CF, EXPECTED CATEGORICAL
                  C AND EXPECTED TOTAL REVENUES.
                  C
0582                WRITE(6,373)(TOTREV(1,T),T=1,K)
0583              373 FORMAT('0',' TOTAL EXPECTED REVENUES',19X,F12.2,4(5X,F12.2))
0584                WRITE(6,35)
0585                WRITE(6,380)
0586              380 FORMAT('0',' NON-CURRENT EXPENSE SOURCES')
0587                WRITE(6,373)(TOTREV(2,T),T=1,K)
0588                WRITE(6,35)
0589                WRITE(6,385)(TOTREV(3,T),T=1,K)
0590              385 FORMAT('0',' TOTAL EXPECTED REVENUE, ALL SOURCES',9X,F12.2,
                     1(5X,F12.2))
                  C
                  C INITIALIZE REVENUE FEASIBILITY FIELD.
                  C
0592                IFOPT=0
0593                READ(5,23) IFOPT,SPLSCY
0594              23 FORMAT(11X,I1,F12.2)
                  C
                  C
                  C
                  C REVENUE FEASIBILITY
                  C
                  C
                  C REVENUE FEASIBILITY IS CALCULATED UNDER
                  C OPTION 1, OPTION 2, OR OPTION 3, AS DETERMINED BY FEASIBILITY OPTION FLAG
                  C IFOPT. THE DEFAULT IS OPTION 1.
                  C UNDER OPTION 1 (IFOPT=0) THE PROGRAM
                  C LOGIC ASSUMES THAT ONLY AN ACTUAL SURPLUS FOR THE CY
                  C (STORED IN SPLSCY) IS CARRIED FORWARD TO Y1. ANY OTHER ANNUAL
                  C SURPLUS CALCULATED FOR Y2 TO YK ARE IGNORED, AND THE
                  C TAX RATE IS PERMITTED TO FLUCTUATE ANNUALLY.
                  C FOR OPTION 2 (IFOPT=2), PROGRAM LOGIC ASSUMES THAT ANY SURPLUS IS CARRIED
                  C FORWARD AND THAT THE REAL ESTATE TAX DOES NOT DECLINE.
                  C FOR OPTION 3 (IFOPT=3), SURPLUS IS CARRIED AND AND TAX RATE FLUCTUATES.
                  C
                  C
                  C
                  C SURPLUS CARRIED FORWARD FROM CY
0622                DEFICIT(2,1)=SPLSCY
                  C
                  C
                  C CALCULATE YEAR T SURPLUS OR DEFICIT
                  C UNDER EXPECTED TAX RATES.
                  C
                  C
0623                DO 867 I=2,M
```

```
0594          DEFICIT(1,T)=TOTREV(1,T-1)-TOTCST(1,T)+DEFICIT(2,T-1)
0595          DEFICIT(2,T)=0.0
0596          IF(DEFICIT(1,T).GT.0.0)DEFICIT(2,T)=DEFICIT(1,T)
0597       87 CONTINUE
        C
        C DETERMINE IF RUN IS BASE CASE OR ALTERNATIVE
        C CASE. PRINT APPROPRIATE HEADINGS FOR REVENUE
        C FEASIBILITY REPORT.
        C
0598          CALL TEST(4)
        C
        C WRITE OTHER REPORT TITLE LINES
        C
0599          WRITE(6,75)
0600          WRITE(6,305) (YTITLE(T),T=2,H)
0601      305 FORMAT(1H ,'CURRENT EXPENSE REVENUE AND COSTS',20X,A4,4(13X,A4))
        C
        C PRINT CURRENT EXPENSE REVENUES
        C
0602          WRITE(6,412) (TOTREV(1,T),T=1,K)
0603      412 FORMAT(1H ,' TOTAL REVENUE AT CY REAL ESTATE TAX',4X,F12.2,
             14(5X,F12.2))
        C
        C PRINT SURPLUS FROM PRIOR YEAR
        C
0604          WRITE(6,315) (DEFICIT(2,T),T=1,K)
0605      315 FORMAT(1H ,' SURPLUS FROM PRIOR YEAR',18X,F12.2,4(5X,F12.2))
        C
        C
        C PRINT CURRENT EXPENSE COSTS
        C
        C
0606          WRITE(6,320) (TOTCST(1,T),T=2,H)
0607      320 FORMAT(1H ,' TOTAL COSTS',31X,F12.2,4(5X,F12.2))
        C
        C
        C PRINT DEFICIT,SURPLUS AT CY TAX RATE
        C
        C
0608          WRITE(6,325)(DEFICIT(1,T),T=2,H)
0609      325 FORMAT(1H ,' SURPLUS(+), DEFICIT(-) AT CY TAX RATE',4X,F12.2,
             14(5X,F12.2))
        C
        C
        C TEST IF REVENUE FEASIBILITY IS OPTION 1(IFOPT=0),
        C OPTION 2(IFOPT=1), OR OPTION 3(IFOPT=2).
        C
        C
0610          IF(IFOPT.EQ.1) GO TO 326
0611          IF(IFOPT.EQ.2) GO TO 334
        C
        C
```

```
C OPTION 1  REVENUE FEASIBILITY CALCULATION
C BY SURPLUS ONLY CARRIED FORWARD TO Y1, AND TAX RATE FLUCTUATES.
C
C
0612            DO 927 T=2,H
0613            COLRML(T)=(COLPCT(T)/100.)*PRVRLL(T)
0614            OTHREV(T)=OLCRVN(T-1)+TFRVN(1,T-1)+TSRVN(1,T-1)+DFICIT(2,T-1)
0615            TOTREV(1,T-1)=TOTCST(1,T)-OTHREV(T)
0616            RESTTX(T)=TOTREV(1,T-1)/COLRML(T)
0617            DFICIT(1,T)=OTHREV(T)+(RESTTX(T)*COLRML(T))
0618            DFICIT(2,T)=0.0
0619          927 CONTINUE
0620            WRITE(6,928)
0621          928 FORMAT('1',10X,'REVENUE FEASIBILITY OPTION 1')
0622            GO TO 937
C
C
C OPTION 2 REVENUE FEASIBILITY CALCULATION
C SURPLUS CARRIED FORWARD AND TAX RATE DOES NOT GO DOWN.
C
C
C
C
C CALCULATE COLLECTED REVENUE PER MILL
C
C
0623          929 DO 935 T=2,H
0624            COLRML(T)=(COLPCT(T)/100.)*PRVRLL(T)
C
C CALCULATE Y1-Y2 SURPLUS OR DEFICIT IN
C PREPARATION FOR COMPUTING CHG IN TAX RATE
C
0625            DFICIT(2,T)=TOTREV(1,T-1)-TOTCST(1,T)+DFICIT(2,T-1)
C
C SET Y1 TAX RATE EQUAL TO YEAR T-1 TAX RATE
C
0626            RESTTX(T)=RESTTX(T-1)
C
C
C TEST FOR SURPLUS BEFORE CHANGING RATES.
C
C
0627            IF(DFICIT(2,T).GE.0.0) GO TO 930
C
C DEFICIT EXISTS.VARIABLE RATE IS TAX RATE WHICH
C WOULD PROVIDE SUFFICIENT R.E. TAX REVENUE TO COVER DEFICIT.
C
C
0628            RATE=RESTTX(1)-(DFICIT(1,T)/COLRML(T))
C
C
```

```
0629                RESTTX(T)=RATE
                    C
                    C CALCULATE INCREASED REVENUE IN YEAR T
                    C
0630                930 RATE=COLRML(T)*(RESTTX(T)-RESTTX(1))
                    C
                    C CALCULATE SURPLUS AFTER CHANGING TAX RATE.IF LESS
                    C THAN 100,ZERO SURPLUS OUT. SURPLUS IS CARRIED FORWARD.
                    C
                    C
0631                DEFICIT(2,T)=DEFICIT(2,T)+RATE
0632                IF(ABS(DEFICIT(2,T)).LT.100.)DEFICIT(2,T)=0.0
                    C
                    C CALCULATE TOTAL REVENUE
                    C
0633                DEFICIT(1,T)=TOTREV(1,T-1)+RATE
0634                935 CONTINUE
0635                WRITE(6,933)
0636                933 FORMAT('0','REVENUE FEASIBILITY OPTION 2')
0637                GO TO 936
                    C
                    C
                    C REVENUE FEASIBILITY OPTION 3(IEOPT=2).
                    C SURPLUS CARRIED FORWARD AND TAX RATE FLUCTUATES.
                    C
                    C
0638                934 DO 992 T=2,M
                    COLRML(T)=(COLPCT(T)/100.)*PYPML(T)
0640                OTHREV(T)=NLCRVN(T-1)+TSEVN(1,T-1)+TSEVN(1,T-1)+DEFICIT(2,T-1)
0641                TOTREV(1,T-1)=TOTCST(1,T)-OTHREV(T)
0642                RESTTX(T)=TOTREV(1,T-1)/COLRML(T)
0643                DEFICIT(1,T)=OTHREV(T)+(RESTTX(T)*COLRML(T))
0644                992 CONTINUE
0645                WRITE(6,991)
0646                991 FORMAT('0','REVENUE FEASIBILITY OPTION 3')
                    C
                    C
                    C CALCULATE YEAR TO YEAR CHANGE IN TAX RATE
                    C
                    C
0647                936 DO 937 T=2,M
0648                YYCPCT(T)=RESTTX(T)-RESTTX(T-1)
0649                937 CONTINUE
0650                WRITE(6,95)
0651                WRITE(6,940) (YTITLE(T),T=1,M)
0652                940 FORMAT('0',39X,A4,11X,A4,13X,A4,15X,A4,2(13X,A4))
                    C
                    C
                    C PRINT TAX RATE AND YEAR TO YEAR CHANGE IN RATE.
                    C
                    C
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0653            WRITE(6,945)(RESITX(T),T=1,M)
0654          945 FORMAT('0',' REAL ESTATE TAX RATE(MILLS)',5X,F6.2,9X,F6.2,
               111X,F6.2,13X,F6.2,2(11X,F6.2))
0655            WRITE(6,950)(TAXCHG(T),T=2,M)
0656          950 FORMAT(' ',' YEAR TO YEAR CHANGE',25X,F6.2,11X,F6.2,13X,F6.2,
               12(11X,F6.2))
0657            WRITE(6,953)(YTITLE(T),T=2,M)
0658          953 FORMAT('0',52X,A4,4(13X,A4))
                C
                C
                C PRINT REVENUES AFTER CHANGE IN TAX RATE, AND COST DATA.
                C
                C
0659            WRITE(6,955)(DEFICIT(1,T),T=2,M)
0660          955 FORMAT('0',' TOTAL REVENUE AT Y1-Y5 TAX RATES',11X,F12.2,
               14(5X,F12.2))
0661            WRITE(6,956) (DEFICIT(2,T),T=1,M)
0662          956 FORMAT(' ',' SURPLUS FROM PRIOR YEAR',23X,F12.2,4(5X,F12.2))
0663            WRITE(6,958) (COSTS(1,T),T=2,M)
0664          958 FORMAT('0',' TOTAL COST',33X,F12.2,4(5X,F12.2))
0665            WRITE(6,960) (DEFICIT(2,T),T=2,M)
0666          960 FORMAT('0',' SURPLUS AT Y1-Y5 TAX RATES',17X,F12.2,4(5X,F12.2))

0667            WRITE(6,35)
0668            WRITE(6,965)
0669          965 FORMAT('0',52X,'SUBSIDIARY DATA')
0670            WRITE(6,35)
0671            WRITE(6,40)(YTITLE(T),T=2,M)
                C
                C
                C PRINT REVENUE PER MILL, AND COLLECTED REVENUE PER MILL.
                C
                C
0672            WRITE(6,967)(REVMIL(T),T=2,M)
0673          967 FORMAT('0',' REVENUE PER MILL',27X,F12.2,4(5X,F12.2))
0674            WRITE(6,970)(COLPCT(T),T=2,M)
0675          970 FORMAT('0',' COLLECTION PERCENT',25X,F12.2,4(5X,F12.2))
0676            WRITE(6,972) (COLREV(T),T=2,M)
0677          972 FORMAT('0',' COLLECTED REVENUE PER MILL',17X,F12.2,4(5X,F12.2))
                C
                C
                C CATEGORICAL REVENUE FEASIBILITY
                C
                C
0678          985 CALL TEST(4)
0679            WRITE(6,35)
0680            WRITE(6,40) (YTITLE(T),T=2,M)
0681            WRITE(6,975)(TOTCST(2,T),T=2,M)
0682          975 FORMAT(' ',' TOTAL CATEGORICAL COSTS',23X,F12.2,4(5X,F12.2))
0683            WRITE(6,981)(EXPREV(2,T),T=1,NF)
0684          981 FORMAT('0',' TOTAL EXPECTED CATEGORICAL REVENUES',8X,F12.2,
               14(5X,F12.2))
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      DO 993 T=2,H
      TEMP1(T)=0.0
      TEMP1(T)=TOTCST(2,T)-TOTREV(2,T-1)
  993 CONTINUE
      WRITE(6,987) (TEMP1(T),T=2,H)
  987 FORMAT('0',' SURPLUS(+), DEFICIT(-)',21X,F12.2,4(5X,F12.2))
C
C
C CALCULATE R.E. TAX REVENUES AT Y1-Y5 RATES.
C
C
      DO 2032 T=2,H
      COLRML(T)=PFSTTX(T)*COLRML(T)
 2032 CONTINUE
C
C
C PRINT SUMMARY REPORT OF Y1-Y5 REVENUES BY SOURCE AND
C AS A PERCENT OF TOTAL PROGRAM COSTS.
C
C
      CALL TEST(4)
      WRITE(6,2001)
 2001 FORMAT('1',32X,'SUMMARY OF Y1-Y5 EXPECTED CURRENT EXPENSE REVENUE
     1BY FUNDING SOURCE')
      WRITE(6,2002)
 2002 FORMAT(' ',41X,'AND AS A PERCENTAGE OF ANNUAL OPERATING EXPENSES')
      WRITE(6,2003) (YTITLE(T),T=2,H)
 2003 FORMAT('0',52X,A4,4(12X,A4))
      WRITE(6,2004)
 2004 FORMAT('0',' CURRENT EXPENSE REVENUES')
      WRITE(6,2005)(COLRVN(T),T=2,H)
 2005 FORMAT('0',' R.E. TAX REVENUES(Y1-Y5 RATES)',11X,F12.2,4F17.2)

      WRITE(6,2006)(CLCRVN(T),T=1,NF)
 2006 FORMAT('0',' OTHER LOCAL REVENUES',21X,F12.2,4F17.2)
      WRITE(6,2006)(TSRVN(1,T),T=1,NF)
 2010 FORMAT('0',' STATE AID',32X,F12.2,4F17.2)
      WRITE(6,2011)(FERVN(1,T),T=1,NF)
 2011 FORMAT('0',' FEDERAL AID',30X,F12.2,4F17.2)
      WRITE(6,2012) (DEFICIT(1,T),T=2,H)
 2012 FORMAT('0',' TOTAL CURRENT EXPENSE REVENUES',11X,F12.2,4F17.2)
      WRITE(6,35)
      WRITE(6,2013) (TOTCST(1,T),T=2,H)
 2013 FORMAT('0',' TOTAL COSTS',32X,F12.2,4F17.2)
      WRITE(6,35)
      WRITE(6,35)
      WRITE(6,2014)
 2014 FORMAT('0',' ANNUAL REVENUES AS A PERCENT OF OPERATING COSTS')
      WRITE(6,35)

C CALCULATE DEFICIT
```

```
C
      DO 2016 T=2,H
      TEMP1(T)=(COLSML(T)/TOTCST(1,T))*100.
 2015 CONTINUE
      WRITE(6,2007)(TEMP1(T),T=2,H)
      DO 2017 T=2,H
      TEMP1(T)=(OLDSVM(T-1)/TOTCST(1,T)) * 100.
 2017 CONTINUE
      WRITE(6,2008)(TEMP1(T),T=2,H)
      DO 2018 T=2,H
      TEMP1(T)=(TSRVM(1,T-1)/TOTCST(1,T))* 100.
 2018 CONTINUE
      WRITE(6,2009)(TEMP1(T),T=2,H)
      DO 2019 T=2,H
      TEMP1(T)=(TERVM(1,T-1)/TOTCST(1,T))* 100.
 2019 CONTINUE
      WRITE(6,2011)(TEMP1(T),T=2,H)
      STOP
      END
```

```
FORTRAN IV G LEVEL 19          TEST          DATE = 72062      11/12/56      PAGE 0001
0001            SUBROUTINE TEST(NN)
                C
                C TESTS NAFLAG TO DETERMINE IF REVENUE FORECAST RUN IS
                C BASE CASE(=0), OR ALTERNATIVE CASE(=1). CALLS SUBROUTINE
                C RTITLE(M,NN) TO PRINT CORRESPONDING REPORT TITLE.
                C
0002            COMMON RTITLE(6),CTITLE(4,6),IPERNO,FUNDT(3),IPGE,NALTC,NAFLAG
0003            IF(NAFLAG.EQ.1) GO TO 1
0004            CALL RTITLE(1,NN)
0005            GO TO 2
0006          1 CALL RTITLE(2,NN)
0007          2 RETURN
0008            END
```

```
FORTRAN IV G LEVEL 19          PTITLE          DATE = 72062      11/13/56          PAGE 0001

0001            SUBROUTINE PTITLE(M,MM)
                C
                C PRINTS A REPORT TITLE CONSISTING OF TWO LINES.
                C THE 1ST LINE CONTAINS THE DISTRICT NAME AND CASE TITLE.
                C LINE 2 PRINTS THE RUNDATE AND PAGE NUMBER.
                C
                C
0002            COMMON DTITLE(6),CTITLE(4,6),IREPNO,RUNDT(3),IPGE,NALTC,NAFLAG
0003            IPGE=IPGE+1
0004            IREPNO=IREPNO+1
0005            IF(M.EQ.2) GO TO 6
0006            WRITE(6,5)(DTITLE(I),I=1,6),  (CTITLE(1,J),J=1,6),IREPNO
0007          5 FORMAT('1',52X,6A4,5X,6A4,4X,'REPORT NO. TSDREV-',I4)
0008            GO TO 15
0009          6 WRITE(6,10) (DTITLE(I),I=1,6),(CTITLE(2,J),J=1,6),NALTC,IREPNO
0010         10 FORMAT('1',52X,6A4,5X,6A4,I2,2X,'REPORT NO. TSDREV-',I4)
0011         15 WRITE(6,20) (CTITLE(MM,J),J=1,6),RUNDT,IPGE
0012         20 FORMAT(' ',52X,6A4,5X,'RUN DATE:',3A4,7X,'PAGE ',
                1I2)
0013            RETURN
0014            END
```

VARIABLE DICTIONARY

for the

REVENUE SIMULATION COMPUTER PROGRAM OF THE REVENUE MODULE

ALPHA(I)	Variable used to store the values that the variable CT can take on. Subscript I ranges over the four values which CT can have. I=1 is "B", I=2 is "C", I=3 is "N", and I=4 is "R".
ASSPCT(I)	Assessment ratio in the real estate tax forecast. Subscript T ranges over years.
COLPCT(T)	Collection percent, used to reduce real estate tax revenue because of inability to collect all taxes levied. Subscript T ranges over years.
CT	Temporary variable, in which is stored a character which indicates the funding source of the revenue item being read. The value and meaning of each "card type" are as follows: CT= B indicates the end of the categorical revenue card deck or last current expense revenue item has been read. CT= C indicates that a categorical revenue item is being read. CT= R indicates that a current expense revenue item is being read. CT= N indicates that the last categorical revenue item has been read.
CTITLE(I,J)	Case titles for Base Case and alternative case (see Table VI-2). Subscript I ranges over the cases. Subscript J ranges over locations necessary to store the characters of each case title.
DFICIT(I,T)	Surplus (+), Deficit (-). Subscript I=1 represents before changing tax rates. I=2 represents after changing tax rates. Subscript T ranges over years.

DTITLE(I)	School district name. Subscript I ranges over the locations necessary to store the characters.
E	Index used to denote an enrollment classification. E=1 is the first enrollment classification type (corresponding to the classification name identifier stored in ETITLE (I,J), E=2 is the second, and so on.
EQTAX(T)	Y1-Y5 Equalized Tax Rate (percentage) used in Incentive Equalization Aid calculation. Subscript T ranges over years.
ETITLE(I,J)	Enrollment titles. Subscript I ranges over the enrollment classifications, as defined in the Incentive-Equalization Aid Formula, which exist in the school district (enough space is allocated to store the maximum number as defined in SENATE No. 575). Subscript J ranges over locations necessary to store the characters of each title.
FORMLA(T)	Temporary variable used as work area to both save data and perform various calculations relative to Formula Aid Calculation. Subscript T ranges over years. T=1 is Y1, T=2 is Y2, etc. (1) Calculate and store Y1-Y5 foundation program amounts. (2) Calculate and store Y1-Y5 minimum aid as computed in Formula Aid computation. (3) Store higher of Equalized Aid or Minimum Aid for Y1-Y5.

GVAL(I,T)	Variable used to calculate and store several items used in the Incentive Equalization Aid formula. Subscript I=1 is Guaranteed Valuation (weighted resident enrollment X Guaranteed valuation - per weighted pupil) Subscript I=2 represents the difference between Guaranteed Valuation and the Market Value of Real Property (Equalized Valuation) when positive, or is zero when negative or zero. Subscript T ranges over years. (1) If positive, used to calculate and store Incentive-Equalization Support as the product of the equalized tax rate and the excess of Guaranteed Valuation over Equalized Valuation.
H	Total number of years in the FYP plus the current year.
IBFLAG	Flag to indicate if Incentive-Equalization Aid is to be calculated. IBFLAG=0 if Incentive-Equalization Aid is to be computed, and is 1 when only Formula Aid (Present Aid) is to be calculated.
IEMIN(T)	Incentive-Equalization Minimum Support Aid. Subscript T ranges over years.
IFØPT	Revenue feasibility input option flag. IFØPT=1, revenue feasibility calculated assuming only CY actual surplus carried forward to Y1 and real estate tax rate (for school purposes) fluctuates (increases or decreases). IFØPT=2, revenue feasibility calculated assuming CY-Y4 surpluses carried forward and tax rate does not fall. IFØPT=3, revenue feasibility calculated assuming CY-Y4 surpluses carried forward, and tax rate fluctuates.
IPUPIL(E,T)	Enrollment forecast stored as integers. Subscript E ranges over enrollment types. Subscript T ranges over years.

IPGE	Page number.
IREPNO	Report number.
K	Total number of years in the planning period, e.g. 5.
KØUNT(I)	Card counter for number of revenue items by funding source. Subscript I ranges over type of revenue source. I=1 is local revenue sources, other than from real estate tax. I=2 is federal current expense funding source. I=3 is federal categorical funding source. I=4 is state current expense funding source. I=5 is state categorical funding source.
M	Temporary index. M=1 represents BC.M=2 alternative case.
MM	Temporary index representing which case title is to be printed.
MVRPRP(T)	Market value of real property for real estate tax purposes. Subscript T ranges over years.
NAFLAG	Indicates if run is base case or alternative case. Equals 0 if base case, or 1, if an alternative case.
NALTC	Indicates identification number of the alternative case for which the revenue forecaster is being run.
NECL	Number of enrollment classifications types in the district as defined in the Incentive Equalization Aid Formula.
NF	Number of consecutive years for which revenues are forecast.
NS	Indicates if alternative case contains a current expense transportation project. NS=0 when revenue forecast run is base case or alternative case without current expense special education project. NS=1 when alternative case contains a current expense special education project.
NT	Indicates if alternative case contains a current expense transportation project. NT=0 when revenue forecast run is base case or alternative case without current expense transportation program project.

	NT=1 when alternative case contains a current expense transportation project.
OLCRVN(I)	Expected revenues from local sources available to the school district, except the real estate tax. Subscript T ranges over years.
OTHREV(T)	Total expected current expense revenues from federal, state, and local sources (except real estate tax revenues) used in revenue feasibility calculation. Subscript T range over years.
PØLCYR(I,T)	Policy rates set by state or local administrators relative to the Incentive Equalization Aid calculation. Subscript T ranges over years. Subscript I=1, is the guaranteed valuation per weighted pupil based upon the classification assumption. Subscript I=2 is the policy rate for Minimum Support Aid calculated for Incentive-Equalization Aid.
PROJNM(I,J)	Variable used to store tha name identifier of a project in an alternative case. I ranges over the number of projects in the alternative case, and J ranges over the locations required to store the characters in the identifier.
PUPILS(E,T)	Weighted enrollment forecast. Subscript E ranges over enrollment types (Bateman enrollment classifications applicable in the district). E=number of enrollment types +1. Subscript T ranges over years. T=1 is CY enrollment, T=2 is Y1, T=3 is Y3, etc.
PUPWGT(I)	Pupil weights. Subscript I ranges over the enrollment classifications for the district and correspond to the enrollment titles entered in ETITLE (I,J).
RATE	Temporary variable used to calculate tax rate which would provide sufficient revenue to cover any deficits.

RESTTX(T)	Real estate tax rate in mills. Subscript T ranges over years.
RUNDT	Indicates date job was run.
REVALUE(T)	Temporary variable used to calculate and/or store expected revenues from various sources. (1) Store Y1-Y5 expected revenues from a particular revenue source being read (Federal or state, current expense or categorical) (2) Store Y1-Y5 current expense operating budget (3) Calculate and store Y1-Y5 net operating budget (4) Calculate and store Y1-Y5 total State Support Increase (total state support under Incentive-Equalization Aid - Total Present Aid) (5) Calculate and store Y1-Y5 proportion of Total State Support Increase Payable (6) Calculate and store Y1-Y5 (Incentive-Equalization) State aid payable (Equal to State Support Increase Payable plus Total Present Aid if Guaranteed Valuation exceeds Equalized Valuation, or Minimum Support Aid plus Total Present Aid if Guaranteed Valuation does not exceed Equalized Valuation).
RVENUE(I,T)	Total real estate tax revenue (after collections). Subscript I=1 represents BC. I=2 represents FYP. Subscript T ranges over years.
RVPMLL(T)	Revenue/mill (before collection). Subscript T ranges over years.
SPEC(T)	Base Case Special Education program costs. Subscript T ranges over years.
SPEDPC(T)	Atypical Pupil Aid revenues. Subscript T ranges over years.
SPLSCY	Surplus to be carried over from the CY to Y1.

T	Temporary index used for time in years. T=1 is CY, T=2 is Y1, T=3 is Y2, T=4 is Y3, T=5 is Y4, and T=6 is Y5. Note: In case of Atypical Pupil Aid T=1 is CY-1, T=2 is CY, etc.
TAXCHG(T)	Year to year change in tax rate. Subscript T ranges over years.
TEMP(T)	Temporary variable used for storing data, performing various calculations, etc. Subscript T ranges over years.
TEMP1(T)	Temporary Variable used to store data, perform various calculations. Subscript T varies over years. (1) Read and store added current expense transportation costs for an alternative case.
TFRVN(I,T)	Expected revenues, federal sources. Subscript I ranges over type of federal revenue source, i.e. I=1 is current expense federal source, I=2 is categorical federal revenue source, and I=3 represents total federal revenues (current expense plus categorical funding sources). Subscript T ranges over years. T=1 is Y1, T=2 is Y2, etc.
TITLE(I)	Temporary variable used to store the name identifier of a revenue item. Subscript I ranges over the locations necessary to store the characters of each identifier.
TØTCST(I,T)	Total cost over all programs and cost categories. I=1 represents total current expense costs, and I=2 represents total categorical costs, and I=3 is the sum of current expense and categorical cost.

TOTPA(T)	Total Present Aid (Equal to the higher of Minimum Aid or Equalized Aid plus CH. 301, L.1968 Aid). Subscript T ranges over years. T=1 is Y1, T=2 is Y2, etc.
TOTREV(I,T)	Total expected revenues by type of funding source. Subscript I ranges over type of funding source. I=1 is total revenue from all current expense sources. I=2 is total revenue from all categorical sources. I=3 is total revenue from all sources. Subscript T ranges over years.
TRNPC(T)	Transportation Program costs. Subscript T ranges over years.
TSRVN(I,T)	Expected revenue from State sources. Subscript I ranges over type of state funding source. I=1 is current expense sources, I=2 is categorical sources, and I=3 is the sum of current expense and categorical sources.
TXLEVD(T)	Real estate taxes levied. Subscript T ranges over years.
TXVALU(T)	Taxable valuation of real property. Subscript T ranges over years.
WKPCT(T)	Temporary variable used as a work area to both save data and to perform various calculations. Subscript T ranges over years. (1) Read and store Transportation Program reimbursement percentage. T=1 is CY, T=2 is Y1, etc. (2) Read in and store special education reimbursement percentage. T=1 is CY-1, T=2 is CY, T=3 is Y1, etc. (3) Read in and store State foundation program rate per pupil for Formula Aid T=1 is CY rate, etc. (4) Read in and store millage rate for Formula Aid Calculation. T=1 is CY rate, etc.

	(5) Read and store minimum aid rate per pupil. T=1 is CY rate, etc. (6) Read and store policy rate per pupil for CH. 301, L. 1968 aid.
WORK1(T)	Temporary variable used as a work area to perform various calculations. Subscript T ranges over years. T=1 is Y1, T=2 is Y2, etc. (1) Calculate local fair share for Y1-Y5 local fair share= market value of real property X millage rate. (2) Calculate Y1-Y5 equalized aid in Formula Aid computation Equalized Aid= Foundation Program - Local fair share. (3) Calculate Y1-Y5 CH.301, L. 1968 Aid. (4) Calculate Y1-Y5 Total revenue, all local sources as the sum of Y1-Y5 total other revenue sources and Y1-Y5 Real Estate Tax Revenue. (5) Calculate Y1-Y5 Total Expected Current Expense Revenues from Federal, State, and Local sources (excluding Real Estate Tax) (6) Calculate and store Y1-Y5 Total State Support (Incentive-Equalization Support and Minimum State Support Aid) (7) Store Y1-Y5 State Policy Payment Percent for Incentive-Equalization Aid.
YTITLE(I)	Year titles. Subscript I ranges over years.

REVENUE SIMULATOR COMPUTER PROGRAM

OUTPUT REPORTS

The sample output reports shown and discussed in this section are based upon sample data appropriate to the Trenton School District. These reports are generated for both a base case run or an alternative case run, with the exception of the following:

(1) The Alternative Case Title Page is printed only for an alternative case run;

(2) The Transportation Aid Forecast Report is printed for an alternative case run only if the alternative case includes a current expense transportation project;

(3) The Atypical Pupil aid Forecast Report is printed for an alternative case run only if the alternative case includes a current expense special education project.

Naturally, the reports generated for a base case or alternative case reflect the particular costs and revenues associated with these cases, i.e. data cards which are used to input costs and revenue will be added, adjusted, etc., for an alternative case, as necessary. Thus, the revenue forecast reports of State, Federal, and Local Sources will include any additional revenues anticipated as a result of the alternative case.

The reports shown in this section are intended for illustrative purposes only.

Page 1 BASE CASE REAL ESTATE TAX REVENUE FORECAST

Y1-Y5 district real property market value and Y1-Y5 assessment ratio are input. Taxable assessed value is the product of district real property market value times the assessment ratio. Revenue per mill is the taxable assessed value devided by 1000. The CY real estate tax and Y1-Y5 collection percent are input. Taxes levied is the product of revenue per mill and the real estate tax. Total real estate tax at current year rate is computed by multiplying the taxes levied times the collection percent.

REVENUE SIMULATION

SYSTEM FOR TRENTON'S EDUCATIONAL PLANNING(STEP)

III.4-261

PREPARED BY
GOVERNMENT STUDIES AND SYSTEMS, INC.
3401 MARKET STREET
PHILADELPHIA, PENNSYLVANIA 19104

THIS PROJECT IS SUPPORTED THROUGH A GRANT BY
THE U.S. OFFICE OF EDUCATION,
NEW JERSEY DEPARTMENT OF EDUCATION
UNDER TITLE III, ESEA

TRENTON SCHOOL DISTRICT
REVENUE FORECAST
TOTAL REAL ESTATE TAX

BASE CASE
RUN DATE: OCT. 1[illegible], 1971

REPORT NO. TS [illegible]
PAGE [illegible]

		Y1	Y2	Y3	Y4	Y5
DIST. REAL PROPERTY MARKET VALUE		356579584.00	357459368.00	[illegible]	[illegible]	[illegible]
ASSESSMENT RATIO		0.508	0.508	0.508	[illegible]	[illegible]
TAXABLE ASSESSED VALUE		181142400.00	181690422.00	182174864.00	[illegible]	[illegible]
REVENUE PER MILL		181142.35	181690.38	182174.81	[illegible]	[illegible]
CY R.E. TAX RATE IN MILLS	54.90					
TAXES LEVIED		9944713.00	9974800.00	[illegible]	[illegible]	[illegible]
COLLECTION PERCENT		92.33	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL REAL ESTATE TAX AT C.Y. TAX RATE		9142137.00	9176815.00	[illegible]	[illegible]	[illegible]

Page 1A · ALTERNATIVE CASE TITLE PAGE

The Alternative Case number and the project titles in the Alternative Case are input. The Alternative Case Title Page is then printed to provide the user a ready reference of projects in the Alternative Case.

ALTERNATIVE CASE 3 INCLUDES THE FOLLOWING PROJECTS:

PROJECT BUILD(TITLE III)

CLASS FOR EDUCABLE MENTALLY RETA

BASE CASE TRANSPORTATION AID FORECAST

The transportation aid reimbursement percent and transportation costs for CY and Y1-Y5 are input. Expected Transportation Aid is the product of total transportation costs and the reimbursement percent.

If the computer run is for an alternative case, the Transportation Aid Forecast Report is printed only if the Alternative case included a current expense transportation project. Otherwise, the Base Case Transportation Aid Forecast is still applicable.

TRENTON SCHOOL DISTRICT — ALTERNATIVE CASE NUMBER 2 — REPORT NO. TSDREV-1001
REVENUE FORECAST — RUN DATE:OCT.10, 1971 — PAGE 2
TRANSPORTATION AID

	CY	Y1	Y2	Y3	Y4	Y5
TOTAL TRANSPORTATION COSTS	270433.00	319166.00	339154.00	344634.00	348827.00	483297.00
REIMBURSEMENT PERCENTAGE		75.00	75.00	75.00	75.00	75.00
EXPECTED TRANSPORTATION AID *		202824.75	239374.50	254365.50	256475.50	261672.75

*EXPECTED REVENUE BASED UPON ONE YEAR LAG FOR REIMBURSEMENT OF EXPENSES

Page 2A ALTERNATIVE CASE TRANSPORTATION AID FORECAST

Base case transportation costs for the CY and Y1-Y5 are input, as are the Y1-Y5 transportation aid reimbursement percent. Y1-Y5 alternative case transportation costs are input.

Y1-Y5 Total Transportation Costs is the sum of Y1-Y5 base case transportation costs plus Y1-Y5 alternative case transportation costs.

Y1-Y5 Expected Transportation Aid is the product of Y1-Y5 Total Transportation Costs times Y1-Y5 Reimbursement Percent.

This report is printed only if there is a current expense transportation project in the alternative case run.

	CY	Y1	Y2	Y3	Y4	Y5
TOTAL TRANSPORTATION COSTS	270433.00	310166.00	323154.00	327634.00	330307.00	443807.00
REIMBURSEMENT PERCENTAGE		75.00	75.00	75.00	75.00	75.00
EXPECTED TRANSPORTATION AID *		202924.75	239374.50	242362.50	245731.50	332757.75

*EXPECTED REVENUE BASED UPON ONE YEAR LAG FOR REIMBURSEMENT OF EXPENSES

Page 3 BASE CASE ATYPICAL PUPIL AID FORECAST

Total Special Education Program costs for the CY-1, CY, and Y1-Y5 are input, as are the Y1-Y5 reimbursement percents. Expected Atypical Pupil Aid is the product of Total Special Education Program costs times the Reimbursement Percent for Special Education.

If the computer run is for an alternative case, the Atypical Pupil Aid Forecast Report is printed only if the Alternative case included a current expense Special Education project. Otherwise, the Base Case Atypical Pupil Aid Forecast is applicable.

TRENTON SCHOOL DISTRICT — BASE CASE — REPORT NO. TSBREV-1222
REVENUE FORECAST — RUN DATE: OCT.13, 1971 — PAGE 3
ATYPICAL PUPIL AID

	Y1	Y2	Y3	Y4	Y5
TOTAL SPECIAL EDUCATION PROGRAM COSTS	1384194.00	1230062.00	1573424.00	1724543.00	1879475.00
REIMBURSEMENT PERCENTAGE	50.00	50.00	50.00	50.00	50.00
EXPECTED ATYPICAL PUPIL AID*	415333.00	511367.00	542192.00	518031.00	781713.00

*EXPECTED ATYPICAL PUPIL AID IN Y1-Y5
CORRESPOND TO PROGRAM COSTS IN CY-1,CY,Y1-Y3.

Page 3A ALTERNATIVE CASE ATYPICAL PUPIL AID FORECAST

Base case special education program costs for the CY-1, CY, and Y1-Y5, are input as are the Y1-Y5 special education reimbursement percents. Y1-Y5 alternative case special education costs are input.

Y1-Y5 Total Special Education Program Costs equal Y1-Y5 base case special education costs plus Y1-Y5 alternative case special education costs.

Y1-Y5 Expected Atypical Pupil Aid is the product of C.-1 to Y3 Total Special Education Program Costs times the Y1-Y5 reimbursement percent.

This report is printed only if there is a current expense special education project in the alternative case.

	Y1	Y2	Y3	Y4	Y5
TOTAL SPECIAL EDUCATION PROGRAM COSTS	1084184.00	1251062.00	1589624.00	1741063.00	1862578.00
REIMBURSEMENT PERCENTAGE	50.00	50.00	50.00	50.00	50.00
EXPECTED ATYPICAL PUPIL AID	410330.00	511367.00	542092.00	626531.00	764417.00

EXPECTED ATYPICAL PUPIL AID IN Y1-Y5
CORRESPOND TO PROGRAM COSTS IN CY-1,CY,Y1-Y3.

Page 4 FORMULA AID CALCULATION-STATE SUBSIDY FORECAST

Y1-Y5 Resident Enrollment and Y1-Y5 Foundation Rate per resident pupil are input. Y1-Y5 Foundation Program is the product of Resident Enrollment times the Foundation Rate. Equalized or market value of property for State Aid calculations is the sum of district real property market value (see Real Estate Tax Revenue Forecast) plus market value of Class II Railroad Property. The Y1-Y5 millage rate is input. The Local Fair Share is the product of the Equalized Value of Property and the Millage Rate. Equalized Aid is calculated as the difference between the Foundation Program and the Local Fair Share. The Policy Rate per Pupil for Minimum Aid is entered. The Minimum Aid is calculated as the product of Resident Enrollment times the Minimum Aid Rate. Formula Aid is determined as the higher of Equalized Aid or Minimum Aid. The Policy Rate per pupil for CH301 is input. CH301 aid is calculated as the product of Resident Enrollment times the CH301 Policy Rate. Total Present Aid is calculated as the sum of Formula Aid plus CH301 Aid.

TRENTON SCHOOL DISTRICT — BASE CASE — REPORT NO. TSDFEV-1003
REVENUE FORECAST — RUN DATE:OCT.10, 1971 — PAGE 4
FORMULA AID CALCULATION-STATE SUBSIDY

	Y1	Y2	Y3	Y4	Y5
1. RESIDENT ENROLLMENT(RE)	16557	18091	18446	18697	18541
2. FOUNDATION RATE PER PUPIL	400.00	400.00	400.00	400.00	400.00
3. FOUNDATION PROGRAM(ITEM 1 X ITEM 2)	6622800.00	7236400.00	7378400.00	7478800.00	7416400.00
4. EQUALIZED VALUE OF REAL PROPERTY	367599104.00	359688704.00	360749056.00	361582224.00	362544640.00
5. MILLAGE RATE	0.01050	0.01050	0.01050	0.01050	0.01050
6. LOCAL FAIR SHARE(ITEM 4 X ITEM 5)	3859780.00	3776731.00	3787864.00	3796703.00	3806772.00
7. EQUALIZED AID(ITEM3-ITEM6)	2763019.00	3423669.00	3590536.00	3681117.00	3609669.00
8. POLICY RATE/PUPIL FOR MINIMUM AID	75.00	75.00	75.00	75.00	75.00
9. MINIMUM AID(ITEM 1 X ITEM 8)	1241775.00	1356675.00	1383450.00	1402275.00	1390575.00
10. FORMULA AID(HIGHER OF ITEM 7 OR 9)	2763019.00	3423669.00	3590536.00	3681117.00	3609669.00
11. POLICY RATE/PUPIL FOR CH. 301, L.1968	25.00	25.00	25.00	25.00	25.00
12. ITEM 1 X ITEM 11	413925.00	452275.00	461150.00	467425.00	463525.00
13. TOTAL PRESENT AID(ITEM 10 + ITEM 12)	3176935.00	3875944.00	4051686.00	4148542.00	4073194.00

Page 5 TOTAL REVENUE, ALL LOCAL SOURCES FORECAST

Total Real Estate Tax at CY Rates was previously calculated. A set of Y1-Y5 estimates of revenue items from local sources is input. Each line represents a single revenue item from a local source for which Y1-Y5 revenues have been estimated. The Total, Other Local Sources is calculated as the sum of the individual revenue items. Total Revenue, All Local Sources is calculated as the sum of Total Real Estate Tax and Total, Other Local Sources.

TRENTON SCHOOL DISTRICT BASE CASE REPORT NO. TSDREV-1204
REVENUE FORECAST RUN DATE:OCT.10, 1971 PAGE 5
TOTAL REVENUE, ALL LOCAL SOURCES

	Y1	Y2	Y3	Y4	Y5
TOTAL REAL ESTATE TAX	9149137.00	9176815.00	9201283.00	9223685.00	9246326.00
OTHER LOCAL SOURCES					
TUITION-OTHER PAYMTS	65000.00	70000.00	70000.00	75000.00	80000.00
SURPLUS APPROPRIATED	0.0	0.0	0.0	0.0	0.0
INTEREST ON DEPOSITS	5302.00	4600.00	5000.00	5000.00	5000.00
REAL ESTATE SALES	500.00	5000.00	1000.00	0.0	0.0
EQUIPMENT SALES	1000.00	2000.00	1000.00	0.0	0.0
SALE OF SUPPLIES/MAT	1000.00	2000.00	0.0	0.0	0.0
RENTALS	12000.00	12000.00	12000.00	12000.00	12000.00
MISCELLANEOUS RECEIPT	3000.00	16000.00	10000.00	8000.00	6000.00
TOTAL, OTHER LOCAL SOURCES	118302.00	114600.00	99100.00	98000.00	91000.00
TOTAL REVENUE, ALL LOCAL SOURCES	9267529.00	9291715.00	9300483.00	9321985.00	9344326.00

 BASE CASE FEDERAL REVENUE FORECAST

A set of Y1-Y5 estimates of current expense revenue items from federal sources is input. Each line specifies a particular current expense federal source for which revenues have been estimated. The Y1-Y5 Total Current Expense Funds is calculated as the sum of the Y1-Y5 revenue estimates over the individual current expense revenue items.

A set of Y1-Y5 estimates of categorical revenue items from federal sources is input. Each line specifies a particular categorical federal source for which revenues have beer estimated. Total Categorical Funds is calculated as the sum of the Y1-Y5 revenue estimates over the individual categorical revenue items.

Total Revenue All Federal Sources is calculated as the sum of Y1-Y5 Total Current Expense Funds plus Y1-Y5 Total Categorical Funds.

TRENTON SCHOOL DISTRICT — BASE CASE — REPORT NO. TSDFV-1005
REVENUE FORECAST — RUN DATE: OCT. 10, 1971 — PAGE 6

TOTAL REVENUE ALL FEDERAL SOURCES

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE SOURCES					
VOCATIONAL DAY AID	50000.00	50000.00	50000.00	50000.00	50000.00
P.L.874	0.0	0.0	0.0	0.0	0.0
OTHER FEDERAL CE AID	0.0	0.0	0.0	0.0	0.0
TOTAL, CURRENT EXPENSE FUNDS	50000.00	50000.00	50000.00	50000.00	50000.00
CATEGORICAL FUNDS					
ESEA TITLE I PROJS	1090178.00	1210368.00	1375458.00	1375000.00	1500000.00
ESEA TITLE III	212000.00	150000.00	100000.00	50000.00	0.0
MDTA	100000.00	150000.00	187500.00	200000.00	200000.00
MODEL CITIES	300000.00	500000.00	750000.00	800000.00	1500000.00
TOTAL CATEGORICAL FUNDS	1702178.00	2010368.00	2413458.00	2425000.00	2700000.00
TOTAL REVENUE, ALL FEDERAL SOURCES	1752178.00	2060368.00	2463458.00	2475000.00	2750000.00

Page 6A ALTERNATIVE CASE FEDERAL REVENUE FORECAST

A set of Y1-Y5 estimates of current expense and categorical expense revenue items are input, as in the Base Case Federal Revenue Forecast. However, this report includes estimates of expected revenues from federal sources that are associated with the particular alternative case. Notice that this report includes an additional revenue item, PROJECT BUILD, that is anticipated with Alternative Case 3 (see the title line for the alternative case title).

Y1-Y5 total revenues for current expense, categorical expense and all federal sources are calculated.

TRENTON SCHOOL DISTRICT — ALTERNATIVE CASE NUMBER 3 — REPORT NO. TSDREV-1004
REVENUE FORECAST — RUN DATE:OCT.10, 1971 — PAGE 5
TOTAL REVENUE ALL FEDERAL SOURCES

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE SOURCES					
VOCATIONAL DAY AID	50000.00	50000.00	50000.00	50000.00	50000.00
P.L.874	0.0	0.0	0.0	0.0	0.0
OTHER FEDERAL CE AID	0.0	0.0	0.0	0.0	0.0
TOTAL, CURRENT EXPENSE FUNDS	50000.00	50000.00	50000.00	50000.00	50000.00
CATEGORICAL FUNDS					
ESEA TITLE I PROJS	1090178.00	1212368.00	1375658.00	1375000.00	1200000.00
ESEA TITLE III	212000.00	150000.00	100300.00	50000.00	0.0
MDTA	100000.00	150000.00	137500.00	200000.00	200000.00
MODEL CITIES	300000.00	500000.00	750000.00	800000.00	1500000.00
PROJECT BUILD	500000.00	500000.00	500000.00	0.0	0.0
TOTAL CATEGORICAL FUNDS	2202178.00	2510368.00	2913458.00	2425000.00	2700000.00
TOTAL REVENUE, ALL FEDERAL SOURCES	2252178.00	2560368.00	2963458.00	2475000.00	2750000.00

Page 7 ENROLLMENT DATA USED AS INPUT TO FORMULA AND INCENTIVE-EQUALIZATION CALCULATIONS

The Y1-Y5 Enrollment Forecast by Enrollment Type is input. The Y1-Y5 Total Enrollment and the Student Weights by Student Weight Category are input. The Y1-Y5 Weighted Enrollment by Enrollment Type is calculated as the product of Y1-Y5 Enrollment Forecast by Enrollment Type times the corresponding Student Weight by Student Weight Category. Y1-Y5 Total Weighted Enrollment is calculated as the sum of the individual Y1-Y5 Weighted Enrollments by Enrollment Type.

TRENTON SCHOOL DISTRICT — REVENUE FORECAST — BASE CASE — RUN DATE: OCT.10, 1971 — REPORT NO. TSDSFV-1006 — PAGE 7

ENROLLMENT DATA USED AS INPUT TO FORMULA AND INCENTIVE-EQUALIZATION CALCULATIONS

ENROLLMENT FORECAST BY ENROLLMENT TYPE BY YEAR

ENROLLMENT TYPE	Y1	Y2	Y3	Y4	Y5
KINDERGARTEN	1401	1440	1464	1438	[illegible]
GRADES 1 TO 6	8474	8930	9182	9337	[illegible]
GRADES 7 TO 9	3690	3899	3987	4044	[illegible]
GRADES 10 TO 12	1910	2530	2565	2554	[illegible]
VOCATIONAL DAY	245	250	258	263	[illegible]
SHARED TIME A.V.T.S.	77	77	[illegible]	[illegible]	[illegible]
SPECIAL CLASSES	663	660	662	[illegible]	[illegible]
[illegible]	200	225	250	275	300
TOTAL ENROLLMENT	16557	18001	18446	[illegible]	[illegible]

WEIGHTED ENROLLMENT BY ENROLLMENT TYPE BY YEAR

	Y1	Y2	Y3	Y4	Y5
KINDERGARTEN	1051.75	1080.00	1098.00	[illegible]	[illegible]
GRADES 1 TO 6	8474.00	8930.00	9182.00	[illegible]	[illegible]
GRADES 7 TO 9	4612.50	4861.25	4983.75	[illegible]	[illegible]
GRADES 10 TO 12	2357.50	3289.00	3334.50	[illegible]	[illegible]
VOCATIONAL DAY	490.00	500.00	516.00	[illegible]	[illegible]
SHARED TIME A.V.T.S.	150.10	150.10	164.00	[illegible]	[illegible]
SPECIAL CLASSES	660.00	660.00	662.00	[illegible]	[illegible]
[illegible]	150.00	168.75	187.50	[illegible]	[illegible]
TOTAL ENROLLMENT	17890.34	19560.09	20065.74	[illegible]	[illegible]

The Y1-Y5 Total Weighted Enrollment was previously calculated. The Minimum Support Rate per Weighted Pupil based upon the district Classification assumption is input. Minimum Support is calculated as the product of Y1-Y5 Total Weighted Enrollment times the Minimum Support Rate Per Weighted Pupil. Y1-Y5 Local Funds (except real estate tax revenues) and Y1-Y5 Current Expense Revenue from Federal sources were previously entered (calculated). Y1-Y5 State Funds is calculated as the sum of Y1-Y5 Transportation Aid plus Y1-Y5 Atypical Pupil Aid plus Y1-Y5 Total of Estimated Current Expense Revenues from State sources (all of the latter three items were previously calculated or inputted). Total Expected Revenue (Current Expense Sources) is calculated as the sum of Minimum Support plus Local Funds plus Federal Funds plus State Funds.

The Y1-Y5 Current Expense Budget is input. The Net operating Budget is calculated as the difference between the Current Expense Budget and Total Expected Revenue (Current Expense Sources). The Y1-Y5 Total Weighted Resident Enrollment was previously calculated. The Y1-Y5 Guaranteed Valuation per Weighted Pupil based upon the district's Classification assumption is input. The Y1-Y5 Guaranteed Valuation is calculated as the product of the Y1-Y5 Total Weighted Resident Enrollment

times the Y1-Y5 Guaranteed Valuation per Weighted Pupil. The District's Equalized Tax Rate (Percent) is calculated as the quotient resulting from the Y1-Y5 Net Operating Budget divided by the Y1-Y5 Guaranteed Valuation.

This report is not printed if the IBFLAG=1, i.e. only Present Aid is calculated.

TRENTON SCHOOL DISTRICT   BASE CASE   REPORT NO. TS [illegible]
REVENUE FORECAST   RUN DATE: OCT. 1[illegible], 1971   PAGE [illegible]
EQUALIZED SCHOOL TAX RATE - STATE INCENTIVE-EQUALIZATION AID

	Y1	Y2	Y3	Y4	Y5
1. WEIGHTED ENROLLMENT	17890.34	19589.00	20765.74	20241.14	[illegible]
2. POLICY RATE PER WEIGHTED PUPIL	110.00	110.00	110.00	110.00	110.00
EXPECTED REVENUE(CURRENT EXPENSE SOURCES):					
MINIMUM SUPPORT(ITEM 1 X ITEM 2)	1967937.00	2154800.00	22[illegible]7231.00	22[illegible]	[illegible]
LOCAL FUNDS(EXCEPT LOCAL TAX REVENUES)	118392.00	114500.00	[illegible]	[illegible]	[illegible]
FEDERAL FUNDS	[illegible].00	50000.00	50000.00	[illegible].00	[illegible]
STATE FUNDS	[illegible]1.75	989342.[illegible]	[illegible]	11367[illegible]	[illegible]
3. TOTAL	[illegible]	3302642.77	[illegible]	[illegible]	[illegible]
TAX RATE COMPUTATION:					
4. CURRENT EXPENSE BUDGET	152[illegible]	16547[illegible]	[illegible]	[illegible]	[illegible]
5. NET OPERATING BUDGET(ITEM4-ITEM3)	122[illegible]	13239347.00	14037277.[illegible]	[illegible]	[illegible]
6. GUARANTEED VALUATION	53571[illegible]144.[illegible]	587672576.[illegible]	6[illegible]972224.[illegible]	[illegible]	[illegible]
7. DISTRICT'S EQUALIZED TAX RATE-PCT(5/6)	2.29	2.25	2.44	2.5[illegible]	2.[illegible]

Y1-Y5 Guaranteed Valuation, the product of Y1-Y5 Total Weighted Enrollment times Y1-Y5 Guaranteed Valuation per Weighted Pupil, was calculated previously, as was Y1-Y5 Equalized Valuation. The Excess of Guaranteed Valuation over Equalized Valuation is calculated as the difference between Y1-Y5 Guaranteed Valuation and Y1-Y5 Equalized Valuation. The Y1-Y5 District Equalized Tax Rate was previously calculated. Y1-Y5 Incentive-Equalization Support is calculated as the product of the Y1-Y5 Excess of Guaranteed Valuation over Equalized Valuation times the Y1-Y5 District Equalized Tax Rate. Y1-Y5 Minimum State Support Aid was previously calculated.

The Y1-Y5 Total State Support was computed as the sum of Y1-Y5 Incentive-Equalization Support plus Y1-Y5 Minimum State Support Aid Y1-Y5 Total Present Aid was previously calculated. The Y1-Y5 State Support Increase is calculated as the difference between Y1-Y5 Total State Support and Y1-Y5 Total Present Aid. The Y1-Y5 State Policy Payment Percent is input. The proportion of the Y1-Y5 State Support Increase to be paid (Y1-Y5 Payable State Support Increase) is the product of Y1-Y5 State Support Increase times Y1-Y5 State Policy Payment Percent. The Y1-Y5 State Aid Payable is the sum of Y1-Y5 Total Present Aid plus Y1-Y5 Payable State Support Increase, if Y1-Y5 Guaranteed Valuation exceeds Y1-Y5 Equalized Valuation, or Y1-Y5 Total

Present Aid, if Y1-Y5 Equalized Valuation exceeds Y1-Y5 Guaranteed Valuation.

This report is not printed if the IBFLAG=1, i.e. only Present Aid is calculated.

TRENTON SCHOOL DISTRICT
REVENUE FORECAST
STATE INCENTIVE-EQUALIZATION AID

BASE CASE
RUN DATE:OCT.10, 1971

REPORT NO. TSREV-1008
PAGE 6

	Y1	Y2	Y3	Y4	Y5
1. WEIGHTED ENROLLMENT	17890.34	19589.09	20065.74	20241.14	20142.69
2. VALUATION/PUPIL ASSUMPTION	30000.00	30000.00	30000.00	30000.00	30000.00
3. GUARANTEED VALUATION(ITEM1 X ITEM2)	536710144.00	587672576.00	601972224.00	610234112.00	[illegible]
4. EQUALIZED VALUATION	367599104.00	359689704.00	360749056.00	361644224.00	[illegible]
5. EXCESS OF GV OVER EV(ITEM3 - ITEM4)	169111040.00	227983872.00	241223168.00	248549888.00	242934016.00
6. EQUALIZED TAX RATE	2.29	2.25	2.45	2.50	2.55
7. INCENTIVE-EQUALIZATION SUPPORT(6X5)	3874404.00	5135739.00	5945612.00	6210226.00	[illegible]
8. MINIMUM STATE SUPPORT AID	1467937.00	2154300.00	2207221.00	2237625.00	[illegible]
9. TOTAL STATE SUPPORT(ITEM7 + ITEM8)	5342341.00	7290539.00	8152843.00	8447851.00	[illegible]
10.TOTAL PRESENT AID(REPORT REV1003)	3176935.00	3873694.00	4051686.00	4148642.00	4373146.00
11.STATE SUPPORT INCREASE(ITEM9 - ITEM10)	2665406.00	3416845.00	4101157.00	[illegible]	[illegible]
12.STATE POLICY PAYMENT PERCENT	40.00	40.00	40.00	40.00	40.00
13.PAYABLE STATE SUPPORT INCREASE(11X12)	1066162.00	1366737.00	1640462.00	1719723.00	1733159.00
14.STATE AID PAYABLE*	4243097.00	5240431.00	5692148.00	5868365.00	[illegible]

*EQUALS ITEM 10 + ITEM 13 IF ITEM 5 IS POSITIVE
OR ITEM 10 IF ITEM 5 IS NOT POSITIVE

 BASE CASE STATE REVENUE FORECAST

A set of Y1-Y5 estimates of current expense revenue items from State sources is input. Each line identifies a particular State current expense source for which Y1-Y5 revenues have been estimated. The Y1-Y5 Total Current Expense Funds is calculated as the summation over all the current expense revenue items of the Y1-Y5 revenue estimates.

A set of Y1-Y5 estimates of categorical revenue items from State sources is input. Each line identifies a particular State categorical source for which Y1-Y5 revenues have been estimated. The Y1-Y5 Total Categorical Funds is calculated as the summation over all categorical revenue items of the Y1-Y5 categorical revenue estimates.

The Y1-Y5 Total Revenue for All State Sources is the sum of Y1-Y5 Total Current Expense Funds plus Y1-Y5 Total Categorical Funds.

TRENTON SCHOOL DISTRICT — BASE CASE — REPORT NO. TSDREV-1000
REVENUE FORECAST — RUN DATE:OCT.10, 1971 — PAGE 10
TOTAL REVENUE, ALL STATE SOURCES

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE SOURCES					
STATE AID PAYABLE(REPORT REV-1003)	4243097.00	5240431.00	5692148.00	5969265.00	6201345.00
TRANSPORTATION AID	202824.75	239374.50	242365.50	245725.50	247747.75
ATYPICAL PUPIL AID	410330.00	511367.00	542092.00	619931.00	786713.00
FOREIGN BORN	5000.00	5000.00	5000.00	5000.00	5000.00
VOCATIONAL DAY SCH	50000.00	50000.00	50000.00	50000.00	50000.00
ADULT EDUCATION	12000.00	12000.00	12000.00	12000.00	12000.00
LAW ENFORCEMENT AID	84000.00	85000.00	85000.00	85000.00	85000.00
BUILDING AID	27937.00	86601.00	114611.00	123050.00	125030.00
TOTAL, CURRENT EXPENSE FUNDS	5035188.00	6229773.00	6743216.00	7096021.00	7127854.00
CATEGORICAL FUNDS					
OEO PROJECTS	5000.00	10000.00	15000.00	20000.00	20000.00
MODEL CITIES PROJS	15000.00	15000.00	20000.00	20000.00	20000.00
TOTAL CATEGORICAL FUNDS	20000.00	25000.00	35000.00	40000.00	40000.00
TOTAL REVENUE, ALL STATE SOURCES	5115188.00	6254773.00	6778216.00	7044021.00	7167854.00

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Page 10A ALTERNATIVE CASE STATE REVENUE FORECAST

A set of Y1-Y5 estimates of current expense and categorical expense revenue items are input, as in the Base Case State Revenue Forecast. However, this report includes estimates of expected revenues from State sources that are associated with the particular alternative case. Notice that this report includes an additional revenue item, PROJECT BUILD, that is anticipated with Alternative Case 3 (see the title line for the alternative case title).

Y1-Y5 total revenues for current expense, categorical expense, and all State sources are calculated.

TRENTON SCHOOL DISTRICT — ALTERNATIVE CASE NUMBER 3 — REPORT NO. TSD4FV-1008
REVENUE FORECAST — RUN DATE:OCT.10, 1971 — PAGE 9
TOTAL REVENUE, ALL STATE SOURCES

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE SOURCES					
STATE AID PAYABLE(REPORT REV-1008)	4244988.00	5242946.00	5694954.00	5870121.00	5868319.00
TRANSPORTATION AID	202824.75	239374.50	242365.50	245725.50	247797.75
ATYPICAL PUPIL AID	410330.00	511367.00	542092.00	625531.00	704812.00
FOREIGN BORN	5000.00	5000.00	5000.00	5000.00	5000.00
VOCATIONAL DAY SCH	50000.00	50000.00	50000.00	50000.00	50000.00
ADULT EDUCATION	12000.00	12000.00	12000.00	12000.00	12000.00
LAW ENFORCEMENT AID	84000.00	85000.00	85000.00	85000.00	85000.00
BUILDING AID	87937.00	86601.00	114611.00	120000.00	135000.00
TOTAL, CURRENT EXPENSE FUNDS	5097079.00	6232288.00	6746022.00	7013377.00	7137928.00
CATEGORICAL FUNDS					
OEO PROJECTS	5000.00	10000.00	15000.00	20000.00	20000.00
MODEL CITIES PROJS	15000.00	15000.00	20000.00	20000.00	20000.00
PROJECT BUILD-GRANT	50000.00	50000.00	50000.00	50000.00	50000.00
TOTAL CATEGORICAL FUNDS	70000.00	75000.00	85000.00	90000.00	90000.00
TOTAL REVENUE, ALL STATE SOURCES	5167079.00	6307288.00	6831022.00	7103377.00	7227928.00

TOTAL REVENUE FORECAST (SUMMARY)

The Y1-Y5 current expense revenue from local, Federal, and State sources were previously calculated. The Y1-Y5 Total Expected Revenue (Current Expense Sources) is the sum of Y1-Y5 Total Revenue, All Local Sources plus Y1-Y5 Total Current Expense Funds from Federal Sources plus Y1-Y5 Total Current Expense Funds from State Sources.

The Y1-Y5 categorical revenues from Federal and State sources were previously calculated. The Y1-Y5 Total Expected Revenues (Non-Current Expense Sources) is the sum of Y1-Y5 Total Categorical Funds from State Sources plus Y1-Y5 Total Categorical Funds from Federal Sources.

The Y1-Y5 Total Expected Revenues, All Sources, is calculated as the sum of the Y1-Y5 Total Expected Revenues from Current Expense Sources plus Y1-Y5 Total Expected Revenues from Non-Current Expense Sources.

TRENTON SCHOOL DISTRICT — BASE CASE — REPORT NO. TSDFV-1010
REVENUE FORECAST — RUN DATE:OCT.13, 1971 — PAGE 11
TOTAL REVENUE

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE SOURCES					
TOTAL EXPECTED REVENUES	14412717.00	15571088.00	16093499.00	16375996.00	14622193.00
NON-CURRENT EXPENSE SOURCES					
TOTAL EXPECTED REVENUES	1722178.00	2035360.00	2448458.00	2964890.00	3740039.00
TOTAL EXPECTED REVENUE, ALL SOURCES	16134895.00	17606448.00	18541952.00	19340886.00	18362232.00

REVENUE FEASIBILITY FOR CURRENT EXPENSE PROGRAM

The Y1-Y5 Total Revenue (Current Expense) at CY Real Estate Tax Rate was calculated previously. The Y1-Y5 Total Cost and the CY Actual Surplus (from prior year) are input. The Y1-Y5 Total Cost is subtracted from the Y1-Y5 Total Revenue at CY Real Estate Tax Rate to obtain the Surplus and Deficits at CY Tax Rate.

The CY Real Estate Tax Rate was input. The product of the Y1-Y5 Collection Percent times Y1-Y5 Revenue per Mill equals Y1-Y5 Collected Revenue per Mill. The Y1-Y5 Real Estate Tax Rate (in mills) necessary to cover any annual deficit is calculated. The Revenue Feasibility Option flag determines the method used to calculate the tax rate.

Under Option 1 (default option), the Y1-Y5 Real Estate Tax Rate equals Y1-Y5 Deficit divided by Y1-Y5 Collected Revenue per Mill. The Y1-Y5 Deficit equals Y1-Y5 Total Current Expense Costs minus the sum of Y1-Y5 Total Current Expense Revenues (excluding Real Estate Tax Revenues) plus actual CY Surplus. Any Y1-Y5 surpluses are not carried forward.

Under Option 2, the Y1-Y5 Real Estate Tax Rate equals the previous year's Real Estate Tax Rate, if there is no deficit, or the CY Real Estate Tax Rate plus the Y1-Y5 Deficit divided

by the Y1-Y5 Collected Revenue Per Mill. The Y1-Y5 Real Estate Tax Rate always equals the CY Real Estate Tax Rate or greater, and Y1-Y5 Surpluses are added to succeeding year revenues.

Under Option 3, the Y1-Y5 Real Estate Tax Rate is calculated in the same way as under Option 1, however, Y1-Y5 Surpluses are added to succeeding year revenues when computing Y1-Y5 Total Current Expense Revenues.

Total Revenue at Y1-Y5 Real Estate Tax Rates is obtained by first calculating the product of the Y1-Y5 Real Estate Tax Rate times the Y1-Y5 Collected Revenues Per Mill and adding the result to Y1-Y5 Total Current Expense Revenues. Y1-Y5 Total Costs were input previously. Surplus at Y1-Y5 Tax Rates equals Y1-Y5 Total Cost minus Total Revenue at Y1-Y5 Tax Rates. If the absolute difference is less than 100, the Surplus at Y1-Y5 Tax Rates is set equal to zero.

Y1-Y5 Revenue Per Mill was calculated previously and the Y1-Y5 Collection Percent was input (see the Real Estate Tax Revenue Forecast Report).

TRENTON SCHOOL DISTRICT
REVENUE FEASIBILITY

BASE CASE
RUN DATE: OCT.1?, 1971

REPORT NO. TS[illegible]Y-1[illegible]
PAGE 12

CURRENT EXPENSE REVENUE AND COSTS

	Y1	Y2	Y3	Y4	Y5
TOTAL REVENUE AT CY REAL ESTATE TAX	14412717.00	15571688.00	16093409.00	[illegible]	[illegible]
SURPLUS FROM PRIOR YEAR	0.0	0.0	0.0	0.0	0.0
TOTAL COST	15284680.00	16547009.00	18244576.00	[illegible]	[illegible]
SURPLUS(+), DEFICIT(-) AT CY TAX RATE	-871963.00	-975921.00	-2151077.00	[illegible]	[illegible]

REVENUE FEASIBILITY OPTION 1

	CY	Y1	Y2	Y3	Y4	Y5
REAL ESTATE TAX RATE(MILLS)	64.90	6[illegible].13	6[illegible].74	67.73	[illegible]	[illegible]
YEAR TO YEAR CHANGE		[illegible].23	[illegible].61	7.[illegible]	[illegible]	1.12

	Y1	Y2	Y3	Y4	Y5
TOTAL REVENUE AT Y1-Y5 TAX RATES	15284678.00	[illegible]	[illegible]	[illegible]	[illegible]
SURPLUS FROM PRIOR YEAR	0.0	0.0	0.0	[illegible]	[illegible]
TOTAL COST	15284680.00	16547009.00	18244576.00	[illegible]	[illegible]
SURPLUS AT Y1-Y5 TAX RATES	0.0	0.0	[illegible]	[illegible]	[illegible]

SUBSIDIARY DATA

	Y1	Y2	Y3	Y4	Y5
REVENUE PER MILL	181142.38	181690.3[illegible]	182174.[illegible]	[illegible]	[illegible]
COLLECTION PERCENT	92.00	92.[illegible]	[illegible]	[illegible]	[illegible]
COLLECTED REVENUE PER MILL	166650.94	167155.13	167[illegible].91	[illegible]	[illegible]

 REVENUE FEASIBILITY FOR NON-CURRENT EXPENSE PROGRAM

The Y1-Y5 Total Non-Current Expense (Categorical) Costs were previously input. The Y1-Y5 Total Non-Current Expense Revenues were calculated as shown in the Total Revenue Forecast Report.

The Y1-Y5 Surplus or Deficit is calculated by subtracting Y1-Y5 Total Non-Current Expense Costs from Y1-Y5 Total Expected Non-Current Expense Revenues.

TRENTON SCHOOL DISTRICT — BASE CASE
REVENUE FEASIBILITY — RUN DATE: OCT. 19, 1971 — [illegible] TS REV-1.12

	Y1	Y2	Y3	Y4	Y5
TOTAL CATEGORICAL COSTS	1722178.00	2035368.00	2448458.00	[illegible]	[illegible]
TOTAL EXPECTED CATEGORICAL REVENUES	1722178.00	2035368.00	2448458.00	[illegible]	[illegible]
SURPLUS(+), DEFICIT(-)	0.0	0.0	0.0	0.0	0.0

Page 14 SUMMARY OF Y1-Y5 EXPECTED CURRENT EXPENSE REVENUE BY FUNDING SOURCE AND AS PERCENTAGE OF ANNUAL OPERATING EXPENSES

Y1-Y5 Current Expense Revenues from the Real Estate Tax, Other Local Sources, State Sources, and Federal Sources were previously calculated or input. Y1-Y5 Total Current Expense Costs were previously input.

Y1-Y5 revenues by funding sources as a percentage of the annual operating budget for years Y1-Y5 equals Y1-Y5 revenues by source by year divided by Y1-Y5 Total Current Expense Costs by year.

TRENTON SCHOOL DISTRICT BASE CASE REPORT NO. TSDREV-1013
REVENUE FEASIBILITY RUN DATE:OCT.10, 1971 PAGE 14
SUMMARY OF Y1-Y5 EXPECTED CURRENT EXPENSE REVENUE BY FUNDING SOURCE
AND AS A PERCENTAGE OF ANNUAL OPERATING EXPENSES

	Y1	Y2	Y3	Y4	Y5
CURRENT EXPENSE REVENUES					
R.E. TAX REVENUES(Y1-Y5 RATES)	10321098.00	10152735.00	11362350.00	11416714.00	11[illegible]
OTHER LOCAL REVENUES	119392.00	114500.00	[illegible]	[illegible]	[illegible]
STATE AID	5395188.00	6228772.00	6743216.00	[illegible]	[illegible]
FEDERAL AID	50000.00	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL CURRENT EXPENSE REVENUES	15784678.00	16547008.00	18244659.00	[illegible]	[illegible]
TOTAL COSTS	15784678.00	[illegible]	18244675.00	[illegible]	[illegible]
ANNUAL REVENUES AS A PERCENT OF OPERATING COSTS					
R.E. TAX REVENUES(Y1-Y5 RATES)	65.66	61.36	62.29	61.[illegible]	[illegible]
OTHER LOCAL REVENUES	.77	.69	.64	[illegible]	[illegible]
STATE AID	33.34	37.65	36.96	[illegible]	[illegible]
FEDERAL AID	.32	[illegible]	.27	[illegible]	[illegible]

III.4-301

OVERALL ORDER OF CARD DECK FOR TAPS

Exhibit III.4-vii OVERALL ORDER OF REVSIM CARD DECK FOR BASE CASE RUN

```
**************************************************************************
                    JOB CONTROL LANGUAGE(JCL)
**************************************************************************
// JOB etc.
// EXEC FORTGOG
//GO.SOURCE DD *

                    INSERT REVSIM PROGRAM DECK

/*

//GO.SYSIN DD *
**************************************************************************
                    SET OF BASE CASE INPUT CARDS
**************************************************************************

[illegible]  19716 0 5 0 0 0 0 5 0
[illegible]
02GRADES 1 TO 6
02GRADES 7 TO 9
02GRADES 10 TO 12
02VOCATIONAL DAY
02SHARED TIME A.V.T.S.
02SPECIAL CLASSES
02[illegible]
02TOTAL ENROLLMENT
03BASE CASE
03ALTERNATIVE CASE NUMBER
03    REVENUE FORECAST
03    REVENUE FEASIBILITY
04CY   Y1   Y2   Y3   Y4   Y5
05TRENTON SCHOOL DISTRICT
06  .750 1.000 1.250 1.300 2.000 1.300 1.000  .750
07[illegible]TV344464850.35657960[illegible].35[illegible]9420.353612000.359492800.26232[illegible]10.
08[illegible]SSR .508 .508 .503 .508 .508 .508
09[illegible]X 54.90  0.0   0.0   0.0   0.0   0.0
10[illegible]L 92.00 92.00 92.00 92.00 92.00 92.00
11[illegible]TRAN   270433.   319166.   323154.   327634.   332397.   463597.
12TRR 75.00 75.00 75.00 75.00 75.00
13[illegible]SPEN  820660. 1[illegible]22734. 1084184. 1.[illegible]6262. 1573424. 1723563. 1873678.
14SPE 50.00 50.00 50.00 50.00 50.00
15[illegible]ERR   3134551.   3119201.   3690840.   3072360.   3053919.   3035459.
16[illegible]KIND      1401.   1440.   1464.   1445.   1494.
16[illegible]GR1-6     5474.   9430.   9182.   9337.   9238.
16[illegible]7-9       3450.   3383.   3987.   4046.   3000.
16[illegible]GR10-12   1810.   2530.   2565.   2583.   2529.
16[illegible]VOCED      245.    250.    250.    263.    280.
```

```
1606AVYS        77.     77.     9C.    .8C.     80.
1607SPCL       66C.    660.    66C.    66C.    66C.
1608AFCC       200.    225.    250.    275.    300.
1609TOTAL  16557. 17CC1. 18446. 18697. 19541.
17ENR 400.00 400.00 400.00 400.00 400.00
19MILGP .01050 .01050 .01050 .01050 .01050
19YIN   75.00   75.00   75.00   75.00   75.00
2C3O1   25.00   25.00   25.00   25.00   25.00
2100RTUITION-OTHER PAYMTS       65000.    70000.    70000.    75000.    80000.
2100RSURPLUS APPROPRIATED          C.        0.        C.        0.        C.
2100RINTEREST ON DEPOSITS        5392.     4500.     5000.     5000.     5000.
2100REAL ESTATE SALES            5000.     5000.     1000.        C.        C.
2100REQUIPMENT SALES             1000.     2000.     1000.        0.        0.
2100RSALE OF SUPPLIES/MAT       10000.     6000.        C.        0.        C.
2100RRENTALS                    12000.    12000.    12000.    10000.    10000.
2100RMISCELLANEOUS RECEIPT      20000.    15000.    10000.     8000.     4000.
 21AB
2200RVOCATIONAL DAY AID         50000.    50000.    50000.    50000.    50000.
2200RP.L.874                        0.        0.        0.        0.        0.
2200ROTHER FEDERAL OE AID           0.        C.        0.        0.        C.
 22AB
2300CESEA TITLE I PROJS       1090178.  1210368.  1375658.  1375000.  1000000.
2300CESEA TITLE III            212000.   150000.   100000.    50000.        0.
2300CMDTA                      100000.   150000.   187500.   200000.   200000.
2300CMODEL CITIES              300000.   500000.   750000.   800000.  1500000.
 23AN
2400SCERVN   238937.   238601.   266511.   272000.   227000.
2500CERUF 13248781. 15284680. 16547000. 18244597. 19768776. 19168371.
2600CAHUD  1483560.  1722178.  2035368.  2448458.  2465000.  2740000.
27CVALU 30000.00 30000.00 30000.00 30000.00 30000.00
28TENINIIC.00110.00110.00110.00110.00
29PAYPCT 40.00 40.00 40.00 40.00 40.00
3000RFOREIGN 3PRN                5000.     5000.     5000.     5000.     5000.
3000RVOCATIONAL DAY SCH         50000.    50000.    50000.    50000.    50000.
3000RADULT EDUCATION            12000.    12000.    12000.    12000.    12000.
3000RLAW ENFORCEMENT AID        84000.    85000.    85000.    85000.    85000.
3000RBUILDING AID               87937.    86591.   114611.   120000.   135000.
 30AB
3100COED PROJECTS                5000.    10000.    15000.    20000.    20000.
3100CMODEL CITIES PROJS         15000.    15000.    20000.    20000.    20000.
 31AN
3200EFASCPTD          0.0

/*

//
```

III.5 PROJECT DESIGN PROCEDURES

Introduction

In STEP, a "project" is any deliberate effort to modify existing programs or policies to achieve a set of objectives. Developing project design procedures is the least technically complex problem, because designing projects is more art than science. Of course, the process could be more "scientific" if more were known about the science of instruction, if we knew "laws" that related what teachers or counselors do to what students subsequently accomplish. Despite this inherent limitation, however, it is incumbent upon the planners that whatever instructional science and engineering does exist - sparse as it may be - is incorporated into the design activity. The question is not art versus science, but rather art and science in the service of education.

Design Criteria

Project design procedures must serve the following requirements of the planning process:

(1) They must be established in such a way that there is broad participation in the development of project proposals.

(2) They must allow for innovative ideas, but also require thorough analysis and some study on the part of the authors.

(3) They must provide the relevant data about costs a d

expected outcomes necessary for subsequent evaluation in the cost-utility decision phase.

(4) They must be developed and reviewed in a setting that is perceived as fair and unbiased, particularly by those groups which are skeptical of the policy-makers intentions.

(5) They must require only "reasonable" levels of effort of the writers and reviewers - especially since many proposals will not be approved for implementation.

Participation

Earlier it was indicated that the Policy Memo is a kind of advertisement, in which the district announces its interest in new proposals to achieve agreed upon ends. The first design question is: How shall that announcement be disseminated?

Effective dissemination of any information requires an analysis of the intended audience, the development of materials for communication with that audience and the selection of an appropriate medium of communication. To document its "fairness" in disseminating the policy announcement, the Board should maintain a record of each of its dissemination activities, something along the lines shown in Chart III.5-1.

Chart III.5-1

Dissemination Log (Sample)

Document: Policy Memo

Individual Recipients:

_____

_____

_____

Group Recipients:

_____

_____

_____

General Dissemination Media:

_____

_____

_____

Feedback Evidence:

_____

_____

_____

Included in the announcement should be brief guidelines to be followed by all persons who wish to submit a proposal. Detailed explanation of the project design requirements can be presented at a "bidder's conference" - an open meeting at which any potential author is invited to attend.

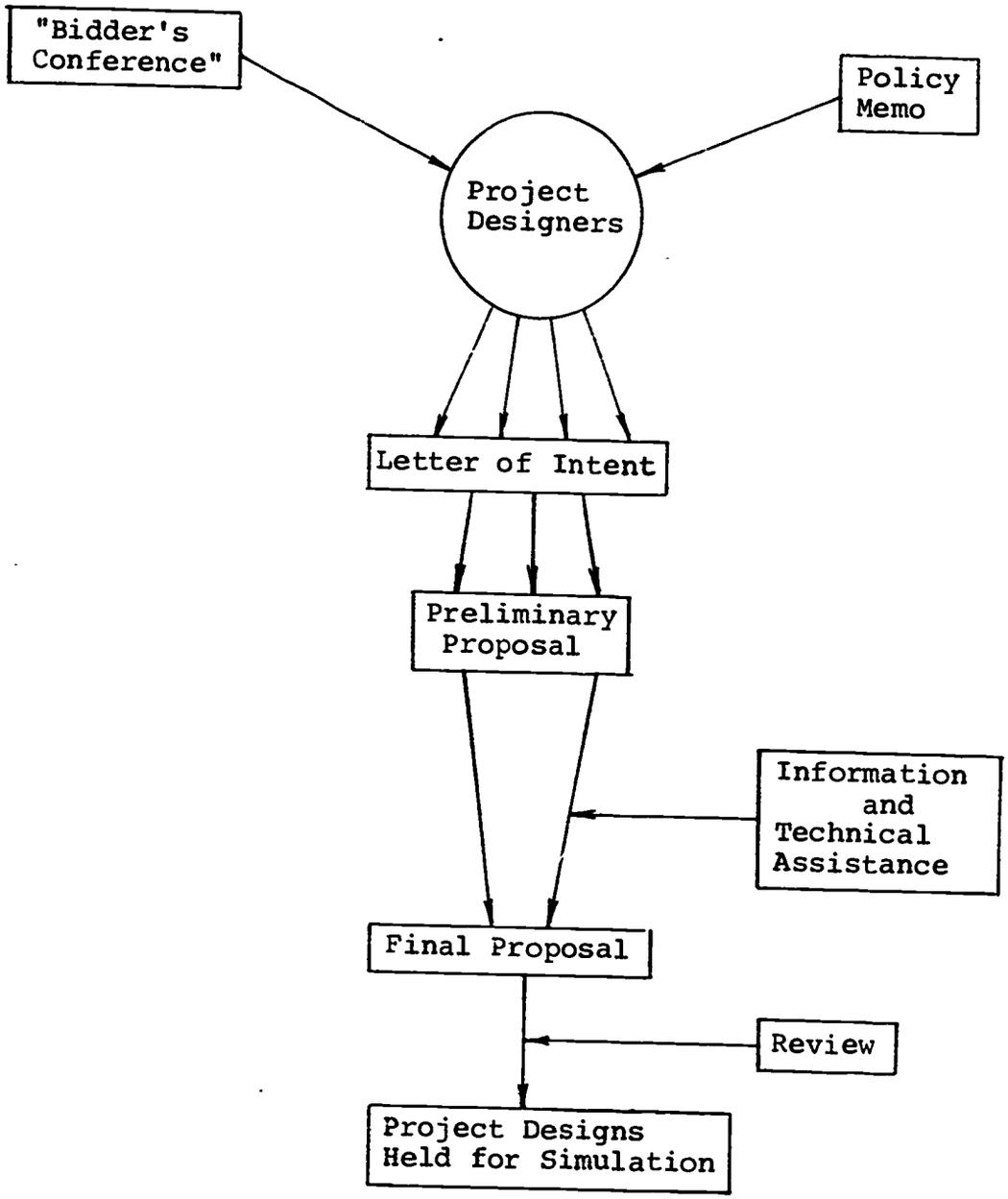
The Board is in a difficult situation in setting limits and requirements on project designers. On the one hand, they want any interested person to have an opportunity to contribute, but, at the same time, if hundred of proposals are submitted, the review process will become unworkable. Thus, to control the process somewhat, we propose the following "filter" system, shown in Chart III.5-2.

First, the Board may require a letter of intent, by a given date, for all potential authors; project design manuals will be disseminated only to those whose letters are received on time.

Second, there should be a "preliminary" proposal, submitted by a given date - a one-page summary of the project idea. The Board may allow all persons who achieve this objective to continue with the project design, or it may reject certain proposals at the preliminary stage... provided it can give a fair, public reason for the rejection. At this stage, the Board may also exercise its influence by awarding small "planning grants" to aid designers, or by suggesting to different authors with similar ideas that they form collaborative terms.

Chart III.5-2

Project Design Filter System



Third, during the final project design phase, the district must make available to designers materials and assistance. Designers from outside the educational staff - and, perhaps, some within the staff - may be ignorant of important facts about the districts, like salary schedules, legal requirements, data on pupils and teachers, etc. Any public information about the district should be publicly available.

Fourth, the final design must be submitted to the Review Groups by a given date - with virtually no extensions.

Fifth, the Review Groups must review proposals for conformity to design requirements and for accuracy. Their most difficult job is to assess the reasonableness of the various predictions made by designers, and decide whether re-writes or revisions by the Review Group are required.

Sixth, the Review Group transmits the proposals to the planning group, which "runs" the various alternative plans.

Depending upon one's persepective, this approach either opens up the process to too many outsiders and unqualified persons, or, in contrast, imposes too many bureaucratic requirements on authors, thereby biasing the outcome toward the administrators' preferences. Either outcome can occur, but the district must try to find a middle ground between the authoritarian insistence that only certain persons are qualified to write proposals, and the libertarian extreme which holds that all persons are equally qualified. The best way to

correct for extremes is to make all the procedures for project design and evaluation explicit and public, and to allow the Advisory Group to help in defining the procedures.

Innovation versus Analysis

Anyone can have a creative idea. But there is a difference between an idea and an innovative project design. It is not enough to speculate about educational changes; One must be prepared to argue intelligently in support of them. The project designer is presenting a case, an alternative to the district's status quo. And the burden upon him is not unlike the burden upon the debater who is advocating a new belief or policy.

The project design, therefore, must include the following:

(1) A brief description of the project proposal, highlighting its salient features.

(2) A statement of the Indicators that will be affected by the project and how they will be affected.

(3) The resources required for the project, including staff, space, equipment and materials.

(4) A summary of the expected costs, using the same categories as the program-budget.

(5) A rationale or defense of the idea, showing the reasons that the designer believes it will achieve the results; this includes research data, expert

opinions (documented), information about programs in other school districts, etc.

(6) In the case of facilities construction projects, there should also be an estimate of the number of student stations or rooms that will become available, and the years in which they will become available.

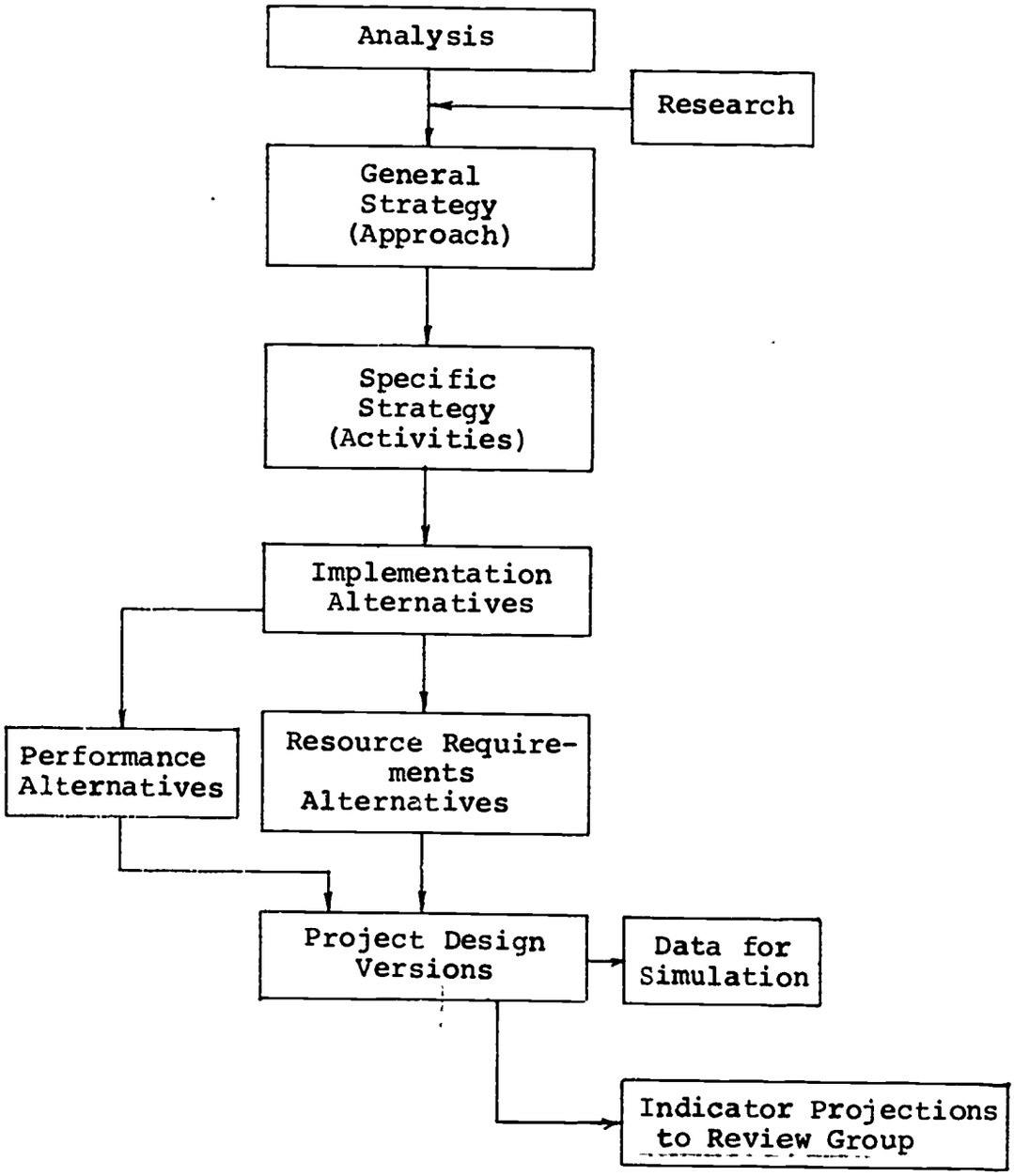
Each project proposal provides this data for the five-year planning period - even if the project will not be operational during the entire period. Designers must specify what all the costs will be in each year (allowing for raises, etc.), and estimate expected impact on all of the district's Indicators in each year.

Project Design Strategy: A Systems Approach

In a sense, the project design process is a miniature version of the overall STEP planning system, except that the designers are given the goals, objectives, priorities, and constraints (in the Policy Memo and at the "Bidder's Conference") and must plan within that structure. Once these overall guidelines are established, and once project design teams are formed, the members of those teams may elect to develop projects in any way they wish. The approach described in this section, as summarized in Chart III.5-3, is a general systems approach to project design, and may be detailed to the preferences of the particular design group.

Chart III.5-3

Project Design Strategy



The process begins with a post-policy analysis, that is, an analysis built on goals and constraints which are already determined. The focus of the analysis phase is an identification of the problems and limitations of the TPS program which are believed to be causally related to the needs identified in the Policy Memo; the group should attempt to assess, for example, which aspects of the existing program have caused the district to be performing at levels on the Indicators lower than the desired or acceptable levels. In some cases, the performance is attributable to a whole area of activity or service not now being provided in the district, in which case the analysis would suggest a whole new program or function to be added to the district. In most cases, though, the existing deficit is due to some presumed weakness in an existing program or service offered by the district. Analysis can generate many hypothetical explanations to account for poor or inadequate performance; it may be argued, for example, that a given program is:

- making inefficient use of current resources
- underfinanced, so that there are not enough resources to "make a dent" in the problem
- using obsolete, ineffective, or inappropriate techniques
- is being retarded by incompetent or underproductive staff

Notice that these, and other speculations, are hypotheses, since, in most cases, they are testable assumptions which have not been tested. But, since it is generally awkward to attempt

an experimental verification as part of the analysis, the next stage is generally a research of relevant educational research and expert opinion. Here there will be frustrations; even if the design group makes extensive use of the ERIC information system, or the State's Educational Improvement Centers or College Libraries, it will discover that most existing educational research is not very useful in designing improved educational practices (partly because it is not designed for that purpose) and frequently based on very weak scientific verification. For these reasons, and others, it is frequently useful to talk directly with educational innovators, both in the community and elsewhere, and, if funds are available, to secure consultant assistance. The result of the research phase, thus, should be two-fold:

- first, greater clarification about the nature of the problems and causes of the poor performance, and,

- second, ideas about program modifications or alternative approaches that might address the goals more effectively.

Usually, persons motivated to participate in design groups will already have "pet" ideas and approaches, even before the analysis is performed. While these ideas may ultimately prove useful, all ideas must be intelligently reviewed, and, wherever possible, tested by appealing to existing literature or expert opinion; it is exceedingly unlikely, given the great variety of education in the world, that anyone will propose an approach that has not been tried and informally tested somewhere already.

The design team is now at a point where they can consider additions to the district's programs. If they have, as a result of analysis and research, determined that some part of the district's programs should be eliminated or replaced, they must consider the development of negative or replacement projects -- both of which are discussed in the next section. But, since it is extremely difficult to get rid of activities that have been traditionally a part of the district -- especially if there are no alternatives which have been convincingly shown to be better -- the group will probably be concerned with new activities which will add to the resources utilized by the district, and therefore, to costs.

Given a general strategy to achieving the desired outcomes, the group then develops some specific activities, treatments, and services. At this level of planning, the more detailed the agreements the better; this part of the process should continue until the members of the team can almost estimate the manpower and cost requirements of the project and predict the number of students to be affected and probable results.

Before beginning to calculate the details of the project, however, it is wise to consider alternative implementation strategies. Will the proposed activities begin in Year 1 of the planning period, or some later date? Will it be implemented at a full level of activity, or will it be phased in gradually?

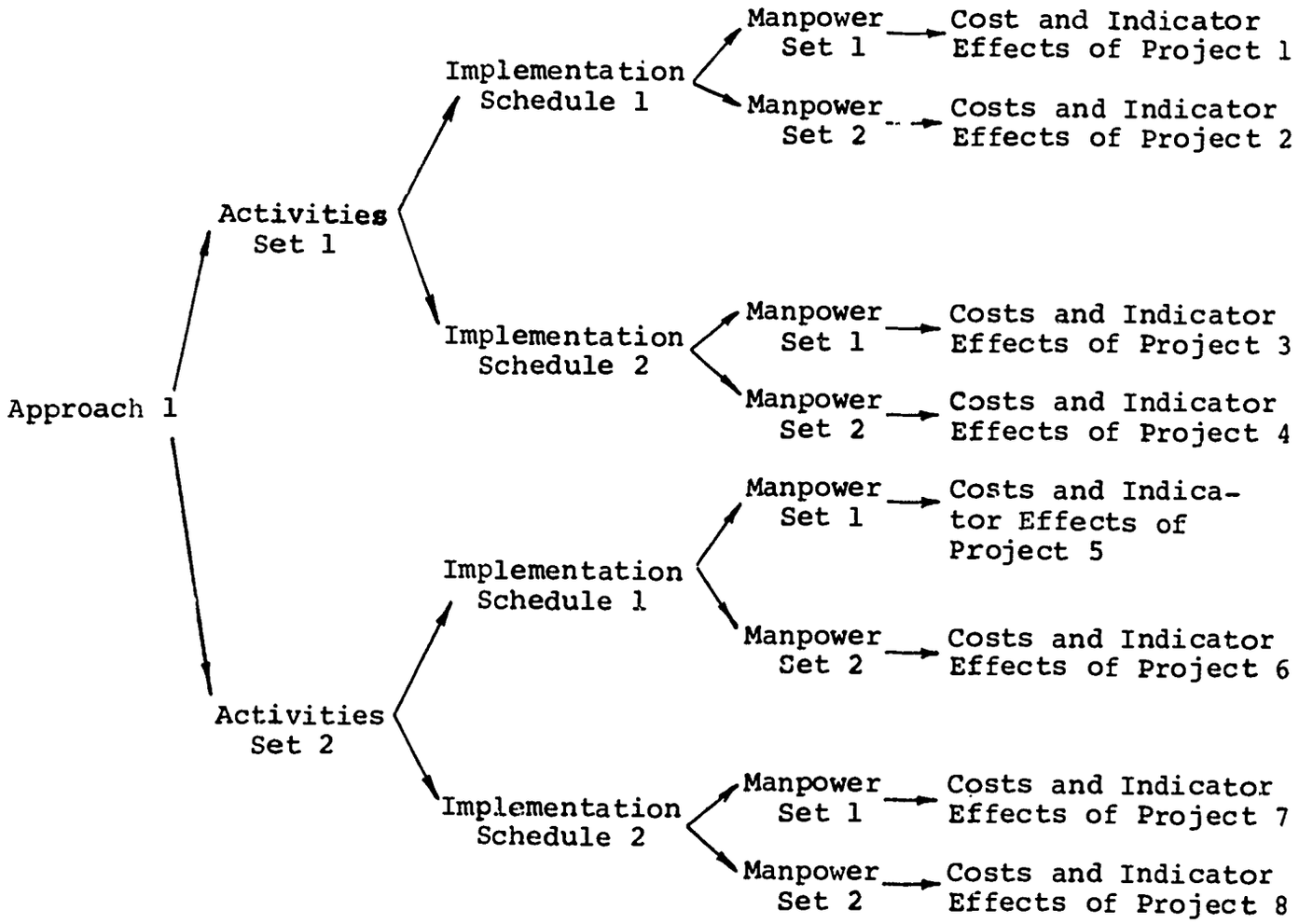
These implementation alternatives show that there are many options still available to the group, even when a detailed activity idea has been worked out.

The group may agree on a single implementation approach, or it may continue to entertain two or three different ones. For each alternative implementation approach, the group should then estimate the manpower requirements of the project, using the manpower types descriptions in section III.3 of this manual. Out of these estimates the group must develop, simultaneously, project cost requirements, by Staff Type, Capital Outlay, and Non-staff/Non-C.O for all five years of the planning period. (Obviously, these costs are "O" in the years in which the project is not proposed to be active). Further, they must, as a group, develop their best collective estimate of what would happen to the district's performance on the Indicators -- all the Indicators -- if the particular project were added to the base case (ignoring any other projects that might be added).

At this point, there may be a single project design, or there may be several. As Chart III.5-4 shows, starting with a single overall approach, and considering two different activity sets, two different implementation plans for each activity, and two different manpower approaches for each implementation plan, the group could generate eight functionally distinct projects. Whatever the number, however, any project design which the team wishes to be considered for implementation must have certain data associated with it, namely, that data required to fill out the

Chart III.5-4

Branching of Project Design Decisions



Planning Unit input form. It must include Enrollment Base estimation, number of positions of each Staff Type in each of the five years, staff costs, Capital Outlay Costs in each of the five years, Non-staff/Non-C.O. costs in the period, and expected categorical revenue for each of the five years. Further, the project design data is constrained similarly to other Planning Unit data, namely there must be at least as many separate PU's as there are sites or programs affected by the proposed project, so that the district's analysts may require the project designers to break apart the project design into several parts -- even though the designers may stipulate that all parts must be run together as part of any simulation. The design group must, further, project the impact of the project on all the district's Indicators for each year of the plan -- or, if it cannot do so -- designate the Review Group to do the projection (and accept the judgment of that group).

Negative and Replacement Projects

There are two important reasons to develop negative projects, projects in which the district discontinues some activity or service. First, if the currently accepted plan proves to be too costly, so that "cuts" must be effected, special design teams may be formed to find ways to eliminate local expenditures. Second, if analysis indicates that an existing problem could be well addressed by eliminating a given program or activity, then the designers may elect that strategy as a means to achieving district objectives. Importantly, the strategy and procedures appropriate to "positive" projects are appropriate to negative ones as well; indeed, if planners were to use sophisticated techniques to decide what to add to the district and then use arbitrary incrementalistic routines to effect cuts, the net result would probably vitiate the positive planning that was done. Thus, a negative project includes much of the data associated with a positive project, mainly costs and staff requirements -- except that they are expressed in negative quantities, so that the simulator will subtract, rather than add, from the base case plan. There must also be a performance forecast associated with negative projects. In the case of a cost-cutting project, the forecast should show that there is no difference between the base case forecast and the forecast associated with adding the negative project, or that the performances changes are small and on low priority Indicators. In the case of a negative project generated by analysis, the designers should predict the expected gains on the Indicators associated with their negative project.

In developing negative projects, the same overall strategy is recommended: analysis, research, general approach, specific activities (to be eliminated), alternative implementation schemes, and alternative cost and performance forecasts associated with the alternative implementation ideas.

A more complicated case of project design is the "replacement project," in which the designers propose first, to add a certain activity or function and second, to eliminate some existing activity. If the designers believe that this is necessary to help the district achieve its objectives, it may submit the replacement project as a single project design. If it believes that either the positive or negative aspects of the design may be implemented singly, it may submit them as a positive and negative project design.

Fairness and Reasonableness

In many federal and state educational programs, proposals are written after the decision is made to fund the proposal; in these cases, proposals are thought of as an onerous administrative ritual, something you have to do to "get your money." Because of this experience, many educators believe that all proposals should be rewarded with approval.

When this attitude is compounded by a more general attitude, that every author tends to believe his proposals are good, we confront a potential problem. By "opening up" the project design phase, we have made it necessary for some competitors to lose!

And, because our particular contest cannot be decided by a random drawing from a fishbowl full of project numbers, we have left ourselves open to charges of bias or "politics." Indeed, if the inner circle of the district's administrators has no intention of endorsing any ideas but its own, then the project design activity has been a charade.

Fairness and reasonableness are relative to the district-community context, and we can give no strict criteria for achieving them. The manager of the STEP system must keep these requirements in mind and remember that many persons, in and out the bureaucracy, will view STEP as an effort to disguise old-fashioned decision-making in fancy technological trappings. He should see that this does not happen.

III.6 COST-UTILITY ANALYSIS PROCEDURE

Introduction

Using the procedures defined so far, the TPS will be able to generate alternative plans in which the multi-year costs, revenue feasibility, and estimated performance on indicators will appear. It is possible that this information in itself can be inspected by senior planners and policy makers to determine the "best" alternative plan which is economically feasible. If, however, the number of Indicators is large -- as it is in the current version of STEP -- and if the number of alternative plans to be evaluated is large -- as it may be within a year or two of STEP's implementation, then it may be impossible to observe by simple inspection the best plan, even though it will still be possible to eliminate by inspection those plans which exceed the revenue constraints or which fail to achieve the highest priority objectives. If the latter is the case, a calculation procedure is necessary to develop a ranking of the alternative plans. In this section of the manual a recommended procedure is outlined whereby the cost and utility of alternative plans may be calculated in such a way that the alternative plans may be ranked in aggregate five-year utility; it is a type of cost-utility assessment based on "hard" or quantitative weighting of the diverse Indicator effects, and, for that reason, it is rather difficult for some planners to use

(that is, intellectually difficult rather than technically difficult). Ultimately, the users may opt for a less formal utility rating system, and, therefore, the next section is devoted to a general discussion of utility ranking procedures, of which the procedure recommended is a detailed instance.

Cost-Utility Based Resource Allocation: Conceptual Approach

Chart III.6-1 shows the overall resource allocation process at a summary level. The first stage is the actual development of project designs -- the units of which alternative plans will be constituted. The first actual step in the resource allocation process is the definition of the alternatives to be considered, that is, forming project designs into combinations or sets, each of which is defined as an alternative plan. The number of alternative plans may be very large, notice, even if the number of of project designs is rather small. Chart III.6-2 shows that there are fifteen alternative plans which may be generated from only four project designs, and Chart III.6-3 shows how quickly the number of possible alternatives escalates, approximately doubling with each project design that is added. Thus, given six project designs, the district could, if it wished, generate sixty-three alternatives to the base case, all with different characteristics. Obviously, generating all possible alternatives, while easy enough for the computer forecasting programs, would result in great EDP costs and, more importantly, generate more plans than could be reasonably studied in the

Chart III.6-1

Resource Allocation

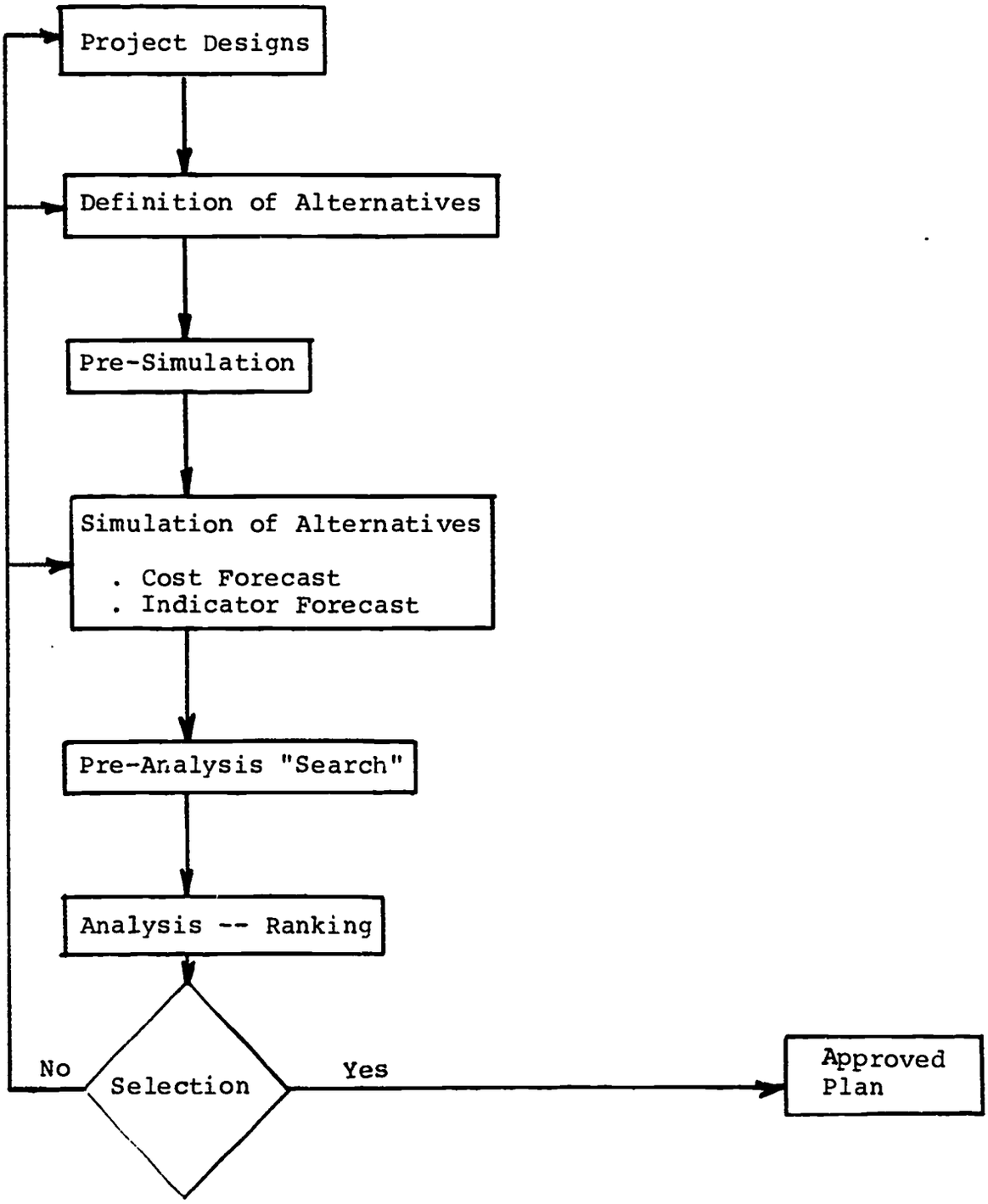


Chart III.6-2

POSSIBLE ALTERNATIVE COMBINATIONS

4 Project Designs

COMBINATION NO.	ALTERNATIVES INCLUDED
1	1
2	2
3	3
4	4
5	1,2
6	1,3
7	1,4
8	2,3
9	2,4
10	3,4
11	1,2,3
12	1,2,4
13	1,3,4
14	2,3,4
15	1,2,3,4

Chart III.6-3

THE DOUBLING OF POSSIBLE COMBINATIONS

NUMBER OF ALTERNATIVES	TOTAL NUMBER OF POSSIBLE ALTERNATIVE COMBINATIONS
1	1
2	3
3	7
4	15
5	31
6	63
.	.
.	.
.	.
12	4095
.	.
.	.
.	.
N	2^N-1

time available. (Since performance forecasts are done subjectively and manually, moreover, the effort involved in generating sixty-three performance forecasts would be highly onerous.) For these reasons, certain pre-analysis activities are recommended to "cut down" the number of alternatives to a reasonable size -- without running the risk of missing the best possibility. Two important techniques for achieving this objective are: (a) not considering any alternative in which the total cost in any of the five years is outrageously high, and (b) not considering any combinations in which two mutually exclusive projects appear, that is two projects which address the same ends at a sufficiently high level that their combined output would exceed the requirements, or that could not both coexist because they are variants of the same approach.

This preliminary investigation may result in a workable number of alternatives, less than fifteen for example, or it may still leave a very large number of alternative possibilities. At this point, the planners may go directly to the simulation stage, or they may do further pre-simulation analysis, by further investigating the total costs and logic of the remaining alternatives, or by stipulating, for explicit reasons, that certain cases will not be considered. Ultimately, the planning unit data for the remaining alternatives is run in the cost/resource requirements forecast and the Indicator

projections from the project design reports are consolidated into performance forecasts for the alternative plans by the Review Group. This latter activity may require further expert judgment from the Review Group, because the effects of certain projects in combination may be presumed to be different from the simple addition of expected effects for the individual project designs. (See Delphi appendix for a suggested technique for reaching consensus of estimating Indicator interactions.)

Once the cost/resource requirements of the alternatives have been forecasted and the impact on Indicators estimated, the data is ready for simulation. The planners, however, may wish to further simplify the process by performing a pre-analysis search; in the search, again, whole alternatives may be eliminated for cost reasons or logic reasons (assuming some of the cost and logic problems were not detected in the earlier screenings); given the final list of alternatives from which to select, the planners may "search" for one acceptable plan, that is, a plan which achieves all or most of the desired levels in Indicators by Year 5. Once such a plan is found, by relatively simple inspection, one then considers other plans, referring to the first acceptable plan as a benchmark; in the search process, one is attempting to reject alternatives -- if they fail to perform as well as the first case chosen -- or find a new benchmark -- if one of the cases proves to be better (less expensive, or more

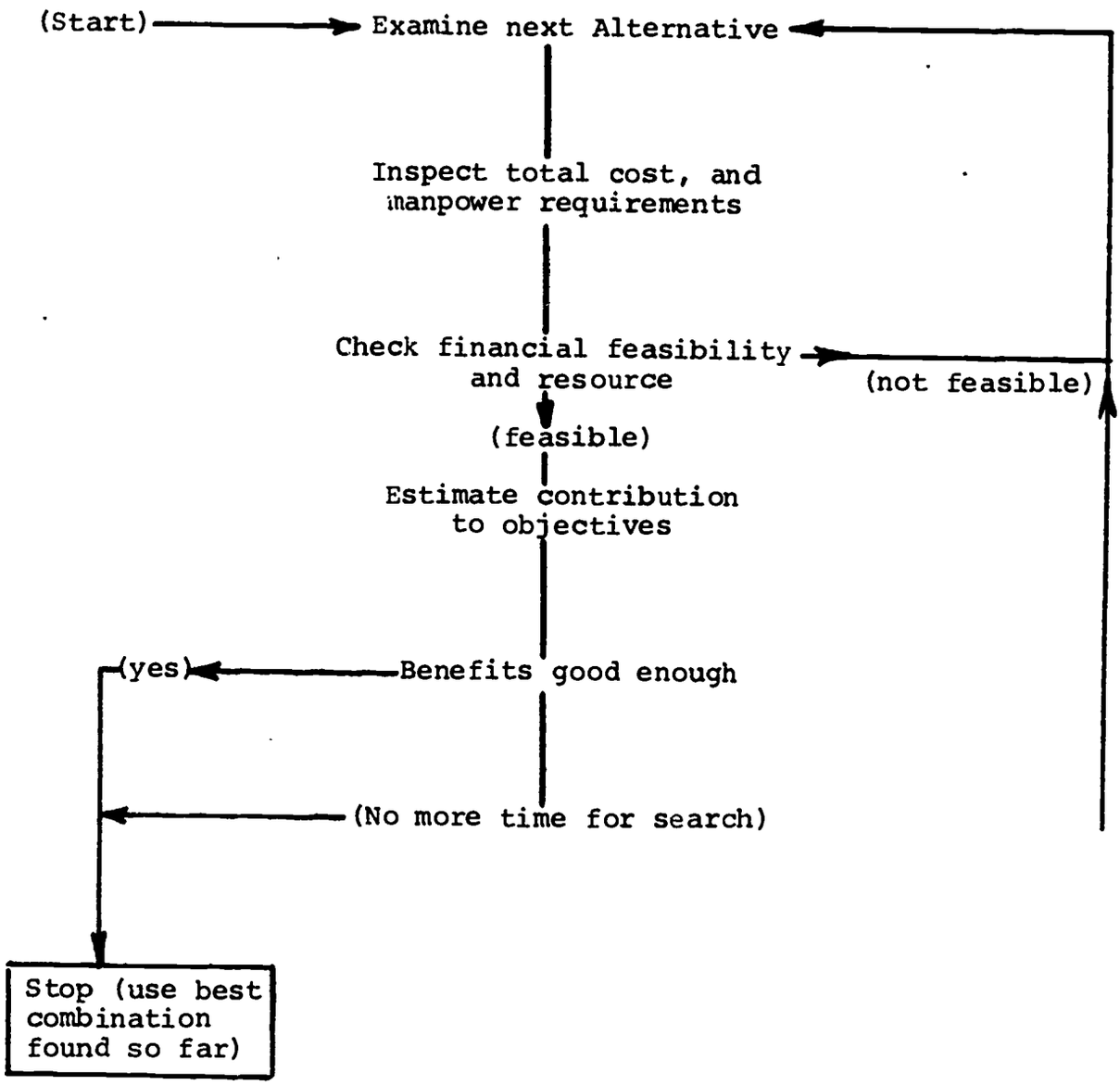
productive in achieving goals). The overall search procedure is shown in Chart III.6-4. As the chart indicates, the search procedure is an acceptable way to find a "best plan" subject to time constraints; one must be prepared to risk the possibility that the next alternative considered after the cut-off time is better than the current benchmark plan.

An alternative to the "search" or heuristic approach is to formally evaluate all alternatives generated in the simulation stage according to a formal cost-utility decision model. A detailed approach to that process is described in the next section of the manual.

Once the cost-utility evaluation is completed -- using either a heuristic or formal approach -- a best available plan is identified. If the plan is acceptable, it is approved for implementation, and the Year 1 budget is deduced from the Year 1 cost requirements forecast for the accepted plan. If the best available plan is not good enough, however, it may be necessary to reiterate the decision process by running additional alternative plans with the existing project designs, by defining new combinations based on adjusted or modified versions of existing designs, or by actually re-opening the project design effort to produce new candidate projects. If, after reasonable re-iteration no acceptable plan can be found, it may be necessary, as a last resort, to modify the goals and objectives of the district.

Chart III.6-4

SEARCH PROCEDURE



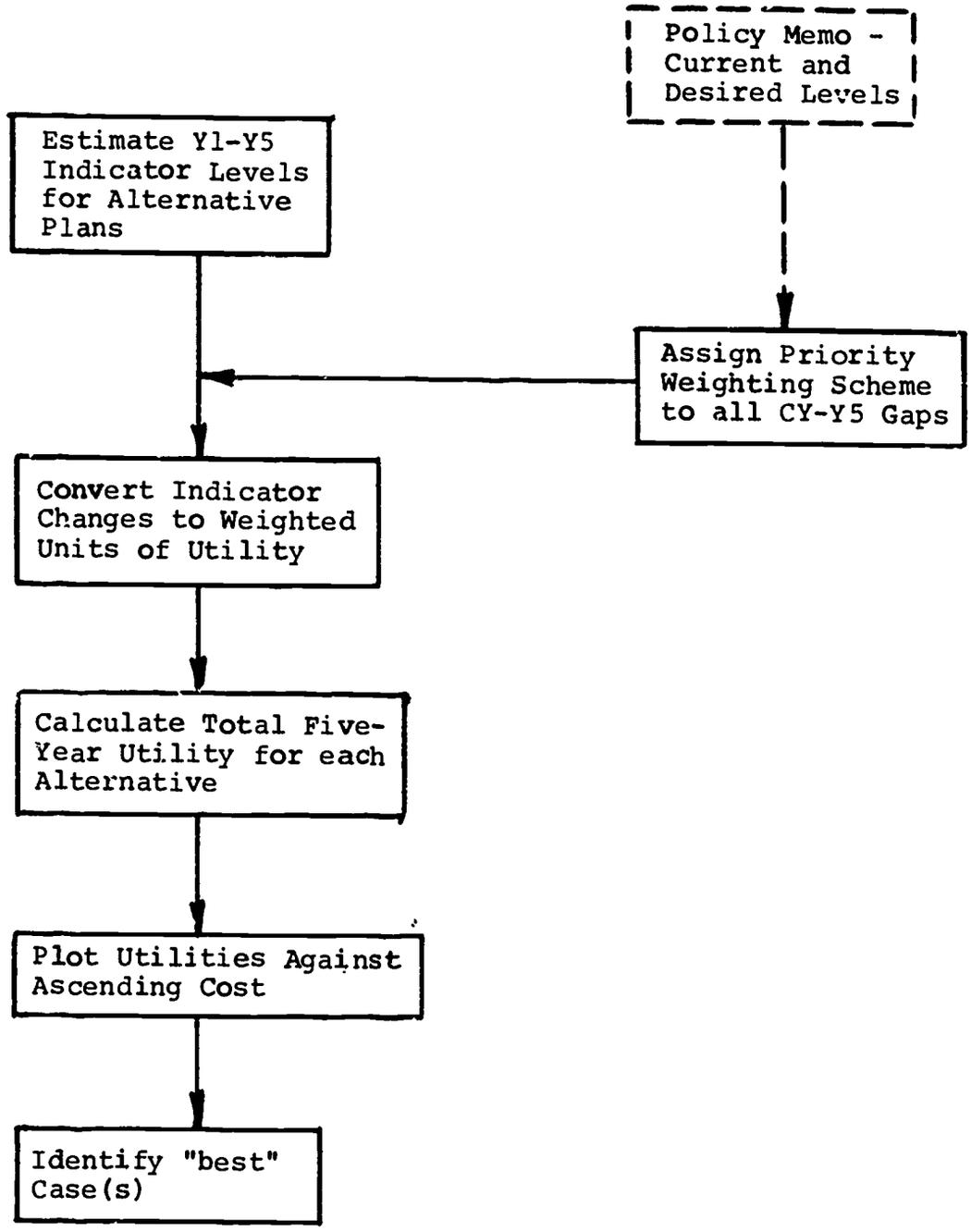
A Model for Formal Cost-Utility Evaluation in STEP

The state of the art of knowledge about education and instructional technology is not yet sufficiently advanced to permit planners to identify the "optimum" course of action with mathematical precision. There are, however, imperfect quantitative techniques which help clarify the value of the alternatives, based on mathematical expressions of the values of the policy makers. Such techniques are known variously as "subjective cost-benefit" analyses or cost-utility analyses. Such a procedure for use in STEP is summarized in Chart III.6-5.

The process begins with the simulation of the set of identified alternatives, as described above. For each alternative, there is a set of anticipated outputs on Indicator scales for each of the years in the planning period. These outputs are treated as proportions of the gaps between the CY level and the desired Y5 level, and are all consolidated into a single scale of utility by multiplying the proportion of the gap closed in each year by the policy weight assigned to each gap. Then, the weighted outputs of each plan, on all Indicators, for all five years, are consolidated into a single utility score. The alternatives are arranged in ascending order of cost and the planners identify the plan with the highest expected utility, which is within the constraints of maximum allowable cost.

Chart III.6-5

Cost-Utility Evaluation Model



To illustrate, suppose TPS were using four Indicator scales: Distance from Reading Grade Level; Drop-out Rate; Distance from Math Grade Level; Percentage in Substandard Facilities. Suppose that the base case estimation for performance was as follows:

Indicator	CY	Y1	Y2	Y3	Y4	Y5
Reading	-1.3	-1.5	-1.5	-1.8	-2.0	-2.2
Drop-out	15%	15%	17%	19%	20%	20%
Facilities	25%	25%	25%	20%	15%	15%
Math	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5

As part of the district's Policy Memorandum, the policy makers have indicated the following <u>desired</u> levels for these Indicators:

Indicator	Y1	Y2	Y3	Y4	Y5
Reading	-1.2	-1.0	-.7	-.5	-.2
Drop-out	12%	10%	8%	7%	7%
Facilities	25%	20%	15%	10%	10%
Math	-1.5	-1.2	-.5	-.5	-.5

By relating the desired levels to the anticipated, base case levels, we determine the following gaps:

Indicator	Y1	Y2	Y3	Y4	Y5
Reading	.3	.5	1.1	1.5	2.0
Drop-out	3%	7%	11%	13%	13%
Facilities	0%	5%	5%	5%	5%
Math	0	.3	1.0	1.0	1.0

Before considering the utility of alternative plans, it is necessary to consolidate the four scales of effect. This consolidation is effected by eliciting from the policy makers their value weights for the four classes of goals. Hopefully, before the development of the policy memorandum, but no later than the project selection phase, the policy making group is asked to make certain judgments about the priority of the various goals, which is translated into a weighting scheme for the Indicator gaps.

Developing the weighting scheme is a two-stage process. First the policy makers are asked to make pair-wise comparisons for each of the Year 5 Indicator gaps. The number of pair-wise comparisons is a function of the number of Indicators; the formula is -

$$\frac{N.(N-1)}{2}$$

Where N = equals the number of Indicators.

Thus, for four Indicators there would be six pairs, for five Indicators ten pairs, for six Indicators fifteen pairs, etc. A sample pair-wise ranking scheme is shown for the four Indicators mentioned earlier, in Chart III.6-6.

Using such a device, the analyst may count each (✓) as "1" and add the scores for each Indicator gap, for all persons participating. The resultant scores can then be used to rank the Indicator gaps from most to least important.

If ten persons, for example, participated in this exercise, the most often an Indicator could be checked on a given sheet would be three times, for three points. The maximum score for a given Indicator gap would be 30, and the minimum 0.

Suppose this activity were completed, and the scores for the Indicators were as follows:

Reading	28 Points
Drop-out	22 Points
Math	3 Points
Facilities	7 Points

It would follow, then, that the priority ranking would be:

Chart III.6-6

For each of the following gaps between desired and expected levels, check (✓) the one which is more important for the Trenton Public Schools

1.	Reading	(-2.2 to -.2) __	or	Drop-out	(20% to 7%)	__
2.	Reading	(-2.2 to -.2) __	or	Facilities	(15% to 10%)	__
3.	Reading	(-2.2 to -.2) __	or	Math	(-1.5 to .-5)	__
4.	Drop-out	(20% to 7%) __	or	Math	(-1.5 to -.5)	__
5.	Drop-out	(20% to 7%) __	or	Facilities	(15% to 10%)	__
6.	Facilities	(15% to 10%) __	or	Math	(-1.5 to -.5)	__

Note: In actually devising such an instrument the order of the pair items should be randomized, and even duplicated with right-left transpositions.

Priority	Indicator
1	Reading
2	Drop-out
3	Facilities
4	Math

This ranking is then used as the basis for the weighting scheme, in which each gap is assigned a number of "utiles." A portion of the instrument to be used is shown in Chart III.6-7. The complete instrument should elicit a ratio comparison between each Indicator gap and the lowest priority gap. To add precision, a judgment should be elicited for each Indicator gap and all Indicator gaps of priority lower than it; the latter will add precision and consistency to the data, but may make the instrument quite long.

The ratings can be treated as weights; "about equal" = 1; between equal and twice as high = 1.5; about twice as high = 2.0, etc. Again, the mean ratio judgments are calculated; if comparisons are all made in terms of the lowest priority goal, the calculation is straightforward:

4:3:2:1

If inter-rank comparisons are used, the following inter-rank ratios are computed:

4:3:2:1
3:2:1
2:1

Chart III.6-7

Utile Assignment Instrument

1. Previously this group indicated that achieving a level of "10% students in sub-standard or deteriorating facilities" is a higher priority goal than achieving an "average -.5 years below grade equivalent in Math/ Science performance." How much higher a priority would you consider it to be:

   - about equal (only very slightly higher) ____
   - higher but not twich as high ____
   - about twice as high ____
   - more than twice as high, but not three times ____
   - about three times as high ____

   etc.

2. Previously this group indicated that lowering the "drop-out rate to 7%" is a higher priority than achieving an "average -.5 years below grade equivalent in Math/Science performance." How much higher a priority would you consider it to be:

   etc.

In the first case, an arbitrary base -- such as 1, 10, 100 -- is assigned to the lowest priority Indicator gap, and the weights for the higher gaps are calculated by multiplying the average ratio by the base weight. If, for example, a base of "10" is assigned to the Math gap, and the Facilities gap is shown to be 1.7 as important as the Math gap, the weight of the Facilities gap is "17."

In the second case, the procedure just described is used to weight the first set of ratios (in which each Indicator gap is compared to the lowest Priority gap), and the value of the next-to-lowest Indicator gap becomes the "base" in the next tier of ratios. Thus, if Facilities received a "17" in the first tier, it would be the base in the second tier. To illustrate, suppose the following ratios were elicited:

1:1.7:2.3:3
1:1.2:2
1:1.9

Assigning a base of "10" to the lowest ranked Indicator gap, we would calculate the following weights:

10:17:23:30

17:20.4:34

20.4:38.8

Notice that if all comparisons were made to the lowest priority gap only, the first tier of weights would serve as

the weighting scheme (10,17,23,30); if the multi-tiered approach is employed, the mean weighting of the Indicator gap in each tier is computed. In the illustrative data presented, the weight would be:

Indicator Gap	Weight ("utiles")
Reading	34.3
Drop-out	21.3
Facilities	17
Math	10

We have now calculated priority weights based on the judgment of the policy-makers. The fact that the values are expressed quantitatively does not interfere with the fact that the judgments are the preferential, political, and value inputs of the policy makers; moreover, they may be communicated to persons interested in, or unhappy with, the district's resource allocation policies, and used as a basis for political or educational debate. The priority weights may now be used to evaluate the utility of alternative plans.

To continue, consider three alternative plans, A, B, and C. The Review Group has estimated the following Indicator levels for each plan(see Chart III.6-8):

By relating these anticipated levels to the base case predictions and desired levels for each year, we compute the following "proportion of gap closed" for each alternative,

Chart III.6-8

Indicator Estimates for Three Alternative Plans

PLAN	Y1	Y2	Y3	Y4	Y5	
A	-1.5	-1.2	-1.0	-.8	-.8	
B	-1.5	-1.5	-1.5	-1.0	-1.0	Reading
C	-1.2	-1.2	-1.2	-1.2	-1.2	Indicator Level
A	15%	10%	10%	10%	10%	Drop-out
B	15%	15%	15%	5%	5%	Indicator Level
C	15%	17%	19%	20%	20%	
A	25%	25%	20%	15%	15%	Facilities
B	25%	25%	20%	15%	15%	Indicator Level
C	25%	25%	20%	15%	15%	
A	-1.5	-1.5	-1.5	-1.0	-1.0	
B	-1.5	-1.0	-.5	-.5	-.5	Math
C	-1.5	-1.5	-1.5	-1.5	-1.5	Indicator Level

for each Indicator, for each year. These proportions are shown in Chart III.6-9. The gap weights are those determined earlier in this section.

Using the gap weights, we may convert the expected outcomes of each alternative plan to an aggregate utility, by multiplying the expected Indicator gaps closed, for all years, by the gap weight. This conversion is performed to produce Chart III.6-10.

We have calculated, thus, that the plan highest in expected utility, according to the value inputs in this hypothetical case, is Plan A, followed closely by Plan C, and then Plan B. Obviously, no such comparison could be made by simple inspection of the projections themselves. The "best" plan, therefore, from a utility perspective, is Plan A, but this need not be the plan recommended. If all plans are within an allowable cost range, then A should be recommended -- even if it costs less than B or C. If, however, A costs too much, but C is within range, then C is highest in cost-utility. The conceptualization of this choice is shown in Chart III.6-11, in which seven alternatives are plotted. Notice that the plan highest in utility, in this chart, is Plan G, but it exceeds the allowable cost ceiling. Plan F is within the allowable range, but is lower in expected utility than Plan E -- the "best plan." If, for some reason, Plan E cannot be approved, the "second best" plan is C.

Chart III.6-9

Proportion of Gaps Closed

Plan	Y1	Y2	Y3	Y4	Y5	Total	Indicator	Gap Weight
A	0	.6	.9	.8	.6	2.9	Reading	34.3
B	0	0	.3	.7	.6	1.6		
C	1.0	.6	.7	.5	.5	3.3		
A	0	1.0	.8	.8	.8	3.4	Drop-out	21.3
B	0	.2	.4	.8	.8	2.2		
C	0	0	0	0	0	0		
A	1	0	0	0	0	1	Facilities	17.0
B	1	0	0	0	0	1		
C	1	0	1	1	1*	4		
A	1	0	0	.5	.5	2.0	Math	10.0
B	1	1*	1	1	1	5		
C	1	0	0	0	0	1		

* When a plan exceeds the gap, it may be regarded as 1.0, or, in some cases, proportions might be subtracted for exceeding the goal.

Chart III.6-10

Aggregate Utilities for the Alternatives

	Reading	Drop-out	Facilities	Math
Plan A	2.9	3.4	1.0	2.0
Plan B	1.6	2.2	1.0	5.0
Plan C	3.3	0	4.0	1.0

Multiplying Outputs by Gap Weights:

	Read.	Drop-out	Fac.	Math	Total
Plan A	100.3	72.4	17.0	20.0	209.7
Plan B	54.9	46.9	17.0	50.0	168.8
Plan C	113.2	0	68.0	10.0	191.2

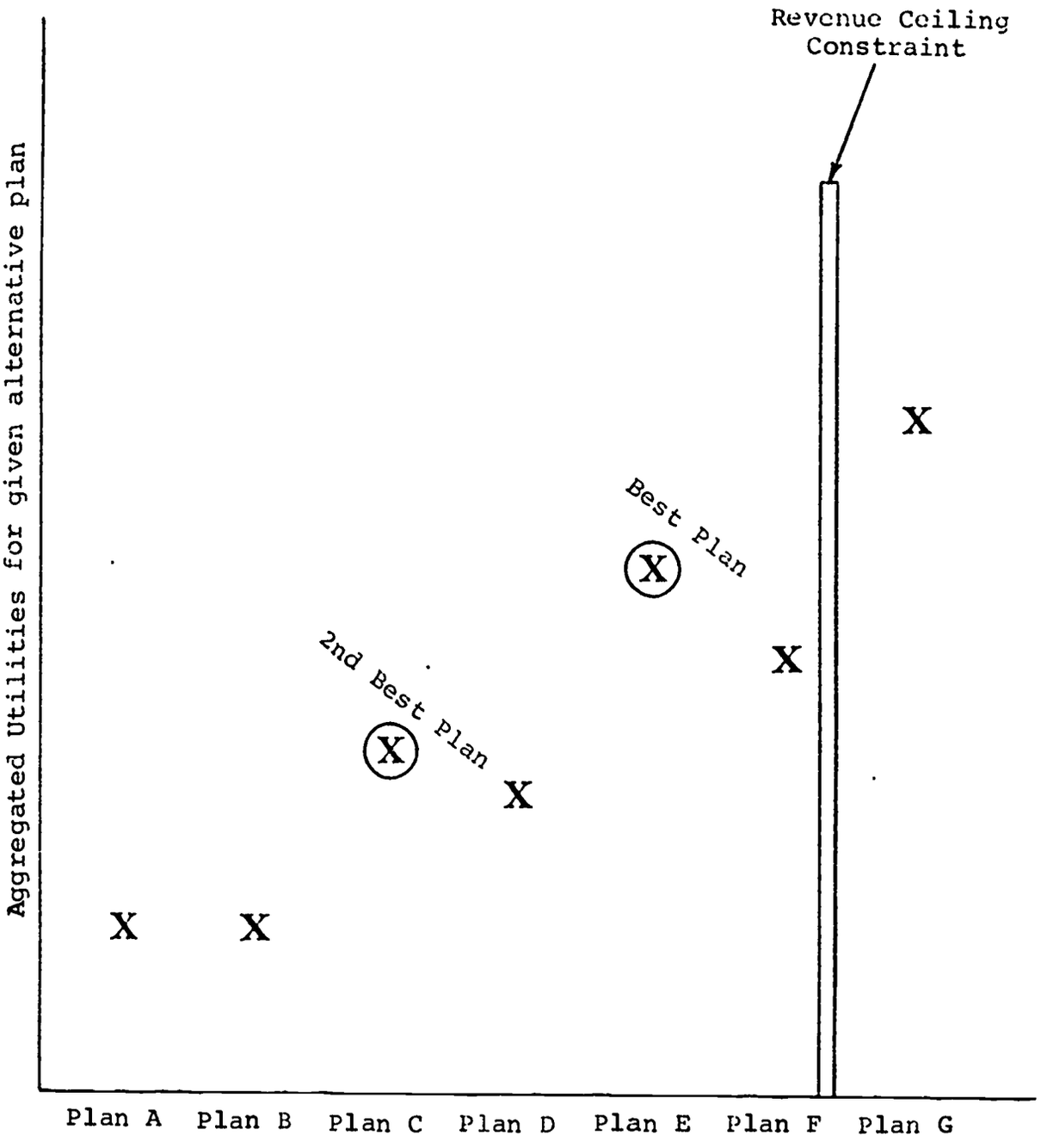


Chart III.6-11 Illustration of Cost-Benefit Comparison

Review of the Cost-Utility Model

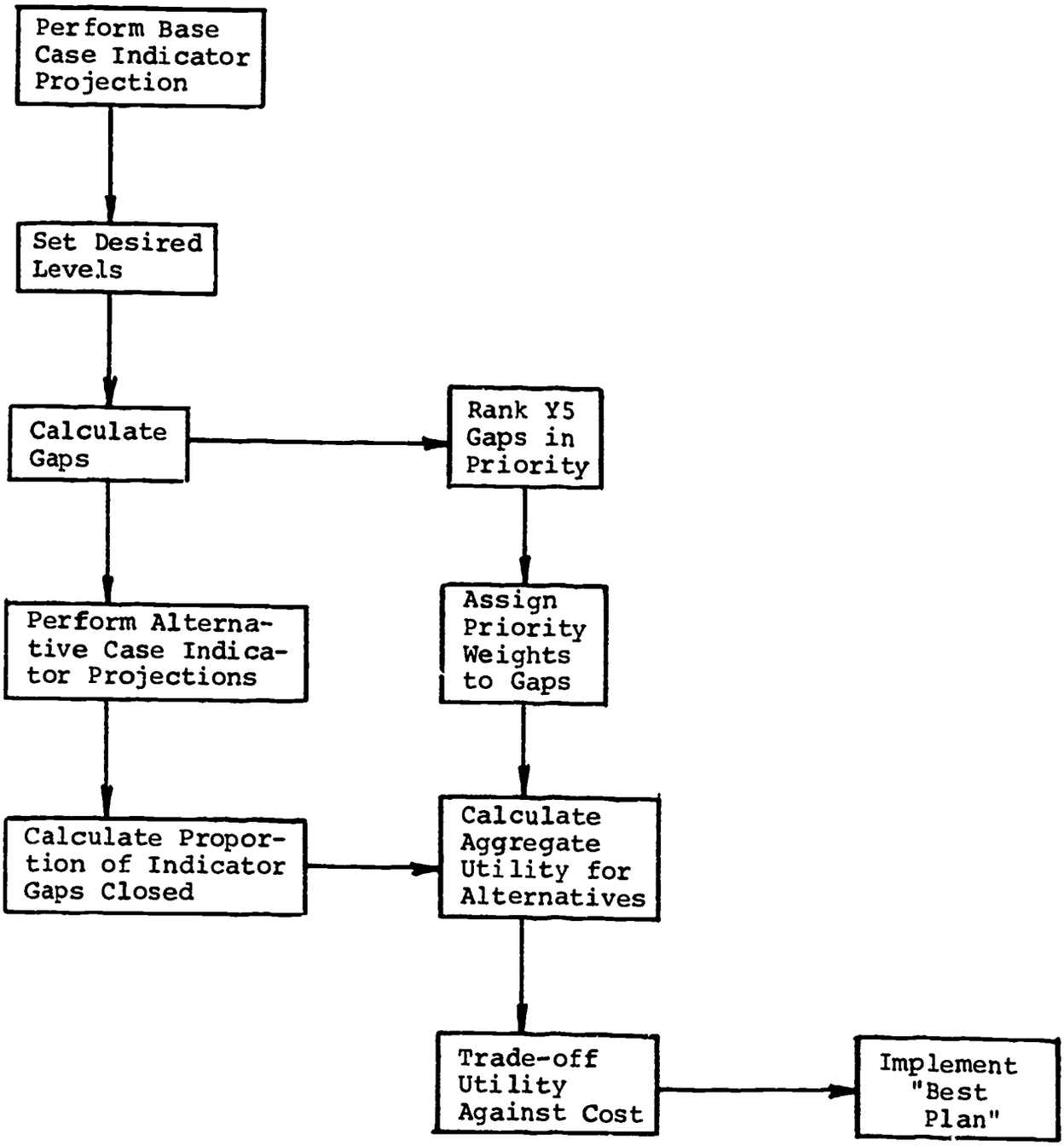
The steps in the cost-utility decision model are discussed in Chart III.6-12.

It is apparent that, given many Indicators and alternatives, the work and calculation may become extensive, and that many of the judgments will prove difficult to make. Because of the essential nature of the activity, however, it may be judged worth the effort.

One final comment: the numerical values associated with utilities cannot be viewed as precise ratings, because of the many subjective estimations and judgments on which they are based. In practical use, the planners will generate two or three good plans, rather than a single "best" plan, and use other considerations in identifying the plan best suited to the district's needs.

Chart III.6-12

Steps in Cost-Utility Model



Appendix A:

THE DELPHI TECHNIQUE APPLIED TO PREDICTING EFFECTIVENESS OF EDUCATIONAL PROJECTS

Developed for GSS by:

Edward E. Legasey

THE DELPHI TECHNIQUE APPLIED TO PREDICTING EFFECTIVENESS OF EDUCATIONAL PROJECTS

Educational Intermediate Unit Study Project

Fels Institute

University of Pennsylvania

Edward E. Legasey

May, 1969

TABLE OF CONTENTS

THE DELPHI TECHNIQUE APPLIED TO PREDICTING EFFECTIVENESS OF EDUCATIONAL PROJECTS

Educational Intermediate Unit Study Project
Fels Institute
University of Pennsylvania

Edward E. Legasey

May, 1969

This report describes an experiment in which the DELPHI technique is used to estimate the effect of proposed educational projects on pupil and system performance in a Pennsylvania school district. This experiment was performed in a district with about 13,000 pupils. It is a suburban district, but one which includes a large mill and, therefore has a fairly wide spectrum in terms of socio-economic backgrounds.

This work is part of the development of an Education-Planning-Programming-Budgeting System. In any such system one vital step is to select those projects which will cause the school district to progress most rapidly toward its objectives and which are feasible in terms of revenues and manpower. To do this in turn requires some estimate of the effect of any proposed project on measures or indicators of school and pupil

performance. (The objectives would be stated in terms of these measures.) Since there is no well-developed theory of learning, there is no theoretical basis for calculating the effect of any project on output indicators from a description of the school and the project. These estimates have to be made subjectively by appropriate experts. The DELPHI technique is a technique for eliciting the opinions of experts in a way which eliminates the affects of personality and still retains the benefits of group interaction and the development of a group consensus.

Appendix I describes in more detail the purpose of the experiment and the way in which the experiment was carried out. This document was provided to the school district in order to obtain their approval to perform the experiment.

Appendix II contains the instructions which were given to each participant. Appendix III contains samples of the forms used.

Note from Appendix II that the experts considered three program sets. The first set containing two different cases making actually four different projects. In every case, the experts were to assume that these projects were added to the existing school district. Since the experts were drawn from the district itself, it was presumed they understood the present status and plans of the district.

The four projects whose effects were to be estimated are briefly as follows:

Program Set 1 - Case I. The school was to operate as at present, hiring enough additional staff to maintain the current pupil/teacher ratio as the enrollment rose (an enrollment increase was forecasted), and to replace teachers who resigned or retired. In other words, this required the experts to estimate the performance of the system assuming the school ran pretty much as planned.

Program Set 1 - Case II. In this case, the effective student/teacher ratio increased, because teachers were hired only to fill vacancies, but not to compensate for increases in enrollment.

Program Set 2. This was a project to utilize educational television. The details of use are described in Appendix II.

Program Set 3. The project was to provide an extensive on-going, in-service course for elementary teachers in math and reading.

The experts were asked to evaluate the affect of these projects in terms of three specific indicators of performance:

-Math achievement, specifically the achievement in math attained by the lowest tenth of the class at sixth grade.

-Reading achievement measured in the same way.

-Classroom teacher turnover rate.

The DELPHI Procedure

The procedure is outlined in some detail in Appendix I. Briefly, the procedure is as follows:

A group of experts is gathered together, preferably in an arrangement so they cannot talk with each other directly. The general objective is to employ an anonymous debate to arrive at a consensus estimate of an unknown value. The debate takes place in a series of rounds.

In the first round, the problem is posed to the experts, in this case, to determine the values of the performance measures given the project under consideration. These estimates are collected and analyzed. The analysis develops the median value and a measure of the spread of the values about that median (called the interquartile range). The respondents are then given the median and the interquartile range but are not told anyone else's specific estimates. Each respondent can see how far his estimate was from the median and how it fell within the calculated range.

The respondent is then requested to give another estimate. Respondents whose second estimate is outside of the range calculated from the first estimate are requested to give a justification for the unusual estimate.

The median and range for the second round is then presented to all participants as well as the comments made by those with estimates lying outside the range. These comments are presented, however, anonymously.

This procedure continues until a consensus is reached or some agreed upon number of rounds have been completed. Usually three or four rounds brings good consensus.

In the particular case, the experts were asked to make three estimates of the value of each indicator. These estimates were: the most likely value, an optimistic and a pessimistic value. These latter two values were those which the expert would not expect to be exceeded more than one time in ten.

Figure 1 shows typical results. These are the results for Program Set 1 - Case II which allows the student/teacher ratio to increase.

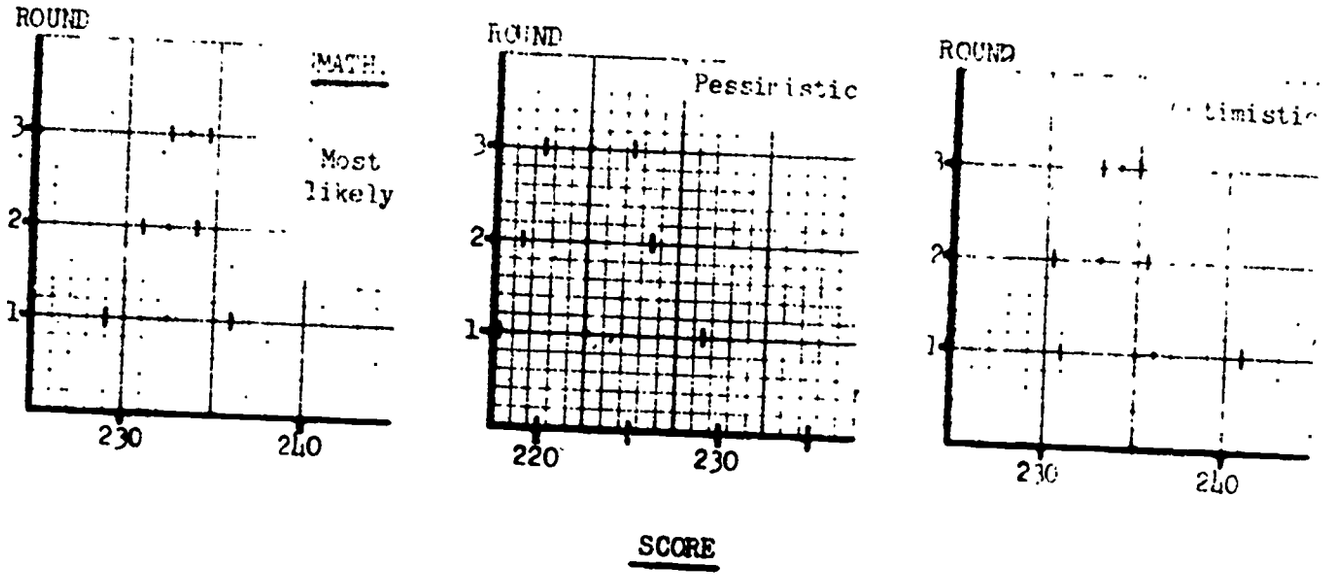
The top line of this figure shows the three estimates for math achievement: most likely, pessimistic, and optimistic. Note how as the rounds proceed, the range of estimates reduces in most cases, showing consensus. In this case the median shifted but little. (These scores are the raw scores of the math achievement test.)

Experts Used

The experiment was run with two separate groups, one consisting of four teachers selected from an elementary school in the district and the other consisting of four administrative personnel.

Figure 1

PROGRAM SET 1-II, TEACHER GROUP



Teacher Results

We will consider first the results of the teacher group alone. These respondents' estimates did tend to converge after two or three rounds. The median of the estimates on each round did not change much, but rather the range of estimation becomes narrower. This result is due to the size of the groups considered. Since there were only four respondents in each group, the median (as the mean of the middle two estimates) is usually unaffected because changes are more likely to be made by persons away from the median.

This observation leads us to ask if the DELPHI rounds lead to estimates which are "significantly" different from say, the mean of the first round estimates. Table 1 contains the mean value for each point. These values are computed for the first and last round, and the estimate on the last round is said to be "significantly" different from that on the first if the first round mean lies outside the total range of estimation for the final round. (Note that this is not the standard use of the term "significant.") The values which are determined to be significantly different are denoted by.*

Set	Round	Math Ach			Read Ach			Turn Rate		
		ML	P	O	ML	P	O	ML	P	O
1-I	First	.25	-7.75	5.5	.75	-8	5.75	.25	3.5	-.75
	Last	0.0*	-7.5	7	.25	-10	6.5*	1	4.5	-.875
1-II	First	-8	-17.5	-4.5	-13.75	-21.25	-8.75	6.25	8	4.75
	Last	-6.75	-16.5	-5.5	-14.25	-22.5	-10.5	5*	8	3
2	First	5.75	0.0	8.75	8	1.25	20	-1	2	-3.25
	Last	5.25	1.5*	9	7.5	2.5	12.25	0.0*	1.75	-.75*
3	First	6.25	-.75	10.5	8	-.5	12.5	1.0	1.25	-3.5
	Last	5.25*	.25*	9.5*	6.25*	.5*	10.5*	0.0	.75	-.75*

Table 1

We see from this table that 13 out of 36 estimates changed "significantly" during the course of the experiment. These shifts, along with the smaller range over which the estimates varied, indicate that the DELPHI procedure leads to a set of estimates which is different from, and which has a narrower margin of error than, a set of values obtained as the mean of the experts first estimates.

Administrator Results

The administrator group exhibited similar characteristics. Median values did not change much from round to round, but the range of estimation became smaller. Table 2 shows the mean value of the four estimates for each point for the first and last rounds.

Since program set 3 was estimated only once for this group, we eliminate the calculation for significance for this set and find that 12 out of 27 estimates changed "significantly" during the course of the experiment.

Set	Round	Math Ach			Read Ach			Turn Rate		
		ML	P	O	ML	P	O	ML	P	O
1-I	First	.5	-4.5	11.25	0.0	-5	10.5	.75	4.25	-2.5
	Last	.5	-2.75*	10*	0.0*	-3	6.75*	.75	3.75	-2.5
1-II	First	-3.25	-12	0.0	-4.75	-11.75	-1	4.75	7	1.5
	Last	-3.75	-13.5	0.0	-7.75*	-13.5*	-2*	3.25	7	.25*
2	First	6	-2.5	11.5	4.5	.25	11	1.25	4.25	-.5
	Last	4.75	-2.25	9	2.25*	-1.25*	8*	1.25	3.75	.5*
3	First	10.5	0	20	11.75	2	23.75	0.0	2.75	-1.25
	Last	10.5	0	29	11.75	2	23.75	0.0	2.75	-1.25

Table 2

Differences Between Groups

Table 3 presents the mean, median and total range of the estimates on the final round. The differences which appear between the teacher group and the administrator group cannot be tested for statistical significance as the sample size is too small, but we can make some observations about trends which seem to be evident. The first general observation is that the administrator group converged to an answer more rapidly in each case, and that the final range of estimation is narrower for this group in more cases than not.

		Program Set 1-I					
		Teacher			Administrator		
		Mean	Median	Total Range	Mean	Median	Total Range
Math	ML	0.0	0.0	--	.5	0.0	0, 2
	P	-7.5	-7.5	-8, -7	-2.75	-3	-4, 0
	O	7	7.5	3, 10	10	10	--
Read	ML	.25	0	0, 1	0	0	--
	P	-10	-8	-20, -5	-3	-2	-7, -1
	O	6.5	8	0, 10	6.75	7.5	2, 10
Turn Rate	ML	1	1	0, 2	.75	0	0, 3
	P	4.5	5	0, 8	3.75	4	1, 6
	O	-.875	0	-5, 1.5	-2.5	-2.5	-5, 0

		Program Set 1-II					
		Teacher			Administrator		
		Mean	Median	Total Range	Mean	Median	Total Range
Math	ML	-6.75	-6.5	-9, -5	-3.75	-3.5	-5, -1
	P	-16.5	-17.5	-20, -11	-13.5	-13	-15, -13
	O	-5.5	-6	-9, -1	0	0	--
Read	ML	-14.25	-12.5	-18, -10	-7.75	-7	-9, -7
	P	-22.5	-22.5	-30, -15	-13.5	-13	-16, -12
	O	-10.5	-10	-14, -8	-2	-2	--
Turn Rate	ML	5	5.5	4, 6	3.25	3	1, 6
	P	8	8.5	6, 10	7	4.5	3, 16
	O	3	3.5	2, 5	.25	0	0, 1

		Program Set 2					
		Teacher			Administrator		
		Mean	Median	Total Range	Mean	Median	Total Range
Math	ML	5.25	5.5	4, 6	4.75	5	2, 7
	P	1.5	1	0, 4	-2.25	-2.5	-4, 0
	O	9	8	5, 15	9	9.5	5, 12
Read	ML	7.5	8	5, 9	2.25	3	0, 3
	P	2.5	2.5	3, 8	-1.25	0	-5, 0
	O	12.25	11.5	6, 20	8	8	--
Turn Rate	ML	0	0	--	1.25	1	0, 3
	P	1.75	2	1, 2	3.75	3.5	2, 6
	O	-.75	-1	-3	5	0	0, 2

		Program Set 3					
		Teacher			Administrator		
		Mean	Median	Total Range	Mean	Median	Total Range
Math	ML	5.25	5	5, 6	10.5	10	10, 12
	P	.25	0	0, 1	0	0	--
	O	9.5	10	8, 10	20	20	15, 25
Read	ML	6.25	6	5, 8	11.75	11.5	10, 14
	P	.5	0	0, 2	2	0	0, 8
	O	10.5	10	10, 12	23.75	20	20, 35
Turn Rate	ML	0	0	-2, 2	0	0	-2, 2
	P	.75	0	0, 3	2.75	2.5	0, 6
	O	-.8	0	-3, 0	-1.25	-1	-3, 0

The administrator group is more optimistic about things as they are now than is the teacher group. In both cases in program set 1, the administrators felt the school system would do better than did the teachers. Indeed, when no changes were made to the system (case I), the administrators felt that the indicators would probably improve, while the teachers felt the opposite. In Case II, both groups felt that things would get worse, but the administrators weren't nearly so pessimistic as the teachers.

In program set 2, when ETV is introduced, the administrators become more cautious than the teachers. The estimates for the math score are very close between groups, but the teachers estimated reading scores much higher than the administrators.

Finally, in program set 3, the administrators once again exhibit their optimism. They indicate that both math and reading scores will improve by twice as much as do the teachers. It would seem that the administrators expect much more from an in-service program than do the teachers.

Reliability of Estimates as Predictors

Students in the sixth grade bottom tenth precentile are currently achieving at the 23rd and 25th national percentile equivalent ranks in reading and math, respectively. With program set 2 in effect, the teacher group would have these students achieving at the 37th and 34th (present) national percentile equivalent ranks and the administrator group would have the students achieving at the 29th and 33rd national ranks in reading and math, respectively. With program set 3 in effect, the teacher group projects these students to the 33rd and 34th ranks, and the administrator group puts them in the 44th and 47th national equivalent ranks. These data are summarized in Table 4.

Table 4

Program Set		National Percentile Equivalent Rank*		
		Present	Teacher	Administrator
2	Read	23	37	29
	Math	25	34	33
3	Read	23	33	44
	Math	25	34	47

*These equivalents are based on present national norms, and have not been projected five years hence.

These equivalents seem rather high. Thus, it would be worthwhile to repeat this experiment using present percentile levels as a basis for estimation rather than scores. The estimates obtained for projected percentile increases or decreases could then be compared to the percentile equivalents of the scores estimated in this experiment.

Conclusions

The results of this experiment indicate that the DELPHI technique has merit as a device to ascertain subjective estimates in the educational context. The comments, both written and verbal, of the participants in this experiment indicated that they were impressed with the method. They felt that it could be used to establish projected outcomes, but that these projections should be supplemented by data from pilot programs implemented in the district.

We suggest that the DELPHI procedure could be used to select the most promising of many proposed projects. Then the selected projects could be pilot tested. The effect of the project could be determined after the pilot was implemented for a sufficient period of time. This would provide a basis for evaluating the accuracy of DELPHI estimates, and would suggest improvements in the procedure.

The procedures employed in this experiment can be improved upon. First, the group tested should be large enough to avoid the problems encountered with the constancy of the median

estimate. Second, the respondents in the experiment should be separated physically if possible. Persons together in a room tend to converse and it becomes difficult to maintain anonymous estimates. Finally, it must be remembered that experts may be unaccustomed to thinking in terms of outcomes. We would expect that their ability as predictors would improve with experience. Indeed, once educators are attuned to thinking about exactly what effect a new program may have, we feel that the DELPHI technique will provide valuable inputs to the educational decision process.

APPENDIX I

PURPOSE AND GENERAL DESIGN

PURPOSE AND GENERAL DESIGN

Introduction

One aspect of the PPBS cycle is the selection of preferred program sets. The purpose of this note is to propose research into the question of how this selection can be improved. This work has two phases: first, the outcome of each program set must be estimated; second, the program sets must be ranked according to preference for the estimated outcomes. The first phase of this work is described in detail herein. The second phase will proceed by attempting to ascertain the school district's utility for the estimated outcomes. This information will be elicited by means of questions asked of the district's policymaker's, and it will provide the basis for establishing a preference relation on the program sets. This phase will be described in detail at a later date.

In order to perform the analysis required to make the "best" selection, it is necessary to estimate the benefits which may accrue from implementing each set. These benefits may be represented by expected changes in present indicator levels. Since no theory exists to relate educational inputs and the educational process to educational outcomes, we must rely on expert judgement to provide estimates estimates of these changes. Further, since the estimates are based on relevant experience, it is desirable to use a group of experts. A more reliable estimate

could then be obtained because the pool of experience from which we may draw has been deepened and widened, and because it more nearly approximates the spread in the school district itself.

The effect which a program set may have on an indicator is uncertain. It may lie within a wide range of values, depending on many factors. Any analysis, which properly takes account of this range, is superior to any analysis which does not. We therefore desire a procedure to obtain not only an estimate of the most likely change, but also an estimate of the range within which the actual change may fall. There are then two aspects of the estimation problem which we must consider. First, how do we obtain reliable estimates of the points in question; second, how do we get consensus estimates from a group of experts?

Estimation

We propose to ask three questions in order to obtain the needed estimates. These questions are based on similar ones used in the PERT (Program Evaluation and Review Technique) analysis to obtain estimates of the time it would take to complete some specified activity. The experience gained in PERT type applications indicates that these questions provide reliable estimates if their intent is well understood. Thus, the respondents must be made to realize that:

1. Estimates should be submitted which are appropriate if the program set is implemented in the present environment and is run properly.

2. Values submitted are only estimates, they are not promises or commitments.

3. Estimates should not include allowance for events which occur very infrequently; e.g., acts of nature, fire, etc.

Then, keeping these points in mind, we will pose the following questions:

A. if this program set were implemented in this district, what is your estimate of the most likely effect it would have on the ___ indicators, five years hence?

B. What is your pessimistic estimate of the effect it would have; that is, there is only one chance in ten of doing worse than your estimate.

C. What is your optimistic estimate of the effect; that is, there is only one chance in ten of doing better than your estimate.

Consensus

In order to obtain consensus estimates of the three points in question, we propose to use the DELPHI technique which has been developed at the RAND Corporation to deal with such problems. This technique has been used successfully by Reisman and Taft* in a California school to obtain consensus estimates

*Taft, M.I. and A. Reisman. "A Systems Approach to the Evaluation and Budgeting of Educational Programs." A paper presented to the 34th National ORSA meeting, Philadelphia, November, 1968.

of the contribution which ten different pieces of audio visual equipment would make to the objectives of the school.

DELPHI employs an anonymous debate to arrive at a consensus estimate of an unknown number. In a series of rounds, respondents are asked to make the estimate in question. These estimates are collected, analyzed, and returned. In the second round the respondents are provided with the median and the interquartile range of the first round estimates; they are not told who made which estimate. They are then asked to re-estimate, and if their new estimate lies outside the interquartile range, they are asked to state, in writing, their reason for this estimate. The new estimates and the outliers' reasons are collected and the new median, the new interquartile range, and the reasons are provided to the respondents for the next round. This procedure terminates when a consensus has been achieved. Experience indicates that three or four rounds are sufficient.

The purpose in using this technique is to achieve fast convergence, and to obtain estimates which are free of any bias. The anonymity of the technique removes the biases which are likely in a face-toface debate. The influence of a dominant personality is not allowed to flourish.

PROPOSED EXPERIMENTAL DESIGN

In order to use the results of this work in testing a procedure to select among program sets, we propose to consider three indicators and three program sets. We further desire to question two groups of about four people each, one composed of teachers and one composed of administrators.

The indicators which we have chosen to consider are defined as follows:

1. Sixth Grade Math Achievement at the Tenth Percentile Rank -- the median score achieved by students at the tenth percentile rank in math on the STEP test administered in the fall.
2. Sixth Grade Reading Achievement at the Tenth Percentile Rank -- the median score achieved by students at the tenth percentile rank in reading on the STEP test administered in the fall.
3. Classroom Teacher Turnover -- the percentage of classroom teachers who will terminate their employment with the school district.

The program sets that we wish to consider are outlined as follows:

Program Set #1

Maintain the present level of activity in the schcols for the next five years; that is, continue present school district programs, do not institute any new ones, and hire only enough classroom teachers to:

CASE I -- maintain the current pupil/teacher ratio.

CASE II --fill any vacancies which occur as a result of teacher separations, but hire no additional teachers as a result of increased enrollment. Here we are allowing the pupil/teacher ratio to rise.

Program Set #2

Continue present programs, maintain the current pupil/teacher ratio, and institute a new program which will make ETV facilities available to all elementary teachers in math and reading classes. The following is an outline of the proposed program:

Facilities

1. There will be one (1) receiver per classroom.
2. Teacher guides will be provided.
3. Pupil study guides and workbooks will be provided.
4. Supervisory and technical consulting help will be available.

Schedule

1. The schedule will be confined to the sender's (Channel 12) schedule.
2. Pupils will receive the following exposure each week in each subject (math and reading):

   K - 2 periods at 20 minutes each

   1 - 2 periods at 20 minutes each

   2 - 2 periods at 30 minutes each

   3 - 2 periods at 30 minutes each

   4,5,6 - 3 periods at 30 minutes each

Program

1. The content of the program will be directed toward the slow learner. Its purpose is to provide drill, response, and reinforcement exercises.
2. The programs will be designed to achieve a defined measurable behavioral objective.
3. In the reading program, heavy emphasis will be placed on phonics and phonetic skills and work analysis.
4. In the math program, emphasis will be placed on understanding the fundamentals of modern math. The programs will attempt to relate basic math concepts to everyday objects and occurrences which the children can comprehend.
5. Finally, it must be emphasized that these programs are designed to supplement the classroom teacher. Their purpose is to provide concentrated exposure to material

which will stimulate the student and thus enhance the classroom presentations made by the teacher.

Program Set #3

Continue present programs, maintain the current pupil/teacher ratio, and conduct on-going in-service courses for elementary teachers in math and reading. An outline of these courses follows:

When

1. Each month during the school year a two hour session will be conducted. These meetings will consist of sessions in math in one month, and sessions in reading in the next, and will alternate for the duration of the school year. Early release from class will be granted for attendance at these sessions, and all elementary teachers will be required to attend.
2. A two week long course in math and a two week long course in reading will be conducted each summer. Attendance at these sessions will be voluntary, and participants will be paid at the going rate.

Program

1. Courses will be conducted by highly trained specialists. Emphasis will be placed on diagnosis, prognosis, and prescription for the slow learner.
2. Teachers will be expected to complete assignments.

3. Reading teachers will be exposed to an array of the newest methods and materials available to teach elementary reading.

4. Math courses will emphasize a solid grounding and/or updating in the newest methods and materials available.

5. Any new materials which the teachers are trained to use, will be made available for use in the classroom during the regular program.

Respondents

The composition of the groups to be questioned has been tentatively agreed upon. The administrator group will consist of one elementary principal, one counselor, and two deans of instruction. These persons are all associated with the elementary level since the program sets are designed to affect indicators at that level. The teacher group should represent a cross section of the elementary teachers in the Pennsbury District. We have tentatively agreed on four teachers with the following characteristics: one each from the first, third, fifth, and sixth grades, each with a different level of experience. A distribution of 3, 5, 6, 10 years of experience is desirable.

DETAILED SCHEDULE OF ACTIVITIES

Preliminaries

1. Agreement on date, time, place, and persons to be involved.
2. Upon agreement, send copies of a paper to be disseminated to each of the participants in advance of the experiment. This paper will contain a discussion of the purpose of the experiment, and the procedure to be followed. It will also contain a description of the program sets and a description of the indicators to be considered, along with a statement about the present level of each indicator.

The Experiment

Respondents will be briefed on the experiment (15 minutes). This briefing will cover the questions to be asked and will attempt to lay the proper groundwork for answers to these questions. Also, the nature and mechanics of the DELPHI procedure will be explained.

A. Begin Program Set #1 (45 minutes)

Round 1

Respondents will be asked to consider Program Set #1 implemented in the district and to make their best estimate of its effect five years hence. Thus, they must estimate nine numbers as indicated in the following table:

Indicator	Most Likely	Pessimistic	Optimistic
1	#1	#2	#3
2	#4	#5	#6
3	#7	#8	#9

The estimates will be written by the respondents on a form identified only by code. These forms will be collected, the data transcribed, and the forms returned to the respondents for reference for round two.

Round 2

Respondents will be informed of the median and the interquartile (IQ) range of their estimate for Cell #1 of the above table. They are then asked to make a new estimate, not necessarily different, based on this information. If their new estimate lies outside the IQ range presented, they are asked to state briefly their reason for this estimate. The new estimate and statement, if any, are written on a new form.

Similar data are presented for cells two through nine and the forms are again collected, the data transcribed and the reasons detached, and the forms returned.

Round 3

Respondents are informed of the median and the interquartile range and any outliers reasons for Cell #1. They are again asked to re-estimate and if they lie outside the new IQ range to state their reason. This procedure is continued for cells two through nine. The forms are again collected, the data transcribed, reasons removed, and the forms returned.

Round 4

Same as round 3. The maximum number of rounds conducted will be four because of time limitations. If no consensus is reached after four rounds, it is doubtful that it will be reached soon.

END PROGRAM SET #1

B. Begin Program Set #2

Same procedure will be followed for program sets two and three as was described for Program Set #1.

END EXPERIMENT

APPENDIX II

INSTRUCTIONS FOR PARTICIPANTS

You have been asked to participate in an experiment in educational decision making. The purpose of this experiment is to test the applicability of some formal decision making concepts to certain decisions which are made in the school district. This work forms a part of the overall Planning, Programming, and Budgeting System project in which your district is participating.

You will be part of a group who will be asked to make estimates of the effect which certain specified program changes (called program sets) in the school district make on certain measures of pupil and district performance (called indicators). We will consider three program sets and three indicators in this experiment, and you will be asked to make three estimates for each set and for each indicator. These estimates are: 1) your best estimate of each program set's most likely effect on each indicator, 2) your pessimistic estimate of each set's effect on each set's effect on each indicator, and 3) your optimistic estimate of each set's effect on each indicator.

Our purpose is to obtain group estimates of these points. In order to accomplish this end, we will employ the DELPHI procedure to collect the estimates. In this procedure, we consider one program set at a time. We proceed through successive estimation rounds, with anonymous feedback between each, to arrive at group estimates of the points in question. In each round you will be asked the following questions for each indicator:

1. If this program set were implemented in this district, what is your estimate of the most likely effect if would have on the ___ indicator, five years hence?
2. What is your pessimistic estimate of the effect it would have; that is, there is only one chance in ten of doing worse than your estimate.
3. What is your optimistic estimate of the effect; that is, there is only one chance in ten of doing better than your estimate.

Your answers to these questions will be written by you on the forms provided. At the end of each round, these forms will be collected, the data transcribed, and the forms returned to you. At no time will any other member of the group be made aware of anyone else's estimate. To preserve this anonymity while providing feedback, we will give the group the median and the interquartile* range of the group's estimates for each point, prior to second round estimation. At the end of the second round, the same procedure will be followed with the addition that anyone whose new estimate lies outside the interquartile range for that point will be asked to write briefly why he or she feels this is so. These reasons, along with the new median and interquartile range, will then be provided as feedback for the next round. The estimation for the first program set continues until either a consensus is reached or four rounds have elasped.

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*The interquartile range is defined as the range within which the middle fifty percent of the estimates lie.

The procedure is then repeated for each of the two remaining program sets.

In order for this experiment to be of use to the district, certain points must be emphasized. First, estimates should be submitted which are appropriate if the program set is implemented in the present environment and the programs are run properly. Second, the values submitted are estimates, not promises or commitments, yet we ask you to consider carefully before you estimate. Finally, the program sets which you will consider are realistic but they are not necessarily under consideration by the district. We ask you to consider them as if they were, and give us your best estimate of the effects they would have if implemented.

These instructions, along with the following descriptions of the indicators and the program sets, will be reviewed before we begin.

INDICATORS

The indicators which we have chosen to consider are defined as follows:

1. Sixth Grade Math Achievement at the Tenth Percentile Rank -- the median score achieved by students at the tenth percentile rank in math on the STEP test administered in the Fall. Presently, this score is 240, and the national norm at this level is 232.
2. Sixth Grade Reading Achievement at the Tenth Percentile Rank -- the median score achieved by students at the tenth percentile rank in reading on the STEP test administered in the Fall. Presently, this score is 242, and the national norm at this level is 233.
3. Classroom Teacher Turnover Rate -- the percentage of classroom teachers who will terminate their employment with the school district. Presently, this rate is 14% a year.

PROGRAM SET #1

Maintain the present level of activity in the schools for the next five years; that is, continue present school district programs, do not institute any new ones, and hire only enough new classroom teachers to:

CASE I -- maintain the current pupil/teacher ratio.

CASE II --fill any vacancies which occur as a result of teacher separations, but hire no additional teachers as a result of increased enrollment. Here we are allowing the pupil/teacher ratio to rise.

PROGRAM SET #2

Continue present programs, maintain the current pupil/teacher ratio, and institute a new program which will make ETV facilities available to all elementary teachers in math and reading classes. The following is an outline of this program:

Facilities

1. There will be one (1) receiver per classroom.
2. Teacher guides will be provided.
3. Pupil study guides and workbooks will be provided.
4. Supervisory and technical consulting help will be available.

Schedule

1. The schedule will be confined to the sender's (Ch. 12) schedule.
2. Pupils will receive the following exposure each week in each subject (math and reading):

   K -- 2 periods at 20 minutes each

   1 -- 2 periods at 20 minutes each

   2 -- 2 periods at 30 minutes each

   3 -- 2 periods at 30 minutes each 4,5,6 -- 3 periods at 30 minutes each

Program

1. The content of the program will be directed toward the slow learner. Its purpose is to provide drill, response, and reinforcement exercises.
2. The programs will be designed to achieve a defined measurable behavioral objective.
3. In the reading program, heavy emphasis will be placed on phonics and phonetic skills and work analysis.
4. In the math program, emphasis will be placed on understanding the fundamentals of modern math. The programs will attempt to relate basic math concepts to every day objects and occurrences which the children can comprehend.
5. Finally, it must be emphasized that these programs are designed to supplement the classroom teacher. Their purpose is to provide concentrated exposure to material which will stimulate the student and thus enhance the classroom presentations made by the teacher.

PROGRAM SET #3

Continue present programs, maintain the current pupil/teacher ratio, and conduct ongoing in-service courses for elementary teachers in math and reading. An outline of these courses follows:

When

1. Each month during the school year a two hour session will be conducted. These meetings will consist of sessions in math in one month, and sessions in reading in th next, and will alternate for the duration of the school year. Early release from class will be granted for attendance at these sessions, and all elementary teachers will be required to attend.
2. A two week long course in math and a two week long course in reading will be conducted each summer. Attendance at these sessions will be voluntary, and the participants will be paid at the going rate.

Program

1. Courses will be conducted by highly trained specialists. Emphasis will be placed on diagnosis, prognosis, and prescription for the slow learner.
2. Teachers will be expected to complete assignments.

3. Reading teachers will be exposed to an array of the newest methods and materials available to teach elementary reading.

4. Math courses will emphasize a solid grounding and/or updating in the newest methods and materials available to teach math.

5. Any new materials which the teachers are trained to use, will be made available for use in the classroom during the regular program.

Duration

1. These courses will be conducted each year for the next five years.

APPENDIX III

DATA FORMS

A / B 1 2 3 4

PROGRAM SET _____

ROUND _____

Math, ML -- _____

Math, P -- _____

Math, O -- _____

Read, ML -- _____

Read, P -- _____

Read, O -- _____

Turn, ML -- _____

Turn, P -- _____

Turn, O -- _____

PROGRAM SET 1

ROUND ____

CASE I

Indicator	Most Likely	Pessimistic	Optimistic
Math Ach			
Read Ach			
Turn Rate			

CASE II

Indicator	Most Likely	Pessimistic	Optimistic
Math Ach			
Read Ach			
Turn Rate			

PRIOR ROUND SUMMARY DATA

CASE I

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	O
Median									
Range									

CASE II

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	O
Median									
Range									

APPENDIX IV

TYPICAL DATA BY ROUND

A / B 1 2 3 4

PROGRAM SET 1

ROUND ____

CASE I

Indicator	Most Likely	Pessimistic	Optimistic
Math Ach			
Read Ach			
Turn Rate			

CASE II

Indicator	Most Likely	Pessimistic	Optimistic
Math Ach			
Read Ach			
Turn Rate			

PRIOR ROUND SUMMARY DATA

CASE I

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	O
Median									
Range									

CASE II

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	O
Median									
Range									

TEAMS

PROGRAM SET 2

ROUND 2

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	MD	P	C
1	4	-2	5	5	-3	5	C	2	-3
2	10	2	20	15	5	30	O	1	C
3	6	4	8	11	8	15	O	2	-5
4	5	0	8	5	C	8	O	2	-3
Median	5.5	1	8	8	2.5	11½	O	2	-2.5
Range	4 7	-½ 2½	4.2 11.8	5.5 6.5	-.2 5.2	5.2 17.8	—	1.5 2.2	-3.5 -1.2

Teachers

PROGRAM SET 2

ROUND 1

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	
1	2	-4	5	1	-3	5	0	2	-2
2	10	5	20	15	5	50	0	1	0
3	6	4	8	11	8	15	-4	0	-6
4	5	-5	10	5	-5	10	0	5	-5
Median	5.5	0	8.5	8	1	12.5	0	1.5	-3
Range	3.5 / 7.5	-2.5 / 2.5	4.8 / 12.2	4.5 / 11.5	-1.2 / 3.2	12 / 23.8	-1 / 1	4.2 / 2.8	-5 / -2

TEACHERS

PROGRAM SET 2

ROUND 9

	Math Ach			Read Ach			Turn Rate		
	ML	P	O	ML	P	O	ML	P	O
1	4	0	5	7	-3	6			
2	6	2	15	9	5	20			
3	6	4	8	9	8	15			
4	5	0	8	5	0	8			
Median	5.5	1	8	8	2.5	11.5			
Range	5 | 6	0 | 2	5 5 | 0.5	7 | 9	-1 | 6	8 | 15			

Teachers

PROGRAM SET 2

ROUND 3

	Math Ach					Read Ach					Turn Rate				
	ML	P	O			ML	P	O			ML	P	O		
1	4	0	5			6	-3	6					-2		
2	10	2	20			10	5	30					0		
3	6	4	8			10	8	15					2		
4	5	0	8			5	0	8					-3		
Median	4.5	1	8			8	2.5	11.2					-1		
Range	3	6	0	2	4.2	11.8	6.8	9.2	-.2	6.2	5.5	17.5	-2.2	.2	

Appendix B

Inventory of Automated Programs and Reports

Program Name	Program Purpose	Module
Enrollment Simulator	Projects Y1-Y5 enrollment by ethnic group, by grade, and by school.	ENROLLMENT
Basic File Playback and Planning Unit Cost Model	Prints formatted reports of all data input and projects Y1-Y5 costs by planning unit.	COST
Program Cost Model	Aggregates Y1-Y5 planning unit costs by program and prints detail program reports and resource requirement summary for the district.	COST
Site Cost Model	Aggregates Y1-Y5 planning unit costs by site and prints site detail reports.	COST
Project Cost Model	Aggregates Y1-Y5 planning unit costs by project and prints project detail reports.	COST
Trend Analysis	Projects data series values into the future.	REVENUE
Revenue Simulator	Projects Y1-Y5 revenues by source, and tests revenue feasibility of a program.	REVENUE

Report Name	Contents	Module
Ethnic Composition of Census Tracts for 1970	1970 non-white and white population by census tract, ratio of 1970 ethnic group population by census tract to 1970 total ethnic group population.	ENROLLMENT
Ethnic Group Population Forecast	CY and Y1-Y5 ethnic group population forecast by time trend.	ENROLLMENT
Ethnic Group Population Forecast	CY and Y1-Y5 ethnic group population forecast by estimation of district planners.	ENROLLMENT
Racial Composition of Census Tracts in Percents	Racial composition of census tracts in percent for 1940, 1950, 1960, 1970 and the CY and Y1-Y5.	ENROLLMENT
Population Forecast	Population forecast by census tract, by ethnic group for 1970 and the CY and Y1-Y5.	ENROLLMENT
Population Density	Population density per gross acre for 1970 and CY and Y1-Y5, and also per residential acre.	ENROLLMENT
Assignment of School Service Areas to Census Tracts	Lists the percent of a census tract (based upon area) in a school service area for all public schools.	ENROLLMENT
Public Enrollment Factors	Lists CY public enrollment by ethnic group, by grade, CY total population by ethnic group, and the CY enrollment per thousand in the CY population by ethnic group and grade.	ENROLLMENT

Report Name	Contents	Module
School Enrollment Forecast	CY actual enrollment and Y1-Y5 enrollment forecast by ethnic group, by grade, and by school, and by ethnic group, by grade group, by school.	ENROLLMENT
Enrollment Forecast by Grade	CY actual enrollment and Y1-Y5 enrollment forecast by grade, and total.	ENROLLMENT
Secondary Enrollment Forecast	CY actual secondary enrollment by ethnic group, by secondary program, percent composition of each secondary program by ethnic group to total secondary enrollment, and Y1-Y5 secondary enrollment forecast by ethnic group, by secondary program.	ENROLLMENT
Enrollment Forecast by Program	CY actual enrollment and Y1-Y5 enrollment forecast by program, by ethnic group.	ENROLLMENT
Enrollment Forecast by School	CY actual enrollment and Y1-Y5 enrollment forecast by school.	ENROLLMENT
Special Education Enrollment Forecast	Special education enrollment factor per thousand in the population by ethnic group for the current year, and the CY actual special education enrollment, and Y1-Y5 special education forecast by ethnic group, by level.	ENROLLMENT

Report Name	Contents	Module
Continuing Education Forecast	Continuing Education enrollment factor per thousand in the population by ethnic group for the current year, and the CY actual and Y1-Y5 forecast of continuing education enrollment by ethnic group.	ENROLLMENT
Summary of Enrollment Forecast Input for Revenue Simulator	CY and Y1-Y5 enrollment forecast by enrollment category for input to the Revenue Module.	ENROLLMENT
Playback Report	Formatted reports of data input for each permanent data input type and by planning unit.	COST
Planning Unit Detail	Y1-Y5 costs by cost type (staff, non-staff, capital outlay, and local cost) for a planning unit.	COST
Program Detail	Y1-Y5 costs by cost type by program.	COST
Program Summary	Y1-Y5 cost summary by program.	COST
Site Detail	Y1-Y5 costs by cost type by site.	COST
Project Detail	Y1-Y5 costs by cost type by project.	COST
District Resource Requirements Summary	CY and Y1-Y5 costs by cost type.	COST
Manpower	Y1-Y5 number of positions by staff type and the number of hires by staff type for the district.	COST

Report Name	Contents	Module
Real Estate Tax Revenue Forecast	Y1-Y5 total real estate tax revenues at the current year tax rate.	REVENUE
Transportation Aid Forecast	Y1-Y5 expected Transportation Aid.	REVENUE
Atypical Pupil Aid Forecast	Y1-Y5 expected Atypical Pupil Aid.	REVENUE
Formula Aid Forecast	Y1-Y5 Formula Aid and Y1-Y5 Total Present Aid	REVENUE
Revenue Forecast, All Local Sources	Y1-Y5 Revenues by Local Source, and Total Revenue All Local Sources.	REVENUE
Revenue Forecast, All Federal Sources	Y1-Y5 revenues by federal current expense source and total revenue from federal Current expense sources, and Y1-Y5 revenues by federal categorical source and total revenue from federal categorical sources.	REVENUE
Enrollment Data Input to Incentive-Equalization Aid Formula	Y1-Y5 resident enrollment by enrollment category and Y1-Y5 weighted enrollment by enrollment category.	REVENUE
Equalized Tax Rate for Incentive-Equalization Aid	Y1-Y5 equalized school tax rate used in calculating incentive-equalization aid.	REVENUE

Report Name	Contents	Module
State Incentive-Equalization Forecast	Y1-Y5 state aid payable under Incentive-Equalization Aid.	REVENUE
Revenue Forecast, All State Sources	Y1-Y5 revenues by state current expense source and total revenues from state current expense sources, and Y1-Y5 revenues by state categorical source and total revenue from state categorical sources.	REVENUE
Total Revenue Forecast	Y1-Y5 total current expense revenues, Y1-Y5 total categorical revenues, and Y1-Y5 total revenues from all sources.	REVENUE
Revenue Feasibility for the Current Expense Program	Y1-Y5 total current expense revenues, Y1-Y5 total current expense costs, and Y1-Y5 real estate tax rate required to cover any Y1-Y5 deficit.	REVENUE
Revenue Summary Report	Y1-Y5 revenue summary by major source: real estate tax, other local sources, state, and federal, and annual revenues by source as a percent of annual operating costs.	REVENUE