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Andrews University
School of Graduate Studies

MICRO-LEVEL ENROLLMENT PROJECTIONS - A STUDY
INVOLVING THE PARISH OF HANOVER, JAMAICA

A Thesis
Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
E. G. Marshalleck
May 1976

Approved

Robert J. Grimes

ABSTRACT OF GRADUATE STUDENT RESEARCH

Thesis

Andrews University

Department of Education

Title: MICRO-LEVEL ENROLLMENT PROJECTIONS - A STUDY INVOLVING THE
PARISH OF HANOVER, JAMAICA

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Date completed: May 1976

Problem

While global forecasts of pupil populations are vital to educational planning, projections at micro-level are even more pertinent to detailed planning.

In Jamaica, the need for local level forecasts becomes particularly apparent every September, when there is great pressure from would-be pupils on urban school accommodation.

Method

The review of literature was aimed at identifying projection methods feasible for micro-level applications. The following three methods, identified by Webster (1969) as about the most efficient of seventeen ratio and regression methods of pupil projection which he investigated, were selected for testing on data for the parish of Hanover, Jamaica: Transition Analysis, Time Analysis, and Cohort Survival. Transition Analysis and Cohort Survival utilize birth and

enrollment data as predictors. Time Analysis utilizes time and enrollment. The research also involved the creation of fourteen "school districts" in the parish on the basis of physiographic features. Districts were also classified according to previous population change.

Results

Utilizing birth data for 1958/59-1966/67 and enrollment data for 1965/66-1973/74, two sets of projections based on time spans of 8-7 and 6-5 years were made for each of the three methods in seven districts. These projections were gauged against actual enrollment for 1973/74, the third succeeding and immediately succeeding year for the above periods. Both Time Analysis and Cohort Survival yielded better estimates than Transition Analysis with Time Analysis having the edge over Cohort Survival. Since Transition Analysis fell short of expectations and since it was suspected that small, erratic figures were the cause, the methods were tested on total figures for the parish. Here Transition Analysis performed best of the three methods.

Conclusion

Either Time Analysis or Cohort Survival could provide better estimates of future student flows than Transition Analysis in small districts with features like Hanover. On larger, more ordered figures, Transition Analysis might perform best of the three. Tests of the three methods should therefore precede application elsewhere. Statistical methods may usefully be supplemented by other means of estimating population change like the Delphi Technique described in Appendix E.

Further work involving the above techniques is recommended.

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The responsibility for any deficiencies in the study is mine, but so also is the pleasure of producing something which may be of interest and profit.

Finally, my euphoria at finishing must not hinder my acknowledgment to the One without whose help "no work under the sun" is conceived and accomplished.

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CHAPTER I

INTRODUCTION

No human undertaking takes place without planning of some type. This planning may be of any gradation along a scale from simple to sophisticated. In the complex societies of today's developed world, planning has become a complicated tool employed by the leadership of most organizations (Brooks 1972). In fact, the more ambitious the enterprise, the more detailed and refined the planning mechanisms employed; and the more precise the planning and evaluation, the more certain of success the results.

Crucial to the planning and evaluation process is an adequate information system (Brooks 1972). The more timely, relevant and exact the information is, then the more valuable it becomes for providing a basis for planning and decision making.

The field of education is no exception. Modern states recognize as their responsibility the education of their citizens. The age group of primary concern, the types of education to be provided, the financial bases for these are matters of governmental policy. Intelligent development or application of these policies depends inevitably on a knowledge of pupil populations. The more precisely these are known in terms of size, categories and locations the more clearly can a government, a state or a district plan the educational

program. The number of teachers required, their qualifications and specialities, the type and location of facilities, the amount and kinds of amenities and materials to be provided, all are best related directly to this knowledge. From an economic viewpoint, the administration can, on the basis of this knowledge of pupil populations take an inventory of one segment of its human resources and assess its development.

Since planning has a futures orientation, required information on pupil populations goes beyond a description of present numbers. The forecasting of student flows is recognized as a basic and continuing problem for the educational administrator (Greenawalt and Mitchell, 1966; Correa, 1969).

Further, while global forecasts may be informative and valuable, it is at local levels that such information is most pertinent. It is at local levels that the impact of planning mistakes is most acutely felt.

Statement of the Problem

In view of the above considerations this study investigates the feasibility of making reasonable pupil population forecasts, at local levels, in a developing country, Jamaica. While pupil population projections at nationwide level have been undertaken in Jamaica, little if anything has been done, by way of pupil forecasting at local--or micro levels. It was to this problem that the study addressed itself, focusing on the small rural parish of Hanover, Jamaica.

Need for the Study

Every September in the recent past, the Jamaican educational administration has faced the problem of inadequate school accommodation, particularly in the urban areas. Long lines of anxious parents and children wait at primary and all age school doors, while school principals attempt to enlarge already large classes, and the administration makes ad hoc arrangements for emergency classrooms or for redirecting pupils to schools which "can take them."

In the rural areas, a situation of a different kind is hypothesized to exist. Not all children of school age attend school, yet many rural school buildings are under utilized. The question for educational planners, therefore, is: Exactly where, in relation to the school buildings are the school children, and what will be this relationship in the future?

The vital need for this information is more fully appreciated when the country's socio-economic history is taken into account. This small island, 4,244 square miles in area, supports a population of approximately two million people (Statistical Abstract, 1973, p. 2, Statistical Yearbook of Jamaica, 1974, pp. 1, 117).

The idea of a universal system of public education dates from 1835 when the Negro Education Grant was made to the colonies by the British Government, following the Emancipation Act of 1833.

The financial provisions under the Act ceased in 1845. In the succeeding century, educational policy and financial provisions, for a variety of reasons, remained inadequate in terms of utilitarian value and availability to the populace. The Moyne Report following

the riots in the West Indies in the late 1930's stated that, "an examination of the working of the educational system reveals serious inadequacies in almost every aspect" (Gordon, 1963, p. 293).

Although significant progress has been made economically and educationally since then, the country is still relatively poor, and educational provision is still inadequate. To illustrate, an average annual growth rate of 10.19 per cent in the Gross Domestic Product is reported as taking place between the years 1953 and 1962. An average of 10.95 per cent was maintained over the years 1963 to 1973, with the average for the five years 1969-1973 being 12.92 per cent (Jamaica; Five Year Independence Plan 1963-1968, p. 12; Statistical Yearbook of Jamaica 1974, p. 965). Still, the majority of the people are poor. Median monthly income in October 1973 was reported as being between \$J10 - 20 (\$11 - \$22 U.S.) (Statistical Yearbook, 1974, pp. 675, 700). At the same time 22.4 percent of the labor force was unemployed.

Regarding educational improvements, during the late 1950's and on into the 1960's the government moved to expand educational provision. Foreign aid and loans from Britain, Canada, the United States and the World Bank were secured, enabling the construction of new primary schools and a new category of schools, the Junior Secondary Schools. Sixty-seven of the latter, with accommodation for 53,000 students now exist. A complementary expansion of high school facilities to receive at least the best of these Junior Secondary School leavers did not take place. To remedy this deficiency, the Government in 1973 decided that all fifteen year olds would be kept on in these schools until age seventeen.

Concern for the development of the Island's human resources also led to the establishment of Youth Camps and Industrial Training centers, presently under the control of the Ministry of Youth and Community Development. Since 1972 an accelerated program for adult literacy was set up under the Prime Minister's Office. The National Youth Service, introduced in 1973, has placed numbers of young high school graduates to serve in educational institutions.

The provision of facilities for the school age population remains inadequate, however. It was estimated that in 1974 upwards of some 200,000 Jamaican children between the ages of 4 and 17 would not find places in schools (Planning Document--Ministry of Education Jamaica, 1974).

In such a situation there is great need for the educational planners to know as much as possible about the size and location of the country's human resources, particularly those of school age. This knowledge facilitates capital planning and the development of innovative measures and special programs.

Purposes of the Study

The primary purpose of this study was to test for projection efficiency, at micro levels, the following three enrollment projection methodologies, identified by Webster (1969, 1971) as about the most efficient of seventeen projection methodologies which he investigated:

1. Cohort Survival
2. Transition Analysis
3. Time Analysis

To provide a rationale for the selection of the three methodologies, as appropriate to the Hanover, Jamaica, situation, the literature on enrollment projection methodologies was reviewed extensively. This review provided not only the required rationale but also an overview of projection methodologies which could be of future interest to Jamaican educational planners. As such, it constituted a subsidiary purpose of the study.

In testing the efficiency of the three methodologies it was necessary to simulate as far as possible, the conditions of the Webster (1969) study. First, this involved delineating school "districts" for the parish of Hanover. Since a school district in the American sense, that is, a recognized, discrete administrative unit does not exist in Jamaica, the parish was divided into school districts on the basis of physiographic and economic features which it was felt provided for discreteness. A test for this discreteness was made by comparing the estimated school age population in the districts in two post censal years (1961 and 1971) with the 1961 and 1971 September school district enrollments. Investigating the feasibility of creating such school districts became another subsidiary purpose of the study.

Finally, it was intended that, based on the findings regarding efficiency of the methodologies, and the study generally, either projections for future years, or recommendations bearing on the estimation of student flows, would be made.

Delimitations of the Study

The fact that the study focuses on a small rural parish in Jamaica must be borne in mind. It cannot be regarded as a typical parish, if such exists.

The bases for the creation of the school districts are necessarily artificial--a fact which must also be borne in mind both in respect of the assumptions regarding discreteness of the districts and in any attempts at practical application.

The census, birth and enrollment data utilized in this study were obtained from official sources but must, as with similar data elsewhere, be accepted as less than absolutely accurate.

Organization of the Study

Chapter I has presented the statement of the problem and the purposes of the study, together with its assumptions and delimitations. It has also commented on the economic-educational situation in Jamaica.

Chapter II reviews the relevant literature.

Chapter III describes the methodology.

Chapter IV analyzes the findings.

Chapter V recapitulates, lists the conclusions and makes recommendations for further work.

CHAPTER II

REVIEW OF THE RELEVANT LITERATURE

The literature relevant to this study will be reviewed under the following headings:

1. Literature dealing with enrollment projection techniques.
2. Literature dealing with Jamaican population features, including population projections.

Literature on Enrollment Projection Techniques

The focus of research was on techniques applicable at school district level. The list below is the result of a fairly comprehensive review of the literature. A discussion of the various techniques follows.

1. Census Class Projection Method
2. Bell Telephone Method
3. Ratio and Cohort Survival Techniques
4. Housing Projection Method
5. Regression Techniques
6. Structural Flow Models
7. Probabilistic Models

Census Class Projection Method

Strevell (1952) shows that this method depends on a district maintaining a dependable school census from birth to 18 years. By

posting this data for ten or more years and examining it for internal consistency, migration ratios will be established as well as ratios of the age levels enrolled. From these, projections may be made regarding enrollments in the successive age groups. He points to the necessity of evaluating migration trends (more than 2 per cent to be closely watched) and of identifying limiting factors which may exist in the situation, such as probable economic changes or residential dwelling saturation. He advised that judgment on the broadest array of objective evidence and a thorough inspection of trends in the wider market area must be exercised.

The assumptions of the model are said to be:

1. Private and parochial school attendance will vary with population changes.
2. Educational policy regarding pre-primary attendance will continue unchanged.
3. High school holding power and the like will continue.

These assumptions should be tested by field investigation. The Table in Appendix A illustrates the model.

This model would not be applicable in the present study since no such censuses have been taken in the parish. It might be of interest for future work in educational planning.

Bell Telephone Method

Holy and Whitehead (1950) describe the Bell Telephone Method as one based on careful studies of total population in small areas, known as house-count sections, within a community. Analyses of births, deaths and migration data are made. The estimates are then translated

into estimated school enrollments. This method was said to be particularly useful in determining the distribution of enrollment within the school district.

Like the census class method, this method might be of interest to the educational planner.

Ratio and Cohort Survival Techniques

This is by far the most common technique described and assessed in the literature (Jaffe, 1969; Larson & Strevell, 1952; Strevell, 1952; Waski, 1971; Webster, 1969; Zimmer, 1971 among others).

Jaffe lists this method as a short term technique. He shows that it may bear other labels such as Grade Persistence Ratios or be modified using a linear regression method. Residential birth and enrollment data are required, from which are computed ratios of cohort survival or retention from birth to kindergarten, to grade 1 and onwards. The ratios are then either averaged over five years and used, or the ratios used to construct a regression line. These statistics form the basis for predicting future enrollments from existing or estimated data on births and enrollments.

Webster (1969, p. 116), in examining the efficiency of seventeen different kinds of projection methodologies, found the Cohort Survival technique less efficient than his Transition Analysis, a regression technique. However, it proved adequate, according to his criteria, in three out of five of the school district categories in which the various methodologies were tried. Other opinions on the efficiency of this model vary. Joss (1969) did not consider it highly efficient, particularly over long term periods (more than three years). Zimmer (1971) felt, however, that this and the Markov model,

considered later, offered flexibility in options for improving projections, through incrementing or decrementing probabilities, based on knowledge of systems changes.

It is proposed to test the efficiency of this method in this study.

Housing Projection Method

Strevell (1952) and Jaffe (1969, pp. 39 et seq.) provide significant information on this methodology. An inventory of housing in the community is necessary. Estimates of the average numbers of pupils yielded by each type of housing unit are also necessary. Specially constructed semi-transparent grid maps are used and layered over the areas under study.

Among the modifying factors to be considered in the use of this technique are:

1. the state of present and future real estate activity in the area;
2. the type of housing and the likely age level and fertility patterns of purchasers; and
3. the occupation probabilities for the particular housing--for example, the question of whether families will move out within five to ten years or remain past child bearing age--and also whether the area's second or third series of occupants will be from middle or lower income groups.

Jaffe (1969) suggests that this method should be used in conjunction with the Cohort Survival method (already described), each a check on the other.

Regression Techniques

These may be classified into simple or multiple linear regression models, depending on the number of predictor variables utilized. Webster (1969) examined twelve methods of regression analysis utilizing different combinations of predictor variables and concluded that one--Transition Analysis based on past tendencies of students to advance from one grade to the next--yielded an overall best estimate of enrollment in four out of five types of school districts categorized according to previous population growth. Appendix B1 lists both the ratio and regression models which he investigated and Appendix B2 displays the results.

The following observations taken from this study are worthy of note:

1. linear regression is a non-analytic tool in the sense that there is no underlying theory of human behavior which suggests such linear functions (p. 41);
2. due to high intercorrelations among the predictor variables regression equations utilizing more than two predictor variables seemed inapplicable (p. 124); and
3. since Transition Analysis, a regression approach, appeared to supply adequate projections of future school enrollment across all districts, it appeared that one could not go too far wrong in using Transition Analysis (p. 121).

Subsequent to his 1969 study, Webster in 1971 analyzed seven methodologies including Transition Analysis, Cohort Survival and Time Analysis. Time Analysis (past relationship between public school

enrollment and time) showed considerable accuracy in one of the five district categories--Stratum D. Cohort Survival, the ratio method performed poorly in Stratum B. Transition Analysis and Cohort Survival, in keeping with the results of Webster's previous research, produced significantly more accurate projections than the others. He qualified his conclusions by saying that the results were still tentative and that the study should be replicated. He also felt that in districts with unusual growth characteristics, a local survey that considered a larger number of demographic variables was needed to obtain consistently adequate projections of future school enrollment.

Taking account of the above and of Wasik's (1971) conclusion that models of the regression form were likely to provide the most efficient means for singular estimates of enrollment, it is proposed to test the efficiency of two regression methods, Transition Analysis and Time Analysis. This will be in addition to testing the Cohort Survival Method already described.

Structural Flow Models

Wasik (1971, p. 8) defined structural flows for the purpose of his paper, as models which quantify certain structural relationships among the various factors in the system. He notes that structural models have been widely used to study the flow of students through the system of graduate education in the United States; that the Organization for Economic Co-operation and Development has sponsored the development of models for education utilizing the structural state flow concept; that while the U.S. models were aimed at

estimating flows through the higher education system, OECD planners have developed models of the primary and secondary educational system which include investigation of how the system relates to the economic and/or social subsystems of a particular country.

Correa (1969, pp. 59, 68, 75-77) presents such a model. His premises take account of a situation where enrollment and/or attendance are not compulsory. He therefore presents two methods of prediction--one which considers only the influence of population growth on student flows, and a second which assumes a growth in student population arising from increased per capita income.

His basic equations are built on global figures for new entrants, re-entrants, repeaters from previous school year, graduates, and dropouts such that students at time $t =$

$$s_t = n_t + r_t - b_t - d_t^1$$

$$s_t = g_t + a_t + r_{t+1} + d_t^2$$

Where S = number of students at time t

n_t = number of new entrants

r_t = number of repeaters from the previous school period

b_t = dropouts before time

d_t^1 = deaths before time

g_t = graduates

a_t = dropouts after time t

r = repeaters going to the same grade

$t+1$ = next school period

d_t^2 = deaths after time t

Projections will be based on ratios of:

1. $\frac{\text{New enrollment}}{\text{School age population}}$
2. $\frac{\text{Repeaters}}{\text{Total inputs}}$
3. $\frac{\text{Dropouts before pivotal year}}{\text{Total inputs}}$
4. $\frac{\text{Deaths before pivotal year}}{\text{Total inputs}}$
5. $\frac{\text{Dropouts during and after pivotal year}}{\text{Enrollment pivotal year}}$
6. $\frac{\text{Repeaters passing to next structure}}{\text{Enrollment pivotal year}}$
7. $\frac{\text{Deaths during and after pivotal year}}{\text{Enrollment pivotal year}}$
8. $\frac{\text{Graduates}}{\text{Enrollment pivotal year}}$

Equations are provided for estimations at High School and College levels but are similar to the equations cited above, taking into account the relevant ratios.

On the subject of projecting increases in enrollment where less than 100 per cent enter the school system, Correa (1969) assumes a one-factor influence on six-year old entrants, i.e. per capita income. He admits that there may be other influencing factors, however. He introduces the concept of elasticity, e_t , which is the ratio between increasing proportions of six-year olds entering school and increasing per capita incomes.

The equation is

$$E_t = \frac{\frac{\Delta T_{h6}}{T_{h6}}}{\frac{\Delta Y_6}{Y_6}}$$

Where ΔT_{h6} = the change from year h to year $h + 1$ in the value of t (proportions of new entrants) for 6 year olds i.e.

$$\Delta T_{h,6} = T_{h+1,6} - T_{h,6}$$

Y_h = per capita income in year h and

ΔY_h = the change from year h to year $h + 1$ in the value of per capita income i.e.

$$\Delta Y_h = Y_{h+1} - Y_h$$

These elasticity figures for several pairs of years cannot be used uncritically, however. To obtain a figure for projecting new entrants, the average of the last two elasticities is used. The influence of per capita income increase is also calculated into the parameters for graduates, dropouts, repeaters and deaths in elementary school.

Projection of student flows at high school and college levels is also dealt with. Use of the method at college level is subject to modification since results might be unreasonable.

It should be noted that Correa presents a planning model. No comment on its efficiency is made, though reference is made to a computerized application described in a simulation model for educational planning in Puerto Rico.

The model has been described in this detail since it recognizes the potential fluctuations in enrollment arising from economic and other influences in developing countries like Jamaica where compulsory education has not been enforced. It is not applicable for this study since it would be most applicable to global estimations of enrollment.

Probabilistic Models

Markov Chain Models and Monte Carlo simulation models would fall under this heading. They are of particular interest as they offer flexibility for reflecting systems changes which affect enrollment. Mohrenweiser (1969) felt that the Markov model offered additional planning information and permitted simulations of outcomes which might occur from sudden changes in migration and policies. Zimmer (1971) investigated four projection methods against the Minnesota State College System and felt that the Markov chain and the Survival-growth simulation models were flexible in offering options whereby projection accuracy might be improved.

Wasik (1971, p. 10 et seq.) describes the classical Markov process. Subjects within the population of interest are distributed into a set of mutually exclusive "states." These states include various levels of the educational system as well as conditions outside the system. Examples of these states would be Elementary School, Junior High School and other states on through College, then out of school. Parameters of the model are estimated by the obtained transition proportion of the movement of individuals in state i at the time t who will be in the same or different state at time $t+1$. Time units may be defined as quarter, semester or single years.

Since the first application of the Markov Chain Theory to model flow through an educational system by Savage and Brown (1960), several applications have been tried. Studies have been done in Australia (Gani, 1963) to predict enrollment and number of degrees attained in Australian Universities; in Britain (Armitage and Smith, 1967); in the U.S. (Gani, 1965; Wong, 1970) and in Norway (Thonstad, 1967).

Zabrowski (1967) and Wasik (1971) describe Dynamod II, a modified Markov model. It was used to calculate the numbers of individuals in 140 district population groups over selected periods of time. Separate transition matrices were estimated for each of four sex-race groups across 30 age-educational states with one state to represent deaths. The model equation states that the number of persons in a particular category in the year $t + 1$ is equal to the number of persons in that category in year t who remained, plus the number of persons who switch to that category, plus births in the appropriate instances. Zabrowski checked the model against ten year projections developed in the Office of Education and the Bureau of Census and concluded that Dynamod II gave a reasonable fit to these independent external estimates.

The Markov Model requires actual information on the movements of individual students through their educational careers. It therefore will not be used in this study.

Denham (1971) used multivariable techniques on such variables as migration, retention and transfers, producing probable estimates for each: a high, a low and a most likely. A Monte Carlo computer simulation program was written to combine these various estimates into probability distributions of enrollment predictions. It was felt that this method would help the users of enrollment projection information to gain insight into the degree of confidence which the forecaster has in the various estimates.

The method is new and additional tests are required to establish its overall applicability. It will not be used in this study.

In conclusion, two other areas of observation on enrollment projections should be mentioned. First, Jaffe (1969, p. 19), in commenting on long and short-range projections in small school districts, advises that in districts with school populations below 6,000, statistically reliable long-range projections are not feasible; that districts of less than 3,000 are definitely too small to make long-range projections; that even short-run projections are of questionable value. In view of this, alternative projections should be made and constantly updated. On the question of long-range projections, he suggests the making of projections of public school enrollments for the state and then working down to county and local school district level. He outlines a number of steps to be taken in developing these estimates but advises against mechanical applications. A knowledge of local conditions is necessary for proper estimation. Second, Liu (1966), in considering global estimations of future school enrollments in developing countries, suggests the use of cohort survival and ratio methods, modified by knowledge of past trends, overall population estimates for future years, and new policies.

The question of overall estimates of future population leads to the consideration of the literature on Jamaican population features.

Literature on Jamaican Population Trends

In a recent study of population movement in Jamaica (Roberts, Powell, Sinclair, Boland & Hewitt, 1974), pertinent information is provided on Jamaican population trends in general and on population features in the various parishes. Significant features are:

1. continued high fertility rates and low mortality rates;

2. high external migration rates;
3. the marked rises since 1943 in the population under age 15 as a proportion of the whole due to the factors mentioned above (see Figure 1); and
4. reported improvements in primary school enrollment in the 1970 census.

On the population features of Hanover, the following facts are of interest:

1. as Appendix C1 on the proportional distribution of population by parish 1921-1970 shows, Hanover slipped from penultimate place in 1921 and 1943 to last place in 1960 and 1970; and
2. according to the tables in Appendix C2 showing parish population changes 1960-1970 Hanover shows a loss in 1970 of 9 per cent over the 1960 figures. In this she ranks eighth among the eleven parishes showing losses.

In the above study, Roberts et al. provide three population projections for the Island up to 1990, based on differing assumptions regarding fertility and migration rates. Details of these three projections broken down into five age groups are provided in Appendix C3.

Projection I assumes constant mortality and fertility rates as at 1969-1970 and no external migration. On this basis total population in 1980 would be 2.57 million and in 1990 3.56 million.

Projection II assumes mortality as at 1969-1970, no migration but appreciable reductions in fertility (crude birth rate down to 20 in 1990). The 1980 population would on these assumptions be 2.338 million and in 1990, 2.712 million.

Fig. 1. Age pyramid of Jamaica, 1960 and 1970.

Projection III assumes the fertility rates of Projection II but sizeable migration rates. The total 1980 population would then be 2.078 million persons and the 1990 population 2.122 million. Walsh (1970) extrapolated Jamaica's population at various rates of growth over a longer period and four fertility rates. These rates were (1) high or 1970 fertility rates, (2) medium or a decline of 1 per cent per annum to 2020 A.D., (3) low fertility rates or 2 per cent per annum reduction, (4) very low, 3 per cent per annum, zero growth at year 2020 A.D. Emigration is not included in his model. It will be noted from Appendix C4 setting out his projections, that his very low at 1990 resembles Robert's very high at 1990 A.D.

Summary

The statistical methods surveyed showed that although there is no one best method, certain ratio and regression techniques may provide the best basis for estimating future enrollments in Hanover. The Markov chain system could be useful in providing efficient estimates of differential educational demand.

The information on Jamaican population features and the overall population projections have provided an overview of demographic trends affecting population changes and some overall projections of population.

CHAPTER III

METHODOLOGY

The purpose of this study was to test the efficiency of three enrollment projection methodologies in artificially created school districts in the parish of Hanover, Jamaica.

Since the three methodologies tested were those identified as performing best or adequately in the Webster (1969) study and since his procedures were followed as far as possible, this study may be considered as replicating his study. It is more than a replication however. It is descriptive since it underscores certain special features of the Jamaican educational system. It is exploratory since it examines as a by-product the feasibility of segmenting a parish into school districts by 'natural' process in order to facilitate planning at micro levels. It is predictive since its intent is to provide the means of pupil projection for educational planning.

The topics discussed in this chapter are:

1. Rationale for District Divisions
2. District Categorization on the Basis of Webster's study
3. Selection of Districts for the Tests
4. Data and Sources
5. Assumptions

6. Limitations
7. Enrollment Projection Methods
8. Calculation Methods
9. Summary

Rationale for District Divisions

Map 1 (see Figure 2) shows the relationship of the parish of Hanover to the island of Jamaica. Map 2 (see Figure 3) focuses on the parish of Hanover and identifies:

1. the 1970 census subdivisions together with the 1970 distribution of population, and
2. the fourteen "created" school districts listed below.
  - a. Lucea
  - b. Green Island
  - c. Kendal-Upper Rock Spring
  - d. Riverside-Dias
  - e. Askenish
  - f. Jericho
  - g. Cascade
  - h. Sandy Bay
  - i. Hopewell
  - j. Gurney's Mount
  - k. Mount Peto
  - l. Flower Hill
  - m. Chester Castle
  - n. Friendship-Copse

Fig. 2. Map of Jamaica

Fig. 3. Map of Hanover Showing Census Districts and School Districts

A detailed description of the School Districts or zones is provided in Appendix D. This outlines the physiographic, and socio-economic features of the various districts, shows the assumed school age population in 1961, and 1971, derived from data on the 5-14 age group in the 1960 and 1970 censuses and the September enrollments for 1961, 1971, and 1974.

The natural barriers such as rivers, mountains and uncultivable or uncultivated areas which divide the districts, lend themselves, it is felt, to discreteness. In addition, the recognizable ease of communication within districts lends itself to district homogeneity. These are the primary bases for the particular divisions.

District Categorization on the Basis
of the Webster Study

Webster classified his school districts into five strata "on the basis of certain decision rules involving the population growth variables of the urban place with which the major portion of each district is coterminous" (Webster, 1969, p. 49).

The following were his population growth rules:

Stratum A - increase by more than 100% in general population and the number of households (these communities called "Exploding Communities");

Stratum B - increase by 50 percent or more in either or both of the classification variables but 100 percent or less in one of these (these communities labeled "Rapidly Growing Communities");

Stratum C - increase of 10 percent or more but less than 50 percent in both the number of inhabitants and number of households in the decade (these communities called "Older but still Growing Communities");

Stratum D - increase of less than 10 percent but equal to or greater than 0 percent in both the number of households and the number of inhabitants or an increase of 10 percent but equal to or greater than 0 percent in one of the classification variables together with an increase of 10 percent or more in the other (such communities called "Stable, Well-Established Communities");

Stratum E - decrease in either or both general population and the number of households during the decade (such communities classified as "Declining Communities").

The map of population growth (see Figure 4) shows that population change in Jamaica in the decade 1960-1970 has been segmented into seven divisions, i.e.:

-50	to	-25%	
-24	to	-10%	decrease
- 9	to	0%	
0	to	9%	
10	to	24%	
25	to	49%	increase
50	and over		

JAMAICA

MAP OF POPULATION GROWTH

Percentage Increase or Decrease
In Population Between 1960 and 1970

Sheet A : Western Jamaica

Fig. 4. Jamaica: Map of Population Growth
Parish of Hanover

According to the map (Figure 4), Hanover shows five rates of population change in the decade but only four on the Webster Classifications since there is no category on the map for growth of over 100 percent. Also, increases of 10-24 percent and 25-49 percent had to be taken together if the Webster study was to be followed. Percentages of household increase were not available for use in this study.

As will readily be seen, Hanover is sharply divided into two categories of population change. The major portion of East Hanover shows a population decline of -9 to 0 percent over the 1960-1970 decade while the major portion of West Hanover shows a population increase of 0 - 9 percent.

Selection of Districts for Tests

Of the fourteen district divisions in Hanover, seven were selected for tests of the methodologies. The seven and their strata assignment here, based on the Webster (1969) study, were as follows:

Stratum I. where population has shown an increase of 50
(cf. Stratum B,
Webster) percent and above during the decade 1960-70;

District: Hopewell

Stratum II. where population has shown an increase of 10-24
(cf. Stratum C,
Webster) or 25-49 percent over the decade 1960-70;

District: Sandy Bay

Stratum III. where population has shown an increase of up to
(cf. Stratum D,
Webster) 10 percent over the decade 1960-70;

District: Kendal-Upper Rock Spring

Stratum IV. areas where a population decline of -9-0 per-
(cf. Stratum E,
Webster) cent took place over the decade 1960-70.

District: Jericho

In addition the following mixed areas were examined:

1. Lucea - where three rates of population change occurred, i.e., a decrease -9 to 0 percent; a small increase 0-10 percent, and a moderate increase 10-24 percent.
2. Green Island - which showed increases of 0-9 percent and 25-49 percent.
3. Riverside-Dias which showed a decrease of -9-0 percent as well as an increase of 0-9 percent.

Data and Sources

The data necessary for use in the three methodologies fell into the following categories:

1. residential births for the various districts 1958 through 1967, and
2. enrollment data for students in the 6-15 age group in government owned or operated elementary, junior secondary and secondary schools, since the study is confined to this age group.

To afford comparisons of the numbers of the school-age population and the number of school enrollees, census data and data on enrollments in private schools were also necessary.

Census data and statistics, including tables, maps and books were secured from the Department of Statistics, Jamaica. Data on births for all seventeen registration offices in the parish which

are related to the districts were personally extracted from the records in the Island Record Office, Spanish Town, Jamaica. These were broken down into quarterly totals but were secured on this basis for only 1961 through 1966 and 1969 through 1974. Yearly totals for 1960 through 1974 were, however, obtained from the Department of Statistics and used for comparison and district allocation. For the missing years 1958 and 1959, totals of births for the parish were estimated by extrapolation. District allocations for these years and for 1960 (for which only the total was available), were effected by using an average of the percentage of total parish births which each district had in the years 1961 and 1962. Likewise, the total of births for 1967 and 1968, obtained from the Department of Statistics, was broken down by district on the basis of similar averages for 1965 and 1966.

The Ministry of Education maintains detailed enrollment and attendance data for the public elementary schools. Data on the following were secured by xeroxing from the Ministry's records:

1. average monthly enrollment and attendance for the primary and all age schools 1966-1967 to 1973-1974 (1969-1970 missing);
2. yearly average enrollment and attendance for the schools for the years 1966-1967 to 1973-1974 (1969-1970 missing);
3. end of year enrollment by grade for the primary, and all age, schools 1965-1966 through 1973-1974; and
4. enrollment by grade 1969-1970 to 1973-1974 for one Junior Secondary School and for only the years 1972-1973 and 1973-1974 for another. Enrollment data for grades 7-9 of the High School were secured for 1971-1972 through 1973-1974 only. Interpolations were, therefore,

made for missing data.

5. Enrollment data for the private schools was available for the 8-19 age group and for the year 1973-1974 only.

Assumptions

1. It is assumed that there was no serious under- or over-count in the 1960 and 1970 Censuses in Jamaica.

2. It is assumed that the data on births secured from the Island Record Office are, by and large, accurate.

3. It is assumed that the data and statistics on school enrollment and attendance secured from the Ministry of Education are for the most part reliable.

4. A map similar to Map 2 (see Figure 3) showing the 1960 population clusters was not available. A clustering similar to 1970 was therefore assumed in allocating 1960 census population to divided census/school districts.

Limitations

1. Birth Data

It may safely be assumed that mothers from various locations in the parish have hospital births in the parish capital, Lucea, and register such births there. The total births recorded for the various districts will not be entirely representative of births in those districts, therefore.

2. Allocations of School Age Population

In dividing the various census districts into school districts, population was prorated by using the dots, each of which was said to represent 10 persons. In some cases the number of dots on the map

bore no relationship to either the 1960 or 1970 total population for the district nor to the figures appearing on the map. A common-sense approach was consequently adopted. Flowing from the assumption of similar population clustering in 1960 as in 1970, the population allocations to the school districts in 1960 will not be entirely representative of the actual situation. A degree of inaccuracy will also exist in regard to the 1970 allocations.

3. Enrollment data

Available average yearly and September enrollment data were not broken down by grade and did not, therefore, allow for tests of two of the methodologies--Transition Analysis and Cohort Survival on these enrollments. The end-of-school year figures which were broken down in the desired form proved to be very erratic; for example, a peculiar drop exists between grades 5 and 6 in several schools between 1966-1967 and 1967-1968, due apparently to the introduction of a new grade, grade 9, in 1967-1968. This produced irrational allocations between grades 6 through 9 as well.

Finally, and perhaps the most discouraging feature of all, was that some schools showed the same figures for the individual grades for two and three successive years. The following districts were those most affected:

1. Askenish
2. Cascade
3. Gurneys Mount
4. Hopewell
5. Mount Peto

Except for one such district--Hopewell--districts with this drawback were not used in the tests.

In addition, where figures for individual grades were missing or quite irrational, interpolations were made utilizing the least squares equation.

Enrollment Projection Methods

The enrollment projection methods utilized in this study are described below in terms of type, predictor variables and relationships.

<u>Name</u>	<u>Type</u>	<u>Predictor(s)</u>	<u>Relationship</u>
1. Cohort Survival	Ratio	Births by district; Past district enrollment by grade.	Past tendencies of students to advance from one grade to the next shown as a ratio of subsequent grade numbers upon previous ones.
2. Transition Analysis	Regression	Births by District; Past district enrollment by grade.	Past tendencies of students to advance from birth to grade one and onwards through each grade.
3. Time Analysis	Regression	Time	Past relationship between public school enrollment and time.

Details of the methodologies are shown in Schedules I - III.

The performance of these methods was examined in the seven districts listed on pages 30-31. Goodness-of-fit was then determined, as in the Webster study, by examination of the actual enrollment for predicted year 1973-1974 against the projected enrollment, so that

Projected district enrollment-Actual enrollment was calculated for
Actual Enrollment

each district and the results ranked. The smaller the resulting coefficient, the better the projection. Another measure of efficiency was made by inspecting the methodology which came closest to predicting the actual enrollment figures in the various districts.

Schedule I

Procedures for Obtaining Projections from the Cohort Survival Ratio Method

1. List actual births by place of residence (district) by year for the period 1958-1959 through 1966-1967 (March to March of each period).
2. List actual enrollment figures by grade 1965-1966 through 1970-1971.
3. Compute average percentage of survivorship between births and Grade 1 enrollment (at 6+ - 7+ years) i.e., $\frac{\text{Grade 1}}{\text{Births}}$ for five year

period as in (1) so that $A (B-1) =$

$$\frac{\frac{G1 \ 1965/66}{B \ 1958-59} + \frac{G1 \ 1966/67}{B \ 1959-60} + \frac{G1 \ 1967/68}{B \ 1960-61} + \frac{G1 \ 1968/69}{B \ 1961-62} + \frac{G1 \ 1969/70}{B \ 1962-63} + \frac{G1 \ 1970/71}{B \ 1963-64}}{N}$$

4. Similarly compute average percentage of survivorship between successive grades so that

$$A_{1-2} = \frac{\frac{G2 \ 1966-67}{G1 \ 1965-66} + \frac{G2 \ 1967-68}{G1 \ 1966-67} + \frac{G2 \ 1968-69}{G1 \ 1967-68} + \frac{G2 \ 1969-70}{G1 \ 1968-69} + \frac{G2 \ 1970-71}{G1 \ 1969-70}}{N}$$

5. Secure, accordingly, the following averages

$$A_{B-1}; A_{1-2}; A_{2-3}; A_{3-4}; A_{4-5}; A_{5-6};$$

for primary schools and

$A_6 - 7$; $A_7 - 8$; $A_8 - 9$; for All Age Schools and Junior Secondary School levels.

6. Determine mean births (EB) of students in school in the year of interest (1973-74) i.e. mean births for 1958-69 through 1966-67 for all grades.

7. Calculate enrollment 1973/74 as follows:

$$1. \text{EB}_{1973-74} \times A_{B-1} = G1_{1973-74}$$

$$2. G1_{1973-74} \times A_{1-2} = G2_{1973-74} \text{ on through } G7_{1973-74} \times A_{7-8} = G8_{1973-74}$$

Sub total for projected total of Grades 1-6 enrollments.

Sub total for projected total of Grades 7-9 enrollments.

Make Grand Total.

Schedule II

Procedures for Obtaining Projections from the Transition Analysis

1. List actual births by place of residence (district), by year, for the period 1958-1959 through 1966-1967.
2. List actual enrollment figures by grade, 1965-1966 through 1970-1971.
3. Utilize the least squares criterion to compute the following nine regression equations with predictor and criterion variables as specified:

<u>Predictor (enrollment)</u>	<u>Criterion (enrollment)</u>
a. Births 1958/59 - 1963/64	Grade 1 1965/66 - 1970/71
b. Grade 1 1965/66 - 1969/70	Grade 2 1966/67 - 1970/71
c. Grade 2 1965/66 - 1969/70	Grade 3 1966/67 - 1970/71
d. Grade 3 1965/66 - 1969/70	Grade 4 1966/67 - 1970/71
e. Grade 4 1965/66 - 1969/70	Grade 5 1966/67 - 1970/71

<u>Predictor (enrollment)</u>	<u>Criterion (enrollment)</u>
f. Grade 5 1965/66 - 1969/70	Grade 6 1966/67 - 1970/71
g. Grade 6 1965/66 - 1969/70	Grade 7 1966/67 - 1970/71
h. Grade 7 1965/66 - 1969/70	Grade 8 1966/67 - 1970/71
i. Grade 8 1965/66 - 1969/70	Grade 9 1966/67 - 1970/71

4. Each of the above is an equation in the form $Y = a + bx$. For example, transition from birth to kindergarten is defined as

Y = projected kindergarten in a given year

a = the Y intercept of the line defined by the relationship between births for the years 1958/59 - 1963/64 and Grade 1 enrollment 1966/67 - 1970/71.

b = the slope of the line defined by the relationship between births for the years 1958/59 - 1963/64 and Grade 1 enrollment for the years 1965/66 - 1970/71.

x = the value of the predictor variable, in this case births during a given period.

5. Determine the mean births for pupils in Grades 1 - 9 in 1973/74; i.e., mean of births for 1961/62 - 1966/67 for Grades 1 - 6 and for 1958/59 - 1960/61 for Grades 7 - 9.

(EB = mean births by place of residence)

6. Define $T = a + b$ for each of the nine cases in the following manner

$$1. T_{B-1} (EB_{1973-74}) = G1_{1973-74}$$

$$2. T_{1-2} (G1_{1973-74}) = G2_{1973-74} \text{ etc;}$$

$$\text{so that in } T_{1-2} (G1_{1973-74}) = G2_{1973-74},$$

$$T_{1-2} = a + b \text{ where}$$

a = the Y intercept of the line defined by the relationship between Grade 1 enrollment in the years 1965/66 - 1969/70 and Grade 2 enrollment 1966/67 - 1970/71.

b = the slope of the line defined by the relationship between Grade 1 enrollment in the years 1965/66 - 1969/70 and Grade 2 enrollment 1966/67 - 1970/71.

G1 (1973-74) = Projected Grade 1 enrollment in 1973-74

G2 (1973-74) = Projected Grade 2 enrollment in 1973-74

7. Sum all the estimates to obtain the total projection. (N. B. Webster's steps for Grades 9-11 will not be applied--only one school in the parish has these levels.)

Schedule III

Procedures Used in Obtaining Projections from Time Analysis I

1. List total district enrollments for the years 1965/66 through 1970/71.
2. Utilize the values 1965/66 through 1970/71 as values of the predictor variable in establishing the required regression equation.
3. Utilizing the least squares criterion compute the equation $Y = a + bx$ to predict enrollment so that

$$TE_{1974} = a + b (1974)$$

where

TE = Total estimated enrollment

a = the Y intercept of the line defined by the relationship between time and elementary enrollment for the years 1965/66 through 1970/71.

b = the slope of the line defined by the relationship between time and elementary enrollment for the years 1965/66 through 1970/71.

1974 = the value of the predictor variable as defined by the year to which it is desired to project enrollment.

Calculation Methods

The grade-to-grade ratios required for the Cohort Survival Method were calculated on a desk calculator. The Regression Equations used in the Transition Analysis and the Time Analysis were calculated by the Xerox Sigma 6 computer of Andrews University, use being made of the Simple Linear Regression Program - REG 2 from the Conversational Programs in Statistics in the Computer Library of the University. The Program, described as Simple Linear Regression with residuals, provides information on, among other things:

1. the mean and standard deviation,
2. the correlation and the determination, and
3. the intercept A and the slope B.

It also makes 95 percent confidence interval predictions, providing one predicted figure together with upper and lower limits.

Summary

In this chapter and the related appendices, the fourteen districts delineated for the study were listed and the bases for the divisions described and discussed. The data and their sources were listed and modifications, extrapolations and estimates were described. The assumptions and limitations contingent on the availability, reliability and usefulness of the data were also discussed. The districts selected for testing the methodologies were listed, and the methodologies used described in detail. Departures from the Webster (1969) study

were also noted.

The findings arising from these tests are analyzed and discussed in Chapter IV.

CHAPTER IV

RESULTS AND ASSESSMENT

This chapter comments on the apparent discreteness of the fourteen delineated school districts in the parish of Hanover, Jamaica and examines the performance of the three statistical methodologies tested in seven of the fourteen districts.

Discreteness of the Districts

Reference to Appendix D shows that in ten of the fourteen districts, available September enrollments in 1961 and 1971 were less than the assumed school age populations, derived from data on the 5-14 age group in the 1960 and 1970 censuses respectively.

Two districts, #4 Riverside-Dias and #7 Cascade, showed excesses of enrollment over the assumed school age population in 1961 and 1971 respectively. The excess for Riverside (1961), was only 1 percent. For 1971, enrollment was well below the estimated school age population.

The excess at Cascade (1971 only) amounted to 20 percent. Since both enrollment and school age population figures were close in 1961, it appears that this district is drawing pupils from the adjoining ones, particularly Askenish. On-the-spot investigation would show how feasible it is to separate these two districts. Neither Cascade nor Askenish was used in the test. The two other districts showing excesses--Chester

Castle and Flower Hill--lie on the parish border and are no doubt drawing pupils from the adjoining parishes.

All things considered, the case for discreteness seems to be upheld and, for this reason, the projections and analyses of the study may be related to the districts as partitioned.

Tests of the Methodologies

The three methodologies tested were:

1. The Cohort Survival Method, the most commonly used method in America which is based on average ratios of survivorship from birth to grade 1, and from grade 1 to the next succeeding grade--grade 2 and onwards.

2. Transition Analysis also based on the survivorships mentioned above but utilizing the regression equation $Y = a + bx$ to determine a trend line to be used in predictions.

3. Time Analysis--also a regression method which utilizes time and past enrollments as predictors to establish a trend line.

Examination of the results goes beyond the critical assessment of the total enrollment predicted, to evaluation of the behavior of the methodologies in relationship to the particular types of data utilized in the study. The strengths and weaknesses of the three methods are also considered as a basis for decisions on their utilization.

Table 1 presents the results, setting out actual enrollments for the year of interest 1973-1974 and the projections yielded by the three methods, the W (Webster, 1969) coefficient calculated by the following formula,

$$W = \frac{\text{projected enrollment} - \text{actual enrollment}}{\text{actual enrollment}}$$

and the rank of the projection among the projections from the three methods.

The projections are ranked from the lowest to the highest W coefficient, the lowest coefficient representing the closest projection.

It will readily be seen that for the seven districts involved in the test and on the basis of one year's projection, Time Analysis performed best of the four methods, in four districts representing Strata II, III, IV; and a district, Riverside, showing mixed moderate population growth. The Cohort Survival Method performed best in two of the districts which, by and large, have more rapid population growth--that is in the Green Island and Lucea districts.

It seemed necessary to check these results against at least a second projection as had been done in the Webster (1969) study. Unavailability of data prior to 1965-1966 prevented this being done for a year previous to 1973-74. It was therefore decided to test the methods on a longer trend line--that is, by utilizing data for the period 1965-1966 through 1972-1973, projecting for 1973-1974 and comparing the results with actual enrollment for 1973-1974. Table 2 presents the results of projections on this basis. Time Analysis emerges as best in two of the seven districts, Transition Analysis in two, but Cohort Survival in three.

Overall, Time Analysis performs best six times, Cohort Survival

TABLE 1

COMPARISON OF DISTRICT PROJECTIONS BY THE THREE METHODOLOGIES BASED
ON 6 - 5 YEAR TREND 1965/1966 - 1970/1971

Stratum*	District	Actual Enrollment 1973/74-Year End	Projections: Transition			Projections: Cohort			Projections: Time		
			Analysis	W	R	Survival	W	R	Analysis	W	R
II	Hopewell	1979	1656	-.1632	3	1868	-.0560	2	2003	+.0121	1
III	Sandy Bay	786	622	-.2086	3	856	+.0890	2	798	+.0153	1
IV	Kendal - Upper Rock Spring	764	778	+.0183	2	791	+.0353	3	767	+.0039	1
V	Jericho	687	690	+.0058	1	723	+.0524	2	733	+.0670	3
Mixed	Lucea	2177	1540	-.2926	3	1758	-.1925	1	1592	-.2687	2
Mixed	Green Island	2866	2505	-.1259	2	2768	-.0341	1	3248	+.1333	3
Mixed	Riverside- Dias	1699	1808	+.0642	2	1940	+.1418	3	1700	.0005	1

W = Webster (1969) co-efficient = $\frac{\text{projected enrollment} - \text{actual enrollment}}{\text{actual enrollment}}$

R = Rank among the three methods

*Criteria for strata based on Webster (1969) study.

TABLE 2

COMPARISON OF DISTRICT PROJECTIONS BY THE THREE METHODOLOGIES
 BASED ON 8 - 7 YEAR TREND 1965/1966 - 1972/1973

Stratum*	District	Actual Enrollment 1973/74 Year End	Projections: Transition			Projections: Cohort			Projections: Time		
			Analysis	W	R	Survival	W	R	Analysis	W	R
II	Hopewell	1979	1714	-.1339	3	1976	-.0015	1	1932	-.0237	2
III	Sandy Bay	786	666	-.1527	3	853	+.0852	2	783	-.0038	1
IV	Kendal - Upper Rock Spring	764	754	-.0131	1	792	+.0366	2	735	-.0380	3
V	Jericho	687	686	-.0015	1	826	+.2023	3	724	+.0539	2
Mixed	Lucea	2177	1603	-.2637	3	1961	-.0992	1	1898	-.1282	2
Mixed	Green Island	2866	2547	-.1113	3	3051	+.0645	1	3136	+.0942	2
Mixed	Riverside	1699	1780	+.0476	2	1887	+.1107	3	1687	-.0071	1

W = Webster (1969) co-efficient = $\frac{\text{projected enrollment} - \text{actual enrollment}}{\text{actual enrollment}}$

R = Rank among the three methods

*Criteria for strata based on Webster (1969) study.

five times. If efficiency is assessed on the basis of number of projections falling below 10 percent of over- or under-estimation of the actual figures, it will be seen that Time Analysis and Cohort Survival ranked almost equally with eleven and ten respectively out of fourteen projections within the 10 percent limit in Tables 1 and 2 taken together. Transition Analysis ranked third with only six out of fourteen projections falling below the 10 percent limit.

On the basis of Table 1, Time Analysis would be assessed as performing better than the other two methods. On the basis of Tables 1 and 2 taken together, a clear differentiation is difficult to make. It may be observed, however, that Time Analysis has the slight edge over the Cohort Survival Method while Transition Analysis is not as efficient.

Performance of Transition Analysis

The question arises as to why Transition Analysis performed so poorly in contrast to its performance in the Webster (1969) study. It was hypothesized that the regression equation was especially sensitive to variability in the erratic grade-to-grade figures; that correlations would be lower in Transition Analysis than for Time Analysis. Details of the correlations and determinations are shown in Tables 3 and 4. These contain:

1. the correlations and determinations for Time Analysis and for the nine equations used for each of the districts' Transitional Analyses; and
2. the percentage of events in transition analysis with correlations $\geq .50$.

TABLE 3

TABLE SHOWING PEARSON r CORRELATION CO-EFFICIENTS AND DETERMINATIONS FOR
TIME ANALYSIS AND TRANSITION ANALYSIS TESTS ON WHICH THE RESULTS IN TABLE 1 ARE BASED

Stratum	District		Time Analysis	Transition Analysis									% of Events in Transition Analysis with Correlation $\geq .50$
				B-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	
II	Hopewell	C	.7858	-.1699	.9224	.9539	.3938	.5496	-.8576	-.4924	-.2054	.4666	44
		D	.6176	.0287	.8509	.9099	.1550	.3021	.7355	.2442	.0422	.2177	
III	Sandy Bay	C	.8975	-.5204	.8241	.8621	.0022	.3627	-.2233	-.2243	.1084	.7712	44
		D	.8054	.2708	.6791	.7433	.0000	.1315	.0499	.0530	.0118	.5948	
IV	Kendal-Upper Rock Spring	C	-.0098	.1287	.7943	.9032	.9233	.7569	-.5071	.8515	.0853	.4689	67
		D	.0000	.0166	.6310	.8157	.8524	.5730	.2572	.7251	.0073	.2198	
V	Jericho	C	.5862	.3704	.2657	.9248	.6341	.1871	.2612	-.7851	.0904	-.2199	33
		D	.3436	.1372	.0706	.8553	.4021	.0350	.0682	.6164	.0082	.0484	
Mixed	Lucea	C	.5639	-.0841	.1412	.0586	.1695	.3736	-.2126	.3939	.9033	-.0200	11
		D	.3180	.0071	.0199	.0034	.0287	.1396	.0452	.1552	.8160	.0004	
Mixed	Green Island	C	.9695	-.1450	.6457	.8191	.9903	.2490	-.4109	-.5377	.8072	.7927	67
		D	.9399	.0210	.4170	.6710	.9806	.0620	.1689	.2891	.6516	.6284	
Mixed	Riverside	C	-.3038	.8413	-.2946	-.6539	.6349	-.2080	-.2464	-.8563	-.2708	.1459	44
		D	.0923	.7077	.0868	.4276	.3905	.0433	.0607	.7333	.0733	.0213	

TABLE 4

TABLE SHOWING PEARSON r CORRELATION CO-EFFICIENTS AND DETERMINATIONS
FOR THE TIME ANALYSIS AND TRANSITION ANALYSIS TESTS ON WHICH RESULTS IN TABLE 2 ARE BASED

Stratum	District	Time Analysis	Transition Analysis									% of Events in Transition Analysis with Correlation $\geq .50$	
			B-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9		
I	Hopewell	C	.8493	-.1995	.7330	.9316	.5250	.5483	-.7580	-.1053	-.0224	.4276	56
		D	.7214	.0398	.5373	.8678	.2757	.3006	.5745	.0111	.0005	.1829	
II	Sandy Bay	C	.9437	.0271	.8608	.9571	.4177	.4478	-.1272	-.5204	-.2017	.5923	22
		D	.8905	.0007	.7409	.9161	.1745	.2006	.0162	.2708	.0407	.3508	
III	Kendal-Upper Rock Spring	C	-.2221	.3914	.7350	.8182	.8913	.7191	-.3810	.8646	.3466	.6007	56
		D	.0493	.1532	.5403	.6694	.7944	.5171	.1452	.7475	.1202	.3609	
IV	Jericho	C	.6953	-.0671	.5240	.7159	.4907	-.0078	.4825	-.6673	-.1795	.1783	33
		D	.4834	.0045	.2746	.5124	.2408	.0001	.2328	.4452	.0322	.0318	
Mixed	Lucea	C	.7435	-.6435	.2742	.2377	.2950	.6687	-.2127	.2653	.3447	-.7089	33
		D	.5528	.4141	.0752	.0565	-.0870	.4471	-.0452	-.0704	.1188	.5025	
Mixed	Green Island	C	.9763	-.1900	.6344	.8941	.9676	.8001	.5015	-.5484	.8383	.8904	89
		D	.9531	-.0361	.4025	.7994	.9362	.6402	.2515	.3007	.7028	.7928	
Mixed	Riverside	C	-.4275	.7616	-.0393	-.5322	.5157	-.1608	-.3087	-.6892	-.0491	.4674	44
		D	.1828	.5801	.0015	.2832	.2659	.0259	-.0953	.4750	-.0024	.2185	

It was also questioned whether the smallness of the district figures in addition their greater variations contributed to the poor performance of this method. To assess the performance of the three methodologies on larger figures, the methods were tested on the parish totals. Table 5 sets out the results. There, Transition Analysis performed best of the three methodologies, underestimating the enrollment by small percentages. Cohort Survival and Time Analysis performed less efficiently and at about equal levels. Table 6 shows that here higher correlations were achieved by both regression methods.

Direction of the Projections

An interesting observation was made on the direction of the projections. Transition Analysis underestimated the enrollment in the year of interest more (twelve out of sixteen times) than did either Cohort Survival or Time Analysis (six times respectively). This prompted a comparison with the Webster study. Table 7 summarizes the rate of the underestimations in the Webster study. It will be seen that, over all, Transition Analysis tends to underestimate while Time Analysis tends to overestimate. The underestimations were more pronounced at secondary levels, the overestimations at primary level.

Correlations and Projections

It will be observed that, overall, Time Analysis achieved higher correlations than Transition Analysis; that in Transition Analysis birth to Grade 1 correlations were low in all districts. Table 3 shows that in only one district did correlations of .50 or more eventuate more than 50 percent of the time. Table 2 shows that this increased to three districts.

TABLE 5

COMPARISON OF PROJECTIONS FOR PARISH BY THE THREE METHODOLOGIES
 BASED ON 6 AND 5 YEAR TRENDS - 1965/1966 - 1970/1971

Parish	Actual Enrollment 1973-1974	Projections: Transition Analysis	W	R	Projections: Cohort Survival	W	R	Projections: Time Analysis	W	R
Hanover	14,051	13,520	-.0378	1	14,688	-.0439	2	14,775	+.0515	3

COMPARISON OF PROJECTIONS FOR PARISH BY THE THREE METHODOLOGIES
 BASED ON 8 AND 7 YEAR TRENDS - 1965/1966 - 1972/1973

Parish	Actual Enrollment 1973-1974	Projections: Transition Analysis	W	R	Projections: Cohort Survival	W	R	Projections: Time Analysis	W	R
Hanover	14,051	13,828	-.0159	1	14,790	+.0526	3	14,475	+.0302	2

W = Webster's (1969) Co-efficient = $\frac{\text{projected enrollment} - \text{actual enrollment}}{\text{actual enrollment}}$

R = Rank among the methods

TABLE 6

TABLE SHOWING PEARSON r CORRELATION CO-EFFICIENTS AND
DETERMINATIONS FOR TIME ANALYSIS AND TRANSITION ANALYSIS TESTS
ON WHICH THE RESULTS OF TABLE 5 ARE BASED

Hanover	Time Analysis	B-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	% of Correlation $\geq .50$
6-5 Years	.8620	-.5639	.9572	.9943	.7830	.2759	-.8563	-.6453	-.4346	.7922	77
	.7430	.3180	.9161	.9885	.6131	.0761	.7333	.4160	.1888	.6276	
8-7 Years	.8990	-.5985	.9411	.9819	.9493	.8935	-.3927	-.5684	.1690	.6760	77
	.8081	.3582	.8857	.9641	.9012	.7983	.1542	.3231	.0285	.4569	

TABLE 7

RATIO OF UNDERESTIMATIONS TO OVERESTIMATIONS BY THE THREE METHODOLOGIES: TRANSITION ANALYSIS, COHORT SURVIVAL AND TIME ANALYSIS IN THE WEBSTER (1969) STUDY

Methodologies	Elementary Enrollment 1965	Secondary Enrollment 1965	Elementary Enrollment 1968	Secondary Enrollment 1968
Cohort Survival	10: 14	13: 12	13: 12	12: 13
Transition Analysis	10: 15	15: 10	12: 13	17: 8
Time Analysis	4: 21	18: 7	2: 23	14: 10

Source: William J. Webster, The Applicability of Selected Ratio and Least Squares Regression Analysis Techniques to the Prediction of Future Educational Attendance Patterns.

The cases of Kendal-Upper Rock Spring and Riverside-Dias are interesting. Both Time and Transition Analysis produced close estimates. Tables 1 and 3 show that Time Analysis had the closest estimate with almost 0 correlation. In the case of Kendal, Tables 2 and 4 show that both Time and Transition Analysis produced close estimates on low correlations. Two graphs of the data points for these districts help to explain these low correlations (see Figures 5 and 6).

Selection of a Method

It will be agreed that, logically, the method which takes into account as many of the variables as possible affecting enrollment would be best. Since Transition Analysis and Cohort Survival take the birth variable into account, either would consequently be preferred. As is seen from the correlations for Transition Analysis, a strong relationship between the independent variable, birth, and the dependent variable, Grade 1, was not established at the district level. Even for the parish level, correlations reached only $-.5639$ for the 6-5 year level and $-.5985$ for the 8-7 year level. As already pointed out, low correlations throughout were due to the erratic nature of the data. Orderliness in the data, rather than its variable classification, contributes to efficiency in projections.

Time Analysis is based on the assumption that past trends will, by and large, continue unchanged. Herein lies its weaknesses (and that of all regression methods) since it is insensitive to changes affecting future enrollments arising from changed variables such as a change in the birth rate. For selection of a method, it is therefore suggested that Time Analysis be used at district-level and for short-term

Fig. 5. Graph of Data Points, Time Analysis--
Kendal-Upper Rock Spring District.

Fig. 6. Graph of Data Points, Time Analysis,
Riverside-Dias District

projections. Its results could be modified by estimates on the basis of Cohort Survival or, where more ordered data allows, Transition Analysis. The latter should, for the Jamaican situation, be tested and assessed on figures which show more order than those used in the present study.

Projections

It was felt that this chapter could usefully conclude with two further analyses:

1. the use of the upper and lower limits in the forecasts, and
2. some projections to 1980 which could be related to projections made by Roberts, et. al. (1974), Jamaican demographers.

Table 8 sets out the upper and lower limits for the Time Analysis methodology. The range could be very wide. In cases like Hopewell and Lucea where the data were unreliable or Green Island where there was the unusual growth feature of the opening of a Junior Secondary school, two or three years preceding the year of interest, the range is much wider than desirable for planning. This points to the need for more than statistical estimations to set the parameters in enrollment estimations. Survey methods such as the Bell Telephone or Housing Projection Methods (see Chapter II) or the Delphi Technique (see Appendix E) would prove useful here.

Table 9 sets out the projections to 1980 utilizing Time Analysis and based on the September enrollments, details of which are provided in Appendix G. The data used leaves much to be desired but the projections can perhaps be used as a rough guide. The estimated total for 1981 would be in the region of 19,600. If the lowest of

TABLE 8

COMPARISON OF ACTUAL ENROLLMENTS AND 95 PER CENT CONFIDENCE INTERVAL PREDICTIONS FOR
THE DISTRICTS BY TIME ANALYSIS BASED ON THE TWO ANTECEDENT PERIODS

Stratum	District	Actual Enrollment 1973 - 1974	6 - 5 Year Trend			8 - 7 Year Trend		
			LL	P	UL	LL	P	UL
I	Hopewell	1979	1537	2003	2470	1736	1932	2128
II	Sandy Bay	786	651	798	946	721	783	845
III	Kendal - Rock Spring	764	465	767	1070	609	735	860
IV	Jericho	687	569	733	897	655	724	794
Mixed	Lucea	2177	1440	1592	1744	1611	1898	2186
Mixed	Green Island	2866	2861	3248	3636	2942	3136	3329
Mixed	Riverside	1699	1331	1700	2068	1494	1658	1821
Total	Hanover	14,051	13,406	14,775	16,144	13,879	14,475	15,072

LL = Lower Limit

P = Predicted

UL = Upper Limit

TABLE 9

TIME ANALYSIS PROJECTIONS OF PUPIL POPULATIONS TO 1981
PARISH OF HANOVER, JAMAICA

District	September Enrollment 1973-1974	Projected 1976-1977	Projected 1978-1979	Projected 1980-1981	Projected 1981-1982
1. Lucea	2782	2967	3258	3550	3696
2. Green Island	2001	2126	2152	2177	2190
3. Kendal - Upper Rock Spring	756	724	714	704	698
4. Riverside Dias	1751	1638	1595	1551	1530
5. Askenish	1290	1326	1419	1512	1558
6. Jericho	711	754	775	795	806
7. Cascade	1203	1233	1258	1283	1294
8. Sandy Bay	786	933	1016	1099	1141
9. Hopewell	2031	2250	2407	2565	2643
10. Gurney's Mt.	1113	1166	1208	1251	1273
11. Mt. Peto	792	813	823	833	838
12. Flower Hill	291	NF	NF	NF	NF*
13. Chester Castle	791	919	1012	1106	1153
14. Friendship Copse	432	555	645	735	780
Totals	16,730	17,404	18,282	19,161	19,600

*NF - Not Feasible

the projections made by Roberts, et. al. (1974) is used as a gauge and the proportion distribution per parish is assumed as remaining at the 1970 level, i.e., 3.15 percent for Hanover, then, by that measure the age group 5-14 at 1980 becoming the 6-15 age group in 1981 might be in the region of 18,500.

Whatever projections are made, however, can usefully be checked by the other methods given above. Besides, for planning a year or two in advance, either Cohort Survival or Time Analysis will easily provide useful forecasts provided data, representative of the actual situation, are available and used.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to test the efficiency of pupil population projection techniques at micro levels as a basis for educational planning and administration at such levels. The need for such a study and projections was perceived from the Jamaican situation where many schools are overcrowded, and faced at the beginning of the school year with pressures on accommodation from would-be enrollees. On the other hand, schools in other areas, primarily rural, are underutilized and it has not been determined whether this is due to underpopulation or underattendance.

On the assumption that statistical methods of estimating enrollments are feasible, the relevant literature was reviewed. Several methodologies were identified as being commonly used or in the process of being tried. These all derived from the following statistical techniques:

1. use of ratios (Cohort Survival)
2. use of the regression equation (Transition Analysis)
3. use of probabilities and matrix theory (Markov Chain)
4. use of iterative methods (Monte Carlo methods)

A number of methodologies utilizing various factors influencing enrollment or previous features of enrollment have been developed. All, it

should be noted, depend on previous trends as probability bases. Three such methods identified as good performers, in a study by Webster (1969), were assessed. These methods and the reasons for their use are listed below:

1. Transition Analysis, a regression method found to perform adequately in one and best in four out of five district types, categorized according to previous population and household growth;
2. Cohort Survival, which performed adequately in three out of the five district types; and
3. Time Analysis, which performed best in one of the district types.

The literature dealing with Jamaican population trends was also reviewed. High birth rates which seem to be declining under campaigns of family planning, low mortality rates, and significant migration rates were among the features described. Population projections based on differing assumptions were also cited.

Conclusions

Tests of the methodologies were made in seven out of fourteen school districts created in the parish on the basis of physiographic and socioeconomic features lending themselves to discreteness and homogeneity. One year only, 1973-1974, was used as the criterion but two trend periods--a 6-5 year and an 8-7 year antecedent period were used. The methods were also tested on the total figures for the parish.

The data base was weak for projection purposes since end-of-year figures had to be used. The grade to grade progressions showed up as being unusually erratic; there was missing data in a few cases,

and at some schools, enrollment data for certain years were simply repetitions of a previous year's data. These data weaknesses may have been due to (1) faulty preparation of, or lack of enrollment returns, (2) irregularity in school attendance and enrollment flowing from lack of enforcement of compulsory education regulations, and/or (3) other social and economic factors contributing to irregular attendance and enrollment.

Against this background, Time Analysis seemed to be the best performer of the three methods at district level in terms of numbers of closest projections overall and projections within a 10 percent range of the actual enrollment figures. Cohort Survival was such a close second that a clear differentiation seemed inadvisable. Transition Analysis seemed to show a tendency to underestimations. Time Analysis tended to overestimate. Cohort Survival seemed responsive to grade by grade fluctuations. All projection methods performed better in districts with few data problems than in districts with considerable data problems. This could be taken to mean that on larger figures and data showing more ordered progressions through grades, Transition Analysis might prove to be more efficient than Time Analysis. This seemed to be proved when parish totals were used. Here, Transition Analysis performed best of the three methods.

As far as projections beyond 1974 were concerned, it was felt that these were risky given the unreliability of the data. One set of projections to 1980-1981 was attempted and assessed against an assumed total for the parish calculated from the 1980 projections made by

Jamaican demographers and the previous ratio of total population held by the parish.

Recommendations

Based upon the finds of the researcher and the observations made during and after this study, the following recommendations are made:

1. This study should be replicated in other parishes in Jamaica to test both the performance of the statistical enrollment projection methods and the feasibility of allocating schools and pupil populations to school districts created by natural process.
2. Other statistical methods should be tried, especially those which would take account of the variables affecting enrollment and provide for probability weightings based on different assumptions. The Markov Chain Method seems to be one with very interesting possibilities.
3. A wealth of education data exists in the Jamaican situation. Greater preciseness and care in its preparation and maintenance should be exercised since it could be required at any time for analyses which would be significant to educational research and planning.
4. Enrollment studies of this kind are valuable not only for facilitating planning but also for assessing in which areas of the island compulsory education may feasibly be enforced, or how pupil populations may be distributed within an area where commuting between schools is possible. In addition, the study of enrollment data is useful in pupil accounting generally, as well as in checks on the stability

of enrollment and attendance at individual schools and in the different grades. Consideration should therefore be given to revising the type of data returns required by the Ministry as well as to ensuring proper returns; for example, submission of beginning year enrollments by grade should be a requirement in addition to the end of year requirements. The former could be expected to represent the peak enrollments, the latter the lowest position.

5. A study of enrollment projections and, in particular, long range projections which are most useful in educational planning cannot depend on statistical forecasting alone. Knowledge of trends, of development potential, of deliberate planning in other than educational areas is necessary. Also necessary is knowledge of popular feeling on the growth directions of the area and people's reaction to this. To mathematical probabilities must be added probabilities based on informed opinion. Methods of securing such opinion to supplement statistical work include The Delphi Technique, a brief description of which is provided in Appendix E. This technique should prove very useful to planners particularly in urban areas.

6. Enrollment studies in Jamaica could usefully include isolation of districts with growth rates of more than 100 percent over a decade, such as was done in the Webster (1969) study. In such cases, local surveys like the Bell Telephone or Housing Projection methods mentioned in the chapter on the review of literature, which assess community growth patterns, might be very useful.

The managerial aspects of educational administration necessarily include estimation of pupil populations at local levels. While this

might be a hazardous task, it is an important one since it moves toward reducing the unknowns in planning and administration.

APPENDICES

APPENDIX A
CENSUS CLASS PROJECTION TABLE

LEGEND:

		1925	1926	1927	1928	1929	1940
BIRTHS	(a)	170	191	180	189	178	181
	(b)						
	(c)	192	186	183	187	191	180

BIRTHS (a) - Resident Births - Civil Division
(b) - Resident Births - School District
(c) - Interpolated Births (to School Census Year)

C		C = Census Class (School Census)
E	NR	E = Resident Enrollment in Public School
		NR = Non-resident Enrollment

APPENDIX B

LIST OF RATIO AND REGRESSION METHODS:

RESULTS OF ANALYSIS

THE WEBSTER (1969) STUDY

APPENDIX B1
LIST OF RATIO AND REGRESSION METHODS
THE WEBSTER (1969) STUDY

PROJECTION METHODOLOGIES EXAMINED BY WEBSTER (1969)

<u>Name</u>	<u>Type</u>	<u>Predictor (s)</u>	<u>Relationship</u>
1. Cohort-Survival	Ratio	1. Births by City 2. Past District Enrollment	Past tendencies of students to advance from one grade to the next.
2. Grade-Retention	Ratio	Past District Enrollment	Past trends in public school enrollment.
3. Enrollment-Ratio Method I	Ratio	Total City Population	Past ratio of public school enrollment to total city population.
4. Enrollment-Ratio Method II	Ratio	Total County Population	Past ratio of public school enrollment to total county population.
5. Pupil-Home Unit	Ratio	Home Units (City)	Past ratio of public school enrollment to city occupied housing units.
6. Time Analysis I	Regression	Time	Past relationship between public school enrollment and time.
7. Time Analysis II	Regression	Time	Past relationship between the log of public school enrollment and time.
8. Transition Analysis	Regression	1. Births by City 2. Past District Enrollment	Past tendencies of students to advance from one grade to the next. (Also from birth to kindergarten)
9. Birth Analysis	Regression	Births by City	Past relationship between births and public school enrollment.
10. Enrollment Regression Analysis I	Regression	City School-Age Population	Past relationship between city school-age population and public school enrollment.
11. Enrollment Regression Analysis II	Regression	1. City School-Age Population 2. Total City Population	Past relationship between city school-age population, city total population, and public school enrollment.

<u>Name</u>	<u>Type</u>	<u>Predictor (s)</u>	<u>Relationship</u>
12. Enrollment Regression Analysis III	Regression	1. City School-Age Population 2. Total County Population	Past relationship between city school-age population, county total population, and public school enrollment.
13. Enrollment Regression Analysis IV	Regression	1. Extrapolated City School-Age Population 2. Extrapolated County School-Age Population	Past relationship between extrapolated city school-age population, extrapolated county school-age population, and public school enrollment.
14. Housing Analysis	Regression	1. Housing 2. State Equalized Valuation	Past relationship between occupied housing, SEV, and public school enrollment.
15. Multi-Variable Analysis I	Regression	1. Births by City 2. City School-Age Population 3. Total City Population 4. Total County Population	Past relationship between the predictor variables and public school enrollments.
16. Multi-Variable Analysis II	Regression	Same variables as in 15	Past relationship between the predictor variables and the logs of public school enrollment.
17. Multi-Variable Analysis III	Regression	Logs of variables used in 15	Past relationship between the logs of the predictor variables and the logs of public school enrollment.

APPENDIX B2
RESULTS OF ANALYSIS
THE WEBSTER (1969) STUDY

EFFECTIVENESS OF PROJECTION METHODOLOGIES BY STRATA

<u>Projection Methodology</u>	<u>Stratum</u>				
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>
1. Cohort-Survival Ratio	x	0	x	0	x
2. Grade Retention Ratio	0	0	0	0	0
3. Enrollment Ratio Method I	0	0	0	0	0
4. Enrollment Ratio Method II	0	0	0	0	0
5. Pupil-Home Unit (Ratio)	0	0	0	0	0
6. Time Analysis I (Regression)	0	0	0	b	0
7. Time Analysis II (Regression)	0	0	0	x	0
8. Transition Analysis (Regression)	b	b	b	x	b
9. Birth Analysis (Regression)	0	0	0	0	x
10. Enrollment Regression Analysis I	0	0	0	x	x
11. Enrollment Regression Analysis II	0	0	0	0	0
12. Enrollment Regression Analysis III	0	x	0	x	0
13. Enrollment Regression Analysis IV	0	x	x	x	0
14. Housing Analysis (Regression)	0	0	0	x	0
15. Multi-Variable Analysis I	0	0	0	0	0
16. Multi-Variable Analysis II	0	0	0	0	0
17. Multi-Variable Analysis III	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	2	3	3	7	4

x = projection methodology is adequate as determined by previously outlined criteria.

b = projection methodology yields best estimates for Districts in this Strata.

0 = projection methodology is not adequate as determined by previously outlined criteria.

APPENDIX C

POPULATION FEATURES AND PROJECTIONS--JAMAICA

APPENDIX C1

PROPORTIONAL DISTRIBUTION OF POPULATION BY PARISH

1921-1970

PROPORTIONAL DISTRIBUTION OF POPULATION BY PARISH
1921-1970

Parish	1921	1943	1960	1970
Kingston	7.42	8.90	7.67	5.94
St. Andrew	6.36	10.36	18.39	22.81
St. Thomas	4.95	4.91	4.27	3.85
Portland	5.71	4.91	4.01	3.75
St. Mary	8.32	7.35	5.85	5.43
St. Ann	8.27	7.77	7.10	6.63
Trelawny	4.03	3.84	3.48	3.35
St. James	4.89	5.14	5.16	5.56
Hanover	4.46	4.18	3.35	3.15
Westmoreland	8.02	7.28	6.81	6.26
St. Elizabeth	9.24	8.10	7.25	6.91
Manchester	7.45	7.50	6.94	6.65
Clarendon	9.62	9.98	10.18	9.75
St. Catherine	11.26	9.78	9.54	9.96

Source: Percentages derived from figures in Table 3.1

APPENDIX C2

PARISH POPULATION CHANGES

1960-1970

MOVEMENTS IN PARISH POPULATION - 1960-1970

PARISH	Population		Interdecadal Increase	Natural Increase	Internal Migration	External Migration
	1960	1970				
Kingston	123,400	109,800	- 13,600	50,200	- 28,000	- 35,800
St. Andrew	296,000	421,700	+ 125,700	132,200	+ 99,400	- 106,000
St. Thomas	68,700	71,200	+ 2,500	18,200	- 3,200	- 12,500
Portland	64,500	69,300	+ 4,800	16,800	- 4,500	- 7,500
St. Mary	94,200	100,400	+ 6,200	25,500	- 8,500	- 10,800
St. Ann	114,400	122,700	+ 8,300	32,300	- 11,900	- 12,100
Trelawny	56,100	61,900	+ 5,800	16,500	- 4,300	- 6,400
St. James	83,000	103,100	+ 20,100	30,400	+ 1,200	- 11,500
Hanover	53,900	59,400	+ 5,500	16,300	- 5,700	- 5,100
Westmoreland	109,600	115,800	+ 6,200	29,700	- 12,100	- 11,400
St. Elizabeth	116,700	127,800	+ 11,100	32,700	- 13,700	- 7,900
Manchester	111,800	122,900	+ 11,100	35,300	- 6,400	- 17,800
Clarendon	164,000	178,300	+ 14,300	45,100	- 5,900	- 24,800
St. Catherine	153,500	184,200	+ 30,700	49,600	+ 3,600	- 22,500
TOTAL	1,609,800	1,848,500	238,700	530,800	-	- 292,100

(Totals rounded to nearest 100)

ESTIMATES OF NET GAIN (+) OR LOSS (-) TO PARISHES AS A
RESULT OF INTERNAL MIGRATION 1960-1970

Parish	Males					Females				
	Contiguous Parishes	Kingston	St. Andrew	Other	All Parishes	Contiguous Parishes	Kingston	St. Andrew	Other	All Parishes
Kingston	-	-	-11,005	- 4,475	-15,480	-	-	-11,699	- 838	-12,537
St. Andrew	+10,229	+11,005	-	+19,679	+40,913	+15,260	+11,699	-	+31,580	+58,539
St. Thomas	+ 53	- 23	- 1,474	+ 432	- 1,012	+ 143	- 283	- 2,311	+ 269	- 2,182
Portland	+ 63	+ 192	- 1,900	- 17	- 1,662	- 66	+ 80	- 2,907	+ 58	- 2,855
St. Mary	- 412	+ 667	- 3,684	- 12	- 3,441	- 584	+ 359	- 5,074	+ 231	- 5,068
St. Ann	- 1,265	+ 155	- 3,581	- 73	- 4,764	- 1,415	- 209	- 5,490	- 38	- 7,152
Trelawny	+ 398	+ 122	- 1,675	- 116	- 1,271	+ 101	- 177	- 2,657	- 292	- 3,025
St. James	+ 2,298	- 272	- 1,656	- 79	+ 835	+ 2,776	+ 40	- 2,345	- 146	+ 325
Hanover	- 715	- 56	- 1,038	- 526	- 2,335	- 1,049	- 156	- 1,771	- 417	- 3,393
Westmoreland	- 1,293	- 88	- 2,479	- 1,256	- 5,116	- 1,119	- 469	- 4,101	- 1,308	- 6,997
St. Elizabeth	- 809	+ 240	- 3,231	- 1,008	- 4,808	- 1,568	- 363	- 5,419	- 1,549	- 8,899
Manchester	+ 233	+ 653	- 3,016	- 290	- 2,420	+ 778	+ 368	- 4,762	- 259	- 3,935
Clarendon	- 78	+ 400	- 3,003	+ 880	- 1,801	- 84	+ 24	- 5,035	+ 1,032	- 4,063
St. Catherine	+ 1,540	+ 1,941	- 3,171	+ 2,052	+ 2,362	+ 2,107	+ 1,684	- 4,968	+ 2,419	+ 1,242
TOTAL	+10,242	+15,480	-40,913	+15,191	-	+15,260	+12,537	-58,539	+30,742	-

APPENDIX C3
POPULATION PROJECTIONS - JAMAICA
1975-1990
Roberts et al. (1974)

SUMMARY OF ESTIMATED POPULATION MOVEMENTS IN JAMAICA, 1960 TO 1990, ACCORDING TO
CENSUSES OF 1960 AND 1970, AND THREE PROJECTIONS FROM 1970 TO 1990 (IN 000's)

Year	Total population	Movements between successive intervals						Rates per 1000 average population		
		Increases	Births	Deaths	Natural increase	Net emigration		Birth	Death	Natural increase
						No.	% of natural increase			
Census Populations										
1960	1,609.8	-	-	-	-	-	-	-	-	-
1970	1,854.3	244.5	676.5	141.3	535.2	290.7	54.3	39.1	8.2	30.9
Projection I										
1975	2,143.1	288.8	363.0	74.2	288.8	-	-	36.3	7.4	28.9
1980	2,517.7	374.6	459.7	85.1	374.6	-	-	39.5	7.3	32.2
1985	2,994.5	476.8	575.0	98.2	476.8	-	-	41.7	7.1	34.6
1990	3,561.7	567.2	679.0	111.8	567.2	-	-	41.4	6.8	34.6
Projection II										
1975	2,102.7	248.4	320.9	72.5	248.4	-	-	32.4	7.3	25.1
1980	2,338.0	235.3	313.9	78.5	235.4	-	-	28.3	7.1	21.2
1985	2,535.4	197.3	281.9	84.6	197.3	-	-	23.1	6.9	16.2
1990	2,712.5	177.1	268.6	91.5	177.1	-	-	20.5	7.0	13.5
Projection III										
1975	1,994.7	140.4	311.7	68.4	243.3	102.9	42.3	32.4	7.1	25.3
1980	2,078.9	84.2	264.1	65.7	198.4	114.2	57.6	25.9	6.5	19.4
1985	2,107.5	28.6	227.8	67.1	160.7	132.1	82.2	21.8	6.4	15.4
1990	2,122.4	14.9	236.5	73.6	162.9	148.0	90.9	22.4	7.0	15.4

Note: Discrepancies in some totals are due to rounding

CHANGING AGE STRUCTURE OF THE POPULATION OF JAMAICA TO 1990, ACCORDING TO PROJECTION I (IN 000's)

Age intervals	Populations						% distributions					
	Census		Projections				Census		Projections			
	1960	1970	1975	1980	1985	1990	1960	1970	1975	1980	1985	1990
Male												
0-4	135.0	149.0	176.3	223.3	279.3	329.8	17.5	16.5	16.8	18.0	18.9	18.7
5-14	197.7	280.6	302.5	321.6	395.0	496.8	25.5	31.0	28.8	26.0	26.7	28.1
15-44	298.6	305.9	390.0	503.3	607.2	727.1	38.6	33.9	37.2	40.6	41.0	41.1
45-64	113.7	122.7	127.2	130.1	132.5	144.4	14.7	13.6	12.1	10.5	8.9	8.2
65+	28.5	45.1	53.9	61.1	66.6	69.6	3.7	5.0	5.1	4.9	4.5	3.9
Total	773.4	903.3	1,049.9	1,239.4	1,480.6	1,767.7	100.0	100.0	100.0	100.0	100.0	100.0
Female												
0-4	132.9	146.8	171.6	217.3	271.8	321.0	15.9	15.4	15.7	17.0	17.9	17.9
5-14	197.0	278.0	299.0	315.1	384.9	484.1	23.5	29.2	27.3	24.6	25.4	27.0
15-44	347.7	338.5	418.1	524.7	623.1	735.0	41.6	35.6	38.3	41.1	41.2	41.0
45-64	117.6	130.7	138.5	147.5	151.5	165.4	14.1	13.8	12.7	11.5	10.0	9.2
65+	41.1	57.0	66.0	73.7	82.6	88.5	4.9	6.0	6.0	5.8	5.5	4.9
Total	836.4	951.0	1,093.2	1,278.7	1,513.9	1,794.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: This Projection assumes constant mortality and fertility as of 1969-79 and no external migration. Discrepancies in some totals are due to rounding.

POPULATION OF JAMAICA ACCORDING TO 1970 CENSUS AND PROJECTION I (000's)

Age interval	Male					Female				
	Census 1970	Projections				Census 1970	Projections			
		1975	1980	1985	1990		1975	1980	1985	1990
0-	149.0	176.3	223.3	279.3	329.8	146.8	171.6	217.3	271.8	321.0
5-	155.4	147.5	174.5	221.0	276.4	154.0	145.4	170.0	215.3	269.3
10-	125.2	155.0	147.1	174.0	220.4	124.0	153.7	145.1	169.7	214.8
15-	80.7	124.7	154.3	146.5	173.3	86.0	123.6	153.2	144.7	169.1
20-	60.2	80.1	123.8	153.3	145.5	68.5	85.7	123.1	152.5	144.0
25-	49.7	59.7	79.4	122.8	152.0	54.5	68.1	85.1	122.3	151.6
30-	39.3	49.2	59.1	78.6	121.5	43.7	54.0	67.5	84.4	121.3
35-	38.2	38.8	48.6	58.3	77.6	44.3	43.2	53.3	66.7	83.4
40-	37.8	37.6	38.1	47.7	57.3	41.5	43.6	42.4	52.5	65.6
45-	34.0	36.8	36.6	37.1	46.4	36.7	40.6	42.5	41.4	51.2
50-	33.0	32.6	35.2	35.1	35.5	35.9	35.6	39.3	41.2	40.1
55-	29.8	30.9	30.4	32.9	32.7	30.3	34.1	33.9	37.4	39.2
60-	25.8	27.0	27.9	27.5	29.7	27.8	28.2	31.8	31.5	34.5
65-	19.2	22.2	23.2	24.1	23.7	20.6	25.0	25.3	28.6	28.3
70-	12.4	15.3	17.7	18.5	19.2	14.5	17.4	21.1	21.4	24.2
75+	13.5	16.3	20.1	24.0	26.7	21.9	23.6	27.2	32.5	36.0
Total	903.3	1,049.9	1,239.3	1,420.6	1,767.7	951.0	1,093.2	1,278.3	1,513.9	1,794.0

Note: Discrepancies in some totals are due to rounding.

POPULATION OF JAMAICA ACCORDING TO 1970 CENSUS AND PROJECTION II
(000's)

Age interval	Male					Female				
	Census 1970	Projections				Census 1970	Projections			
		1975	1980	1985	1990		1975	1980	1985	1990
0-	149.0	155.9	152.4	136.9	130.5	146.8	151.7	148.4	133.3	127.0
5-	55.4	147.5	154.3	150.9	135.5	154.0	145.4	150.3	147.0	132.0
10-	125.2	155.0	147.1	153.8	150.5	124.0	153.7	145.1	150.0	146.7
15-	80.7	124.7	154.3	146.5	153.3	86.0	123.6	153.2	144.7	149.5
20-	60.2	80.1	123.8	153.3	145.5	68.5	85.7	123.1	152.5	144.0
25-	49.7	59.7	79.4	122.8	152.0	54.5	68.1	85.1	122.3	151.6
30-	39.3	49.2	59.1	78.6	121.5	43.7	54.0	67.5	84.4	121.9
35-	38.2	38.8	48.6	58.3	77.5	44.3	43.2	53.3	66.7	83.4
40-	37.8	37.6	38.1	47.7	57.3	41.5	43.6	42.4	52.5	65.6
45-	34.0	36.8	36.6	37.1	46.4	36.7	40.6	42.5	41.4	51.2
50-	33.0	32.6	35.2	35.1	35.5	35.9	35.6	39.3	41.2	40.1
55-	29.8	30.9	30.4	32.9	32.7	30.3	34.1	33.9	37.4	39.2
60-	25.8	27.0	27.9	27.5	29.7	27.8	28.2	31.8	31.5	34.8
65-	9.2	22.2	23.2	24.1	23.7	20.6	25.0	25.3	28.6	28.3
70-	2.4	15.3	17.7	18.5	19.2	14.5	17.4	21.1	21.4	24.2
75+	13.5	16.3	20.1	24.0	26.7	21.9	23.6	27.2	32.5	36.0
Total	903.3	1,029.5	1,148.3	1,248.0	1,337.5	951.0	1,073.4	1,189.7	1,287.4	1,375.0

Note: Discrepancies in some totals are due to rounding.

CHANGING AGE STRUCTURE OF THE POPULATION OF JAMAICA TO 1990, ACCORDING TO
PROJECTION II (IN 000's)

Age intervals	Populations					% distributions				
	1970 Census	Projections				1970 Census	Projections			
		1975	1980	1985	1990		1975	1980	1985	1990
<u>Male</u>										
0- 4	149.0	155.9	152.4	136.9	130.5	16.5	15.1	13.3	11.0	9.8
5-14	260.6	302.5	301.4	304.8	286.0	31.0	29.4	26.3	24.4	21.4
15-44	305.9	390.0	503.3	607.2	707.0	33.9	37.9	43.8	48.7	52.8
45-64	122.7	127.2	150.1	132.5	144.4	13.6	12.4	11.3	10.6	10.8
65+	45.1	53.9	61.1	66.6	69.6	5.0	5.2	5.3	5.3	5.2
Total	903.3	1,029.5	1,148.3	1,248.0	1,337.5	100.0	100.0	100.0	100.0	100.0
<u>Female</u>										
0- 4	146.8	151.7	148.4	133.3	127.0	15.4	14.1	12.5	10.4	9.2
5-14	278.0	299.1	295.4	297.0	278.7	29.2	27.9	24.8	23.1	20.3
15-44	338.5	418.1	524.7	623.1	715.4	35.6	39.0	44.1	48.3	52.0
45-64	130.7	138.5	147.5	151.5	165.3	13.8	12.9	12.4	11.8	12.0
65+	57.0	66.0	73.7	82.5	88.5	6.0	6.1	6.2	6.4	6.5
Total	951.0	1,073.4	1,189.7	1,287.4	1,375.0	100.0	100.0	100.0	100.0	100.0

Note: This Projection assumes constant mortality as of 1969-70, fertility declines as indicated in the text and no external migration. Discrepancies in some totals are due to rounding.

CHANGING AGE STRUCTURE OF THE POPULATION OF JAMAICA TO 1990, ACCORDING TO PROJECTION III (IN 000's)

Age intervals	Populations					% distributions				
	1970 Census	Projections				1970 Census	Projections			
		1975	1980	1985	1990		1975	1980	1985	1990
Male										
0- 4	149.0	151.4	128.3	110.6	115.0	16.5	15.9	13.2	11.5	12.1
5-14	289.6	301.9	296.4	275.8	235.6	31.0	31.7	30.4	28.6	24.9
15-44	305.9	328.6	384.5	427.2	460.7	33.9	34.5	39.5	44.3	48.6
45-64	122.7	116.3	103.8	86.9	72.2	13.6	12.2	10.7	9.0	7.6
65+	45.1	53.9	60.6	64.5	64.0	5.0	5.7	6.2	6.7	6.8
Total	903.3	952.1	973.6	965.0	947.5	100.0	100.0	100.0	100.0	100.0
Female										
0- 4	146.8	147.4	124.8	107.7	111.9	15.4	14.1	11.3	9.4	9.5
5-14	278.0	298.7	290.7	269.0	229.8	29.2	28.7	26.3	23.5	19.6
15-44	338.5	395.7	478.4	550.2	611.6	35.6	38.0	43.3	48.2	52.1
45-64	130.7	134.7	137.8	134.0	135.5	13.8	12.9	12.5	11.7	11.5
65+	57.0	66.1	73.6	81.6	86.1	6.0	6.3	6.7	7.2	7.3
Total	951.0	1,042.6	1,105.3	1,142.5	1,174.9	100.0	100.0	100.0	100.0	100.0

Note: This Projection takes the same mortality and fertility assumption as Projection II and assumes net external emigration as specified in the text. Discrepancies in some totals are due to rounding.

POPULATION OF JAMAICA ACCORDING TO 1970 CENSUS AND PROJECTION III (000's)

Age Interval	Male					Female				
	Census 1970	Projection				Census 1970	Projection			
		1975	1980	1985	1990		1975	1980	1985	1990
0-	149.0	151.4	128.3	110.6	115.0	146.8	147.4	124.8	107.7	112.0
5-	155.4	147.5	149.9	127.0	109.5	154.0	145.4	146.0	123.7	106.7
10-	125.2	154.4	146.5	148.9	126.1	124.0	153.3	144.7	145.3	123.1
15-	80.7	121.6	149.9	142.3	144.6	86.0	122.1	150.9	142.5	143.1
20-	60.2	69.9	105.3	129.8	123.2	68.5	81.7	116.0	143.4	135.4
25-	49.7	44.5	51.7	77.8	96.0	54.5	62.4	74.5	105.6	130.6
30-	39.3	34.4	30.8	35.7	53.9	43.7	48.9	56.0	66.8	94.8
35-	38.2	28.2	24.7	22.1	25.7	44.3	39.7	44.4	50.8	60.7
40-	37.8	30.0	22.1	19.4	17.4	41.5	41.0	36.7	41.0	47.0
45-	34.0	31.3	24.8	18.3	16.1	36.7	38.8	38.2	34.3	38.3
50-	33.0	29.5	27.2	21.6	15.9	35.9	34.6	36.5	36.0	32.3
55-	29.8	29.2	26.1	24.0	19.0	30.3	33.5	32.3	34.1	33.6
60-	25.8	26.3	25.7	23.0	21.2	27.8	27.8	30.8	29.7	31.3
65-	19.2	22.2	22.6	22.2	19.8	20.6	25.0	25.0	27.7	26.7
70-	12.4	15.4	17.8	18.1	17.7	14.5	17.4	21.1	21.2	23.4
75+	13.5	16.3	20.2	24.2	26.5	21.9	23.8	27.5	32.8	36.1
Total	903.3	952.1	973.6	965.0	947.5	951.0	1,042.6	1,105.3	1,142.5	1,174.9

Note: Discrepancies in some totals are due to rounding.

APPENDIX C4
POPULATION PROJECTIONS - JAMAICA
1970-2020 AD
Walsh (1970)

DEMOGRAPHIC PROJECTIONS OF JAMAICA, 1970-2020,
UNDER VARIOUS FERTILITY ASSUMPTIONS (IN MILLIONS)

<u>Year</u>	<u>High</u>	<u>Medium</u>	<u>Low</u>	<u>Very Low</u>
1970	2.093	2.093	2.093	2.093
1980	2.995	2.942	2.888	2.834
1990	4.361	4.069	3.794	3.512
2000	6.394	5.503	4.719	3.849
2010	9.992	7.190	5.818	4.055
2020	13.936	8.985	7.004	4.136

APPENDIX D
DESCRIPTION OF SCHOOL DISTRICTS

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961*	Assumed School Age Population 1971	Enrollment September 1971*	Enrollment September 1973	Description
#1 Lucea	1450 (P-AA) 1243 (JSS-HS)	2284	I	2977	1960	2782	This district extends from Mosquito Cove and its swamps in the east to rocky Lances Bay in the west. The southern boundary follows the Lucea and Lances Bay Rivers. As the map shows, population thins out along most of the boundaries. This district contains the parish capital, Lucea, the parish High School--Rusea's High School and a junior secondary school in process of being converted to a full secondary school. Two private schools, the Hanover School of Commerce and the Lucea School of Home Economics are located in Lucea. These admit students in the 14-19 and 17-19 age groups respectively. Enrollments in 1973/74 totaled 115.

*Assumed school age population 1961, related to 5-14 age group in 1960 Census

*Assumed school age population 1971, related to 5-14 age group in 1970 Census

I = Incomplete--data missing

JSS = Junior Secondary School; HS = High School; P = Primary; AA = All Age

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#2 Green Island	1701 810 (JSS)	2260	1609	3151	2098	2001	This district has the largest area. A sizeable portion is occupied by swamps. The village of Green Island showed a population growth from 972 in 1960 to 1163 in 1970. There is minor shipping activity from the Green Island Harbor and some fishing is carried on. Roads and transportation through the area are good. A private primary school, the March Town Seventh-day Adventist School, is located in the district. Enrollment totaled 138 in 1973/74.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#3 Kendal- Upper Rock Spring	700	517	I	836	765	756	This is a relatively small area, east of Green Island. It is bounded on the south by mountains and the parish boundary, Hanover/Westmoreland; in the east by the Flamstead, Cessnock and Hog Rivers. The main roads leading into the area become impassable in bad weather. Subsistence farming is the mainstay of the people.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#4 Riverside- Dias	1350	1617	1637	1827	1662	1751	This district lies East of the Flamstead and Cessnock Rivers and South of the Lucea district. It is bounded on the east by the upper reaches of the West Lucea River and the Dolphin Head Mountains. Dias is the focus of the area's social and economic activity. A private elementary school, the Dias Seventh-day Adventist School, is located in this district. Enrollment totaled 163 in 1973-1974.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#5 Askenish- Chambers Pen	680	1518	831	1581	1011	1290	This district is contiguous to district #4, Riverside-Dias, on the west. The eastern boundary lies in the valleys of the Dolphin Head Mountains. The area experiences a great deal of rainfall and flooding is not uncommon. The people obtain their livelihood through agriculture.
#6 Jericho	575	816	626	814	713	711	This circular district, on the uplands from Lucea, is a hilly enclave. Transportation goes through the area from Lucea but more direct routes are along the coast.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#7 Brownsville- Cascade	1000	1106	1101	965	1157	1203	This is another hilly area extending from Jericho's elevation of 500 feet to Mount Hannah's elevation of 1000 feet, and on inwards to British Hill (1809 feet above sea level). It is an agricultural area with less transportation serving the area than the lower lying areas.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#8 Sandy Bay	400	680	419	941	787	786	This district is bounded on the east by the Flint River and in the west by Mosquito Cove. The road to the hinterland is a cul-de-sac. This small area is considered separately because (1) the Flint River and Mosquito Cove form natural barriers at both ends of the district, and (2) part of the population lives in the hinterland and might not readily take advantage of transportation going through to Hopewell, the nearest town with educational facilities. Hopewell and Sandy Bay could be considered together as one area for developmental purposes. Local investigation would show how feasible this is.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#9 Hopewell	1000	1152	I	2019	1845	2031	This district, in the Northeast of the parish, is bounded on the east by the Great River and on the west by the Flint River. Its southern boundary is a circle of hills. The town of Hopewell is the center for social and commercial activity with people from the hills converging there daily.
#10 Gurney's Mount	885	1077	I	1264	1055	1113	This is a fairly large, isolated district lying south of Hopewell and Sandy Bay. Population is centered along the roadways which skirt the mountains. Rainfall is abundant. Areas which lie in the depressions are sometimes subject to flooding.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#11 Mount Peto	450 (JSS-NA)	681	542	860	788	792	Mount Peto lies south of the Gurney's Mount District on the southern side of the range whose peak is Mount Lebanon. Mount Peto and adjacent settlements have Ramble and Knockalva as the focus of activity. An Agricultural Training Centre and a junior secondary school are located at Knockalva. A police station and a court house are located at Ramble. Two private schools are located in the district, the Axe and Adze Seventh-day Adventist Primary School and the Fairview Bible College for secondary and post secondary training. Enrollment at Fairview in 1973/74 was 84 and at the Seventh-day Adventist School 27.

NA - Not Available

JSS - Junior Secondary School

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961*	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#12 Flower Hill	350	96	I	193	323	291	Flower Hill lies in the basin between the hills of the Cascade District and those of the Gurney's Mount District. The Cabaritta River, which flows southward into the parish of Westmoreland, rises in this area. This district and its lone school would more appropriately be associated with adjoining areas in Westmoreland.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973
#13 Chester Castle	450	420	405	668	677	791

Description

Chester Castle, although apparently contiguous to the Mount Peto District, is separated from it by a large property. One of its two schools, the Senior School, is completely isolated and its development a question of some difficulty. Only a river with no bridge separates it from the areas in the adjoining parish with which it would be better associated.

Districts	Public School Accommodation 1974/75	Assumed School Age Population 1961	Enrollment September 1961	Assumed School Age Population 1971	Enrollment September 1971	Enrollment September 1973	Description
#14 Friendship- Copse	150	404	147	594	341	432	This district is located to the Northeast of the Mount Peto District. Part of the district's school population attends schools in St. James, the adjacent parish, since they reside beside the Great River marking the parish boundary; and the nearest school is located on the St. James' side of the river. For planning purposes, this district could well be classified with districts in the parish of St. James.
TOTALS	13194	14628	I 18690	15182	16730		

APPENDIX E
THE DELPHI TECHNIQUE

THE DELPHI METHOD

The Delphi is a relatively recently developed technique belonging to the family of think tank procedures. It was popularized by the RAND Corporation (circa 1964) which used it in a long range forecasting study of technological breakthroughs. It is aimed at identifying the probability of events occurring in the future and at how to incorporate variables such as technological innovations and social values into planning and organization.

The Delphi relies on group judgments on factual matters, in the absence of precise information and seeks to correct this information objectively before it is finally used. It may be a tool for decision making or information building.

It is distinguished from other group consultation mechanisms by

1. its anonymity
2. its iterative approach
3. its advantages over other methods of group consultation.

Its anonymity arises from the method of securing information—that is, through written correspondence.

It is iterative in nature because first round information is relayed to participants, for second opinions, in the light of group views. A third or fourth consultation may take place.

Its advantages over other methods of group consultation include the following:

1. variable numbers of people with varied skills may be consulted;
2. the lack of group pressures as in a face to face situation;

3. a variable number of questions or issues may be posed at the same time;
4. its flexibility. Delphi may be conducted in a group session or on a personal interview basis. If more than 15 members are involved, questionnaires may be mailed to participants with prepaid envelopes for returns;
5. computerized approaches may be used when time is important;
6. the method fosters group consensus;
7. through its anonymity it may bring greater rationality to the decision making process.

Its major limitation may be the time that is involved. A three round Delphi may take up to three months. This points to the necessity for quick follow-up and correct estimate of manpower requirements to conduct the particular Delphi.

Skutsch and Hall (1973)¹ regarded the Delphi as most useful in the following areas of educational planning:

1. human relations
2. provisions of facilities and services
3. curriculum planning
4. evaluation
5. business operations

Its potential usefulness in such areas as population projections, planning, designing and location of school buildings is stressed. They also point out that present methods of securing community participation,

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¹United States Office of Education, Department of Health, Education and Welfare. Delphi: Potential Uses in Educational Planning by Margaret Skutsch and Diana Hall (July, 1973).

for example, citizens committees, public opinion polls or surveys, utilization of administrators, sensitive to people's wishes, may be augmented by the use of the Delphi.

APPENDIX F
COMPUTER PRINTOUTS OF STATISTICS
USED IN THE STUDY

APPENDIX F1

TIME ANALYSIS

EIGHT YEAR TREND

SEVEN DISTRICTS

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #9, HOPEWELL
(STRATUM #1)

20:52 FEB 26 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1

21332,1966

2

21431,1967

3

21535,1968

4

21922,1969

5

21743,1970

6

21655,1971

7

21792,1972

8

21836,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1650.25	180.526
IND VAR X	1969.50	2.44949
STD ERROR	102.928	
CORRELATION	.949331	
DETERMINATION	.721354	

Y INTERCEPT A	-121931.	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
COEFF B	62.6952	23.7313	101.459	
	OBSERVED	PREDICTED	RESIDUAL	
1	1302	1431.17	-40.1697	2417.36
2	1431	1493.76	-62.7619	3939.06
3	1535	1555.36	-21.3571	456.122
4	1922	1618.95	209.048	43703.9
5	1743	1631.55	61.4524	3776.40
6	1655	1744.14	-89.1429	7946.45
7	1792	1806.74	-14.7381	217.211
8	1836	1869.33	-33.3333	1111.11
				63564.6

WITH 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21974	1931.93	1735.63	2123.18

TRY ANOTHER, YES OR NO

YES

WHENX=

21976	2057.12	1769.27	2324.97

TRY ANOTHER, YES OR NO

YES

WHENX=

21978	2132.31	1840.13	2524.44

TRY ANOTHER, YES OR NO

YES

WHENX=

21980	2307.50	1689.83	2725.17

TRY ANOTHER, YES OR NO

NO

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #8, SANDY BAY
(STRATUM #II)

21:33 FEB 24 MAG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?8

VALUES Y,X FOR OBSERVATIONS

1
?514,1966
2
?499,1967
3
?556,1968
4
?657,1969
5
?675,1970
6
?651,1971
7
?696,1972
8
?752,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	625	91.2829
IND VAR X	1969.50	2.44949
STD ERROR	32.6263	
CORRELATION	.943664	
DETERMINATION	.890591	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-58635.7	-22899.1	-44373.4	
SLOPE B	35.1667	22.3476	47.4857	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	514	501.917	12.0833	146.007
2	499	537.083	-38.0833	1450.34
3	556	572.250	-16.2500	264.063
4	657	607.417	49.5833	2458.51
5	675	642.583	32.4167	1050.84
6	651	677.750	-26.7500	715.563
7	696	712.917	-16.9167	286.174
8	752	748.083	3.91667	15.3403
				6326.83

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?1974	783.250	721.042	845.458

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1976

	853.583	768.680	938.486

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1978

	923.917	815.467	1032.37

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1980

	994.250	861.856	1126.64

TRY ANOTHER, YES OR NO

?NO

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING
(STRATUM # III)

22:02 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?8
VALUES Y,X FOR OBSERVATIONS

1
2722.1266
2
2756.1967
3
2819.1968
4
2884.1969
5
2688.1970
6
2747.1971
7
2744.1972
8
2721.1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	760	62.4943
IND VAR X	1969.50	2.44949
STD ERROR	65.8044	
CORRELATION	-.222143	
DETERMINATION	4.934758-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	11920.5	-57014.6	80955.6	
SLOPE B	-5.56667	-30.5131	19.1798	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	722	779.833	-57.8333	3344.69
2	756	774.167	-18.1667	330.028
3	818	768.500	49.5000	2450.25
4	884	762.833	121.167	14681.4
5	688	757.167	-69.1667	4784.03
6	747	751.500	-4.50000	20.2500
7	744	745.833	-1.83333	3.36111
8	721	740.167	-19.1667	367.361
				25981.3

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21974	734.500	609.032	859.968
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
21976	723.167	551.924	894.400
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
21978	711.833	493.100	930.567
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
21980	700.500	433.473	967.527
TRY ANOTHER, YES OR NO			
?NO			

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #6, JERICHO
(STRATUM #IV)

22:32 FEB 24 1972...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28
VALUES Y,X FOR OBSERVATIONS

1
2624,1966
2
2657,1967
3
2569,1968
4
2681,1969
5
2693,1970
6
2684,1971
7
2713,1972
8
2693,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	664.250	46.9734
IND VAR X	1969.50	2.44949
STD ERROR	36.4655	
CORRELATION	.695284	
DETERMINATION	.483420	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-25595.7	-52713.9	1522.38	
SLOPE B	13.3333	-1.435692	27.1024	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	624	617.583	6.41667	41.1736
2	657	630.917	26.0833	680.340
3	569	644.250	-75.2500	5652.56
4	681	657.583	23.4167	548.340
5	693	670.917	22.0833	487.674
6	684	684.250	-1.250000	6.250000E-02
7	713	697.583	15.4167	237.674
8	693	710.917	-17.9167	321.007
				7978.83

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?1974	724.250	654.720	793.780
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1976	750.917	656.020	845.813
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1978	777.583	656.369	898.799
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1980	804.250	656.273	952.227
TRY ANOTHER, YES OR NO			
?NO			

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #1, LUCEA
(MIXED STRATUM)

10:37 FEB 25 RECD...

SIMPLE LINEAR REGRESSION WITH RESIDUALS

AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1

21492,1966

2

21515,1967

3

21506,1968

4

21536,1969

5

21476,1970

6

21599,1971

7

21579,1972

8

22103,1973

MEAN STANDARD DEVIATION

DEP VAR Y 1613.50 208.566

IND VAR X 1969.50 2.44949

STD ERROR 150.642

CORRELATION .743535

DETERMINATION .552844

95 PERCENT CONFIDENCE LIMITS

LOWER

UPPER

Y INTERCEPT A -123075. -235099. 11050.5

SLOPE B 63.3085 6.43009 120.189

I OBSERVED PREDICTED RESIDUAL SQUARED

1 1492 1391.92 100.083 10016.7

2 1515 1455.23 59.7738 3572.31

3 1506 1518.54 -12.5357 157.144

4 1536 1581.85 -45.8452 2101.79

5 1478 1645.15 -167.155 27940.7

6 1599 1708.46 -109.464 11982.4

7 1579 1771.77 -92.7738 8606.98

8 2103 1835.08 267.917 71779.3

136158.

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

2YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

21974

1898.39 1611.17 2185.62

TRY ANOTHER, YES OR NO

2YES

WHENX=

21976

2025.01 1633.00 2417.03

TRY ANOTHER, YES OR NO

2YES

WHENX=

21978

2151.63 1650.90 2652.36

TRY ANOTHER, YES OR NO

2YES

WHENX=

21980

2278.25 1666.96 2889.54

TRY ANOTHER, YES OR NO

2NO

780 HALT

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #2, GREEN ISLAND
(MIXED STRATUM)

21:03 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

29
VALUES Y,X FOR OBSERVATIONS

1
21775, 1966

2
21936, 1967

3
22029, 1968

4
22142, 1969

5
22574, 1970

6
22711, 1971

7
22836, 1972

8
22854, 1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	2357.13	434.023
IND VAR X	1969.50	2.44949
STD ERROR	101.476	
CORRELATION	.973292	
DETERMINATION	.953145	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	SLOPE B	LOWER	UPPER	
	-338343.	172.988	-413305.	-262881.	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	1775	1751.67	23.3333	544.444	
2	1936	1924.65	11.3452	128.714	
3	2029	2097.64	-68.6429	4711.84	
4	2142	2270.63	-128.631	16545.9	
5	2574	2443.62	130.331	16989.2	
6	2711	2616.61	94.3929	8910.01	
7	2836	2789.60	96.4048	2153.40	
8	2854	2952.59	-108.503	11790.3	
				61763.9	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21974	3135.57	2942.09	3329.05

TRY ANOTHER, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21976	3481.55	3217.48	3745.62

TRY ANOTHER, YES OR NO -
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21978	3827.52	3490.22	4164.83

TRY ANOTHER, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21980	4173.50	3761.72	4585.28

TRY ANOTHER, YES OR NO
?NO

TIME ANALYSIS: 8 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS
(MIXED STRATUM)

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

?8

VALUES Y,X FOR OBSERVATIONS

1

?1783,1966

2

?1795,1967

3

?1863,1968

4

?1695,1969

5

?1888,1970

6

?1658,1971

7

?1629,1972

8

?1767,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1759.75	33.0326
IND VAR X	1969.50	2.44949
STD ERROR	90.8397	
CORRELATION	-.427539	
DETERMINATION	.182789	

95 PERCENT CONFIDENCE LIMITS

		LOWER	UPPER	
Y INTERCEPT A	33740.7	-33811.8	101233.	
SLOPE B	-16.2301	-50.5374	13.0612	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1783	1816.58	-33.5833	1127.34
2	1795	1800.35	-5.34524	28.5716
3	1863	1734.11	78.8729	6224.08
4	1695	1767.87	-72.8620	5309.90
5	1888	1751.63	136.369	18596.5
6	1658	1735.33	-77.3323	5989.65
7	1629	1719.15	-90.1543	8127.88
8	1767	1792.92	-64.0033	4106.67
				49511.1

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?1974

1686.68	1513.48	1859.88

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1976

1654.20	1417.81	1890.59

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1978

1621.73	1319.78	1923.63

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1980

1589.25	1220.63	1957.87

TRY ANOTHER, YES OR NO

?NO

APPENDIX F2
TIME ANALYSIS
SIX YEAR TREND
SEVEN DISTRICTS

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #9, HOPEWELL
(STRATUM #1)

```

>RUN
16:13 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
1
21382, 1966
2
21431, 1967
3
21535, 1968
4
21828, 1969
5
21743, 1970
6
21655, 1971
      MEAN      STANDARD DEVIATION
DEP VAR Y      1595.67      176.440
IND VAR X      1968.50      1.87083
STD ERPOP      121.993
CORRELATION     .785849
DETERMINATION     .617558

      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A -144298.      -303655.      15058.5
SLOPE B          74.1143      -6.83912      155.068
I      OBSERVED      PREDICTED      RESIDUAL      SQUARED
1      1382      1410.38      -28.3810      805.478
2      1431      1484.50      -53.4952      2861.74
3      1535      1558.51      -23.6095      557.410
4      1828      1632.72      -195.276      38132.8
5      1743      1706.84      36.1619      1307.68
6      1655      1780.95      -125.952      15864.0
                                                    59529.1

MAYE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y      LOWER LIMIT      UPPER LIMIT
WHENX=
21972
      1855.07      1539.80      2170.33
TRY ANOTHER, YES OR NO
?YES
WHENX=
21974
      2003.30      1537.08      2469.51
TRY ANOTHER, YES OR NO
?NO

```

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #8, SANDY BAY
(STRATUM #II)

```

16:24  FEB 22  REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
-----
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
-----
1
2514,1966
-----
2
2499,1967
-----
3
2556,1968
-----
4
2657,1969
-----
5
2675,1970
-----
6
2651,1971
-----
DEP VAR Y      MEAN      STANDARD DEVIATION
IND VAR X      1968.50    1.87083
STD ERROR      38.5952
CORRELATION     .897461
DETERMINATION   .805436
-----
95 PERCENT CONFIDENCE LIMITS
LOWER      UPPER
Y INTERCEPT A -73311.1 -123727. -22895.1
SLOPE B         37.5429  11.9315   63.1542
I      OBSERVED  PREDICTED  RESIDUAL  SQUARED
1         514      498.143   -15.857   251.449
2         499      535.686   -36.687   1345.84
3         556      573.229   -17.228   296.824
4         657      610.771   -46.228   2137.08
5         675      648.314   -20.685   712.127
6         651      685.857   -34.857   1215.02
-----
5958.34
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y    LOWER LIMIT    UPPER LIMIT
WHENX=
21972          723.400        623.658        823.142
TRY ANOTHER, YES OR NO
?YES
WHENX=
21974          798.486        650.988        945.983
TRY ANOTHER, YES OR NO
?NO

```

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING
(STRATUM #III)

```

16:30  FEB 22  REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
1
2722,1966
2
2756,1967
3
2818,1968
4
2884,1969
5
2688,1970
6
2747,1971
MEAN      STANDARD DEVIATION
DEP VAR Y  769.167      70.7797
IND VAR X  1968.50      1.87083
STD ERROR  79.1303
CORRELATION -9.81749E-03
DETERMINATION 9.63832E-05

95 PERCENT CONFIDENCE LIMITS
LOWER      UPPER
Y-INTERCEPT A 1500.32 -101866. -104867.
SLOPE B -0.371429 -52.8816 52.1387
I OBSERVED PREDICTED RESIDUAL SQUARED
1 722 770.095 -48.0952 2313.15
2 756 769.724 -13.7238 188.343
3 818 769.352 48.6476 2366.59
4 884 768.981 115.019 13229.4
5 688 768.610 -80.6095 6497.90
6 747 768.238 -21.2381 451.057
25046.4

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
21972 767.867 563.369 972.364
TRY ANOTHER, YES OR NO
?YES
WHENX=
21974 767.124 464.715 1069.53
TRY ANOTHER, YES OR NO
?NO

```

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #6, JERICO
(STRATUM #IV)

```

      16:20 FFR 22 REG2...
      SIMPLE LINEAR REGRESSION WITH RESIDUALS
      AND CONFIDENCE LIMITS.
      NUMBER OF OBSERVATIONS
      26
      VALUES Y,X FOR OBSERVATIONS
      1
      2624,1966
      2
      2657,1967
      3
      2569,1968
      4
      2681,1969
      5
      2693,1970
      6
      2684,1971
      MEAN          STANDARD DEVIATION
      DEP VAR Y      651.333          47.4159
      IND VAR X      1968.50         1.87083
      STD ERROR      42.9490
      CORRELATION     .586199
      DETERMINATION   .343630
      95 PERCENT CONFIDENCE LIMITS
      LOWER          UPPER
      Y INTERCEPT A -28595.0      -84698.4      27508.5
      SLOPE B         14.8571       -13.6434      43.3577
      J              OBSERVED      PREDICTED      RESIDUAL      SQUARED
      1              624           614.190       9.80952       96.2268
      2              657           629.048       27.9524       781.336
      3              569           643.905       -74.9048       5610.72
      4              681           658.762       22.2381       494.533
      5              693           673.619       19.3810       375.621
      6              684           688.476       -4.47619       20.0363
      7378.48
      MAKE 95 PERCENT CONFIDENCE INTERVAL
      PREDICTIONS, YES OR NO
      ?YES
      PREDICTED Y    LOWER LIMIT    UPPER LIMIT
      WHENX=
      ?1972
      703.333        592.339        814.327
      TRY ANOTHER, YES OR NO
      ?YES
      WHENX=
      ?1974
      733.048        568.911        897.184
      TRY ANOTHER, YES OR NO
      ?NO
  
```


TIME ANALYSIS: 6 YEAR TREND
DISTRICT #1, LUCEA
(MIXED STRATUM)

```

      16:33   FEB 22   RFG2...
      SIMPLE LINEAR REGRESSION WITH RESIDUALS
      AND CONFIDENCE LIMITS
      NUMBER OF OBSERVATIONS
      26
      VALUES Y,X FOR OBSERVATIONS
      1
      21492,1966
      2
      21515,1967
      3
      21506,1968
      4
      21536,1969
      5
      21478,1970
      6
      21599,1971
      MEAN          STANDARD DEVIATION
      DEP VAR Y      1521          43.0349
      IND VAR X      1968.50      1.87083
      STD ERROR      39.7350
      CORRELATION     .563899
      DETERMINATION   .317982
      95 PERCENT CONFIDENCE LIMITS
      LOWER          UPPER
      Y-INTERCEPT-A 24013.3    -75918.3    27891.8
      SLOPE B         12.9714    -13.3964    39.3392
      I
      OBSERVED        PREDICTED    RESIDUAL    SQUARED
      1               1492         1488.57     3.42857     11.7551
      2               1515         1501.54     13.4571     181.095
      3               1506         1514.51     -8.51429    72.4931
      4               1536         1527.49     8.51429     72.4931
      5               1478         1540.46     -62.4571    3900.89
      6               1599         1553.43     45.5714     2076.76
      6315.49
      MAKE 95 PERCENT CONFIDENCE INTERVAL
      PREDICTIONS, YES OR NO
      ?YES
      WHENX=
      PREDICTED Y    LOWER LIMIT    UPPER LIMIT
      21972
      1566.40        1463.71        1669.09
      TRY ANOTHER, YES OR NO
      ?YES
      WHENX=
      21974
      1592.34        1440.49        1744.20
      TRY ANOTHER, YES OR NO
      ?NO
      780 HALT
  
```

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #2, GREEN ISLAND
(MIXED STRATUM)

16:17 FFR 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

26

VALUES Y,X FOR OBSERVATIONS

1

21775,1966

2

21936,1967

3

22029,1968

4

22142,1969

5

22574,1970

6

22711,1971

	MEAN	STANDARD DEVIATION
DEP VAR Y	2194.50	369.795
IND VAR X	1968.50	1.87083
STD ERROR	101.384	
CORRELATION	.969468	
DETERMINATION	.939868	

95 PERCENT CONFIDENCE LIMITS

LOWER

UPPER

	Y INTERCEPT A	SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	-375026.	191.629	1775	21775	1715.43	60.6714	3640.76
2			1936	21936	1907.06	28.9429	837.689
3			2029	22029	2098.69	-62.6857	4856.10
4			2142	22142	2290.31	-148.314	21997.1
5			2574	22574	2481.94	92.0571	8474.52
6			2711	22711	2673.57	37.4286	1400.90
							41115.1

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

21972

2865.20

2603.19

3127.21

TRY ANOTHER, YES OR NO

?YES

WHENX=

21974

3240.46

2861.00

3635.91

TRY ANOTHER, YES OR NO

?NO

TIME ANALYSIS: 6 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS
(MIXED STRATUM)

16:27 FEB 22 RFG2...				
SIMPLE LINEAR REGRESSION WITH RESIDUALS				
AND CONFIDENCE LIMITS.				
NUMBER OF OBSERVATIONS				
76				
VALUES Y,X FOR OBSERVATIONS				
1				
21783,1966				
2				
21795,1967				
3				
21863,1968				
4				
21695,1969				
5				
21888,1970				
6				
21658,1971				
		MEAN	STANDARD DEVIATION	
DEP VAR Y		1780.33	90.4382	
DEP VAR X		1968.50	1.87083	
STD ERROR		96.3342		
CORRELATION		-.303793		
DETERMINATION		9.22960E-02		
		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y-INTERCEPT A		30689.2	35150.2	156529.
SLOPE B		-14.6857	-78.6122	49.2402
I		OBSERVED	PREDICTED	RESIDUAL
1		1783	1817.05	-34.0476
2		1795	1802.36	-7.36190
3		1863	1787.68	75.3238
4		1695	1772.99	-77.9905
5		1888	1758.30	129.695
6		1658	1743.62	-85.6190
				37121.1
MAKE 95 PERCENT CONFIDENCE INTERVAL				
PREDICTIONS, YES OR NO				
?YES				
		PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=				
21972		1728.93	1479.98	1977.89
TRY ANOTHER, YES OR NO				
?YES				
WHENX=				
21974		1699.56	1331.41	2067.72
TRY ANOTHER, YES OR NO				
?NO				

APPENDIX F3

TIME ANALYSIS

SIX YEAR AND EIGHT YEAR TREND

PARISH OF HANOVER

TIME ANALYSIS: 8 YEAR TREND
PARISH OF HANOVER

13:06 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1

?12339,1966

2

?12641,1967

3

?12922,1968

4

?13826,1969

5

?13844,1970

6

?13477,1971

7

?13950,1972

8

?14075,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	13383	661.408
IND VAR X	1969.50	2.44949
STD ERROR	312.918	
CORRELATION	.898968	
DETERMINATION	.808144	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-464690.	-697389.	-231990.	
SLOPE B	242.738	124.567	360.890	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	12339	12533.4	-194.417	37797.8
2	12641	12776.2	-135.155	18266.8
3	12922	13018.9	-96.8929	9388.23
4	13816	13261.6	554.369	307325.
5	13844	13504.4	339.631	115349.
6	13477	13747.1	-270.107	72957.9
7	13950	13989.8	-39.8452	1587.64
8	14075	14232.6	-157.583	24832.5
				587505.

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?1974

14475.3	13878.7	15072.0

TRY ANOTHER, YES OR NO

?YES

WHENX=

?1976

TIME ANALYSIS: 6 YEAR TREND
PARISH OF HANOVER

```

>RUN
13:02 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
1
?12339,1966
2
?12641,1967
3
?12922,1968
4
?13816,1969
5
?13844,1970
6
?13477,1971

```

	MEAN	STANDARD DEVIATION
DEP VAR Y	13173.2	632.090
IND VAR X	1968.50	1.87083
STD ERROR	358.274	
CORRELATION	.861964	
DETERMINATION	.742983	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
SLOPE B	-560110.	-1.02812E+06	-92104.7
	291.229	53.4813	528.976

I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	12339	12445.1	-106.095	11256.2
2	12641	12736.3	-95.3238	9086.63
3	12922	13027.6	-105.552	11141.3
4	13816	13318.8	497.219	247227.
5	13844	13610.0	233.990	54751.5
6	13477	13901.2	-424.238	179978.
				513440.

MAX 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?L974

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?1974	14774.9	13405.7	16144.1

TRY ANOTHER, YES OR NO
?NO

APPENDIX F4
TRANSITION ANALYSIS
EIGHT - SEVEN YEAR TREND
SEVEN DISTRICTS

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
BIRTH-GRADE 1; GRADES 1-2

13:49 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

78
VALUES Y,X FOR OBSERVATIONS

1
7213,211

2
7287,209

3
7307,209

4
7312,227

5
7286,156

6
7253,252

7
7289,196

8
7273,231

	MEAN	STANDARD DEVIATION
DEP VAR Y	277.500	31.9285
IND VAR X	211.375	28.2688
STD ERROR	33.7934	
CORRELATION	-.199507	
DETERMINATION	3.98032E-02	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	SLOPE B	I	LOWER	UPPER	RESIDUAL	SQUARED
1	325.130	-.225336	213	89.6063	560.654	-64.5845	4171.16
2		-1.33096	287	-1.33096	.880293	8.96403	80.3681
3			307	278.035	28.9648	38.0209	1445.59
4			312	273.979	-3.97797	15.8242	235.492
5			286	289.978	-15.3457	8.03546	64.5687
6			253	258.346	-7.77860E-02	6.05066E-03	6851.96
7			289	280.965			
8			273	273.078			

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

7214

276.908 247.529 306.288

13:53 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

77
VALUES Y,X FOR OBSERVATIONS

1
7175,213

2
7226,287

3
7301,307

4
7283,312

5
7244,296

6
7284,253

7
7277,289

	MEAN	STANDARD DEVIATION
DEP VAR Y	255.714	43.9383
IND VAR X	278.143	34.4307
STD ERROR	32.7415	
CORRELATION	.732906	
DETERMINATION	.537268	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	SLOPE B	I	LOWER	UPPER	RESIDUAL	SQUARED
1	-0.45730	.935389	175	-283.892	274.977	-19.7804	391.254
2		-6.27210E-02	226	-6.27210E-02	1.93350	-37.9902	1443.94
3			301	282.707	18.2931	-4.39387	19.2183
4			283	287.384	-19.0638	51.8041	2683.66
5			244	263.064	11.1301		123.878
6			284	232.196			
7			277	265.870			

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

7277

254.645 222.806 286.482

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #1)
GRADES 2-3; 3-4

13:56 PER 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

2220,205

2

2210,175

3

2214,226

4

2262,301

5

2253,283

6

2245,244

7

2269,284

	MEAN	STANDARD DEVIATION
DEP VAR Y	239.957	23.9056
IND VAR X	245.429	46.4789
STD ERROR	9.52066	
CORRELATION	.931570	
DETERMINATION	.867823	

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A	121.263	67.6914	174.835
SLOPE B	.479136	.264137	.694136
I	OBSERVED	PREDICTED	RESIDUAL
1	220	219.486	.513555
2	210	205.112	4.88775
3	214	229.548	-15.5482
4	262	265.483	-3.48343
5	253	256.859	-3.85898
6	245	238.173	6.82734
7	268	257.338	10.6619

SQUARED

.263842

23.8901

241.747

12.1343

14.8917

46.6125

113.676

453.215

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

2255

243.443

233.965

252.921

TRY ANOTHER, YES OR NO

?NO

13:59 PER 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

2168,196

2

2214,220

3

2261,210

4

2223,214

5

2232,262

6

2241,253

7

2255,245

	MEAN	STANDARD DEVIATION
DEP VAR Y	227.714	31.1540
IND VAR X	228.571	24.7511
STD ERROR	29.9451	
CORRELATION	.525041	
DETERMINATION	.275668	

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A	76.6599	-206.223	359.602
SLOPE B	.660863	-.570836	1.89256
I	OBSERVED	PREDICTED	RESIDUAL
1	168	206.199	-38.1290
2	214	222.050	-8.84975
3	251	215.441	45.5529
4	223	218.085	4.91543
5	232	249.806	-17.8550
6	241	243.858	-2.85822
7	255	238.571	16.4287

4218.10

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

2243

237.250

203.896

270.603

TRY ANOTHER, YES OR NO

?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 4-5; 5-6

14:02 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1
2257,243
2
2161,168
3
2211,214
4
2191,261
5
2179,223
6
2194,232
7
2211,241

	MEAN	STANDARD DEVIATION
DEP VAR Y	209.571	30.4623
IND VAR X	226	29.6985
STD ERROR	27.9075	
CORRELATION	.548257	
DETERMINATION	.300586	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	LOWER	UPPER
SLOPE B	.562358	-.423950	1.54867
I	OBSERVED	PREDICTED	RESIDUAL
1	257	210.132	46.8685
2	161	167.955	-6.95465
3	211	193.823	17.1769
4	191	220.254	-29.2540
5	179	198.884	-19.8844
6	194	203.946	-9.94558
7	211	209.007	1.99320

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

2237

206.757 177.549 235.966

TRY ANOTHER, YES OR NO

?NO

FROM

14:05 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1
2117,130
2
236,257
3
2130,161
4
2104,211
5
2103,191
6
2133,179
7
2113,194

	MEAN	STANDARD DEVIATION
DEP VAR Y	112.286	16.3881
IND VAR X	189	39.7953
STD ERROR	11.7099	
CORRELATION	-.757981	
DETERMINATION	.574535	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	LOWER	UPPER
SLOPE B	-.312145	-.620995	-3.29510E-03
I	OBSERVED	PREDICTED	RESIDUAL
1	117	130.702	-13.7023
2	86	91.0599	-5.05987
3	130	121.026	8.97423
4	104	105.419	-1.41853
5	103	111.661	-8.66142
6	133	115.467	17.5928
7	113	110.725	2.27501
SQUARED			
1	2196.65		187.752
2	48.3671		25.6823
3	295.045		60.5368
4	855.795		2.01222
5	395.388		75.0203
6	98.9145		309.508
7	3.97284		5.17567
	3894.14		685.607

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

2207

106.667 94.0027 119.332

TRY ANOTHER, YES OR NO

?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #1)
GRADES 6-7; 7-8

14:08 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2118.125
2
2145.117
3
2166.86
4
2164.130
5
2164.104
6
2191.163
7
2197.133

	MEAN	STANDARD DEVIATION
DEP VAR Y	163.571	26.7635
IND VAR X	114	17.0880
STD ERROR	29.1549	
CORRELATION	-.105320	
DETERMINATION	1.10924E-02	

95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER	
Y INTERCEPT A	182.376	-23.7312	388.484
SLOPE B	-.164954	-1.95575	1.62504
I	OBSERVED	PREDICTED	RESIDUAL
1	118	161.757	-43.7569
2	145	163.077	-18.0766
3	166	169.190	-2.19015
4	164	160.932	3.06784
5	164	165.721	-1.22097
6	191	165.386	25.6141
7	197	160.437	36.5627

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?107	164.726	133.746	195.707
TRY ANOTHER, YES OR NO			
?NO			

14:12 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2891.172
2
2116.118
3
2157.145
4
2134.166
5
2130.164
6
2123.164
7
2138.191

	MEAN	STANDARD DEVIATION
DEP VAR Y	126.714	21.0532
IND VAR X	150	22.9565
STD ERROR	23.0569	
CORRELATION	-2.24150E-02	
DETERMINATION	5.02431E-04	

95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER	
Y INTERCEPT A	130.903	-40.1495	300.156
SLOPE B	-2.05566E-02	-1.07475	1.03364
I	OBSERVED	PREDICTED	RESIDUAL
1	89	126.468	-37.5676
2	116	127.578	-11.5777
3	157	127.023	29.9774
4	134	126.591	7.40805
5	130	126.632	3.35794
6	123	126.632	-3.63206
7	138	126.077	11.9230
			2658.09

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?165	126.612	103.594	149.629
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 8-9

```

14:15  FEB 24  REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS -----
76
VALUES Y,X FOR OBSERVATIONS
1
270.99
2
2116.116
3
296.157
4
297.134
5
292.130
6
2104.123
-----MEAN-----STANDARD DEVIATION-----
DEP VAR Y      95.8333      15.2107
IND VAR X      124.633      22.4091
STD ERROR      15.3726
CORRELATION     .427645
DETERMINATION   .182881
-----95 PERCENT CONFIDENCE LIMITS-----
Y INTERCEPT A      59.5973      LOWER      UPPER
SLOPE B      .290275      .561370      1.14102
I OBSERVED PREDICTED RESIDUAL SQUARED
1 70 85.4318 -15.4318 238.140
2 116 93.2692 22.7308 516.688
3 96 105.171 -9.17053 84.0986
4 97 92.4942 -1.49419 2.23261
5 92 97.3331 -5.33309 28.4418
6 104 95.3012 8.69884 75.6698
-----
945.271
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
2127 96.4623 78.9431 113.981
TRY ANOTHER, YES OR NO
NO

```

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
BIRTH-GRADE 1; GRADES 1-2

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?8
VALUES Y,X FOR OBSERVATIONS

1
?34,108
2
?64,105
3
?108,113
4
?126,94
5
?122,91
6
?102,89
7
?130,117
8
?120,122

	MEAN	STANDARD DEVIATION
DEP VAR Y	107	22.9534
IND VAR X	105	12.4212
STD ERROR	24.7934	
CORRELATION	2.70574E-02	
DETERMINATION	7.32104E-04	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	101.750	-93.1963	296.696
SLOPE B	5.60000E-02	-1.79537	1.89537
I	OBSERVED	PREDICTED	RESIDUAL
1	84	107.150	-23.1500
2	64	107.050	-43.0500
3	108	107.400	.600000
4	126	106.450	19.5500
5	122	106.300	15.7000
6	102	106.200	-4.20000
7	130	107.600	22.4000
8	120	107.850	12.1500

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
?105			
	107	85.5588	128.441

21:12 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?7
VALUES Y,X FOR OBSERVATIONS

1
?87,84
2
?71,64
3
?99,108
4
?105,126
5
?142,122
6
?97,102
7
?136,130

	MEAN	STANDARD DEVIATION
DEP VAR Y	105.286	25.5259
IND VAR X	105.143	24.1345
STD ERROR	14.2324	
CORRELATION	.860775	
DETERMINATION	.740934	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	9.56377	-56.9690	76.0965	
SLOPE B	.910399	.291437	1.52936	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	87	86.9373	.967721	.928831
2	71	67.8293	3.17870	10.0533
3	99	107.887	-8.88685	78.9762
4	105	124.274	-19.2740	371.488
5	142	120.632	21.3676	456.573
6	97	102.424	-5.42446	29.4248
7	136	127.916	8.08437	65.3570
				1012.80

3685.30 MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
?107			
	106.976	93.0985	120.854
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 2-3; 3-4

21:14 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
286.69
2
299.87
3
277.71
4
293.93
5
211.105
6
2133.142
7
286.97

	MEAN	STANDARD DEVIATION
DEP VAR Y	97.8571	18.6586
IND VAR X	95.7143	24.6354
STD ERROR	5.92110	
CORRELATION	.957121	
DETERMINATION	.916080	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	26.4727	3.65064	53.2948
SLOPE B	.724912	.472640	.977184
I	OBSERVED	PREDICTED	RESIDUAL
1	86	78.4916	7.50836
2	89	91.5401	-2.54005
3	77	79.9415	-2.94147
4	93	100.239	-7.23900
5	111	104.588	6.41153
6	133	131.410	1.58980
7	36	98.7892	-2.78917

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?107	106.038	99.6186	112.458
TRY ANOTHER, YES OR NO			
?NO			

21:17 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
279.134
2
265.86
3
2118.89
4
273.77
5
275.93
6
2101.111
7
2122.133

	MEAN	STANDARD DEVIATION
DEP VAR Y	90.4286	23.0496
IND VAR X	103.286	23.0414
STD ERROR	22.9410	
CORRELATION	.417735	
DETERMINATION	.174503	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	47.2670	-62.9482	157.482	
SLOPE B	.417885	-.627150	1.46292	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	79	103.264	-24.2635	589.723
2	65	93.2051	-18.2051	331.427
3	118	84.4588	33.5412	1125.61
4	73	79.4442	-6.44417	41.5273
5	75	86.1303	-11.1303	123.884
6	101	93.6523	7.34774	53.9893
7	122	102.846	19.1543	366.886
				2631.45

175.297
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?106	91.5628	69.0902	114.035
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 4-5; 5-6

132

21:29 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

VALUES Y,X FOR OBSERVATIONS

1
256,57
2
235,79
3
251,65
4
272,118
5
245,73
6
273,75
7

282,101

	MEAN	STANDARD DEVIATION
DEP VAR Y	67.8571	15.1814
IND VAR X	81.1429	21.2323
STD ERROR	14.9695	
CORRELATION	.447846	
DETERMINATION	.200566	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	41.8738	-19.4906	103.244
SLOPE B	.320219	-.414946	1.05528
I	OBSERVED	PREDICTED	RESIDUAL
1	66	60.1262	5.87392
2	86	67.1710	18.8290
3	51	62.6879	-11.6879
4	72	79.6594	-7.65945
5	45	65.2497	-20.2497
6	73	65.8901	7.10991
7	82	74.2157	7.78425

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?92	71.3338	54.8270	87.8406
TRY ANOTHER, YES OR NO			
?NO			

21:22 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

VALUES Y,X FOR OBSERVATIONS

1
252,28
2
261,66
3
241,86
4
233,51
5
236,72
6
229,45
7
230,73

	MEAN	STANDARD DEVIATION
DEP VAR Y	40.2857	12.0515
IND VAR X	60.1429	19.8110
STD ERROR	13.0944	
CORRELATION	-.127249	
DETERMINATION	1.61923E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	44.9413	1.31978	88.5628	
SLOPE B	-7.74084E-02	-.771163	.515345	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	52	42.7738	9.22616	85.1220
2	61	39.8323	21.1677	448.071
3	41	38.2842	2.71535	7.37592
4	33	40.9934	-7.99345	63.8952
5	36	39.3679	-3.36797	11.3426
6	29	41.4579	-12.4579	155.199
7	30	39.2905	-9.29046	86.3127
				857.318

1105.50 MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?71	39.4453	24.6586	54.2319
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 6-7; 7-8

21:25 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
231.47
2
250.52
3
263.61
4
283.41
5
256.33
6
270.36
7
294.29

	MEAN	STANDARD DEVIATION
DTP VAR Y	66.7143	19.8134
IND VAR X	42.7143	11.3242
STD ERROR	18.5340	
CORRELATION	-.520395	
DETERMINATION	.270811	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	105.606	30.0508	181.161	
SLOPE B	-.910509	-2.62837	.807352	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	31	62.8121	-31.8121	1012.01
2	50	58.2596	1.74044	3.02913
3	63	50.0650	12.9350	167.315
4	83	68.2752	14.7243	216.821
5	66	75.5592	-9.55923	91.3788
6	70	72.8277	-2.82770	7.99530
7	94	79.2013	14.7987	219.063

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
239	70.0962	50.9889	89.2034
TRY ANOTHER, YES OR NO			
?NO			

21:28 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
234.62
2
247.31
3
252.60
4
236.63
5
247.83
6
231.66
7
238.70

	MEAN	STANDARD DEVIATION
DTP VAR Y	40.7143	7.91021
IND VAR X	62.1429	15.7420
STD ERROR	8.48707	
CORRELATION	-.201723	
DETERMINATION	4.06923E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	47.0134	10.8937	83.1330	
SLOPE B	-.101364	-.667245	.464517	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	34	40.7288	-6.72877	45.2763
2	47	43.9711	3.12894	9.79026
3	52	40.9315	11.0685	122.512
4	36	40.6274	-4.62740	21.4128
5	47	38.6001	8.39988	70.5581
6	31	40.3233	-9.32331	86.9241
7	38	39.9179	-1.91785	3.67815
				360.152

1717.55 MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
270	39.9179	30.5484	49.2873
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 8-9

```

780 HALT
>RUN
21:30 FEB 24 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?6
VALUES Y,X FOR OBSERVATIONS
1
?30,34
2
?30,47
3
?58,52
4
?27,36
5
?32,47
6
?34,31
DEP VAR Y      MEAN      STANDARD DEVIATION
IND VAR X      35.1667    11.4266
STD ERROR      41.1667    8.56543
CORRELATION     10.2937
DETERMINATION   .592261
                .350773

95 PERCENT CONFIDENCE LIMITS
LOWER          UPPER
Y INTERCEPT A  2.64107  -59.8757  65.1578
SLOPE B          .790095  -1.701856  2.28205
I OBSERVED      PREDICTED  RESIDUAL  SQUARED
1 30            29.5043    .495684    .245702
2 30            39.7756   -9.77556    95.5615
3 58            43.7260    14.2740   203.746
4 27            31.0845   -4.08451    16.6832
5 32            39.7756   -7.77556    60.4593
6 34            27.1340    6.86597    47.1415
-----
423.837

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
WHENX=      PREDICTED Y  LOWER LIMIT  UPPER LIMIT
?
40          34.2449    22.4500    46.0398
TRY ANOTHER, YES OR NO
?NO

```

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
BIRTH-GRADE 1; GRADES 1-2

21:37 . FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

78
VALUES Y,X FOR OBSERVATIONS

1
735.93
2
7122.32
3
7155.35
4
7177.90
5
7132.73
6
7132.69
7
7104.55
8
7104.66

	MEAN	STANDARD DEVIATION
DEP VAR Y	123.875	29.1863
IND VAR X	77.2750	14.1061
STD ERROR	29.0103	
CORRELATION	.391361	
DETERMINATION	.153163	

95 PERCENT CONFIDENCE LIMITS

Y INTERCEPT A		SLOPE B		I		OBSERVED		PREDICTED		RESIDUAL		SQUARED	
60.8160		.809746		1		95		136.172		-41.1224		1691.05	
				2		122		135.313		-13.3127		177.227	
				3		155		129.644		25.3556		642.904	
				4		177		133.693		43.3068		1875.48	
				5		102		119.927		-17.9275		321.395	
				6		132		116.689		15.3115		234.442	
				7		104		105.352		-1.35206		1.82807	
				8		104		114.259		-10.2593		105.253	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
775	121.547	95.8600	147.234

>RUN
21:40 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

77
VALUES Y,X FOR OBSERVATIONS

1
780.95
2
794.122
3
7104.155
4
7143.177
5
7109.102
6
7123.132
7
7106.104

	MEAN	STANDARD DEVIATION
DEP VAR Y	108.429	20.2061
IND VAR X	125.714	30.3379
STD ERROR	15.0078	
CORRELATION	.735041	
DETERMINATION	.540286	

95 PERCENT CONFIDENCE LIMITS

Y INTERCEPT A		SLOPE B		I		OBSERVED		PREDICTED		RESIDUAL		SQUARED	
46.3327		.490047		1		80		102.8971		-12.9871		166.977	
				2		94		106.118		-12.1184		146.854	
				3		104		122.290		-10.2899		334.520	
				4		143		133.071		9.92908		98.5267	
				5		109		46.3174		12.6826		160.848	
				6		123		111.019		11.9812		143.549	
				7		106		97.2975		8.70249		75.7333	
												1126.17	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7122	106.118	91.3302	120.907
TRY ANOTHER, YES OR NO			
720			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 2-3; 3-4

21:43 FFR 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

VALUES Y,X FOR OBSERVATIONS

1
788.95
2
785.80
3
7111.94
4
793.104
5
7150.143
6
7142.109
7
7123.123

	MEAN	STANDARD DEVIATION
FFR VAR Y	112.857	26.5420
IND VAR X	106.857	20.8441
STD ERROR	16.7179	
CORRELATION	.812162	
DETERMINATION	.669390	

95 PERCENT CONFIDENCE LIMITS	
LOWER	UPPER
Y INTERCEPT A	1.53200
SLOPE B	1.04181
I	OBSERVED
1	85
2	85
3	111
4	93
5	150
6	142
7	123

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=		
7106		
111.964	95.7026	128.226
TRY ANOTHER, YES OR NO		
NO		

21:46 FFR 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

VALUES Y,X FOR OBSERVATIONS

1
7115.122
2
796.85
3
782.85
4
7115.111
5
797.93
6
7119.150
7
7135.142

	MEAN	STANDARD DEVIATION
FFR VAR Y	108.571	17.8932
IND VAR X	112.714	26.4903
STD ERROR	8.84324	
CORRELATION	.891285	
DETERMINATION	.794385	

95 PERCENT CONFIDENCE LIMITS		
LOWER	UPPER	
Y INTERCEPT A	41.9316	
SLOPE B	.599212	
I	OBSERVED	
1	116	
2	96	
3	82	
4	115	
5	97	
6	119	
7	135	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=		
7112		
108.143	99.5464	116.740
TRY ANOTHER, YES OR NO		
NO		

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 4-5; 5-6

137

>RUN
21:49 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS

1
2104.95
2
2158.116
3
2121.96
4
2117.82
5
2132.115
6
2109.97
7
2132.119
MEAN
DEF VAR Y 124.714
IND VAR X 102.957
STD ERROR 13.7704
CORRELATION .719106
DETERMINATION .517113

STANDARD DEVIATION
18.0897
13.8976

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 28.4379
SLOPE B .936921
I OBSERVED
1 104
2 158
3 121
4 117
5 132
6 109
7 132
PREDICTED
-79.3670
-1.103977
117.360
137.016
118.296
105.192
136.080
119.232
139.824
RESIDUAL
136.243
1.97602
-13.3598
20.9837
2.70414
11.8084
-4.02025
-10.2319
-7.82433
SQUARED
178.485
440.317
7.31738
139.439
16.6435
104.691
61.2202

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX= PREDICTED Y LOWER LIMIT UPPER LIMIT
2108 129.528 115.117 143.939
TRY ANOTHER, YES OR NO
?NO

21:51 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS

1
281.93
2
295.104
3
255.158
4
226.124
5
258.117
6
248.132
7
232.109

MEAN
DEF VAR Y 56.4286
IND VAR X 119.143
STD ERROR 25.1157
CORRELATION -.381042
DETERMINATION .145193
STANDARD DEVIATION
24.7982
21.2037

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 109.511
SLOPE B -.445533
I OBSERVED
1 81
2 95
3 55
4 26
5 58
6 48
7 32
PREDICTED
-40.5770
-1.68849
68.0761
63.1752
39.1165
55.6012
57.3833
50.7003
60.9475
RESIDUAL
259.589
.787429
12.9239
31.8248
15.8835
-29.6012
.616716
-2.70030
-28.9475
SQUARED
167.029
1012.32
252.287
976.229
.320339
7.29160
557.960

3153.99

----- MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX= 2130 51.5914 23.7028 79.4799
TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 6-7; 7-8

>RUN
21:54 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
292.71
2
267.81
3
2113.95
4
241.55
5
237.26
6
255.58
7
242.48

	MEAN	STANDARD DEVIATION
DEP VAR Y	63.8571	28.9161
IND VAR X	62	22.6863
STD ERROR	15.3168	
CORRELATION	.864584	
DETERMINATION	.747506	

95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER	
Y INTERCEPT A	-4.46734	43.7338	
SLOPE B	1.10201	1.83842	
I	OBSERVED	PREDICTED	RESIDUAL
1	92	73.7752	18.2248
2	67	84.7953	-17.7953
3	113	100.223	12.7766
4	41	56.1431	-15.1431
5	37	24.1849	12.8151
6	55	59.4491	-4.4491
7	42	48.4290	-6.4290

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?52

52.8371	35.7063	69.9678

TRY ANOTHER, YES OR NO

?NO

>RUN
21:57 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
275.72
2
280.92
3
283.67
4
282.113
5
220.41
6
223.37
7
236.55

	MEAN	STANDARD DEVIATION
DEP VAR Y	49.2857	28.6340
IND VAR X	68.1425	27.3156
STD ERROR	29.4223	
CORRELATION	.346631	
DETERMINATION	.120153	

95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER	
Y INTERCEPT A	24.5253	106.699	
SLOPE B	.363361	1.49301	
I	OBSERVED	PREDICTED	RESIDUAL
1	75	50.6872	24.3128
2	80	57.9545	22.0455
3	93	48.8704	34.1296
4	28	65.5850	-37.5850
5	20	39.4231	-19.4231
6	23	37.9696	-14.9696
7	36	44.5101	-8.5101

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?53

43.7834	10.4587	77.1080

TRY ANOTHER, YES OR NO

?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 8-9

21:59 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?6
VALUES Y,X FOR OBSERVATIONS

1
?83.75
2
?38.80
3
?23.83
4
?12.28
5
?21.20
6
?11.23

	MEAN	STANDARD DEVIATION
DEP VAR Y	31.3333	27.1195
IND VAR X	51.5000	30.7034
STD ERROR	24.2399	
CORRELATION	.600725	
DETERMINATION	.360870	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	4.00725	-53.4601	61.4746		
SLOPE B	.530604	-1.443515	1.51072		
I	OBSERVED	PREDICTED	RESIDUAL		SQUARED
1	83	43.8025	39.1975		1536.44
2	38	46.4555	-8.45554		71.4961
3	23	48.0473	-25.0473		627.370
4	12	18.8641	-6.86415		47.1165
5	21	14.6193	-6.36068		40.7131
6	11	16.2111	-5.21113		27.1559

					2350.29

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?44	27.3538	-1.68372	55.7913
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
BIRTH-GRADE 1; GRADES 1-2

22:06 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28
VALUES Y,X FOR OBSERVATIONS

1
2103.110
2
2125.108
3
223.105
4
2150.107
5
2110.91
6
2102.77
7
2141.73
8
2121.86

	MEAN	STANDARD DEVIATION
DEP VAR Y	119.750	19.4624
IND VAR X	94.6250	14.8414
STD ERROR	20.9744	
CORRELATION	-6.71392E-02	
DETERMINATION	4.50753E-03	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	127.081	2.07552	252.086	
SLOPE B	-8.80422E-02	-1.39511	1.21903	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	108	117.396	-9.39035	88.2914
2	125	117.572	7.42756	55.1687
3	93	117.837	-24.8366	616.855
4	150	117.660	32.3395	1045.84
5	110	119.069	-9.06915	82.2495
6	102	120.302	-18.3017	334.954
7	141	120.654	20.3461	413.963
8	121	119.509	1.49064	2.22200
				2639.55

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
293	118.893	100.623	137.163
TRY ANOTHER, YES OR NO			

>RUN
22:09 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
294.108
2
283.125
3
296.93
4
2113.150
5
2117.110
6
281.102
7
2118.141

	MEAN	STANDARD DEVIATION
DEP VAR Y	100.286	15.7238
IND VAR X	118.429	20.9989
STD ERROR	14.6702	
CORRELATION	.524025	
DETERMINATION	.274603	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	53.8159	-34.1971	141.819	
SLOPE B	.392387	-1.340889	1.12566	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	94	96.1937	-2.19368	4.81224
2	83	102.864	-19.8643	394.589
3	96	90.3079	5.69212	32.4002
4	113	112.674	.326390	.106328
5	117	96.9785	20.0215	400.862
6	81	93.8334	-12.8334	164.849
7	118	109.142	8.85756	78.4564
				1076.08

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2119	100.510	86.2481	114.772
TRY ANOTHER, YES OR NO			
2NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 2-3; 3-4

>RUN
22:12 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS
1
274.93
2
292.94
3
271.63
4
287.96
5
2110.113
6
295.117
7
282.81
MEAN
DEP VAR Y 88.1429
IND VAR X 96.7143
STD ERROR 10.0454
CORRELATION .715954
DETERMINATION .512447

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	21.9885	-52.8437	96.8207	
SLOPE B	.694018	-8.31156E-02	1.45115	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	74	85.6022	-11.6022	134.611
2	92	86.2062	5.71376	32.6471
3	71	78.7620	-7.76204	60.2492
4	87	87.6543	-.654273	.428073
5	110	99.2826	10.7174	114.863
6	95	102.019	-7.01865	49.2615
7	58	77.3940	10.6050	112.487

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2101	91.0744	80.7740	101.375
TRY ANOTHER, YES OR NO			
2NO			

>RUN
22:14 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS
1
286.90
2
283.74
3
2104.92
4
279.71
5
280.87
6
291.110
7
284.95
MEAN
DEP VAR Y 86.7143
IND VAR X 88.4286
STD ERROR 8.20562
CORRELATION .490690
DETERMINATION .240777

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	58.3499	-.108273	116.908	
SLOPE B	.320760	-.334140	.975660	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	86	87.2183	-1.21834	1.48435
2	83	82.0862	.913222	.835070
3	104	87.8599	16.1401	260.504
4	79	81.1239	-2.12390	4.51095
5	80	86.2561	-6.25606	39.1383
6	91	93.6335	-2.63354	6.93551
7	84	89.8221	-4.82214	23.2530
				335.661

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
291	87.5391	79.3894	95.6888
TRY ANOTHER, YES OR NO			
2NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 4-5; 5-6

>RUN
22:17 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
292.96
2
233.86
3
259.83
4
279.104
5
292.79
6
295.80
7
281.91

	MEAN	STANDARD DEVIATION
DEP VAR Y	74.4286	21.6322
IND VAR X	98.4286	9.14435
STD ERROR	23.5962	
CORRELATION	-7.82367E-03	
DETERMINATION	6.12098E-05	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	75.0652	-165.551	317.681	
SLOPE B	-1.85689E-02	-2.73840	2.70133	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	82	74.2384	7.71156	59.4682
2	33	74.4735	-41.4735	1720.05
3	59	74.5290	-15.5290	241.151
4	79	74.1404	4.85962	23.6159
5	92	74.6031	17.3969	302.653
6	95	74.5846	20.4154	416.700
7	81	74.3810	6.61902	43.8114

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
288			
	74.4365	51.3803	97.4927

TRY ANOTHER, YES OR NO
?NO

>RUN
22:19 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
290.67
2
264.82
3
230.33
4
239.59
5
218.79
6
266.92
7
279.95

	MEAN	STANDARD DEVIATION
DEP VAR Y	53.8571	27.7274
IND VAR X	72.4286	21.5705
STD ERROR	26.6046	
CORRELATION	.482485	
DETERMINATION	.232792	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	8.93675	-88.3255	106.199	
SLOPE B	.620203	-1.674360	1.91477	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	90	50.4903	39.5097	1561.01
2	64	59.7934	4.20653	17.6958
3	30	29.4034	.596561	.355285
4	30	45.5287	-15.5287	241.181
5	18	57.9328	-39.9328	1594.63
6	66	65.9954	4.60547E-03	2.12103E-05
7	79	67.9560	11.1440	124.189
				3539.02

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
274			
	54.8317	26.8989	80.7646

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 6-7; 7-8

```
>RUN
22:22 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?7
VALUES Y,X FOR OBSERVATIONS
1
237.64
2
263.30
3
275.64
4
296.30
5
280.30
6
275.18
7
251.66
```

	MEAN	STANDARD DEVIATION
DEP VAR Y	71	15.2643
IND VAR X	51.7143	25.9853
STD ERROR	12.4545	
CORRELATION	-.667257	
DETERMINATION	.445231	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	91.2700	62.5771	119.963	
SLOPE B	-.391961	-.875024	.111103	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	57	66.1845	-9.18449	84.3542
2	63	55.9935	7.00649	49.0909
3	75	66.1845	8.81551	77.7133
4	96	79.5111	16.4889	271.862
5	80	79.5111	.488858	.239982
6	75	84.2147	-9.21467	84.9191
7	51	65.4006	-14.4006	207.376

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
755	69.7121	57.4972	81.9271

TRY ANOTHER, YES OR NO
?NO

```
22:25 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?7
VALUES Y,X FOR OBSERVATIONS
1
242.47
2
260.57
3
247.63
4
257.75
5
252.96
6
242.80
7
239.75
```

	MEAN	STANDARD DEVIATION
DEP VAR Y	49.4286	7.59072
IND VAR X	70.4286	16.1349
STD ERROR	8.18022	
CORRELATION	-.179460	
DETERMINATION	3.22059E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	55.3563	17.1581	93.5545	
SLOPE B	-8.41665E-02	-.514660	.446327	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	49	51.4005	-2.40047	5.76227
2	60	50.5589	9.44119	89.1351
3	47	50.0538	-3.05381	9.32575
4	57	49.0438	7.95619	63.3010
5	52	47.2763	4.72369	22.3132
6	42	48.5239	-6.62298	43.8638
7	39	49.0438	-10.0438	100.378

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
770	49.4646	41.5123	57.4170

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 8-9

780 HALT
>RUN
22:27 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

26
VALUES Y,X FOR OBSERVATIONS

1
254.49
2
249.60
3
242.47
4
233.57
5
227.52

232.42

	MEAN	STANDARD DEVIATION
DEP VAR Y	39.5000	10.5972
IND VAR X	51.1667	6.61564
STD ERROR	11.6581	
CORRELATION	.178299	
DETERMINATION	3.17905E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	24.8965	-87.8290	137.602	
SLOPE B	.285605	-1.90212	2.47333	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	54	38.8812	15.1188	228.578
2	49	42.0228	6.97715	48.6806
3	42	38.3100	3.69002	13.6153
4	33	41.1660	-8.16603	66.6841
5	27	39.7380	-12.7380	162.257
6	32	36.8819	-4.88195	23.8334
				543.650

95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

249

	38.8812	24.8445	52.9179
TRY ANOTHER, YES OR NO			
NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

10:02 FEB 25 REC2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

22

VALUES Y,X FOR OBSERVATIONS

1

2254.535

2

2221.529

3

2231.509

4

2243.481

5

2249.517

6

2285.510

7

2218.614

8

2198.601

MEAN

237.375

537

21.9760

-.643523

.414122

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A 434.876 199.432 670.319

SLOPE B -367785 -804796 -6.92256E-02

I OBSERVED PREDICTED RESIDUAL SQUARED

1 254 230.111 15.8894 252.474

2 221 240.317 -19.3173 373.157

3 231 247.673 -16.6730 277.988

4 243 257.971 -14.9710 224.130

5 249 244.731 4.26930 18.2269

6 285 247.305 37.6948 1420.90

7 218 209.056 8.94444 80.0031

8 198 213.037 -15.9368 250.803

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

2897.68 YES

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

MEANX=

7536

237.743 218.725 256.760

10:02 FEB 25 REC2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

2200.254

2

2196.221

3

2213.231

4

2232.243

5

2204.249

6

2279.285

7

2277.218

MEAN

228.714

35.6451

23

37.5502

.274242

7.52085E-02

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A 125.435 -297.566 543.437

SLOPE B .425016 -1.28859 2.13262

I OBSERVED PREDICTED RESIDUAL SQUARED

1 200 233.389 -33.389 1114.86

2 196 219.364 -23.364 545.874

3 213 223.614 -10.614 112.659

4 232 228.714 3.28571 10.7959

5 204 231.264 -27.2644 743.346

6 279 246.565 32.4351 1052.03

7 277 218.089 -56.9111 3470.52

7050.08

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

2897.68 YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

MEANX=

2230

226.589 189.108 264.071

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 2-3; 3-4

10:16 FEB 25 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS:
NUMBER OF OBSERVATIONS

??

VALUES Y,X FOR OBSERVATIONS

1

2278,259

2

2266,200

3

2298,196

4

2242,213

5

2269,232

6

2315,204

7

2308,279

MEAN STANDARD DEVIATION

DEP VAR Y 281.143 25.0894

IND VAR X 226.143 32.0491

STD ERROR 26.6862

CORRELATION .237713

DETERMINATION 5.65075F-02

95 PERCENT CONFIDENCE LIMITS

Y INTERCEPT A 239.060 39.6482 438.471

SLOPE B .186092 -.686208 1.06039

I OBSERVED PREDICTED RESIDUAL SQUARED

1 278 287.257 -9.25730 85.6976

2 266 276.278 -8.27789 68.5234

3 288 275.534 12.4665 155.413

4 242 278.697 -36.6971 1346.68

5 269 282.233 -13.2328 175.108

6 315 277.022 37.9777 1442.31

7 308 290.979 17.0209 289.710

3563.44

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

2227

281.302 255.350 307.255

TRY ANOTHER, YES OR NO

NO

10:19 FEB 25 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS:
NUMBER OF OBSERVATIONS

??

VALUES Y,X FOR OBSERVATIONS

1

2194,257

2

2165,278

3

2124,268

4

2189,288

5

2205,242

6

2241,269

7

2246,315

MEAN STANDARD DEVIATION

DEP VAR Y 203.571 30.0824

IND VAR X 273.857 23.3340

STD ERROR 31.4868

CORRELATION .295031

DETERMINATION 8.70434E-02

95 PERCENT CONFIDENCE LIMITS

Y INTERCEPT A 99.4080 -289.670 488.486

SLOPE B .380357 -1.03598 1.79669

I OBSERVED PREDICTED RESIDUAL SQUARED

1 194 197.160 -3.15670 9.9376

2 165 205.147 -40.1472 1611.00

3 194 201.344 -7.34362 53.9289

4 180 208.951 -28.9508 838.147

5 205 191.454 13.5457 183.485

6 241 201.724 39.2760 1542.61

7 246 219.220 26.7796 717.147

4957.09

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

2281

206.288 174.062 238.515

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 4-5; 5-6

10:22 FEB 25 REGR...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2122,165

2
2153,194

3
2134,163

4
2205,194

5
2162,180

6
2164,205

7
2229,241

	MEAN	STANDARD DEVIATION
DEP VAR Y	178.429	31.9836
IND VAR X	191.714	26.7439
STD ERROR	26.0509	
CORRELATION	.666666	
DETERMINATION	.447147	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	25.1146	-172.524	222.753
SLOPE B	.799700	-.222708	1.82211
I	OBSERVED	PREDICTED	RESIDUAL
1	192	157.065	34.9349
2	163	180.256	-17.2565
3	134	155.466	-21.4657
4	205	180.256	24.7435
5	162	169.061	-7.06065
6	164	189.053	-25.0532
7	229	217.842	11.1576

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2206	189.853	160.627	219.079
TRY ANOTHER, YES OR NO			
NO			

>RUN
10:25 FEB 25 REGR...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2315,119

2
2146,192

3
264,163

4
2115,134

5
2156,205

6
2139,162

7
2138,164

	MEAN	STANDARD DEVIATION
DEP VAR Y	139	45.3064
IND VAR X	162.714	29.9539
STD ERROR	46.4949	
CORRELATION	-.212708	
DETERMINATION	.452446E-02	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	191.350	-89.1367	471.836
SLOPE B	-.321728	-2.02102	1.37757
I	OBSERVED	PREDICTED	RESIDUAL
1	215	153.064	61.9359
2	146	129.578	16.4220
3	64	138.008	-74.9091
4	115	148.238	-33.2382
5	156	125.395	30.6045
6	139	139.730	-.229806
7	138	138.586	-.586350

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2130	130.221	64.1110	196.332
TRY ANOTHER, YES OR NO			
NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 6-7; 7-8

10:28 FEB 25 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27

VALUES Y,X FOR OBSERVATIONS

1
2100,202
2
2129,215
3
2195,146
4
245,64
5
2130,115
6
2136,156
7
2214,139

	MEAN	STANDARD DEVIATION
DEP VAR Y	135.571	56.6054
IND VAR X	148.143	51.1515
STD ERROR	59.7868	
CORRELATION	.265321	
DETERMINATION	7.03953E-02	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	92.0744	-98.7274	282.876	.293616		100	151.385	-51.3847	2640.39
2		-.933184	1.52041			129	155.202	-26.2017	686.530
3						195	134.942	60.0577	3606.93
4						45	110.866	-65.8658	4338.30
5						130	125.840	4.15983	17.3042
6						136	137.878	-1.87841	3.52842
7						214	132.887	81.1131	6579.33
									17872.3

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2130	130.244	68.0292	192.460

TRY ANOTHER, YES OR NO
?NO

10:31 FEB 25 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27

VALUES Y,X FOR OBSERVATIONS

1
2115,123
2
2112,100
3
2116,129
4
2152,195
5
2106,45
6
293,130
7

	MEAN	STANDARD DEVIATION
DEP VAR Y	132.714	53.5217
IND VAR X	122.571	44.8139
STD ERROR	55.0375	
CORRELATION	.344868	
DETERMINATION	.118796	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	82.2590	-84.5490	249.067	.411640		115	132.891	-17.8907	320.977
2		-.877412	1.70070			112	123.423	-11.4230	130.495
3						116	135.361	-12.3605	374.831
4						152	102.529	-10.5228	110.855
5						106	100.783	5.21721	27.2193
6						83	135.772	-52.7722	2784.90
7						245	138.242	106.758	11397.3
									15145.6

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2130	135.772	81.4392	190.105

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 8-9

10:34 FEB 25 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

76

VALUES Y,X FOR OBSERVATIONS

1

296,115

2

289,112

3

258,116

4

282,152

5

2104,106

6

2248,83

	MEAN	STANDARD DEVIATION
DEP VAR Y	112.833	68.0541
IND VAR X	114	22.2621
STD ERROR	53.6649	
CORRELATION	-.708898	
DETERMINATION	.502537	

		95 PERCENT CONFIDENCE LIMIT	
		LOWER	UPPER
Y INTERCEPT A	359.879	13.3365	706.422
SLOPE B	-2.16707	-5.15974	.825999
I	OBSERVED	PREDICTED	RESIDUAL
1	96	110.666	-14.6063
2	89	117.167	-28.1675
3	58	108.499	-50.4992
4	82	30.4847	51.5153
5	104	130.170	-26.1699
6	248	180.013	67.9875

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WEEK=

?136

	65.1578	-24.4725	154.788

TRY ANOTHER, YES OR NO

?NO

S

SQUARED
215.099
793.407
2550.17
2653.83
684.863
4622.33

11519.7

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

20:23 FEB 24 BEG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

78
VALUES Y,X FOR OBSERVATIONS

1
2345,443
2
2339,439
3
2416,430
4
2426,414
5
2465,386
6
2355,336
7
2365,346
8
2439,337

	MEAN	STANDARD DEVIATION
DEP VAR Y	394.125	48.9852
IND VAR X	391.625	46.0898
STD ERROR	51.9464	
CORRELATION	-.189921	
DETERMINATION	3.60966E-02	

95 PERCENT CONFIDENCE LIMITS

		LOWER	UPPER	
Y INTERCEPT A	473.205	62.5072	883.902	
SLOPE B	-.201927	-1.24433	.840476	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	345	383.751	-38.7510	1501.64
2	339	384.559	-45.5587	2075.60
3	416	386.376	29.6232	877.578
4	426	399.607	36.3931	1324.46
5	468	395.261	72.7392	5290.99
6	355	405.357	-50.3572	2535.84
7	365	402.934	-37.9341	1438.99
8	439	405.155	33.8448	1145.47

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2387	395.059	349.860	440.258

>RUN

20:32 FEB 24 BEG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

77
VALUES Y,X FOR OBSERVATIONS

1
2395,345
2
2297,339
3
2354,416
4
2380,426
5
2431,468
6
2369,355
7
2326,365

	MEAN	STANDARD DEVIATION
DEP VAR Y	364.714	44.3611
IND VAR X	387.714	49.1519
STD ERROR	37.5890	
CORRELATION	.634417	
DETERMINATION	.402485	

95 PERCENT CONFIDENCE LIMITS

		LOWER	UPPER	
Y INTERCEPT A	142.566	-170.784	455.917	
SLOPE B	.572959	-1.229721	1.37556	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	396	340.240	55.7597	3109.14
2	297	336.803	-39.8025	1584.24
3	354	380.921	-26.9211	724.747
4	380	395.651	-6.65081	44.2332
5	431	410.715	20.2845	411.461
6	369	345.970	23.0300	530.380
7	326	351.700	-25.6997	660.475

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2325	368.889	331.897	405.881
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 2-3; 3-4

20:35 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2291,320
2
2337,326
3
2273,297
4
2358,354
5
2389,380
6
2414,431
7
2335,359

	MEAN	STANDARD DEVIATION
DEP VAR Y	342	47.4833
IND VAR X	363.857	45.3116
STD ERROR	23.2975	
CORRELATION	.994086	
DETERMINATION	.799389	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	1.08858	-196.574	198.751
SLOPE B	.936938	.397270	1.47660
I	OBSERVED	PREDICTED	RESIDUAL
1	291	300.909	-9.90860
2	337	372.116	-35.1159
3	279	279.359	-.354031
4	358	332.764	25.2355
5	380	357.125	22.8752
6	414	404.909	9.09134
7	335	346.819	-11.8185

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2369	346.819	324.010	369.627
TRY ANOTHER, YES OR NO			
?NO			

20:42 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2212,242
2
2255,291
3
2284,337
4
2234,279
5
2312,358
6
2385,380
7
2394,414

	MEAN	STANDARD DEVIATION
DEP VAR Y	296.571	71.3018
IND VAR X	328.714	60.8871
STD ERROR	19.7219	
CORRELATION	.967597	
DETERMINATION	.936245	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	-75.8964	-189.283	37.4905		
SLOPE B	1.13311	.793127	1.47308		
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	212	198.315	13.6850	187.278	
2	255	253.837	1.16282	1.35215	
3	284	305.360	-21.9690	482.242	
4	234	240.240	-6.23992	38.9366	
5	312	329.755	-17.7552	315.248	
6	385	354.684	30.3155	919.098	
7	394	393.209	.790892	.625510	

				1944.77	

2713.87

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2347	317.291	297.143	337.439
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 4-5; 5-6

20:45 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2210,184
2
2150,212
3
2205,255
4
2205,284
5
2198,234
6
2315,312
7
2304,385

MEAN
DEP VAR Y 226.857
IND VAR X 266.571
STD ERROR 39.5777
CORRELATION .800117
DETERMINATION .640186

STANDARD DEVIATION
60.3833
67.5570

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER

Y INTERCEPT A 36.2175
SLOPE B .715154
I
1 210
2 150
3 205
4 205
5 190
6 316
7 304

LOWER UPPER
-132.575 205.010
2.86979E-02 1.33161
PREDICTED RESIDUAL
1 167.806 42.1941
2 187.830 -37.8302
3 218.582 -13.5818
4 239.321 -34.3213
5 203.564 -5.56356
6 259.346 56.6544
7 311.552 -7.55100

SQUARED
1780.35
1431.12
134.465
1177.95
30.9532
3209.72
57.0297

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
2317 262.921 213.393 312.449
TRY ANOTHER, YES OR NO
?NO

>RUN

20:50 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2172,130
2
265,210
3
2111,150
4
2104,205
5
2114,205
6
2123,198
7
2191,316

MEAN
DEP VAR Y 125.714
IND VAR X 209.143
STD ERROR 40.4362
CORRELATION .501494
DETERMINATION .251496

STANDARD DEVIATION
42.6682
51.5184

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER

Y INTERCEPT A 38.8482
SLOPE B .415343
I
1 172
2 65
3 111
4 104
5 114
6 123
7 191

PREDICTED RESIDUAL SQUARED
1 113.610 52.3000 3409.39
2 126.070 -61.6703 3729.58
3 101.150 9.85031 97.0227
4 123.994 -19.9336 399.743
5 123.994 -9.99358 99.8716
6 121.086 1.91363 3.66274
7 170.097 20.9033 436.948

8176.23

7871.59 MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
2263 148.083 88.8135 207.354
TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 6-7; 7-8

20:54 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

??
VALUES Y,X FOR OBSERVATIONS

1
?155,194
2
?215,172
3
?213,65
4
?322,111
5
?213,104
6
?274,114
7
?263,123

	MEAN	STANDARD DEVIATION
DEP VAR Y	251.571	60.6709
IND VAR X	126.143	43.4413
STD ERROR	55.5791	
CORRELATION	-.548358	
DETERMINATION	.300696	

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	348.178	170.325	525.970
SLOPE B	-.765847	-2.19870	.577004
I	OBSERVED	PREDICTED	RESIDUAL
1	155	199.603	-44.6033
2	216	216.452	-.451893
3	213	208.397	-85.3975
4	322	253.159	58.8315
5	318	268.529	49.4705
6	274	260.871	13.1290
7	263	253.978	9.02163

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
?148	234.832	173.364	296.300

TRY ANOTHER, YES OR NO
?NO

20:57 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

??
VALUES Y,X FOR OBSERVATIONS

1
?161,149
2
?149,155
3
?149,216
4
?276,213
5
?312,322
6
?279,318
7
?282,274

	MEAN	STANDARD DEVIATION
DEP VAR Y	229.714	72.8325
IND VAR X	235.286	71.4370
STD ERROR	43.4956	
CORRELATION	.839323	
DETERMINATION	.702704	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	29.6145	127.577	124.806	
SLOPE B	.854705	.215635	1.49377	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	161	155.905	5.03453	25.3464
2	149	161.094	-12.0337	145.253
3	149	213.231	-64.2307	4125.53
4	276	210.667	65.3334	4249.45
5	312	303.829	8.17060	66.7537
6	279	300.411	-21.4105	458.413
7	282	262.804	19.1964	368.503
				9459.32

15444.6
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
?235	229.470	187.203	271.737

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 8-9

21:00 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

?6

VALUES Y,X FOR OBSERVATIONS

1

?144,161

2

?121,149

3

?227,149

4

?291,276

5

?311,312

6

?320,279

	MEAN	STANDARD DEVIATION
DEP VAR Y	235.667	86.5741
IND VAR X	221	75.6809
STD ERROR	44.0552	
CORRELATION	.890415	
DETERMINATION	.792938	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	10.5612	-156.773	177.895	
SLOPE B	1.01858	.295898	1.74126	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	144	174.552	-30.5521	933.429
2	121	162.329	-41.3291	1708.10
3	227	162.329	64.6709	4182.32
4	291	291.688	-.689386	.473875
5	311	326.357	-17.3571	301.271
6	320	294.744	25.2559	637.860

				7763.45

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?229

243.815	193.554	294.077

TRY ANOTHER, YES OR NO

?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

22

VALUES Y,X FOR OBSERVATIONS

1

2279,224

2

2271,222

3

2312,256

4

2273,226

5

2260,178

6

2280,242

7

2295,263

8

2275,254

	MEAN	STANDARD DEVIATION
DEP VAR Y	280.625	16.0440
IND VAR X	233.125	27.3257
STD ERROR	11.2297	
CORRELATION	.761632	
DETERMINATION	.580083	

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A	176.375	87.2367	265.514
SLOPE B	.447184	6.70984E-02	.827270
I.	OBSERVED	PREDICTED	RESIDUAL
1	279	276.544	2.45555
2	271	275.650	-4.65008
3	312	280.854	31.1457
4	273	277.439	-4.43881
5	260	255.974	4.02602
6	280	284.594	-4.59376
7	295	293.985	1.01538
8	275	289.960	-14.9600

756.638

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

2234

281.016	271.295	290.737

TRY ANOTHER, YES OR NO

09:27 FEP 25 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS

AND CONFIDENCE LIMITS

NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

2262,279

2

2276,271

3

2263,312

4

2284,273

5

2263,260

6

2250,280

7

2308,295

	MEAN	STANDARD DEVIATION
DEP VAR Y	230.571	101.961
IND VAR X	281	22.6863
STD ERROR	111.606	
CORRELATION	-3.92690E-02	
DETERMINATION	1.54206E-03	

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A	280.165	-1174.85	1735.18
SLOPE B	-.176490	-5.34007	4.02709
I	OBSERVED	PREDICTED	RESIDUAL
1	262	230.924	31.0756
2	276	232.336	43.6637
3	263	225.100	37.8998
4	0	230.042	-230.042
5	273	233.748	39.2518
6	260	236.043	23.9574
7	280	225.806	54.1938

62279.5

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

WHENX=

2281

PREDICTED Y	LOWER LIMIT	UPPER LIMIT

230.571	122.119	339.024

TRY ANOTHER, YES OR NO

2280

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 2-3; 3-4

156

>RUE
09:30 FEB 25 RFG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS

1
2270,278
2
2270,262
3
2218,276
4
2288,263
5
2238,284
6
2240,263
7
2274,250

	MEAN	STANDARD DEVIATION
DEP VAR Y	256.857	25.0295
IND VAR X	268	11.7615
STD ERROR	23.2133	
CORRELATION	-.532183	
DETERMINATION	.283219	

95 PERCENT CONFIDENCE LIMITS				
	Y INTERCEPT A	SLOPE B	LOWER	UPPER
1	560.375	-1.13253	4.73678	1116.01
2			-3.20410	.939038
3				
4				
5				
6				
7				

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
2231	298.761	218.862	378.659

TRY ANOTHER, YES OR NO

NO

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
27
VALUES Y,X FOR OBSERVATIONS

1
2247,289
2
2247,270
3
2231,270
4
2230,218
5
2282,288
6
2245,238
7
2253,240

	MEAN	STANDARD DEVIATION
DEP VAR Y	247.857	17.3439
IND VAR X	259	27.2825
STD ERROR	16.2785	
CORRELATION	.515656	
DETERMINATION	.265901	

95 PERCENT CONFIDENCE LIMITS				
	Y INTERCEPT A	SLOPE B	LOWER	UPPER
1	162.954	.327810	-1.71554E-02	325.926
2			-.298452	.954073
3				
4				
5				
6				
7				

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
2299	260.970	231.343	290.596

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 4-5; 5-6

17:27 MAY 69 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2223,193
2
2236,247
3
2179,247
4
2153,231
5
2169,230
6
2188,282
7
2202,245

	MEAN	STANDARD DEVIATION
DEP VAR Y	192.714	29.6519
IND VAR X	239.286	26.6373
STD ERROR	32.0595	
CORRELATION	-.180787	
DETERMINATION	2.58525E-02	

	95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER		
Y INTERCEPT A	235.462	-67.8596	538.774	
SLOPE B	-.178645	-1.43351	1.03222	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	223	200.933	22.0170	484.747
2	236	191.336	44.6633	1994.86
3	179	191.336	-12.3362	152.131
4	153	194.194	-41.1945	1696.99
5	169	154.373	-26.3731	695.542
6	188	185.084	2.91643	8.50555
7	202	191.693	10.3065	106.225
				5139.05

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2261	188.835	147.360	230.310
TRY ANOTHER, YES OR NO			
?NO			

17:33 MAY 69 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2156,198
2
2131,223
3
2128,236
4
2143,173
5
2132,153
6
2146,168
7
2157,188

	MEAN	STANDARD DEVIATION
DEP VAR Y	141.857	11.9363
IND VAR X	192.143	23.4812
STD ERROR	12.4368	
CORRELATION	-.308734	
DETERMINATION	9.53167E-02	

	95 PERCENT CONFIDENCE LIMITS			
	LOWER	UPPER		
Y INTERCEPT A	169.375	79.9433	251.807	
SLOPE B	-.125009	-.507783	.317783	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	156	141.125	14.8750	221.266
2	131	138.000	-7.00000	49.0000
3	128	136.375	-8.37500	70.1406
4	143	143.500	-.500000	.250000
5	132	146.750	-14.7500	217.562
6	146	144.875	1.12500	1.26563
7	157	142.375	14.6250	213.821
				773.375

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2189	142.250	130.085	154.415
TRY ANOTHER, YES OR NO			

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 6-7; 7-8

>RUN
09:44 FFB 25 REG1...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2132,187
2
2158,156
3
2193,131
4
2218,128
5
2151,143
6
2143,132
7
2176,146

	MEAN	STANDARD DEVIATION
DEP VAR Y	168	20.6479
IND VAR X	146.143	20.5542
STD ERROR	23.5320	
CORRELATION	-.689213	
DETERMINATION	.475015	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	SLOPE B	1	2	3	4	5	6	7
Y INTERCEPT A	313.286								
SLOPE B	-.994139								
1	132	127.382	4.61767	21.3229					
2	158	158.201	-.200631	4.02529E-02					
3	193	183.054	9.94590	98.5209					
4	218	186.037	31.9635	1021.66					
5	151	171.124	-20.1244	404.993					
6	148	182.060	-34.0600	1160.08					
7	176	168.142	7.85798	61.7479					

2768.77

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

UNFEED=

?142

	172.119	148.716	195.521

TRY ANOTHER, YES OR NO
?NO

>RUN

09:47 FFB 25 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

27
VALUES Y,X FOR OBSERVATIONS

1
2234,131
2
292,132
3
2117,150
4
2188,193
5
293,218
6
259,151
7
264,148

	MEAN	STANDARD DEVIATION
DEP VAR Y	121	65.8179
IND VAR X	161.571	32.3772
STD ERROR	72.9129	
CORRELATION	-.4.91162E-02	
DETERMINATION	2.41240E-03	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	SLOPE B	1	2	3	4	5	6	7
Y INTERCEPT A	137.132								
SLOPE B	-.98455E-02								
1	234	124.052	124.052	109.948	12080.5				
2	52	123.253	-31.9526	1020.07					
3	117	121.357	-4.35659	10.2799					
4	188	117.862	70.1380	4919.34					
5	93	115.266	-22.3659	500.232					
6	59	122.056	-63.0555	3976.09					
7	64	122.355	-58.3550	3405.31					

25929.3

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

UNFEED=

?172

	119.959	45.8664	194.051

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 8-9

```

>HUM
09:50 FEB 25 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
1
2141.234
2
293.92
3
2124.117
4
251.188
5
258.93
6
258.59
      MEAN      STANDARD DEVIATION
DEP VAR Y      67.5000      38.2034
IND VAR X      130.500      66.6356
STD ERROR      37.7597
CORRELATION     .467415
DETERMINATION   .218476

      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A  52.5290      -48.7598      153.818
SLOPE B          .267977      -.435510      .971465
I-----OBSERVED-----PREDICTED-----RESIDUAL-----SQUARED-----
1          141          115.236          25.7643          663.801
2           93           77.1829          15.8171          250.182
3          124          83.8823          40.1177          1609.43
4           51          102.909          -51.9087          2694.51
5           58           77.4508          -19.4508          378.335
6           58           68.3396          -10.3396          106.908
                                           -----
                                           5703.17

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED-Y      LOWER LIMIT      UPPER LIMIT
WHENY=
?120          84.6862          41.2605          128.112
TRY ANOTHER, YES OR NO
?NO

```

APPENDIX F5

TRANSITION ANALYSIS

SIX - FIVE YEAR TREND

SEVEN DISTRICTS

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #1)
BIRTH-GRADE 1; GRADES 1-2

20731 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

Q0
values y,x for observations

1
Q213,211

2
Q237,239

3
Q307,209

4
Q312,227

5
Q286,156

6
Q253,252

	mean	standard deviation
dep var y	276.333	37.3506
ind var x	210.667	31.5257
std error	41.1521	
correlation	-.160908	
determination	2.88686e_02	

95 percent confidence limits

	lower	upper
y intercept a	318.741	663.397
slope b	-.201301	1.41025
1	observed	predicted
2	213	276.266
3	287	276.689
4	397	276.669
5	312	273.045
6	286	287.338
	253	268.013
		residual
		squared
		4002.62
		196.733
		919.980
		1517.46
		1.78972
		225.387

make 95 percent confidence interval
predictions, yes or no

Qyes

	predicted y	lower limit	upper limit

whenx?			
Q214	275.662	228.713	322.612

try another, yes or no
Qno

>run
20736 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

Q5
values y,x for observations

1
Q175,213

2
Q226,287

3
Q301,397

4
Q283,312

5
Q244,286

	mean	standard deviation
dep var y	245.800	49.5254
ind var x	281	39.7555
std error	22.1144	
correlation	.922433	
determination	.850382	

95 percent confidence limits

	lower	upper
y intercept a	177.5589	323.230
slope b	1.15974	.265733
1	observed	predicted
2	175	167.549
3	226	252.704
4	301	275.719
5	283	281.473
	244	251.554
		residual
		squared
		55.5187
		713.128
		639.112
		2.33159
		57.0586

make 95 percent confidence interval
predictions, yes or no

Qyes

	predicted y	lower limit	upper limit

whenx?			
Q276	240.046	208.267	271.825

try another, yes or no
Qno

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 2-3; 3-4

>run
20741 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

05
values y,x for observations

1
0220,205
2
0210,175
3
0214,226
4
0262,391
5
0253,263

	mean	standard deviation
dep var y	251.800	25.9416
ind var x	258	52.9056
std error	8.20717	
correlation	.953877	
determination	.909923	

		95 percent confidence limits	
		lower	upper
y Intercept a	129.062	68.5148	190.609
slope b	.431672	.182156	.681188
1	observed	predicted	residual
1	220	217.555	2.44518
2	210	204.605	5.39534
3	214	226.020	-12.6199
4	262	253.995	8.00466
5	253	251.225	1.77476

206.529

make 95 percent confidence interval
predictions, yes or no

0yes	predicted y	lower limit	upper limit

whenx;

0240

232.663	220.846	244.481

try another, yes or no

0no

>run
20743 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

05
values y,x for observations

1
0168,196
2
0214,220
3
0261,219
4
0223,214
5
0232,262

	mean	standard deviation
dep var y	219.600	33.8127
ind var x	229.400	24.3757
std error	35.8803	
correlation	.393763	
determination	.155049	

		95 percent confidence limits	
		lower	upper
y Intercept a	101.635	-406.244	610.115
slope b	.535229	-1.76018	2.83054
1	observed	predicted	residual
1	168	206.940	-38.5404
2	214	219.326	-5.38591
3	261	214.034	46.9654
4	223	216.175	6.82547
5	232	241.866	-9.36555

3864.13

make 95 percent confidence interval
predictions, yes or no

0yes	predicted y	lower limit	upper limit

whenx;

0233

226.344	167.651	285.036

try another, yes or no

0no

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 4-5; 5-6

163

```

700 halt
>run
20745 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations
05
values y,x for observations
1
0257,243
2
0161,168
3
0211,214
4
0191,261
5
0170,223
mean          standard deviation
dep var y     193.300      36.7833
ind var x     221.300      35.1525
std error     35.4861
correlation    .560603
determination  .322063

```

		95 percent confidence limits		
		lower	upper	
y intercept a	72.2340	-237.560	432.028	
slope b	.575140	-1.03096	2.18124	
1	observed	predicted	residual	squared
1	257	211.993	45.0070	2025.63
2	061	168.897	-7.85749	61.7401
3	211	195.314	-15.6661	246.053
4	191	222.345	-31.3455	982.539
5	179	290.499	-21.4702	461.827

make 95 percent confidence interval
predictions, yes or no
0yes

whenx?	predicted y	lower limit	upper limit
0226	202.216	151.269	253.162

try another, yes or no
0no

```

700 halt
>run
20748 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations
05
values y,x for observations
1
0117,130
2
026,257
3
0139,161
4
0104,211
5
0193,191
mean          standard deviation
dep var y     193      16.5076
ind var x     199      48.4045
std error     9.30338
correlation    -.857599
determination  .735460

```

		95 percent confidence limits		
		lower	upper	
y intercept a	163.569	109.773	226.364	
slope b	-.292467	-.614729	2.37759e_02	
1	observed	predicted	residual	squared
1	117	125.548	-8.54392	73.0586
2	86	88.4047	-2.40472	5.78266
3	139	116.482	-15.5185	132.749
4	104	101.358	2.14181	4.53733
5	193	197.798	-4.70753	22.1699

make 95 percent confidence interval
predictions, yes or no
0yes

whenx?	predicted y	lower limit	upper limit
0202	104.490	99.0132	118.968

try another, yes or no
0no

3777.79

282.343

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 6-7; 7-8

>run
20751 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

05
values y,x for observations

1
0110,125

2

0145,117

3

0166,36

4

0164,130

5

0164,134

	mean	standard deviation
dep var y	151.409	20.5378
ind var x	112.409	17.7285
std error	20.6162	
correlation	-.494227	
determination	.244260	

95 percent confidence limits

	lower	upper	
y Intercept a	215.754	5.73775	425.770
slope b	-.572542	-2.42269	1.27761
1	observed	predicted	residual
1	110	144.186	-26.1860
2	145	148.766	-3.76631
3	166	166.515	-.515111
4	164	141.323	22.6767
5	164	156.299	7.79065

squared
685.795
14.1251
.265341
514.235
60.6942

1275.08

make 95 percent confidence interval
predictions, yes or no
0yes

	predicted y	lower limit	upper limit
whenx3			
0134	156.209	123.019	189.499
try another, yes or no			
0no			

>run
20753 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations

05
values y,x for observations

1
0089,172

2

0116,113

3

0157,145

4

0134,166

5

0139,164

	mean	standard deviation
dep var y	125.200	25.0340
ind var x	153	22.0227
std error	28.2903	
correlation	-.205418	
determination	4.21064e_02	

95 percent confidence limits

	lower	upper	
y Intercept a	160.926	-154.355	476.207
slope b	-.233505	-2.27730	1.81029
1	observed	predicted	residual
1	89	120.763	-31.7634
2	116	133.373	-17.3727
3	157	127.068	29.9320
4	134	122.164	11.8356
5	139	122.631	7.36856

squared
1008.91
301.910
805.922
140.081
54.2956

2491.92

make 95 percent confidence interval
predictions, yes or no
0yes

	predicted y	lower limit	upper limit
whenx3			
0156	124.499	83.7772	165.222
try another, yes or no			
0no			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #9, HOPEWELL (STRATUM #I)
GRADES 8-9

```

730 halt
>run
20756 feb 22 reg2...
simple linear regression with residuals
and confidence limits.
number of observations
04
values y,x for observations
1
079,89
2
0116,116
3
096,157
4
097,134
          mean          standard deviation
dep var y    94.7500    12.8922
ind var x     124       28.7492
std error    20.4653
correlation   .466572
determination .217690

          95 percent confidence limits
slope concept a .388639    1.46235    2.07575
1 observed predicted residual squared
1 79 84.9155 -14.9155 196.435
2 116 92.2964 -23.7936 561.860
3 96 104.871 -8.87107 78.6958
4 97 97.8170 -8.16990 66.7472
          837.659

make 95 percent confidence interval
predictions, yes or no
0yes
          predicted y lower limit upper limit
when x3
0124          94.7500 50.7189 133.781
try another, yes or no
0no

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
BIRTH-GRADE 1; GRADES 1-2

>LOAD REG2
>RUN

21:01 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
76
VALUES Y,X FOR OBSERVATIONS

1
784.106
2
764.106
3
7108.113
4
7126.94
5
7122.91
6
7102.69

	MEAN	STANDARD DEVIATION
DEP VAR Y	101	23.5542
IND VAR X	100.167	10.0681
STD ERROR	22.4883	
CORRELATION	-.520355	
DETERMINATION	.270769	

95 PERCENT CONFIDENCE LIMITS

	LOWER	UPPER
Y INTERCEPT A	222.933	
SLOPE B	-1.21736	
I	OBSERVED	PREDICTED
1	84	91.4640
2	64	93.8987
3	108	85.3772
4	126	108.507
5	122	112.159
6	102	114.594

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7105	95.1161	66.3209	123.911
TRY ANOTHER, YES OR NO			
?NO			

>RUN

21:04 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS

1
787.84
2
771.64
3
799.108
4
7105.126
5
7142.122

	MEAN	STANDARD DEVIATION
DEP VAR Y	100.800	26.4424
IND VAR X	100.800	26.3287
STD ERROR	17.2974	
CORRELATION	.824052	
DETERMINATION	.679062	

95 PERCENT CONFIDENCE LIMITS

	LOWER	UPPER
Y INTERCEPT A	17.3768	
SLOPE B	.327611	
I	OBSERVED	PREDICTED
1	87	86.8961
2	71	70.3433
3	99	106.759
4	105	121.656
5	142	118.345

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
795	95.9599	70.6495	121.350
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 2-3; 3-4

>RUN
21:06 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS

1
285.59
2
289.87
3
277.71
4
293.99
5
2111.105

	MEAN	STANDARD DEVIATION
DEP VAR Y	91.2000	12.5379
IND VAR X	86.2000	16.1617
STD ERROR	7.33524	
CORRELATION	.862144	
DETERMINATION	.743293	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	33.5463	-29.5590	96.6606	
SLOPE B	.669836	-5.32650E-02	1.30094	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	85	79.6960	6.30398	37.7402
2	89	91.7351	-2.73507	7.48060
3	77	81.0337	-4.03369	16.2707
4	93	99.7611	-6.76110	45.7125
5	111	103.774	7.22538	52.2133
				161.417

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?95	97.7546	85.1436	110.366
TRY ANOTHER, YES OR NO			
?NO			

>RUN
21:09 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS

1
277.134
2
265.96
3
2118.89
4
273.77
5
275.93

	MEAN	STANDARD DEVIATION
DEP VAR Y	82	20.7605
IND VAR X	95.8000	22.1517
STD ERROR	23.9721	
CORRELATION	-2.17447E-03	
DETERMINATION	4.72932E-06	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	82.1952	-86.2387	250.629	
SLOPE B	-2.03791E-03	-1.72378	1.71971	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	79	81.9222	-2.92215	8.53227
2	65	82.9200	-17.9200	289.679
3	118	82.0139	35.9861	1295.00
4	73	82.0303	-9.03031	81.6911
5	75	82.0057	-7.00571	49.0799
				1723.99

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?98	81.9955	47.6727	116.318
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 4-5; 5-6

>RUN
21:11 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?5
VALUES Y,X FOR OBSERVATIONS

1
?66.57
2
?86.79
3
?51.65
4
?72.118
5
?45.73

	MEAN	STANDARD DEVIATION
DEP VAR Y	64	16.4469
IND VAR X	78.4000	23.6390
STD ERROR	17.6983	
CORRELATION	.362666	
DETERMINATION	.131527	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	44.2176	-52.5064	140.942	
SLOPE B	.252326	-.938842	1.44349	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	66	58.6002	7.39979	54.7568
2	86	64.1514	21.8486	477.362
3	51	60.6188	-9.61883	92.5218
4	72	73.9921	-1.99213	3.96857
5	45	62.6374	-17.6374	311.079

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
782	64.9084	39.3607	90.4561

TRY ANOTHER, YES OR NO
?NO

>RUN
21:14 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

?5
VALUES Y,X FOR OBSERVATIONS

1
?52.28
2
?61.66
3
?41.86
4
?33.51
5
?36.72

	MEAN	STANDARD DEVIATION
DEP VAR Y	44.6000	11.6748
IND VAR X	60.6000	22.1314
STD ERROR	13.1404	
CORRELATION	-.223315	
DETERMINATION	4.98697E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	51.7389	-8.48341	111.961	
SLOPE B	-.117803	-1.06245	.826844	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	52	48.4404	3.55962	12.6709
2	61	43.9639	17.0361	290.230
3	41	41.6078	-1.607799	.369423
4	33	45.7309	-12.7309	162.076
5	36	43.2570	-7.25704	52.6647

518.011

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
765	44.0817	24.9260	63.2373

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 6-7; 7-8

790 HALT

>RUN
21:16 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
231.47
2
260.52
3
263.61
4
283.41
5
265.33

	MEAN	STANDARD DEVIATION
DEP VAR Y	60.5000	13.7963
IND VAR X	46.8000	10.6395
STD ERROR	21.1512	
CORRELATION	-.224268	
DETERMINATION	5.02962E-02	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER	PREDICTED	SQUARED
SLOPE B	-3.226291	-3.55908	2.76668		
I	OBSERVED	PREDICTED	RESIDUAL		
1	31	60.5208	-29.5208	871.475	
2	60	58.5398	1.46025	2.13232	
3	63	54.9739	8.02606	64.4176	
4	93	62.8980	20.1020	404.092	
5	66	66.0676	-6.75795E-02	4.56699E-03	
				1242.12	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?44	61.7094	30.3346	93.0841
TRY ANOTHER, YES OR NO			
?NO			

780 HALT

>RUN
21:18 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
234.62
2
247.31
3
252.60
4
236.63
5
247.83

	MEAN	STANDARD DEVIATION
DEP VAR Y	43.2000	7.79102
IND VAR X	59.8000	13.5930
STD ERROR	8.04330	
CORRELATION	-.108382	
DETERMINATION	1.17466E-02	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER	PREDICTED	SQUARED
SLOPE B	-4.54151E-02	-1.50435	7.10861		
I	OBSERVED	PREDICTED	RESIDUAL		
1	34	43.1001	-9.10009	82.8116	
2	47	44.5080	2.43205	6.21029	
3	52	43.1909	8.80908	77.5999	
4	36	43.0547	-7.05467	49.7684	
5	47	42.1454	4.85363	23.5577	
				239.948	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?62	43.1001	30.2626	55.9376
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #8, SANDY BAY (STRATUM #II)
GRADES 8-9

```

780 HALT
>RUN
21:21 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
74
VALUES Y,X FOR OBSERVATIONS
1
230.34
2
230.47
3
258.52
4
227.36
      MEAN      STANDARD DEVIATION
DEP VAR Y      36.2500      14.5688
IND VAR X      42.2500      8.65544
STD ERROR      11.3584
CORRELATION     .771217
DETERMINATION   .594776

      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A -18.5951 -158.488 121.298
SLOPE B         1.29811 -1.96205 4.55827
I
OBSERVED PREDICTED RESIDUAL SQUARED
1 30 25.5406 4.45940 19.3862
2 30 42.4160 -12.4160 154.157
3 58 48.9066 9.09344 82.6906
4 27 28.1368 -1.13682 1.29236
-----
258.027

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS. YES OR NO
?YES
      PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
?43 37.2236 12.6640 61.7832
TRY ANOTHER. YES OR NO
?NO

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
BIRTH-GRADE 1; GRADES 1-2;

```

RUN
17:15 PPR 22 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS
1
295.93
2
2122.92
3
2155.85
4
2177.90
5
2102.73
6
2132.69
MEAN STANDARD DEVIATION
DEP VAR Y 136.500 31.3353
IND VAR X 83.5667 10.2697
STD ERROR 34.7428
CORRELATION .128650
DETERMINATION 1.65508E-02
95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 97.6574 -255.935 451.250
SLOPE B .392541 -3.80738 4.59247
I OBSERVED PREDICTED RESIDUAL SQUARED
1 95 134.164 -39.1637 1533.80
2 122 133.771 -11.7712 138.561
3 155 131.023 23.9766 574.878
4 177 132.986 44.0139 1937.22
5 102 126.313 -24.3129 591.117
6 132 124.743 7.25727 52.6680
-----
4820.24
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
275 127.098 73.4769 180.719
TRY ANOTHER, YES OR NO
?NO

```

```

780 HALT
>RUN
17:18 FEB 22 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
280.95
2
294.122
3
2104.155
4
2143.177
5
2109.102
MEAN STANDARD DEVIATION
DEP VAR Y 106 23.4627
IND VAR X 130.200 35.0243
STD ERROR 16.4584
CORRELATION .794326
DETERMINATION .630955
95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 36.7181 -63.4017 136.838
SLOPE B .532119 -.215515 1.27475
I OBSERVED PREDICTED RESIDUAL SQUARED
1 80 87.2694 -7.26942 52.8445
2 94 101.637 -7.63663 58.3181
3 104 119.197 -15.1965 230.935
4 143 130.203 12.0962 146.334
5 109 90.7943 18.0057 324.207
-----
812.638
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENX=
2127 104.297 80.7545 127.840
TRY ANOTHER, YES OR NO
?NO

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 2-3; 3-4

```
>RUN
17:21 FFP 22 PEG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
286,95
2
285,80
3
211,94
4
293,104
5
2150,143
-----
MEAN          STANDARD DEVIATION
DEP VAR Y     105          27.2305
IND VAR X     103.200      23.8474
STD ERROR     13.4978
CORRELATION    .993173
DETERMINATION  .815721

95 PERCENT CONFIDENCE LIMITS
LOVER          UPPER
Y INTERCEPT A -1.43010  -96.3276  93.4674
SLOPE B         1.03130   .130783  1.93182
I
1 OBSERVED      PREDICTED  RESIDUAL  SQUARED
1 86            96.5433    -10.5433   111.162
2 25            81.0739    3.92615   15.4146
3 111           95.5120    15.4880   239.877
4 93            105.825    -12.8250   164.482
5 150           146.046    3.95428   15.6363
-----
546.571

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
2YES
-----
PREDICTED Y  LOWER LIMIT  UPPER LIMIT
INDEX=
2104          105.825      86.6037      125.046
TRY ANOTHER, YES OR NO
2NO
```

```
>RUN
17:23 FFP 22 PEG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
2116,122
2
226,86
3
202,85
4
2115,111
5
297,93
-----
MEAN          STANDARD DEVIATION
DEP VAR Y     101.200      14.3422
IND VAR X     99.4000      16.3793
STD ERROR     6.36165
CORRELATION    .923277
DETERMINATION  .852441

95 PERCENT CONFIDENCE LIMITS
LOVER          UPPER
Y INTERCEPT A 20.8427  -41.2417  82.9272
SLOPE B         .808423   .190507  1.42634
I
1 OBSERVED      PREDICTED  RESIDUAL  SQUARED
1 116           119.470    -3.47037   12.0435
2 96            99.3671    96.63287   31.7293
3 82            89.5587    -7.55870   57.1340
4 115           110.578    4.42229   19.5566
5 97            96.0261    .973910   .948500
-----
121.412

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
2YES
-----
PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WHENX=
2106          106.536      96.6065      116.465
TRY ANOTHER, YES OR NO
2NO
```


TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 4-5; 5-6

```
>RUN
17:25 FEB 22 RUC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
2104.95
2
2158.116
3
2121.95
4
2117.82
5
2132.115
      MEAN      STANDARD DEVIATION
DEP VAR Y      126.400      20.3052
IND VAR X      100.600      14.5155
STD ERROR      15.3219
CORRELATION     .756939
DETERMINATION   .572956
      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A      19.6678      -151.013      190.348
SLOPE B      1.05895      -.620534      2.73824
I      OBSERVED      PREDICTED      RESIDUAL      SQUARED
1      104      120.259      -16.2587      264.344
2      158      142.495      15.5055      240.419
3      121      121.318      -.317513      .100815
4      117      106.494      10.5064      110.385
5      132      141.436      -9.43569      89.9323
      704.281
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y      LOWER LIMIT      UPPER LIMIT
UNENX=
2107      132.965      108.803      157.127
TRY ANOTHER, YES OR NO
?NO
```

```
>RUN
17:29 FEB 22 RUC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
281.93
2
295.104
3
255.158
4
226.121
5
258.117
      MEAN      STANDARD DEVIATION
DEP VAR Y      63      26.4858
IND VAR X      118.600      24.6435
STD ERROR      26.3589
CORRELATION     -.507122
DETERMINATION   .257173
      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A      127.641      -77.8423      332.925
SLOPE B      -.545035      -2.24678      1.15671
I      OBSERVED      PREDICTED      RESIDUAL      SQUARED
1      81      76.9529      4.0471      16.3750
2      95      70.9575      24.0425      578.241
3      55      41.5256      13.4744      181.559
4      26      61.6919      -35.6919      1273.61
5      58      63.8721      -5.87206      34.4816
      2084.37
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y      LOWER LIMIT      UPPER LIMIT
UNENX=
2133      55.1515      10.3467      99.9563
TRY ANOTHER, YES OR NO
?NO
```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 6-7; 7-8

```
>RUN
17:32 FFR 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
232.71
2
267.81
3
2113.95
4
241.55
5
237.26
-----
DEP VAR Y      MEAN      STANDARD DEVIATION
DEP VAR X      70      32.6803
IND VAR X      65.6000    26.5104
STD FRCP      19.7842
CORRELATION    .851545
DETERMINATION  .725129
-----
95 PERCENT CONFIDENCE LIMITS
Y INTERCEPT A  1.13773  -21.6835  93.9590
SLOPE B          1.04973  -.137606  2.23707
I OBSERVED      PREDICTED  RESIDUAL  SQUARED
1  92          75.6685    16.3315    266.717
2  67          86.1658    -19.1658    367.329
3  113         100.862     12.1379    147.330
4  41          58.8729    -17.8729    319.439
5  37          28.4307     8.56929    73.4328
-----
1174.25
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
-----
PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WHENX=
255          58.8729      28.0341      89.7116
TRY ANOTHER, YES OR NO
```

```
>RUN
17:34 FFR 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS
1
275.72
2
280.92
3
283.67
4
228.113
5
220.41
-----
DEP VAR Y      MEAN      STANDARD DEVIATION
DEP VAR X      77      30.5729
STD ERROR      35.1737
CORRELATION    0.53295E-02
DETERMINATION  7.28112E-03
-----
95 PERCENT CONFIDENCE LIMITS
Y INTERCEPT A  49.7931  -116.791  216.378
SLOPE B          9.61931E-02  -1.96727  2.15966
I OBSERVED      PREDICTED  RESIDUAL  SQUARED
1  75          56.7190    18.2810    334.194
2  80          58.6429    21.3571    456.126
3  83          56.2381    26.7619    716.201
4  28          60.6630    -32.6630    1066.87
5  20          53.7370    -33.7370    1138.19
-----
3711.58
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
-----
PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WHENX=
250          55.4685      -6.86047    117.798
TRY ANOTHER, YES OR NO
?NO
```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #3, KENDAL-UPPER ROCK SPRING (STRATUM #III)
GRADES 8-9

```

780 HALT
>RUN
17:37 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
74
VALUES Y,X FOR OBSERVATIONS
1
783.75
2
738.80
3
223.83
4
212.20
DEP VAR Y      MEAN      STANDARD DEVIATION
              39        31.2090
IND VAR X      66.5000    25.8779
STD ERROR      33.7612
CORRELATION     .468865
DETERMINATION   .219835
95 PERCENT CONFIDENCE LIMITS
LOVEP      UPPEP
Y INTERCEPT A  1.39721  -226.050  228.845
SLOPE B          .565455  -2.67570  3.80661
I      OBSERVED  PREDICTED  RESIDUAL  SQUARED
1      83        43.8064   39.1936   1536.14
2      38        46.6336   -8.6336   74.5399
3      23        48.3300   -25.3300   641.610
4      12        17.2300   -5.22997  27.3525
2279.64
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WHENX=
255          32.4973      -49.1451      114.140
TRY ANOTHER, YES OR NO
?NO

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
BIRTH-GRADE 1; GRADES 1-2

>RUN
07:28 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

76
VALUES Y,X FOR OBSERVATIONS

1
2109,110
2
2125,108
3
293,105
4
2150,107
5
2110,91
6
2102,77

	MEAN	STANDARD DEVIATION
DEP VAR Y	114.667	20.2550
IND VAR Y	99.6567	13.9179
STD ERROR	21.9351	
CORRELATION	.370400	
DETERMINATION	.137196	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	57.2270	-144.123	258.577	
SLOPE B	.576318	-1.42971	2.58234	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	108	120.622	-12.6220	159.314
2	125	119.469	5.53068	30.5885
3	93	117.740	-24.7404	612.086
4	150	118.893	31.1070	967.646
5	110	109.672	.328088	.107642
6	102	101.603	.395539	.157243
				1769.90

WANT 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
293			
	110.825	83.4905	139.159
TRY ANOTHER, YES OR NO			
?NO			

>RUN
07:32 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
294,108
2
283,125
3
296,93
4
2113,150
5
2117,110

	MEAN	STANDARD DEVIATION
DEP VAR Y	100.600	14.1174
IND VAR X	117.200	21.5569
STD ERROR	15.7155	
CORRELATION	.265668	
DETERMINATION	7.05797E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	80.2092	-57.5560	217.974	
SLOPE B	.173993	-.985096	1.33396	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	94	98.9934	-4.9935	24.9335
2	83	101.957	-18.9571	359.370
3	96	96.3896	-.389606	.151793
4	113	106.307	6.69335	44.8009
5	117	99.3473	17.6527	311.617
				740.934

WANT 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2111			
	99.5213	76.0298	123.013
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 2-3; 3-4

780 HALT

>RUN
07:34 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS

1
774.93
2
792.94
3
771.83
4
787.96
5
7110.113

	MEAN	STANDARD DEVIATION
DEP VAR Y	86.8000	15.6429
IND VAR X	95.8000	10.8490
STD ERROR	6.97130	
CORRELATION	.924818	
DETERMINATION	.855288	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-40.9469	-137.976	56.0824	
SLOPE B	1.33347	.325799	2.34115	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	74	83.0663	-9.06627	82.1973
2	92	94.3997	7.60925	57.7639
3	71	69.7315	1.26848	1.60904
4	97	87.0667	-6.66950E-02	4.44822E-03
5	110	109.736	.264231	6.98181E-02
				141.644

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7100	92.4006	81.7459	103.055
TRY ANOTHER, YES OR NO			
?O			

>RUN
07:37 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
786.90
2
783.74
3
7104.92
4
779.71
5
790.87

	MEAN	STANDARD DEVIATION
DEP VAR Y	86.4000	10.2127
IND VAR X	82.8000	9.62898
STD ERROR	9.11873	
CORRELATION	.634095	
DETERMINATION	.402077	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	30.7087	-94.7299	156.147	
SLOPE B	.672600	-.834231	2.17943	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	96	91.2427	-5.24272	27.4861
2	83	90.4811	2.51893	6.34475
3	104	92.5879	11.4121	130.236
4	79	73.4633	.536677	.288023
5	80	89.2249	-9.22492	85.0991

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
792	92.5879	73.5935	111.576
TRY ANOTHER, YES OR NO			
?O			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 4-5; 5-6

780 HALT

>RUN
07:40 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
782.96

2
733.86

3
759.83

4
779.104

5
792.70

	MEAN	STANDARD DEVIATION
DEP VAR Y	63	23.4201
IND VAR X	89.6000	10.2127
STD ERROR	26.5656	
CORRELATION	.187395	
DETERMINATION	3.50046E-02	

	Y INTERCEPT A	SLOPE B	95 PERCENT CONFIDENCE LIMITS			
			LOWER	UPPER	PREDICTED	RESIDUAL
1	30.5570	.429951	-342.179	403.293	71.7450	105.146
2			-3.70950	4.56760	67.4554	1187.18
3					66.1683	-7.16826
4					75.1793	3.82167
5					64.4521	27.5479

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
793	70.4588	30.1212	110.796

TRY ANOTHER, YES OR NO
?NO

730 HALT

>RUN
07:43 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
790.67

2
764.82

3
730.33

4
730.59

5
718.79

	MEAN	STANDARD DEVIATION
DEP VAR Y	46.4000	29.8127
IND VAR X	64	19.6469
STD ERROR	33.2296	
CORRELATION	.261214	
DETERMINATION	6.82325E-02	

	Y INTERCEPT A	SLOPE B	95 PERCENT CONFIDENCE LIMITS			
			LOWER	UPPER	PREDICTED	RESIDUAL
1	21.0321	.396373	-157.561	190.625	47.5881	42.4100
2			-2.27455	3.08730	53.5347	10.4653
3					34.1124	-4.11244
4					44.4181	-14.4181
5					52.3456	-34.3456

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
770	48.7782	-1.18900	98.7455

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 6-7; 7-8

```

780 HALT
>RUN
07:46 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS
1
257.64
2
263.90
3
275.64
4
295.30
5
280.30

```

	MEAN	STANDARD DEVIATION
DEP VAR Y	74.2000	15.2545
IND VAR X	55.6000	25.6571
STD ERROR	10.9096	
CORRELATION	-.785107	
DETERMINATION	.616393	

```

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 100.143 59.4650 140.922
SLOPE B -.466606 -1.14285 .209639
I OBSERVED PREDICTED RESIDUAL SQUARED
1 57 70.2905 -13.2905 176.372
2 63 58.1488 4.85124 23.5346
3 75 70.2905 4.71949 22.2706
4 96 86.1451 9.85489 97.1188
5 80 86.1451 -6.14511 -37.7624
-----
357.061

```

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
242	77.2796	61.1260	93.4332

TRY ANOTHER, YES OR NO
?NO

```

>RUN
07:49 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS
1
249.47
2
260.57
3
247.63
4
257.75
5
252.96

```

	MEAN	STANDARD DEVIATION
DEP VAR Y	53	5.43139
IND VAR X	67.6000	18.8361
STD ERROR	6.24594	
CORRELATION	9.04147E-02	
DETERMINATION	8.17481E-03	

```

95 PERCENT CONFIDENCE LIMITS
LOWER UPPER
Y INTERCEPT A 51.2376 14.4833 87.9919
SLOPE B 2.60710E-02 -.501494 .553636
I OBSERVED PREDICTED RESIDUAL SQUARED
1 49 52.4629 -3.46294 11.9919
2 60 52.7236 7.27635 52.9453
3 47 52.6801 -5.88007 34.5753
4 57 53.1929 3.80707 14.4938
5 52 53.7404 -1.74042 3.02905
-----
117.935

```

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
277	53.2451	43.0670	63.4231

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #6, JERICHO (STRATUM #IV)
GRADES 8-9

>RUN

07:52 FEB 23 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

74

VALUES Y,X FOR OBSERVATIONS

1

754.49

2

749.60

3

742.47

4

733.57

	MEAN	STANDARD DEVIATION
DEP VAR Y	44.5000	9.11043
IND VAR X	53.2500	6.23932
STD ERROR	10.8847	
CORRELATION	-.219239	
DETERMINATION	4.83734E-02	

		95 PERCENT CONFIDENCE LIMIT	
		LOWER	UPPER
Y INTERCEPT A	61.6039	-170.405	293.613
SLOPE B	-.321199	-4.65592	4.01352
I	OBSERVED	PREDICTED	RESIDUAL
1	54	45.8651	8.13490
2	49	42.3319	6.66809
3	42	46.5075	-4.50749
4	33	43.2955	-10.2955

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

753

	44.5803	21.1367	68.0236

TRY ANOTHER, YES OR NO

?NO

5

SQUARED
60.1767
44.4635
20.3175
105.907

236.955

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

21:32 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

26

VALUES Y,X FOR OBSERVATIONS

1

2254,535

2

2221,529

3

2231,509

4

2243,481

5

2249,517

6

2255,510

	MEAN	STANDARD DEVIATION
DEP VAR Y	247.167	22.1126
IND VAR X	513.500	18.9921
STD ERROR	24.6351	
CORRELATION	-8.40547E-02	
DETERMINATION	7.06519E-03	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	297.420	-529.958	1124.80	
SLOPE B	-9.78653E-02	-1.70820	1.51247	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	254	245.063	8.93744	79.8778
2	221	245.650	-24.6498	607.610
3	231	247.607	-16.6071	275.794
4	243	250.347	-7.34729	53.9326
5	249	246.824	2.17586	4.73437
6	285	247.509	37.4908	1405.56

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2536	244.965	199.223	290.706

TRY ANOTHER, YES OR NO
?NO

>RUN

21:35 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

25

VALUES Y,X FOR OBSERVATIONS

1

2200,254

2

2196,221

3

2213,231

4

2232,243

5

2204,249

	MEAN	STANDARD DEVIATION
DEP VAR Y	209	14.3179
IND VAR X	239.600	13.4833
STD ERROR	16.3673	
CORRELATION	.141154	
DETERMINATION	1.99244E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	173.085	-290.238	636.411	
SLOPE B	.149890	-1.78141	2.08119	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	200	211.158	-11.1584	124.510
2	196	206.212	-10.2120	104.235
3	213	207.711	5.28905	27.9741
4	232	200.510	22.4904	505.917
5	204	210.409	-6.40897	41.6748
				303.652

2427.56 MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2245	209.809	164.290	235.329

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 2-3; 3-4

>RUN
21:37 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
278,259
2
268,200
3
288,196
4
242,213
5
269,232

	MEAN	STANDARD DEVIATION
DEP VAR Y	269	17.1172
IND VAR X	220	25.9326
STD ERROR	19.7314	
CORRELATION	5.85725E-02	
DETERMINATION	3.43073E-03	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	260.494	-7.30156	528.290		
SLOPE B	3.86517E-02	-1.17198	1.24921		
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	278	270.508	7.49219	56.1330	
2	268	269.227	-.226766	5.14227E-02	
3	288	268.072	19.9279	397.120	
4	242	268.729	-26.7294	714.459	
5	269	269.464	-.463941	.215241	

				1167.98	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2210	268.613	238.037	299.199
TRY ANOTHER, YES OR NO			
?NO			

>RUN
21:40 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
2194,257
2
2165,278
3
2194,268
4
2180,288
5
2205,242

	MEAN	STANDARD DEVIATION
DEP VAR Y	187.658	15.4020
IND VAR X	209	117.597
STD ERROR	17.5275	
CORRELATION	.169472	
DETERMINATION	2.87207E-02	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	183.019	127.535	238.502		
SLOPE B	2.21063E-02	-.214938	.252330		
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	194	188.723	5.27698	27.8465	
2	165	189.189	-24.1891	595.115	
3	194	189.967	5.03292	25.3293	
4	180.283	183.019	-2.73058	7.45608	
5	205	188.390	16.6039	275.890	

				921.635	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2269	188.989	160.274	217.704
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 4-5; 5-6

>RUN
21:43 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
7192.165
2
7163.194
3
7134.165
4
7205.194
5
7162.130

	MEAN	STANDARD DEVIATION
DEP VAR Y	171.200	27.8273
IND VAR X	179.500	14.5017
STD ERROR	29.9624	
CORRELATION	.373627	
DETERMINATION	.139597	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	42.1579	-547.925	632.240	
SLOPE B	.718497	-2.55851	3.99550	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	192	160.710	31.2901	979.958
2	163	181.546	-18.5464	343.908
3	134	190.710	-26.7990	719.421
4	205	181.546	23.4536	550.073
5	162	171.487	-9.48740	90.0107

2676.54

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7189	177.954	125.460	230.447
TRY ANOTHER, YES OR NO			
?NO			

>RUN
21:45 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
7215.119
2
7146.192
3
764.153
4
7115.134
5
7156.205

	MEAN	STANDARD DEVIATION
DEP VAR Y	139.200	55.4850
IND VAR X	162.600	36.6783
STD ERROR	62.6052	
CORRELATION	-.212590	
DETERMINATION	4.51946E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	191.492	-259.967	641.952	
SLOPE B	-.321601	-3.02723	2.39403	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	215	153.222	61.7782	3816.54
2	146	129.745	16.2551	264.227
3	64	139.071	-75.0714	5635.71
4	115	148.398	-33.3973	1115.41
5	156	125.554	30.4359	926.343

11758.2

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7178	134.247	35.8305	232.664
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 6-7; 7-8

>RUN
21:43 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
2120,202
2
2129,215
3
2125,146
4
243,54
5
2130,115

	MEAN	STANDARD DEVIATION
DEP VAR Y	119.800	54.3847
IND VAR X	143.400	62.3562
STD ERROR	57.7207	
CORRELATION	.393913	
DETERMINATION	.155168	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	68.8162	-164.662	302.294	
SLOPE B	.343556	-1.12917	1.81628	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	100	138.215	-38.2146	1450.36
2	129	142.681	-13.6809	187.166
3	195	118.075	76.9245	5770.73
4	45	90.6039	-45.8038	2097.99
5	130	108.325	21.6749	469.776

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2134	114.853	30.0207	199.685
TRY ANOTHER, YES OR NO			
NO			

>RUN
21:51 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
2115,123
2
2112,100
3
2116,129
4
2152,195
5
2106,45

	MEAN	STANDARD DEVIATION
DEP VAR Y	120.200	18.1389
IND VAR X	118.400	54.1461
STD ERROR	9.01359	
CORRELATION	.903339	
DETERMINATION	.816022	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	84.2515	50.3714	118.132	
SLOPE B	.303619	3.87634E-02	.568469	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	115	121.597	-6.59665	43.5158
2	112	114.619	-2.61341	6.82992
3	116	123.419	-7.41236	55.3321
4	152	143.457	8.54279	72.9793
5	106	97.9144	8.08563	65.3774

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2115	119.168	106.309	132.026
TRY ANOTHER, YES OR NO			
NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #1, LUCEA (MIXED STRATUM)
GRADES 8-9

```

>RUN
21:53 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?4
VALUES Y,X FOR OBSERVATIONS
1
?96,115
2
?89,112
3
?58,116
4
?82,152
DEP VAR Y      MEAN      STANDARD DEVIATION
IND VAR X      91.2500    16.5202
STD ERROR      123.750    18.9099
CORRELATION     20.2290
DETERMINATION  -2.00067E-02
                     4.00270E-04
                     95 PERCENT CONFIDENCE LIMITS
                     LOWER      UPPER
Y INTERCEPT A   83.4130    -248.337    415.163
SLOPE B           -1.74784E-02 -2.67512    2.64016
I
1      OBSERVED   PREDICTED   RESIDUAL   SQUARED
1      96         81.4020    14.5971    213.074
2      89         81.4554    7.54463    56.3214
3      53         91.3855    -23.2955    546.860
4      82         80.7562    1.24377    1.54693
-----
                     818.422
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y   LOWER LIMIT   UPPER LIMIT
WHENX=
?119      81.3330      36.0166      126.649
TRY ANOTHER, YES OR NO
?NO
780 HALT

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

RUN
07:57 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
26
VALUES Y,X FOR OBSERVATIONS

1
2345.443
2
2339.439
3
2416.430
4
2426.414
5
2469.386
6
2355.336

	MEAN	STANDARD DEVIATION
DEP VAR Y	331.500	52.7134
IND VAR X	408	40.9243
STD ERROR	58.3125	
CORRELATION	-.144999	
DETERMINATION	2.10247E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	467.702	-257.048	1192.45	
SLOPE B	-.186769	-1.95572	1.58218	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	345	384.963	-39.9631	1597.05
2	339	385.710	-46.7102	2181.94
3	416	387.391	28.6089	818.470
4	426	390.379	35.6206	1268.93
5	468	395.609	72.3911	5240.47
6	355	404.947	-49.9473	2494.74

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2327	395.422	319.612	471.233
TRY ANOTHER, YES OR NO			
?NO			

RUN
08:00 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
2396.345
2
2297.339
3
2354.416
4
2380.426
5
2431.468

	MEAN	STANDARD DEVIATION
DEP VAR Y	371.600	50.1727
IND VAR X	398.800	55.4410
STD ERROR	44.2372	
CORRELATION	.645720	
DETERMINATION	.416955	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	133.557	-371.612	648.726	
SLOPE B	.584361	-1.685124	1.85385	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	396	340.161	55.8386	3117.95
2	297	336.655	-39.6552	1572.54
3	354	381.651	-27.6510	764.579
4	380	387.495	-7.49462	56.1653
5	431	412.038	18.9622	359.566

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2325	369.379	306.244	432.515
TRY ANOTHER, YES OR NO			
?NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 2-3; 3-4

```
>RUN
08:03 FEB 23 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?5
VALUES Y,X FOR OBSERVATIONS
1
?291,320
2
?337,396
3
?279,237
4
?358,354
5
?380,380
```

	MEAN	STANDARD DEVIATION	
DEP VAR Y	329	43.1567	
IND VAR X	349.400	41.0463	
STD ERROR	28.5857		
CORRELATION	.819115		
DETERMINATION	.670950		

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	28.0863	-361.184	417.357
SLOPE B	.861230	-.246782	1.96924

I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	291	303.680	-12.6788	160.778
2	337	369.123	-32.1333	1032.55
3	279	283.872	-4.87156	23.7321
4	358	332.962	25.0383	626.913
5	380	355.354	24.6464	607.443

				2451.42

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?369	345.880	299.768	391.993

TRY ANOTHER, YES OR NO
?NO

```
>RUN
08:06 FEB 23 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?5
VALUES Y,X FOR OBSERVATIONS
1
?212,242
2
?255,291
3
?284,337
4
?234,279
5
?312,358
```

	MEAN	STANDARD DEVIATION	
DEP VAR Y	259.400	39.6333	
IND VAR X	301.400	46.3929	
STD ERROR	6.37097		
CORRELATION	.990263		
DETERMINATION	.980620		

		95 PERCENT CONFIDENCE LIMITS	
		LOWER	UPPER
Y INTERCEPT A	4.42201	-62.0509	70.8950
SLOPE B	.845679	.627492	1.06447

I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	212	209.140	2.85114	8.12899
2	255	250.602	4.39818	19.3440
3	284	289.517	-5.51684	30.4356
4	234	240.450	-6.45008	41.6035
5	312	307.282	4.71760	22.2559

				121.768

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?346	297.131	283.821	310.440

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 4-5; 5-6

>RUN
08:12 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
2210,184
2
2150,212
3
2205,255
4
2205,234
5
2198,234

	MEAN	STANDARD DEVIATION
DEP VAR Y	193.600	24.7447
IND VAR X	233.800	38.4864
STD ERROR	27.6726	
CORRELATION	.249020	
DETERMINATION	5.20109E-02	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	156.167	-114.176	426.510		
SLOPE B	.160107	-.783861	1.30407		
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	210	185.627	24.3733	594.058	
2	150	190.110	-40.1097	1608.79	
3	205	196.994	8.00574	64.0919	
4	205	201.637	3.36265	11.3074	
5	198	193.632	4.36798	19.0792	
				2297.32	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
2297	203.719	121.391	286.046

TRY ANOTHER, YES OR NO
?NO

780 HALT
>RUN
08:15 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
25
VALUES Y,X FOR OBSERVATIONS

1
2172,180
2
205,210
3
2111,150
4
2104,205
5
2114,205

	MEAN	STANDARD DEVIATION
DEP VAR Y	113.200	39.3106
IND VAR X	190	25.2438
STD ERROR	40.3294	
CORRELATION	-.410940	
DETERMINATION	.168872	

		95 PERCENT CONFIDENCE LIMITS			
		LOWER	UPPER		
Y INTERCEPT A	231.671	-254.571	717.912		
SLOPE B	-.623529	-3.19481	1.91775		
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED	
1	172	119.435	52.5647	2767.05	
2	65	100.729	-35.7294	1275.59	
3	111	138.141	-27.1412	736.643	
4	104	103.847	.152941	2.33910E-02	
5	114	103.847	10.1529	103.082	
				4879.39	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

WHENX=	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
2204	104.471	36.9472	171.994

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6- 5 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 6-7; 7-8

>RUN
09:19 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
2155.194
2
2216.172
3
2213.65
4
2322.111
5
2318.104

	MEAN	STANDARD DEVIATION
DEP VAR Y	244.800	72.8402
IND VAR X	129.200	52.7229
STD ERROR	70.9151	
CORRELATION	-.537699	
DETERMINATION	.289120	

95 PERCENT CONFIDENCE LIMITS				
		LOWER	UPPER	
Y INTERCEPT A	340.779	46.4521	635.105	
SLOPE B	-.742868	-2.88285	1.39711	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	155	196.662	-41.6622	1735.74
2	216	213.005	2.99475	8.96951
3	213	292.492	-79.4921	6319.00
4	322	258.320	63.6798	4055.12
5	318	263.520	54.4797	2968.04

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2104	263.520	149.100	377.940
TRY ANOTHER, YES OR NO			
NO			

>RUN
08:22 FEB 23 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
2161.149
2
2149.155
3
2149.216
4
2270.213
5
2312.322

	MEAN	STANDARD DEVIATION
DEP VAR Y	269.400	78.4238
IND VAR X	211	59.5162
STD ERROR	53.4506	
CORRELATION	.807221	
DETERMINATION	.651606	

95 PERCENT CONFIDENCE LIMITS				
		LOWER	UPPER	
Y INTERCEPT A	17.2514	-251.841	286.344	
SLOPE B	.910657	-.212654	2.13397	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	161	152.939	9.06073	64.9754
2	149	158.403	-9.40321	88.4203
3	149	213.953	-64.9533	4218.93
4	276	211.221	64.7787	4196.28
5	312	310.483	1.51707	2.30151

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2263	256.754	157.598	355.910
TRY ANOTHER, YES OR NO			
NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #2, GREEN ISLAND (MIXED STRATUM)
GRADES 8-9

```

>RUN
08:25  FEB 23  REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?4
VALUES Y,X FOR OBSERVATIONS
1
?144,161
2
?121,149
3
?227,149
4
?291,276
      MEAN      STANDARD DEVIATION
DEF VAR Y      195.750      78.1340
IND VAR X      183.750      61.7596
STD ERROR      58.3348
CORRELATION    .792712
DETERMINATION  .628392

      95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A  11.4701  -437.608  460.548
SLOPE B          1.00288  -1.34369  3.34946
I
OBSERVED  PREDICTED  RESIDUAL  SQUARED
1         144        172.934    -28.9344    837.199
2         121        160.900    -39.8998    1591.99
3         227        160.900     66.1002    4369.24
4         291        280.266     2.73396    7.47453
-----
                                6805.90

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WPEX-
?257
      269.211      56.3892      482.042
TRY ANOTHER, YES OR NO
?
NO

      780 HALT
>BYE

```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
BIRTH-GRADE 1; GRADES 1-2

17:43 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

26
VALUES Y,X FOR OBSERVATIONS

1
2279,224

2
2271,222

3
2312,256

4
2273,226

5
2250,178

6
2285,242

	MEAN	STANDARD DEVIATION
DEP VAR Y	279.167	17.6115
IND VAR X	224.667	26.3413
STD ERROR	10.6454	
CORRELATION	.841252	
DETERMINATION	.707704	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	152.802	39.4392	266.166	.562452	6.07332E-02	1.06417			
2									
3									
4									
5									
6									

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2234	284.416	271.475	297.358
TRY ANOTHER, YES OR NO			
NO			

780 HALT

>RUN

17:46 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
2262,279

2
2276,271

3
2263,312

4
2284,273

5
2263,260

	MEAN	STANDARD DEVIATION
DEP VAR Y	269.600	9.91464
IND VAR X	279	19.6850
STD ERROR	10.9403	
CORRELATION	-.294615	
DETERMINATION	8.67981E-02	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	311.000	63.8099	558.190	-.108307	-1.03261	.735842			
2									
3									
4									
5									

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2284	268.858	252.674	285.042
TRY ANOTHER, YES OR NO			
NO			

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 2-3; 3-4

17:49 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

25

VALUES Y,X FOR OBSERVATIONS

1

2270,278

2

2270,262

3

2218,276

4

2288,263

5

2238,284

	MEAN	STANDARD DEVIATION
DEP VAR Y	256.800	28.1993
IND VAR X	272.600	9.68504
STD ERROR	24.6343	
CORRELATION	-.653946	
DETERMINATION	.427645	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
SLOPE B	-1.90405	-327.863	1879.55	
J	OBSERVED	PREDICTED	RESIDUAL	
1	270	246.518	23.4819	551.399
2	270	276.983	-6.98294	48.7615
3	218	250.326	-32.3262	1044.98
4	288	275.079	12.9211	166.955
5	238	235.094	2.90618	8.44590

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

2263

	263.655	225.692	301.617

TRY ANOTHER, YES OR NO

YES

>RUN

17:51 FEB 22 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

25

VALUES Y,X FOR OBSERVATIONS

1

2247,289

2

2247,270

3

2231,270

4

2230,218

5

2282,288

	MEAN	STANDARD DEVIATION
DEP VAR Y	247.400	21.0399
IND VAR X	267	28.9137
STD ERROR	18.9586	
CORRELATION	.634916	
DETERMINATION	.396521	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
SLOPE B	126.036	-153.806	405.879	
I	OBSERVED	PREDICTED	RESIDUAL	
1	247	257.400	-10.4000	108.160
2	247	248.764	-1.76364	3.11041
3	231	248.764	-17.7636	315.547
4	230	225.127	4.87273	23.7435
5	282	256.945	25.0545	627.730

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

2264

	246.036	218.877	273.196

TRY ANOTHER, YES OR NO

YES

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 4-5; 5-6

>RUN

17:54 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
2223,293

2
2236,247

3
2179,247

4
2153,231

5
2169,230

	MEAN	STANDARD DEVIATION
DEP VAR Y	191.800	35.9263
IND VAR X	229.600	22.0635
STD ERROR	40.5771	
CORRELATION	-.207970	
DETERMINATION	4.32516E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	262.552	-404.737	943.841	
SLOPE B	-.338640	-3.26465	2.58737	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	223	204.194	18.8058	353.657
2	236	185.908	50.0923	2509.24
3	179	185.908	-6.90766	47.7158
4	153	191.326	-38.3259	1468.87
5	168	191.665	-23.6645	560.011
				4939.50

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2246	186.246	111.167	261.326

TRY ANOTHER, YES OR NO
?NO

17:56 FEB 22 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
2156,198

2
2131,223

3
2128,236

4
2143,179

5
2132,153

	MEAN	STANDARD DEVIATION
DEP VAR Y	138	11.5542
IND VAR X	197.800	33.3721
STD ERROR	12.9304	
CORRELATION	-.246376	
DETERMINATION	6.07013E-02	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	154.873	31.5582	278.187	
SLOPE B	-0.53012E-02	-.701751	.531149	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	156	137.983	18.0171	324.614
2	131	135.850	-4.95041	23.5265
3	128	134.741	-6.74149	45.4477
4	143	139.604	3.39634	11.5351
5	132	141.821	-9.82150	96.4618
				561.586

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
2186	139.007	119.221	158.793

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 6-7; 7-8

```
>RUN
17:59 FEB 22 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS
1
2132,187
2
2158,156
3
2193,131
4
2218,128
5
2151,143
      MEAN      STANDARD DEVIATION
DEP VAR Y      170.400      34.5731
IND VAR X      149         23.9479
STD ERROR      20.6167
CORRELATION     -.856330
DETERMINATION    .733301

95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A      354.604      148.422      560.786
SLOPE B      -1.23627      -2.60596      .133421
I
OBSERVED      PREDICTED      RESIDUAL      SQUARED
1      132      123.422      8.57820      73.5856
2      158      161.746      -3.74612      14.0334
3      193      192.653      .347167      .120525
4      218      196.362      21.6384      468.219
5      151      177.818      -26.8176      719.184
      -----
      1275.14

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES
      PREDICTED Y      LOWER LIMIT      UPPER LIMIT
WHENX=
2139      182.763      150.385      215.141
TRY ANOTHER, YES OR NO
?NO
```

```
780 HALT
>RUN
18:01 FEB 22 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
75
VALUES Y,X FOR OBSERVATIONS
1
2234,131
2
292,132
3
2117,158
4
2188,193
5
293,218
      MEAN      STANDARD DEVIATION
DEP VAR Y      144.800      63.3774
IND VAR X      166.400      38.3314
STD ERROR      70.4473
CORRELATION     -.270613
DETERMINATION    7.33398E-02

95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A      212.308      -277.469      716.084
SLOPE B      -.447764      -3.37178      2.47625
I
OBSERVED      PREDICTED      RESIDUAL      SQUARED
1      234      160.651      73.3491      5380.10
2      92      160.203      -68.2031      4651.66
3      117      148.561      -31.5612      996.111
4      183      132.809      50.1911      3037.17
5      93      121.695      -28.6954      823.424
      -----
      14282.5

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES
      PREDICTED Y      LOWER LIMIT      UPPER LIMIT
WHENX=
2183      137.367      25.9856      248.749
TRY ANOTHER, YES OR NO
?NO
```

TRANSITION ANALYSIS: 6-5 YEAR TREND
DISTRICT #4, RIVERSIDE-DIAS (MIXED STRATUM)
GRADES 8-9

780 HALT

>RUN

18:04 FEB 22 PEG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

?4

VALUES Y,X FOR OBSERVATIONS

1

7141.234

2

793.92

3

7124.117

4

751.188

MEAN STANDARD DEVIATION

DEP VAR Y 102.250 39.5253

IND VAR X 157.750 65.0967

STD ERROR 17.8864

CORRELATION .145908

DETERMINATION 2.12891E-02

95 PERCENT CONFIDENCE LIMITS

Y INTERCEPT A 88.2746 LOWER -217.900 UPPER 394.449

SLOPE B 9.85922E-02 -1.73989 1.91627

I OBSERVED PREDICTED RESIDUAL SQUARED

1 141 109.005 31.9946 1023.67

2 93 26.4251 -3.42507 11.7311

3 124 98.6399 25.3601 643.136

4 51 104.930 -53.9299 2908.44

4586.97

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

?137

100.412 -9.38216 210.206

TRY ANOTHER, YES OR NO

?NO

780 HALT

>OFF

APPENDIX F6
TRANSITION ANALYSIS
EIGHT - SEVEN YEAR TREND
PARISH OF HANOVER

TRANSITION ANALYSIS: 8-7 YEAR TREND
PARISH OF HANOVER
BIRTH-GRADE 1; GRADES 1-2

13:15 FEB 24 REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

VALUES Y,X FOR OBSERVATIONS

1	21950,2352
2	22056,2339
3	22342,2320
4	22436,2222
5	22333,2073
6	2242,2128
7	22318,2192
8	22341,2076

	MEAN	STANDARD DEVIATION
DEP VAR Y	2256.88	157.848
IND VAR X	2214	116.985
STD ERROR	136.588	
CORRELATION	-.598504	
DETERMINATION	.358207	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	4046.36	1650.59	6842.13	
SLOPE B	-.808259	-1.08204	.272525	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1950	2137.25	-157.253	24728.4
2	2056	2155.84	-99.8427	9968.56
3	2349	2171.20	177.800	31612.0
4	2436	2250.41	185.591	34444.0
5	2333	2370.84	-37.8395	1431.82
6	2242	2326.39	-84.3852	7120.87
7	2318	2274.66	43.3433	1878.64
8	2341	2366.41	-27.4147	751.565

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
22260	2268.19	2149.06	2387.32

TRY ANOTHER, YES OR NO

27
VALUES Y,X FOR OBSERVATIONS

1	21865,1980
2	21904,2056
3	22116,2349
4	22319,2436
5	22257,2333
6	22193,2242
7	22214,2318

	MEAN	STANDARD DEVIATION
DEP VAR Y	2124	175.176
IND VAR X	2244.86	166.496
STD ERROR	64.8674	
CORRELATION	.941134	
DETERMINATION	.885733	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-98.8592	-1019.01	821.294	
SLOPE B	.920201	.581270	1.30913	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1865	1861.74	3.26174	10.6390
2	1904	1936.99	-32.9935	1088.57
3	2116	2277.12	-111.122	12342.2
4	2319	2313.27	5.73620	32.8352
5	2257	2211.28	45.7209	2090.40
6	2193	2121.17	71.8291	5159.43
7	2214	2196.43	17.5739	308.842
				21038.9

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
22268	2146.92	2083.17	2210.66

TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
PARISH OF HANOVER
GRADES 2-3; 3-4

13:18 FEB 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

77

VALUES Y,X FOR OBSERVATIONS

1

21914.1886

2

21933.1865

3

21882.1904

4

22157.2116

5

22296.2319

6

22272.2257

7

22160.2193

MEAN STANDARD DEVIATION

DEP VAR Y 2087.71 175.024

IND VAR X 2017.14 190.305

STD ERROR 36.3095

CORRELATION .981904

DETERMINATION .964136

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A 211.920 -205.546 629.386

SLOPE B .003065 .702903 1.10333

I OBSERVED PREDICTED RESIDUAL

1 1914 1915.10 -1.00994 1.20988

2 1930 1930.14 36.8644 1350.98

3 1882 1831.36 -49.3551 2435.93

4 2157 2122.89 -34.1952 1169.31

5 2296 2306.13 -10.1269 102.554

6 2272 2250.14 21.8631 477.995

7 2160 2192.34 -32.3498 1045.93

6541.21

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

22147

2150.80 2112.84 2188.76

TRY ANOTHER, YES OR NO

NO

13:22 FEB 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

77

VALUES Y,X FOR OBSERVATIONS

1

21653.1886

2

21595.1914

3

21735.1933

4

21717.1882

5

21881.2157

6

22174.2296

7

22130.2272

MEAN STANDARD DEVIATION

DEP VAR Y 1849.29 225.893

IND VAR X 2048.57 186.431

STD ERROR 78.1092

CORRELATION .949336

DETERMINATION .901249

95 PERCENT CONFIDENCE LIMITS

LOWER UPPER

Y INTERCEPT A -517.575 -1421.63 386.484

SLOPE B 1.15537 .718618 1.59513

I OBSERVED PREDICTED RESIDUAL

1 1653 1651.46 -2.45531 71.4922

2 1595 1693.81 -98.8057 9762.57

3 1795 1715.76 -79.2422 6279.33

4 1717 1650.83 60.1562 3613.97

5 1881 1974.56 -93.5610 8753.66

6 2174 2135.16 38.8423 1502.73

7 2130 2107.43 22.5713 509.462

30505.2

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

22151

1967.63 1879.37 2055.89

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
PARISH OF HANOVER
GRADES 4-5; 5-6

13:25 FEB 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

21530,1624

2

21355,1653

3

21319,1595

4

21443,1795

5

21434,1717

6

21631,1881

7

21797,2174

	MEAN	STANDARD DEVIATION
DEP VAR Y	1501.29	167.157
IND VAR X	1777	201.766
STD ERROR	82.2467	
CORRELATION	.893451	
DETERMINATION	.798254	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
Y INTERCEPT A	185.956	-578.531	956.442	
SLOPE B	.740197	.312342	1.16805	
PREDICTED				
1	1530	1388.04	141.964	20153.9
2	1355	1409.50	-54.5013	2270.39
3	1319	1366.57	-47.5699	2262.89
4	1443	1514.61	-71.6093	5127.89
5	1434	1456.87	-22.8739	523.215
6	1631	1578.27	52.7338	2780.86
7	1797	1795.14	1.85614	3.44526
				33822.6

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT
1642.66	1528.36	1756.97

TRY ANOTHER, YES OR NO

NO

13:28 FEB 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

27

VALUES Y,X FOR OBSERVATIONS

1

21367,1240

2

2067,1536

3

2767,1355

4

2822,1319

5

2068,1443

6

2076,1434

21039,1631

	MEAN	STANDARD DEVIATION
DEP VAR Y	906.857	275.520
IND VAR X	1421.71	131.752
STD ERROR	277.577	
CORRELATION	-.397652	
DETERMINATION	.154176	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
Y INTERCEPT A	2068.25	-1087.18	5223.67	
SLOPE B	-.021115	-3.03244	1.39021	
PREDICTED				
1	1367	1050.07	316.935	100448.
2	067	811.942	-344.942	118985.
3	767	955.637	-188.537	35584.0
4	822	983.197	-163.197	26633.4
5	868	883.379	-15.3791	236.518
6	976	890.769	85.2308	7254.39
7	1039	729.010	309.990	96094.1
				385245.

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

YES

PREDICTED Y	LOWER LIMIT	UPPER LIMIT
719.156	160.403	1277.91

TRY ANOTHER, YES OR NO

NO

TRANSITION ANALYSIS: 8-7 YEAR TREND
PARISH OF HANOVER
GRADES 6-7; 7-8

13:31 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS
27

VALUES Y,X FOR OBSERVATIONS

1
21098,1363
2
21298,1367
3
21550,467
4
21336,767
5
21120,822
6
21177,868
7
21101,976

	MEAN	STANDARD DEVIATION
DEP VAR Y	1240	166.600
IND VAR X	947.143	325.311
STD ERROR	150.149	
CORRELATION	-.568440	
DETERMINATION	.323124	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
Y INTERCEPT A	1515.73	1034.24	1997.21	
SLOPE B	-.291113	-.775563	.193337	
1	1098	1118.04	-20.9385	438.423
2	1298	1117.77	180.226	32481.4
3	1550	1379.78	170.224	28976.3
4	1336	1292.44	43.5581	1897.30
5	1120	1276.43	-156.431	24470.6
6	1177	1263.04	-86.0395	7402.80
7	1101	1231.60	-130.599	17056.2

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
7719	1306.42	1123.37	1489.46

TRY ANOTHER, YES OR NO
?NO

13:34 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS
27

VALUES Y,X FOR OBSERVATIONS

1
21158,1164
2
21047,1098
3
21133,1298
4
2984,1550
5
2338,1336
6
2669,1120
7
2670,1177

	MEAN	STANDARD DEVIATION
DEP VAR Y	928	205.960
IND VAR X	1240	159.385
STD ERROR	222.374	
CORRELATION	.168957	
DETERMINATION	2.85464E-02	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
Y INTERCEPT A	655.308	-1186.46	2447.07	
SLOPE B	.219328	-1.24508	1.68274	
1	1158	909.442	248.558	61781.6
2	1047	895.932	151.968	23094.1
3	1133	938.698	194.302	37752.2
4	984	993.717	-9.71675	94.4152
5	835	846.995	-111.995	12542.8
6	669	899.836	-230.836	53285.1
7	670	912.280	-242.260	58699.8

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21306	940.445	708.792	1172.10

TRANSITION ANALYSIS: 8-7 YEAR TREND
PARISH OF HANOVER
GRADES 8-9

13:37 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

76

VALUES Y,X FOR OBSERVATIONS

1

2974,1158

2

2618,1047

3

2733,1133

4

2544,984

5

2540,835

6

2623,669

	MEAN	STANDARD DEVIATION
DEP VAR Y	705.333	170.753
IND VAR X	971	188.073
STD ERROR	140.689	
CORRELATION	.675951	
DETERMINATION	.456910	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	109.429	-806.308	1025.17	
SLOPE B	.613701	-.314980	1.54238	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	974	829.095	153.905	23696.6
2	818	751.975	66.0254	4359.35
3	733	804.753	-71.7530	5148.49
4	544	713.311	-169.311	28666.4
5	540	621.870	-81.8699	6702.59
6	623	519.996	103.004	10609.9
				79173.4

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=

2940

686.309 524.288 848.329

TRY ANOTHER, YES OR NO

?

APPENDIX F7
TRANSITION ANALYSIS
SIX - FIVE YEAR TREND
PARISH OF HANOVER

TRANSITION ANALYSIS: 6-5 YEAR TREND
PARISH OF HANOVER
BIRTH-GRADE 1; GRADES 1-2

12:30 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

26

VALUES Y,X FOR OBSERVATIONS

1

21980,2362

2

22056,2339

3

22349,2320

4

22436,2222

5

22333,2073

6

22242,2128

	MEAN	STANDARD DEVIATION
DEP VAR Y	2232.67	178.932
IND VAR X	2240.67	119.866
STD ERROR	165.215	
CORRELATION	-.563876	
DETERMINATION	.317956	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	4118.71	280.032	7957.40	
SLOPE B	-.841735	-2.55288	.869413	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1980	2130.54	-150.536	22661.1
2	2056	2149.90	-93.8961	8816.47
3	2349	2165.89	183.111	33529.6
4	2436	2248.38	187.621	35201.6
5	2333	2373.80	-40.7975	1664.44
6	2242	2327.50	-85.5021	7310.61

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
22299	2266.90	2067.15	2466.65

TRY ANOTHER, YES OR NO
2NO

12:34 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

25

VALUES Y,X FOR OBSERVATIONS

1

21865,1980

2

21904,2056

3

22116,2349

4

22319,2436

5

22257,2333

	MEAN	STANDARD DEVIATION
DEP VAR Y	2092.20	203.840
IND VAR X	2230.80	199.987
STD ERROR	68.1613	
CORRELATION	.957152	
DETERMINATION	.916139	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-84.1529	-1297.71	1129.40	
SLOPE B	.975593	.433334	1.51725	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1865	1847.52	17.4787	305.506
2	1904	1921.67	-17.6663	312.100
3	2116	2207.52	-91.5151	8375.01
4	2319	2292.39	26.6083	709.002
5	2257	2191.91	65.0944	4237.28
				13937.9

MAKE 95 PERCENT CONFIDENCE INTERVAL

109184. PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
22267	2127.52	2028.55	2226.48

TRY ANOTHER, YES OR NO

2NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
PARISH OF HANOVER
GRADES 2-3; 3-4

12:37 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
21914,1896

2
21933,1865

3
21882,1804

4
22157,2116

5
22296,2319

	MEAN	STANDARD DEVIATION
DEP VAR Y	2036.40	181.280
IND VAR X	1998	214.962
STD ERROR	22.4074	
CORRELATION	.994254	
DETERMINATION	.988541	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	361.145	28.2574	694.033	.832466	1914	1942.49	-28.4918	811.784	
2					1933	1924.88	8.11596	65.8688	
3					1882	1873.74	8.26288	68.2669	
4					2157	2135.34	21.6610	469.200	
5					2296	2305.55	-9.54754	91.1556	

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=
22128

2145.40 2106.91 2183.89
TRY ANOTHER, YES OR NO
?NO

12:44 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

75
VALUES Y,X FOR OBSERVATIONS

1
21652,1886

2
21595,1914

3
21795,1933

4
21717,1882

5
21881,2157

	MEAN	STANDARD DEVIATION
DEP VAR Y	1728.20	113.284
IND VAR X	1954.40	115.171
STD ERROR	81.3643	
CORRELATION	.783009	
DETERMINATION	.613104	

	Y INTERCEPT A	95 PERCENT CONFIDENCE LIMITS		SLOPE B	I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
		LOWER	UPPER						
1	222.960	-1976.81	2422.73	.770180	1653	1675.52	-22.5197	507.136	
2					1595	1697.08	-102.085	10421.3	
3					1795	1711.72	83.2819	6935.87	
4					1717	1672.44	44.5610	1985.69	
5					1881	1884.24	-3.23849	10.4878	
								19860.5	

1506.28
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

PREDICTED Y LOWER LIMIT UPPER LIMIT

WHENX=
22145

1875.00 1631.48 2118.52
TRY ANOTHER, YES OR NO
?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
PARISH OF HANOVER
GRADES 4-5; 5-6

```

12:46 PER 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?5
VALUES Y,X FOR OBSERVATIONS
1
?1530,1624
2
?1355,1653
3
?1319,1595
4
?1443,1795
5
?1434,1717
MEAN STANDARD DEVIATION
DEP VAR Y 1416.20 82.4300
IND VAR X 1676.80 80.0512
STD ERROR 91.4876
CORRELATION .275899
DETERMINATION 7.61200E-02

95 PERCENT CONFIDENCE LIMITS
LOVER UPPER
Y INTERCEPT A 939.826 -2111.87 3991.52
SLOPE B .284097 -1.53420 2.10239
I OBSERVED PREDICTED RESIDUAL SQUARED
1 1530 1401.20 128.800 16589.5
2 1355 1409.44 -54.4385 2963.55
3 1319 1392.96 -73.0609 5470.21
4 1443 1449.78 -6.78026 45.9719
5 1434 1427.62 6.37930 40.6055

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENZ=
?1875 1472.51 1089.33 1855.69
TRY ANOTHER, YES OR NO
?NO
  
```

```

12:49 PER 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
?5
VALUES Y,X FOR OBSERVATIONS
1
?1367,1240
2
?1467,1530
3
?767,1355
4
?222,1319
5
?366,1443
MEAN STANDARD DEVIATION
DEP VAR Y 858.200 324.669
IND VAR X 1377.40 112.229
STD ERROR 193.617
CORRELATION -.856313
DETERMINATION .733271

95 PERCENT CONFIDENCE LIMITS
LOVER UPPER
Y INTERCEPT A 4270.35 479.640 8061.06
SLOPE B -2.47724 -5.22204 .267957
I OBSERVED PREDICTED RESIDUAL SQUARED
1 1367 1198.57 168.427 28357.7
2 1467 480.173 -13.1729 173.526
3 767 913.690 -146.690 21518.0
4 822 1002.87 -180.871 32714.3
5 868 695.693 172.307 29629.7
-----
112463.

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
PREDICTED Y LOWER LIMIT UPPER LIMIT
WHENZ=
?1473 621.376 240.891 1001.86
TRY ANOTHER, YES OR NO
?NO
  
```

TRANSITION ANALYSIS: 6-5 YEAR TREND
PARISH OF HANOVER
GRADES 6-7; 7-8

12:52 FEB 24 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS
NUMBER OF OBSERVATIONS

25
VALUES Y,X FOR OBSERVATIONS

1
21098,1363
2
21298,1367
3
21550,467
4
21336,767
5
21120,322

	MEAN	STANDARD DEVIATION
DEP VAR Y	1280.40	183.768
IND VAR X	957.200	396.031
STD ERROR	162.105	
CORRELATION	-.645294	
DETERMINATION	.416404	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
		902.341	2231.69	
		-.950668	.351802	
1	1098	1156.89	-60.8902	3707.61
2	1298	1157.69	140.308	19686.2
3	1550	1427.18	122.818	15084.3
4	1336	1337.35	-1.35212	1.82022
5	1120	1320.88	-200.883	40354.1

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?621

	1381.07	1063.03	1699.11

TRY ANOTHER, YES OR NO

?NO

12:54 FEB 24 REG2...

SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS
NUMBER OF OBSERVATIONS

25

VALUES Y,X FOR OBSERVATIONS

1
21158,1164
2
21047,1098
3
21133,1298
4
2264,1550

5
2835,1336

	MEAN	STANDARD DEVIATION
DEP VAR Y	1031.40	129.820
IND VAR X	1289.20	175.012
STD ERROR	135.010	
CORRELATION	-.434553	
DETERMINATION	.188837	

I	OBSERVED	95 PERCENT CONFIDENCE LIMITS		SQUARED
		LOWER	UPPER	
		1446.96	3040.69	
		-.322343	-.005007	
1	1158	1071.76	86.2427	7437.85
2	1047	1093.03	-46.0319	2116.94
3	1133	1028.56	104.437	10907.0
4	984	947.333	36.6670	1344.47
5	835	1016.31	-181.314	32874.9

78834.0

MAKE 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

?1381

	1001.81	779.084	1224.53

TRY ANOTHER, YES OR NO

?NO

TRANSITION ANALYSIS: 6-5 YEAR TREND
PARISH OF HANOVER
GRADES 8-9

```

>RUN
13:00  FEB 24  REC2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
24
VALUES Y,X FOR OBSERVATIONS
-----
1
2974,1158
2
2818,1047
3
2733,1133
4
2544,984
-----
DEP VAR Y      MEAN      STANDARD DEVIATION
1767.250      179.197
IND VAR X      1080.50    79.9937
STD ERROR      133.929
CORRELATION     .792218
DETERMINATION   .627610
-----
95 PERCENT CONFIDENCE LIMITS
      LOWER      UPPER
Y INTERCEPT A  -1150.29  -5653.75   3353.17
SLOPE B          1.77468   -2.38472   5.93407
I
OBSERVED  PREDICTED  RESIDUAL  SQUARED
1         974        904.788    69.2124    4790.36
2         818        707.798    110.202    12144.4
3         733        860.421    -127.421   16236.0
4         544        595.994    -51.9935   2703.33
-----
                                           35874.1
MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES
      PREDICTED Y  LOWER LIMIT  UPPER LIMIT
WHENX=
21002
      627.938      192.461      1063.41
TRY ANOTHER, YES OR NO
?NO

```

APPENDIX F8

PROJECTIONS TO 1981 FOR THIRTEEN DISTRICTS

BASED ON SEPTEMBER ENROLLMENTS

AND EIGHT YEAR TREND

S U M M A R Y

SEPTEMBER ENROLLMENTS - PARISH OF HANOVER
1966/67 - 1973/74 and Projections

DISTRICTS	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	1976	1978	1980	1981
1. LUCEA	1749	1767	1843	1725	1606	1960	2723	2782	2967	3258	3550	3696
2. GREEN ISLAND	1890	2014	2176	2068	1959	2098	2141	2001	2126	2152	2177	2190
3. KENDAL-UPPER ROCK SPG.	774	821	757	725	692	765	763	756	722	713	704	699
4. RIVERSIDE-DIAS	1798	1878	1926	1792	1655	1662	1766	1751	1638	1595	1551	1530
5. ASKENISH-CHAMBERS PEN	899	931	1005	963	921	1011	1169	1290	1326	1419	1512	1558
6. JERICHO	640	623	705	704	703	713	693	711	754	775	795	806
7. CASCADE	1059	1103	1192	1192	1192	1157	1129	1203	1233	1258	1283	1294
8. SANDY BAY	502	562	607	634	661	787	752	786	933	1016	1099	1141
9. HOPEWELL	1431	1542	1652	1723	1794	1845	1893	2031	2250	2407	2565	2643
10. GURNEY'S MT.	963	958	995	1019	1042	1055	1067	1113	1166	1208	1251	1273
11. MT. PETO	759	778	758	777	795	788	795	792	813	823	833	838
12. FLOWER HILL					287	323		291				
13. CHESTER CASTLE	441	491	553	606	651	677	704	791	919	1012	1106	1153
14. FRIENDSHIP-COPSE	158	155	155	203	250	341	406	432	555	645	735	780
GRAND TOTAL	13063	13623	14324	14098	14208	15182	16342	16730	17402	18281	19161	19601

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #1, LUCEA

15:47 MAR 01 RFG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

78

VALUES Y,X FOR OBSERVATIONS

1

21749,1966

2

21767,1967

3

21843,1968

4

21725,1969

5

21695,1970

6

21960,1971

7

22723,1972

8

22782,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	2019.38	463.761
IND VAR X	1969.50	2.44949
STD ERROR	319.750	
CORRELATION	.769788	
DETERMINATION	.592574	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-285035.	-522816.	-47254.6	
SLOPE B	145.750	25.0185	266.431	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1749	1509.25	239.750	57430.1
2	1767	1655	112	12544
3	1843	1800.75	42.2500	1785.06
4	1725	1745.50	-221.500	49052.3
5	1506	2092.25	-486.250	236439.
6	1960	2238	-278	77284
7	2723	2383.75	339.250	115091.
8	2782	2529.50	252.500	63756.3
				613441.

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WHENX=

21976

	2966.75	2134.67	3799.83

TRY ANOTHER, YES OR NO

YES

WHENX=

21978

	3258.25	2195.40	4321.10

TRY ANOTHER, YES OR NO

YES

WHENX=

21980

	3549.75	2252.24	4847.26

TRY ANOTHER, YES OR NO

YES

WHENX=

21981

	3693.50	2279.80	5111.20

TRY ANOTHER, YES OR NO

NO

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #2, GREEN ISLAND

.....
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.

NUMBER OF OBSERVATIONS

78

VALUES Y,X FOR OBSERVATIONS

1
21320,1966

2
22014,1967

3
22176,1968

4
22068,1969

5
21859,1970

6
22098,1971

7
22141,1972

8
22001,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	2043.33	95.5272
IND VAR X	1069.50	2.44949
STD ERROR	97.5471	
CORRELATION	.325931	
DETERMINATION	.106264	

95 PERCENT CONFIDENCE LIMITS

		LOWER	UPPER	
Y INTERCEPT A	-23020.3	-35835.6	49583.2	
SLOPE B	12.7262	-24.1434	49.5958	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1390	1938.83	-108.833	11844.7
2	2014	2011.56	2.44048	5.95572
3	2176	2024.29	151.714	23017.2
4	2068	2037.01	30.2281	960.262
5	1959	2043.74	-90.7331	8233.49
6	2098	2062.46	35.5357	1262.79
7	2141	2075.13	65.8995	4330.29
8	2091	2087.92	-86.9167	7554.51
				57209.7

WANT 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT

WEEK=

21076

	2125.10	1871.99	2380.20

TRY ANOTHER, YES OR NO

YES

WEEK=

21073

	2151.55	1826.97	2476.13

TRY ANOTHER, YES OR NO

YES

WEEK=

21030

	2177	1780.76	2573.24

TRY ANOTHER, YES OR NO

YES

WEEK=

21931

	2187.73	1757.39	2622.06

TRY ANOTHER, YES OR NO

YES

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #3, KENDAL-UPPER ROCK SPRING

12:00 MAR 01 1980
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS
NUMBER OF OBSERVATIONS

28

VALUES X,Y FOR OBSERVATIONS

1
2774,1966
2
2821,1967
3
2757,1968
4
2723,1969
5
2692,1970
6
2785,1971
7
2763,1972
8
2756,1973

	MEAN	STANDARD DEVIATION
MEAN X	756.625	27.2801
MEAN Y	1212.50	2.84242
STD ERROR	37.0228	
CORRELATION	-.322267	
DETERMINATION	.110858	

		95 PERCENT CONFIDENCE LIMIT	
		LOWER	UPPER
X INTERCEPT A	10701.4	-17422.5	38871.3
SLOPE B	-5.46350	-12.4032	2.36418
Y	686880	686880	686880
1	774	774.725	-1.32227
2	821	769.274	51.7562
3	757	784.214	-7.21432
4	725	759.155	-34.1546
5	692	754.095	-62.0952
6	785	749.036	15.7682
7	763	743.976	12.0228
8	756	738.917	17.0228
			9652.73

HAVE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

YES	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
YES=			
21976	723.738	624.881	822.595
YES ANOTHER, YES OR NO			
YES=			
21978	713.612	587.246	839.982
YES ANOTHER, YES OR NO			
YES=			
21980	703.480	549.347	857.652
YES ANOTHER, YES OR NO			
YES=			
21981	693.440	530.246	856.635
YES ANOTHER, YES OR NO			
YES=			

TIME ANALYSIS: PROJECTIONS TO 1981 DISTRICT #4, RIVERSIDE-DIAS

16:02 MAR 01 2002...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

78
VALUES Y,X FOR OBSERVATIONS

1
21799,1966

2
21378,1967

3
21926,1969

4
21732,1969

5
21655,1970

6
21652,1971

7
21766,1972

8
21751,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1778.59	24.0790
IND VAR X	1969.50	2.44949
STD ERROR	83.9470	
CORRELATION	-.563505	
DETERMINATION	.317535	

95 PERCENT CONFIDENCE LIMITS

	INTERCEPT A	SLOPE B	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	44494.1	-21.6429	1792	1854.25	-56.2500	3164.06
2			1978	1832.61	45.3929	2060.51
3			1926	1819.35	115.035	13233.2
4			1792	1733.32	2.67857	7.17474
5			1655	1757.68	-112.679	12696.5
6			1652	1746.04	-84.0357	7062.00
7			1766	1724.39	41.6071	1731.15
8			1751	1702.75	48.2500	2328.06
						42282.6

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21375	1637.82	1419.37	1856.29
TRY ANOTHER, YES OR NO			
21926	1574.54	1315.50	1973.59
TRY ANOTHER, YES OR NO			
21930	1551.25	1210.60	1691.90
TRY ANOTHER, YES OR NO			
21931	1523.61	1157.93	1901.28
TRY ANOTHER, YES OR NO			
21931			

TIME ANALYSIS: PROJECTIONS TO 1981 DISTRICT #5, ASKENISH

>RUN

10:06 MAP 01 3002...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1
2099,19662
2931,19673
21005,19684
2963,19695
2921,19706
21011,19717
21169,19728
21290,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1023.63	136.755
IND VAR X	1969.50	2.44949
STD ERROR	81.8930	
CORRELATION	.832245	
DETERMINATION	.692631	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-90487.3	-131387.	-29568.4	
SLOPE B	48.4643	15.5431	77.3355	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	899	881	33	1444
2	331	907.464	23.5357	553.930
3	1095	953.929	51.0714	2608.29
4	963	1000.39	-37.3922	1398.23
5	321	1046.86	-125.357	15840.0
6	1011	1093.32	-92.3214	5775.82
7	1169	1139.79	29.2143	353.474
8	1290	1136.25	193.750	10764.1
				40238.8

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
ENTERX=			
?1976	1325.64	1112.53	1533.75

TRY ANOTHER, YES OR NO

?YES

ENTERX=

?1973

	1418.57	1146.36	1690.78

TRY ANOTHER, YES OR NO

?YES

ENTERX=

?1980

	1511.50	1179.19	1843.81

TRY ANOTHER, YES OR NO

?YES

ENTERX=

?1981

	1557.96	1195.38	1920.55

TRY ANOTHER, YES OR NO

TIME ANALYSIS: PROJECTIONS TO 1981 DISTRICT #6, JERICHO

16:09 MAR 01 3862...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
73
VALUES Y,X FOR OBSERVATIONS

1
640,1966
2
2623,1967
3
2705,1968
4
2704,1969
5
2703,1970
6
2713,1971
7
2693,1972
8
2711,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	686.500	34.7645
IND VAR X	1969.50	2.44949
STD ERROR	25.6731	
CORRELATION	.729759	
DETERMINATION	.532548	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-19711.9	-39303.5	-520.236	
SLOPE B	10.3571	.663493	20.0503	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	640	650.250	-10.2500	105.063
2	623	660.607	-37.6071	1414.30
3	705	670.964	34.0357	1158.43
4	704	681.321	22.6786	514.312
5	703	691.679	11.3214	128.175
6	713	702.036	10.9643	120.215
7	693	712.393	-19.3929	376.533
8	711	722.750	-11.7500	138.063
				3954.64

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX= 21976	753.821	687.013	820.630
TRY ANOTHER, YES OR NO			
YES			
WHENX= 21978	774.536	689.199	859.873
TRY ANOTHER, YES OR NO			
YES			
WHENX= 21980	795.250	691.071	899.429
TRY ANOTHER, YES OR NO			
YES			
WHENX= 21981	805.607	691.933	919.275
TRY ANOTHER, YES OR NO			
YES			

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #7, CASCADE

10:13 MAR 01 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
73
VALUES Y,X FOR OBSERVATIONS

1
21053,1966
2
21103,1967
3
21192,1968
4
21192,1968
5
21192,1970
6
21157,1971
7
21129,1972
8
21203,1973

	MEAN	STANDARD DEVIATION
POP VAR Y	1153.33	52.0849
IND VAR X	1969.50	2.44943
STD ERROR	45.2951	
CORRELATION	.578342	
DETERMINATION	.334479	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-23066.8	-57195.4	11062.9	
SLOPE B	12.2976	-5.03146	29.6267	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	1059	1110.33	-51.3333	2635.11
2	1103	1122.63	-19.6310	385.374
3	1192	1134.93	57.0714	3257.15
4	1192	1147.23	44.7739	2004.63
5	1192	1150.52	32.4752	1054.70
6	1157	1171.82	-14.8214	219.675
7	1129	1184.12	-55.1130	3038.11
8	1203	1196.42	6.58333	43.3493
				12638.2

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21976	1233.31	1113.38	1352.74
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21978	1257.90	1105.35	1410.46
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21980	1282.59	1096.26	1468.74
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21981	1294.80	1091.60	1498.00
TRY ANOTHER, YES OR NO			

TIME ANALYSIS: PROJECTIONS TO 1981 DISTRICT #8, SANDY BAY

16:17 MAR 01 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28
VALUES Y,X FOR OBSERVATIONS

1
2502,1966

2
2562,1967

3
2607,1968

4
2634,1969

5
2661,1970

6
2737,1971

7
2752,1972

8
2786,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	661.375	105.203
IND VAR X	1259.50	2.44949
STD ERROR	20.9520	
CORRELATION	.965110	
DETERMINATION	.931437	

	Y INTERCEPT A	SLOPE B	OBSERVED	PREDICTED	95 PERCENT CONFIDENCE LIMITS		SQUARES
					LOWER	UPPER	
1	-81518.4	41.7212	502	515.333	-102722.	-50244.7	177.778
2			562	557.060	30.4159	53.0355	24.4363
3			607	593.786			67.4745
4			634	640.512			42.4049
5			661	682.233			451.357
6			737	723.964			3973.50
7			752	765.630			167.429
8			786	807.417			459.374
							5382.73

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21975	932.595	854.651	1010.54
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21973	1015.05	915.487	1115.61
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21980	1099.50	977.958	1221.04
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21981	1141.23	1008.61	1273.84
TRY ANOTHER, YES OR NO			

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #9, HOPEWELL

16:21 MAY 01 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
28
VALUES Y,X FOR OBSERVATIONS

1
21431,1966
2
21542,1967
3
21652,1968
4
21723,1969
5
21794,1970
6
21845,1971
7
21893,1972
8
22031,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1738.88	194.473
IND VAR X	1969.50	2.44940
STD ERROR	29.0406	
CORRELATION	.990397	
DETERMINATION	.980886	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-153125.	-174721.	-131529.	
SLOPE B	76.6310	67.6553	86.5961	
F	OBSERVED	PREDICTED	RESIDUALS	SQUARED
1	1431	1483.67	-32.6667	1067.11
2	1542	1542.30	-1.297619	6.85771E-02
3	1552	1620.92	31.0714	965.434
4	1723	1699.55	23.4405	549.456
5	1794	1778.19	15.3095	240.941
6	1845	1856.82	-11.9214	132.746
7	1993	1935.45	-42.4524	1802.20
8	2031	2014.08	16.9167	286.174
				5050.15

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
?YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?1976	2249.98	2174.40	2325.55
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1978	2407.24	2310.71	2503.77
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1980	2569.50	2446.66	2682.34
TRY ANOTHER, YES OR NO			
?YES			
WHENX=			
?1981	2643.13	2514.55	2771.71
TRY ANOTHER, YES OR NO			
?NO			

TIME ANALYSIS: PROJECTIONS TO 1981 DISTRICT #10, GUERNEY'S MOUNT

16:25 MAR 01 RRG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1
2963,1966

2
2956,1967

3
2935,1968

4
21019,1969

5
21042,1970

6
21055,1971

7
21067,1972

8
21113,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	1026.50	53.3827
IND VAR X	1969.50	2.44949
STD ERROR	10.8407	
CORRELATION	.982167	
DETERMINATION	.964652	

95 PERCENT CONFIDENCE LIMITS

	Y INTERCEPT A	LOWER	UPPER	
SLASH B	-41130.2	-49191.8	-33058.6	
I	21.4083	17.3115	25.4990	
	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	963	951.583	11.4167	130.340
2	958	972.988	-14.2281	224.643
3	995	954.393	40.1143	1608.622
4	1013	1015.80	3.20238	10.2552
5	1042	1037.20	4.73782	23.0171
6	1055	1058.51	-3.69714	13.6115
7	1067	1089.01	-13.0119	169.310
8	1113	1101.42	11.5833	134.174
				705.119

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO

PIDS	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21970	1165.63	1137.42	1193.34
TRY ANOTHER, YES OR NO			
2YES			
WHENX=			
21973	1208.44	1172.41	1244.47
TRY ANOTHER, YES OR NO			
2YES			
WHENX=			
21980	1251.25	1207.26	1295.24
TRY ANOTHER, YES OR NO			
2YES			
WHENX=			
21991	1272.65	1224.56	1320.65
TRY ANOTHER, YES OR NO			
2NO			

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #11, MT. PETO

19:28 MAR 01 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS

28

VALUES Y,X FOR OBSERVATIONS

1

2759,1966

2

2778,1967

3

2758,1968

4

2777,1969

5

2795,1970

6

2783,1971

7

2795,1972

8

2782,1973

MEAN

STANDARD DEVIATION

DTP VAR Y 780.250

15.0973

IND VAR X 1369.50

2.44943

STD ERROR 9.15775

CORRELATION .815950

DETERMINATION .670596

95 PERCENT CONFIDENCE LIMITS

LOWER

UPPER

Y INTERCEPT A -9181.04

-18113.9

-2202.19

SLOPE B 5.04762

1.51432

8.58092

I OBSERVED

PREDICTED

RESIDUAL

SQUARED

1

753

762.543

-3.58333

12.8403

2

778

767.631

10.3690

107.517

3

753

772.679

-14.6790

215.460

4

777

777.726

-1.72619

.527353

5

795

782.774

12.2262

149.480

6

783

787.221

1.78571

3.18879E-02

7

795

792.869

2.13075

4.54096

8

792

797.917

-5.91667

35.0069

525.405

WANT 95 PERCENT CONFIDENCE INTERVAL

PREDICTIONS, YES OR NO

?YES

PREDICTED Y

LOWER LIMIT

UPPER LIMIT

WHSNZ=

?1976

813.060

738.708

837.411

TRY ANOTHER, YES OR NO

?YES

WHSNZ=

?1973

823.155

792.050

854.260

TRY ANOTHER, YES OR NO

?YES

WHSNZ=

?1980

833.250

795.277

871.223

TRY ANOTHER, YES OR NO

?YES

WHSNZ=

?1981

838.238

796.856

879.729

TRY ANOTHER, YES OR NO

?NO

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #13, CHESTER CASTLE

>RUN
10:32 MAR 01 1972...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
28
VALUES Y,X FOR OBSERVATIONS

1
2441,1966
2
2491,1967
3
2553,1968
4
2606,1969
5
2651,1970
6
2677,1971
7
2704,1972
8
2791,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	314.250	115.641
IND VAR X	1969.93	2.44949
STD ERROR	15.2377	
CORRELATION	.991514	
DETERMINATION	.983100	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-61577.1	-103552.	-73502.0	
SLOPE B	45.8695	40.8785	52.9405	
1	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	441	450.417	-9.41667	88.6733
2	491	497.226	-8.22513	33.7654
3	553	544.033	9.96429	90.3584
4	606	590.845	15.1549	229.597
5	651	637.655	13.3452	178.095
6	677	684.464	-7.45429	55.7156
7	704	731.274	-27.2733	745.861
8	791	778.023	12.9167	166.840
				1581.98

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
21976	815.512	875.257	960.767
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21372	1012.13	959.157	1066.10
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21980	1109.75	1037.85	1171.64
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
21981	1152.55	1080.67	1224.45
TRY ANOTHER, YES OR NO			
NO			

TIME ANALYSIS: PROJECTIONS TO 1981
DISTRICT #14, FRIENDSHIP-COPSE

FROM
16:36 MAR 01 REG2...
SIMPLE LINEAR REGRESSION WITH RESIDUALS
AND CONFIDENCE LIMITS.
NUMBER OF OBSERVATIONS
78
VALUES Y,X FOR OBSERVATIONS

1
?158,1966
2
?155,1967
3
?155,1968
4
?203,1969
5
?250,1970
6
?341,1971
7
?406,1972
8
?432,1973

	MEAN	STANDARD DEVIATION
DEP VAR Y	262.500	115.396
IND VAR X	1969.50	2.44949
STD ERROR	37.0899	
CORRELATION	.954700	
DETERMINATION	.911451	

		95 PERCENT CONFIDENCE LIMITS		
		LOWER	UPPER	
Y INTERCEPT A	-89318.1	-115900.	-60736.4	
SLOPE B	44.9752	30.9718	58.9806	
I	OBSERVED	PREDICTED	RESIDUAL	SQUARED
1	158	105.083	52.9167	2800.17
2	155	150.060	4.94048	24.4083
3	155	195.036	-40.0357	1602.86
4	203	240.012	-37.0113	1369.88
5	250	284.988	-34.9881	1224.17
6	341	329.964	11.0357	121.797
7	406	374.940	31.0595	964.594
8	432	419.917	12.0833	146.007
				8253.98

MAKE 95 PERCENT CONFIDENCE INTERVAL
PREDICTIONS, YES OR NO
YES

	PREDICTED Y	LOWER LIMIT	UPPER LIMIT
WHENX=			
?1976	554.845	458.326	651.364
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
?1978	644.798	521.511	768.084
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
?1980	734.750	584.243	885.257
TRY ANOTHER, YES OR NO			
YES			
WHENX=			
?1981	779.726	615.510	943.943
TRY ANOTHER, YES OR NO			
NO			

APPENDIX G
CALCULATIONS--
THE COHORT SURVIVAL METHOD

THE COHORT SURVIVAL METHOD
STRATUM #1 HOPEWELL

*ALL AGE

Year	School	Births	GRADES									Totals (1-6)
			1	2	3	4	5	6	7	8	9	
1965-66	BETHEL*	58/59 211	119	118	115	156	99	60	73	49		
	CACCOON CASTLE	59/60 209	51	27	41	46	13	25	46	20		
	WATFORD HILL*	60/61 209	43	60	40	41	18	40	53	29		
		61/62 227	213	205	196	243	130	125	172	98		1382
		62/63 156	1.01									(1112)
1966-67	BETHEL	63/64 252										
	CACCOON CASTLE	64/65 196	163	104	118	81	176	69	52	47		
	WATFORD HILL	65/66 231	54	33	50	42	29	30	32	11		
		66/67 238	70	38	52	45	52	18	34	31		
			287	175	220	168	257	117	118	89		1431
			1.37	.82	1.07	.86	1.06	.9	.94	.52		(1224)
1967-68	BETHEL		163	147	113	126	88	62	69	68	57	
	CACCOON CASTLE		74	41	45	43	21	6	42	17	13	
	WATFORD HILL		70	38	52	45	52	18	34	31	--	
			307	226	210	214	161	86	145	116	70	1535
			1.47	.79	1.2	.97	.96	.33	1.24	.98	.79	(1204)
1968-69	BETHEL		172	158	122	149	102	71	83	76	70	
	CACCOON CASTLE		96	80	60	63	73	46	56	43	32	
	WATFORD HILL		44	63	32	49	36	13	27	38	14	
			312	301	214	261	211	130	166	157	116	1828
			1.37	.98	.94	1.24	.99	.81	1.93	1.08	1.0	(1429)
1969-70	BETHEL		125	172	153	153	130	80	96	67	57	
	CACCOON CASTLE		78	55	49	33	37	11	31	30	21	
	WATFORD HILL		83	56	60	37	24	13	37	37	18	
			286	283	262	223	191	104	164	134	96	1743
			1.83	.90	.87	1.04	.73	.49	1.26	.81	.61	(1349)
1970-71	BETHEL		156	127	158	150	116	76	92	77	59	
	CACCOON CASTLE		78	55	49	33	37	11	31	30	21	
	WATFORD HILL		19	62	46	49	26	16	41	23	17	
			253	244	253	232	179	103	164	130	97	1655
			1.0	.85	.89	.89	.80	.54	1.58	.79	.72	(1264)
1971-72	BETHEL		157	174	146	168	127	107	115	68	57	
	CACCOON CASTLE		78	55	49	33	37	11	31	30	21	
	WATFORD HILL		54	55	50	40	30	15	45	25	14	
			289	284	245	241	194	133	191	123	92	1792
			1.47	1.12	1.0	.95	.84	.74	1.85	.75	.71	(1386)

THE COHORT SURVIVAL METHOD
STRATUM #1 HOPEWELL - cont'd

Year	School	Births	1	2	3	4	GRADES 5	6	7	8	9	Totals (1-6)
1972-73	BETHEL	145	159	174	170	149	87	127	89	59		
	CACoon CASTLE	78	55	49	33	37	11	31	30	21		
	WATFORD HILL	50	63	45	52	25	15	39	19	24		
		273	277	268	255	211	113	197	138	104		1836
		1.18	.96	.94	1.04	.88	.58	1.48	.72	.84		(1397)
1973-74	BETHEL	231	175	175	177	118	81	169	114	82		
	CACoon CASTLE	78	55	49	33	37	11	31	30	21		
	WATFORD HILL	45	38	56	44	34	19	34	23	19		
		354	268	280	254	189	111	234	167	122		1979
												(1456)
Average Ratio to 1970/71		1.34	.87	.99	1.0	.91	.61	1.39	.84	.78		
Projections to 1973/74		287	250	247	247	225	137	190	160	125		1868
Average Ratio to 1972/73		1.34	.92	.99	1.0	.89	.63	1.47	.81	.78		
Projections to 1973/74		287	264	261	261	232	146	215	174	136		1976

THE COHORT SURVIVAL METHOD
STRATUM #II SANDY BAY

*Interpolated by computer

Year	School	Births	GRADES									Totals (1-6)	
			1	2	3	4	5	6	7	8	9		
1965-66	SANDY BAY	58/59	108	84	69	134	57	28	47	62	33	514	
		59/60	106	.77								(419)	
		60/61	113										
		61/62	94										
1966-67	SANDY BAY	62/63	91	64	87	86	79	66	52	31	34	499	
		63/64	89	.60	1.04	1.25	.59	1.16	1.86	.66	.55	(434)	
		64/65	117										
		65/66	122										
1967-68	SANDY BAY	66/67	104	108	71	89	65	86	61*	60	47	556	
			104	.96	1.11	1.02	.76	1.09	.92	1.15	1.52	.88	(419)
1968-69	SANDY BAY			126	99	77	118	51	41	63	52	30	657
				1.34	.92	1.08	1.33	.78	.48	1.03	.86	.64	(512)
1969-70	SANDY BAY			122	105	93	73	72	33	83	36	58	675
				1.34	.83	.94	.95	.61	.65	2.02	.57	.67	(498)
1970-71	SANDY BAY			102	142	111	75	45	36	66	47	27	651
				1.15	1.16	1.06	.81	.62	.50	2.	.57	.75	(511)
1971-72	SANDY BAY			130	97	133	101	73	29	70	31	32	696
				1.11	.95	.94	.91	.97	.64	1.94	.47	.68	(563)
1972-73	SANDY BAY			120	136	96	122	82	30	94	38	34	752
				.98	1.05	.99	.92	.81	.41	3.24	.54	1.10	(586)
1973-74	SANDY BAY			123	123	128	83	95	49	114	40	31	786
													(601)
Average Ratios to 1970/71			1.03	1.01	1.07	.89	.85	.88	1.37	.81	.74		
Projections to 1973/74			108	109	117	104	88	77	105	85	63	856	
Average Ratios to 1972/73			1.03	1.0	1.04	.90	.86	.78	1.72	.73	.79		
Projections to 1973/74			108	103	112	101	87	68	117	85	67	853	

THE COHORT SURVIVAL METHOD
STRATUM #III KENDAL-UPPER ROCK SPRING

*Interpolated by Computer

Year	School	Births	1	2	3	4	GRADES 5	6	7	8	9	Totals (1-6)
1965-66	KENDAL UPPER ROCK SPRING	58/59 93 59/60 92 60/61 85 61/62 90 62/63 73	73 22 95 1.02	50 45 95	67 55 122	30 65 95	45 48 93	47 24 71	47 25 72	57 22 79		722 (571)
1966-67	KENDAL UPPER ROCK SPRING	63/64 69 64/65 55 65/66 66 66/67 53	81 41 122 1.33	47 33 80 .84	40 46 86 .91	64 52 116 .95	38 66 104 1.09	50 31 81 .87	69 23 92 1.3	40 35 75 1.04		756 (589)
1967-68	KENDAL UPPER ROCK SPRING	107 48 155 1.82	68 26 94 .77	45 40 85 1.06	46 50 96 1.12	56 102 158 1.36	— 27 95 .78	40 27 67 .83	51 29 80 .87	61 22 83 1.11		818 (588)
1968-69	KENDAL UPPER ROCK SPRING	115 62 177 1.97	66 38 104 .67	67 44 111 1.18	48 34 82 .95	42 79 121 1.26	40 15 55 .35	66 47 113 1.19	47 36 83 1.24	13 25 38 .48		884 (650)
1969-70	KENDAL UPPER ROCK SPRING	60 42 102 1.40	100 43 143 .81	42 51 93 .89	70 45 115 1.04	54 63 117 1.43	14 12 26 .21	14 27 41 .75	9 19 28 .25	11 12 23 .28		688 (596)
1970-71	KENDAL UPPER ROCK SPRING	80 52 132 1.91	68 41 109 1.07	107 43 150 1.05	49 48 97 1.04	72 60 132 1.15	50 8 58 .50	18 19 37 1.42	7 13 20 .49	2 10 12 .43		747 (678)
1971-72	KENDAL UPPER ROCK SPRING	65 39 104 1.89	73 50 123 .93	104 38 142 1.3	76 43 119 .79	44 65 109 1.12	37 11 48 .36	30 25 55 .95	9 14 23 .62	6 15 21 1.05		744 (645)
1972-73	KENDAL UPPER ROCK SPRING	54 50 104 1.58	63 43 106 1.02	75 48 123 1.0	95 40 135 .95	63 69 132 1.11	24 8 32 .29	24 18 42 .88	16 20 36 .65	2 9 11 .48		721 (632)
1973-74	KENDAL UPPER ROCK SPRING	71 45 116	58 42 100	71 41 112	67 47 114	74 55 129	35 11 46	52 33 85	13 24 37	10 15 25		764 (617)
Average Ratio to 1970/71			1.58	.83	1.02	1.02	1.26	.54	1.10	.79	.58	
Projections to 1973/74			119	98	100	102	129	70	77	61	35	791
Average Ratio to 1972/73			1.62	.87	1.06	.98	1.22	.48	1.05	.74	.64	
Projections to 1973/74			121	105	111	109	133	64	67	50	32	792

THE COHORT SURVIVAL METHOD
STRATUM #IV JERICHO

AA* - All Age

*Interpolated by computer

Year	School		Births	1	2	3	4	GRADES 5	6	7	8	9	Totals (1-6)
1965-66	CLAREMONT JERICHO	AA*	58/59 110 59/60 108 60/61 105 61/62 107 62/63 91	39 69 108 98	29 64 93	26 64 90	16 80 96	29 38 67	21 43 64	25 22 47	34 25 59		624 (518)
1966-67	CLAREMONT JERICHO	AA	63/64 77 64/65 73 65/66 86 66/67 78	30 95 125 1.16	30 64 94 .87	27 47 74 .80	34 52 86 .96	30 52 82 .85	22 68 90 1.34	25 32 57 .89	22 27 49 1.04		657 (551)
1967-68	CLAREMONT JERICHO	AA		24 69 93 .89	23 60 83 .66	24 68 92 .98	28 55 83 1.12	15 18 33 .38	8 44 64* .78	19 44 63 .70	20 40 60 1.05	21 33 54 1.1	539 (463)
1968-69	CLAREMONT JERICHO	AA		55 95 150 1.40	22 74 96 1.03	21 50 71 .86	25 79 104 1.13	20 39 59 .71	6 24 30 .91	22 53 75 1.17	13 34 47 .75	21 28 49 .8	681 (510)
1969-70	CLAREMONT JERICHO	AA		41 69 110 1.21	37 76 113 .75	25 62 87 .91	3 76 79 1.11	33 46 79 .76	9 21 30 .51	14 82 96 3.02	20 37 57 .76	13 29 42 .89	693 (498)
1970-71	CLAREMONT JERICHO	AA		33 69 102 1.32	39 78 117 1.06	42 68 110 .97	23 57 80 .92	33 59 92 1.16	11 7 18 .23	29 51 80 2.67	17 35 52 .54	3 30 33 .58	684 (519)
1971-72	CLAREMONT JERICHO	AA		46 95 141 1.93	37 44 81 .79	37 58 95 .81	23 58 91 .83	23 72 95 1.19	40 26 66 .72	17 58 75 4.17	21 21 42 .53	6 21 27 .52	713 (569)
1972-73	CLAREMONT JERICHO	AA		39 82 121 1.41	41 77 118 .84	31 57 88 1.09	32 52 84 .88	31 50 81 .89	35 44 79 .83	25 26 51 .77	16 23 39 .52	11 21 32 .76	693 (571)
1973-74	CLAREMONT JERICHO	AA		43 81 124	37 70 107	30 74 104	30 44 74	38 42 80	7 47 54	45 41 86	24 17 41	-- 17 17	687 (543)
Average Ratio to 1970/71				1.16	.87	.90	1.05	.77	.75	1.73	.83	.85	
Projections to 1973/74				108	94	85	89	69	52	89	74	63	723
Average Ratios to 1972/73				1.29	.86	.92	.99	.85	.76	1.94	.74	.78	
Projections to 1973/74				120	103	95	94	80	61	118	.87	68	826

THE COHORT SURVIVAL METHOD
MIXED STRATUM - LUCEA

*Interpolated by Computer

Year	School	Births	1	2	3	4	GRADES 5	6	7	8	9	Totals (1-6)
1965-66	LANCE'S BAY PR.	58/59 535	32	12	11	27	13	21	2	13		
	LUCEA INFANT	59/60 529	43									
	LUCEA PR.	60/61 509	128	203	209	110	64	142	93	74		
	ST. SIMON'S PR.	61/62 481	51	44	37	28	42	39	28	26		
		62/63 517	254	259	257	165	119	202	123	113		1492
		63/64 510	.47									(1213)
		64/65 614										
1966-67	LANCE'S BAY PR.	65/66 601	27	19	11	8	20	19	15	9		
	LUCEA INFANT	66/67 527	55									
	LUCEA PR.		92	125	222	149	132	163	62	84		
	ST. SIMON'S PR.		47	56	45	37	40	33	23	22		
			221	200	278	194	192	215	100	115		1515
			.42	.79	1.07	.75	1.16	1.81	.50	.93		(1245)
1967-68	LANCE'S BAY PR.		19	22	21	11	16	19	6	19		
	LUCEA INFANT		82									
	LUCEA PR.		96	145	208	113	107	76	93	66	71	
	ST. SIMON'S PR.		34	29	39	41	40	51	30	27	25	
			231	196	268	165	163	146	129	112	96	1506
			.45	.88	1.34	.59	.84	.76	.6	1.12	.83	(1087)
1968-69	LANCE'S BAY PR.		21	23	22	22	12	--	12	13	17	
	LUCEA INFANT		101									
	LUCEA PR.		65	153	220	136	96	56	144	76	56	
	ST. SIMON'S PR.		56	37	40	36	26	11	39	27	16	
			243	213	288	194	134	64	195	116	89	1536
			.51	.92	1.47	.72	.81	.39	1.34	.90	.79	(1136)
1969-70	LANCE'S BAY PR.		53	9	25	26	24	24	--	--	--	
	LUCEA INFANT		49									
	LUCEA PR.		95	157	175	119	151	67	45	152	58	
	ST. SIMON'S PR.		52	66	42	35	30	24	--	--	--	
			249	232	242	180	205	115	45	152	58	1478
			.48	.95	1.14	.63	1.06	.86	.70	.78	.5	(1174)
1970-71	LANCE'S BAY PR.		36	13	25	18	25	29	--	--	--	
	LUCEA INFANT		26									
	LUCEA PR.		143	136	207	151	105	99	--	--	--	
	ST. SIMON'S PR.		80	55	37	36	32	28	--	--	--	
			285	204	269	203	162	156	130*	106*	82*	1599
			.56	.82	1.16	.85	.9	.76	1.13	2.35	.54	(1255)

THE COHORT SURVIVAL METHOD
MIXED STRATUM - LUCEA - cont'd

*Interpolated by Computer

Year	School	Births	GRADES									Totals (1-6)
			1	2	3	4	5	6	7	8	9	
1971-72	LANCE'S BAY PR.	36	16	13	22	14	35	--	--	--		
	LUCEA INFANT	32										
	LUCEA PR.	90	187	270	186	118	80	--	--	--		
	ST. SIMON'S PR.	60	76	32	33	32	24	--	--	--		
	RUSEA HIGH									83	104	
		218	279	315	241	164	139	136*	83	104		1679
		.36	.98	1.54	.90	.8	.86	.87	.64	.98		(1356)
1972-73	LANCE'S BAY PR.	25	14	25	16	19	42	--	--	--		
	LUCEA INFANT	37										
	LUCEA PR.	78	195	240	194	171	71	--	--	--		
	ST. SIMON'S PR.	58	68	43	36	39	25	--	--	--		
	RUSEA HIGH									(83)	(104)	
	RUSEA JR. SEC.							214	245	248		
		198	277	308	246	229	138	214	245	248		2103
		.33	1.27	1.10	.78	.95	.84	1.54	1.80	2.99		(1396)
1973-74	LANCE'S BAY PR.	40	10	31	24	22	38	--	--	--		
	LUCEA INFANT	36										
	LUCEA PR.	95	188	239	210	160	84	--	--	--		
	ST. SIMON'S PR.	39	56	42	48	27	18	--	--	--		
	RUSEA HIGH									(89)	(65)	
	RUSEA JR. SEC.							262	240	268		
		210	254	312	282	209	140	262	240	268		2177
												(1407)
Average Ratio to 1970/71			.48	.87	1.24	.71	.95	.92	.85	1.22	.67	
Projections to 1973/74			257	224	278	197	187	172	146	178	119	1758
Average Ratio to 1972/73			.45	.94	1.26	.75	.93	.90	.95	1.22	1.11	
Projections to 1973/74			241	227	286	215	200	180	171	209	232	1961

THE COHORT SURVIVAL METHOD
MIXED STRATUM - GREEN ISLAND

AA- ALL AGE

Year	School	Births	GRADES									Totals (1-6)
			1	2	3	4	5	6	7	8	9	
1965-66	PELL RIVER PR.	58/59 443	65	50	39	37	34	52	29	27		
	CAVE VALLEY AA.	59/60 439	83	94	80	54	73	43	59	49		
	CHURCHILL PR.	60/61 430	50	51	37	34	18	17	17	39		
	COVE PR.	61/62 414	46	36	24	13	7	36	9	12		
	GREEN ISLAND PR.	62/63 386	101	89	62	46	48	46	35	34		
		63/64 336	345	320	242	184	180	194	149	161		1775
1966-67	PELL RIVER PR.	66/67 353	52	70	41	36	41	46	35	29		
	CAVE VALLEY AA.		77	91	97	77	88	38	52	73		
	CHURCHILL PR.		69	68	43	26	22	16	11	27		
	COVE PR.		46	31	19	18	11	25	21	14		
	GREEN ISLAND PR.		95	136	91	55	48	47	36	18		
			339	396	291	212	210	172	155	161		1936
1967-68	PELL RIVER PR.		76	55	50	31	16	--	59	34	23	
	CAVE VALLEY AA.		102	83	92	97	60	32	62	36	67	
	CHURCHILL PR.		68	49	58	16	5	20	28	11	8	
	COVE PR.		48	35	27	20	15	--	28	22	24	
	GREEN ISLAND PR.		122	75	110	91	54	13	39	46	22	
			416	297	337	255	150	65	216	149	144	2029
1968-69	PELL RIVER PR.		58	71	54	24	21	27	33	29	25	
	CAVE VALLEY AA.		87	105	83	86	72	40	68	47	29	
	CHURCHILL PR.		95	48	39	24	23	7	37	11	12	
	COVE PR.		48	27	27	20	15	6	24	31	25	
	GREEN ISLAND PR.		138	103	76	130	74	31	51	31	30	
			426	354	279	284	205	111	213	149	121	2133
1969-70	PELL RIVER PR.		65	58	64	41	20	10	18	4	3	
	CAVE VALLEY AA.		140	65	104	83	51	26	84	37	13	
	CHURCHILL PR.		89	66	38	27	19	32	--	--	--	
	COVE PR.		53	43	49	18	8	5	--	--	--	
	GREEN ISLAND PR.		121	148	103	65	107	21	220	235	211	
			463	380	358	234	205	104	322	276	227	2574
			1.21	.89	1.01	.84	.72	.51	2.9	1.30	1.52	(1749)

THE COHORT SURVIVAL METHOD
MIXED STRATUM - GREEN ISLAND - cont'd

Year	School	Births	1	2	3	4	GRADES 5	6	7	8	9	Totals (1-9)
1970-71	PELL RIVER PR.		9	54	51	63	42	13	12	--	--	
	CAVE VALLEY AA		110	134	89	96	71	28	63	55	21	
	CHURCHILL PR.		92	67	47	41	29	37	--	--	--	
	COVE PR.		29	52	50	32	12	6	--	--	--	
	GREEN ISLAND PR.		115	124	143	80	44	30	243	257	270	
			355	431	380	312	198	114	318	312	291	2711
			1.06	.92	1.0	.87	.85	.56	3.06	.97	1.05	(1790)
1971-72	PELL RIVER PR.		61	43	55	47	57	33	--	--	--	
	CAVE VALLEY AA		79	118	135	94	125	6	66	39	14	
	CHURCHILL PR.		95	67	55	54	37	42	--	--	--	
	COVE PR.		24	29	53	47	18	7	--	--	--	
	GREEN ISLAND PR.		106	112	116	143	79	35	208	240	297	
			365	369	414	385	316	123	274	279	311	2836
			1.05	1.04	.96	1.01	1.01	.62	2.4	.87	.99	(1972)
1972-73	PELL RIVER PR.		77	52	50	60	49	69	--	--	--	
	CAVE VALLEY AA		114	73	103	115	62	38	55	42	23	
	CHURCHILL PR.		95	67	55	54	62	42	--	--	--	
	COVE PR.		34	28	27	53	31	8	--	--	--	
	GREEN ISLAND PR.		119	106	100	112	175	34	208	240	297	
			439	326	335	394	304	191	263	282	320	2854
			1.3	.89	.91	.93	.78	.62	2.14	1.03	1.15	(1989)
1973-74	PELL RIVER PR.		70	56	49	51	64	55	14	--	--	
	CAVE VALLEY AA		99	100	92	95	91	41	53	46	28	
	CHURCHILL PR.		87	115	54	71	47	35	--	--	--	
	COVE PR.		26	35	28	30	55	10	--	--	--	
	GREEN ISLAND PR.		103	119	105	86	106	69	263	193	225	
			385	425	328	333	363	210	330	239	253	2866
												(2044)
Average Ratio to 1970/71			.97	.94	.94	.87	.84	.61	2.26	1.00	1.07	
Projections to 1973/74			375	353	332	289	243	148	335	335	358	2768
Average Ratio to 1972/73			1.02	.95	.94	.90	.86	.62	2.26	.99	1.07	
Projections to 1973/74			395	375	353	318	273	169	383	379	406	3051

THE COHORT SURVIVAL METHOD
MIXED STRATUM - RIVERSIDE-DIAS

Year	School	Births	1	2	3	4	5	6	7	8	9	Totals (1-6)
1965-66	CACoon ALL AGE	58/59	224	85	73	58	64	54	41	34	49	
	MIDDLESEX CNR. PR.	59/60	222	84	118	118	43	55	72	47	107	
	RIVERSIDE ALL AGE	60/61	256	110	87	113	86	89	74	50	72	
		61/62	226	279	278	269	193	198	187	131	228	1783
		62/63	178	1.25								(1424)
1966-67	CACoon ALL AGE	63/64	242									
	MIDDLESEX CNR. PR.	64/65	263	54	67	70	59	69	50	37	43	
	RIVERSIDE ALL AGE	65/66	254	100	107	97	110	66	22	39	124	
		66/67	245	117	88	103	78	88	84	56	67	
				271	262	270	247	223	156	132	234	1795
				1.22	.94	.97	.85	1.16	.79	.71	1.79	(1429)
1967-68	CACoon ALL AGE			77	58	65	78	63	29	45	35	20
	MIDDLESEX CNR. PR.			118	95	114	81	71	44	42	20	91
	RIVERSIDE ALL AGE			117	123	91	88	102	58	71	37	30
				312	276	270	247	236	131	158	92	141
				1.22	1.02	1.03	.91	.96	.59	1.01	.70	.60
1968-69	CACoon ALL AGE			74	41	45	43	21	6	42	17	13
	MIDDLESEX CNR. PR.			82	99	82	98	56	61	80	44	65
	RIVERSIDE ALL AGE			117	123	91	90	102	61	71	56	15
				273	263	218	231	179	128	193	117	93
				1.21	.84	.79	.86	.72	.54	1.47	.74	1.01
1969-70	CACoon ALL AGE			76	72	79	61	43	44	65	54	37
	MIDDLESEX CNR. PR.			60	105	99	92	61	56	45	86	73
	RIVERSIDE ALL AGE			124	107	110	77	49	43	108	48	14
				260	284	288	230	153	143	218	188	124
				1.46	1.04	1.10	1.06	.66	.80	1.70	.97	1.06
1970-71	CACoon ALL AGE			76	63	31	73	35	36	61	58	31
	MIDDLESEX CNR. PR.			90	77	102	108	79	50	--	--	--
	RIVERSIDE ALL AGE			114	123	105	101	54	45	90	35	20
				280	263	238	282	168	132	151	93	51
				1.16	1.01	.84	.98	.73	.86	1.06	.43	.27
1971-72	CACoon ALL AGE			83	47	54	51	47	55	43	28	43
	MIDDLESEX CNR. PR.			85	111	77	101	83	44	--	--	--
	RIVERSIDE ALL AGE			127	92	109	93	58	47	105	31	15
				295	250	240	245	183	146	148	59	58
				1.12	.89	.91	1.03	.67	.87	1.12	.39	.62

THE COHORT SURVIVAL METHOD
MIXED STRATUM - RIVERSIDE-DIAS - cont'd

Year	School	Births	1	2	3	4	GRADES				8	9	Totals (1-6)
1972-73	CACCOON ALL AGE		89	80	67	58	52	43	62	34	32		
	MIDDLESEX CNR. PR.		70	102	106	76	82	64	--	--	--		
	RIVERSIDE ALL AGE		116	126	101	119	68	50	114	30	26		
			275	308	274	253	202	157	176	64	58		1767
			1.08	1.04	1.10	1.05	.82	.84	1.21	.43	.98		(1469)
1973-74	CACCOON ALL AGE		79	83	78	63	47	32	55	56	36		
	MIDDLESEX CNR. PR.		91	93	103	99	73	68	--	--	--		
	RIVERSIDE ALL AGE		108	106	109	85	63	53	79	17	23		
			278	282	290	247	183	153	134	73	59		1699
													(1433)
Average Ratio to 1970/71			1.25	.97	.95	.93	.85	.72	1.19	.93	.74		
Projections to 1973/74			293	284	270	251	213	153	182	169	125		1940
Average Ratio to 1972/73			1.22	.97	.96	.93	.82	.76	1.18	.78	.76		
Projections to 1973/74			285	275	265	254	208	158	186	145	116		1882

THE COHORT SURVIVAL METHOD
TOTAL ENROLLMENT - HANOVER

Year	Births	GRADES									Grand Total
		1	2	3	4	5	6	7	8	9	
1965-66	58/59 2362 59/60 2339 60/61 2320 61/62 2222	1980 .84	1886	1886	1624	1240	1363	1164	1196		12,339
1966-67	62/63 2073 63/64 2128 64/65 2192 65/66 2076 66/67 2091	2056 .88	1865 .94	1914 1.01	1653 .88	1530 .94	1367 1.1	1098 .81	1158 .99		12,641
1967-68		2349 1.01	1904 .93	1933 1.04	1595 .83	1355 .82	467 .31	1298 .95	1047 .95	974 .84	12,922
1968-69		2436 1.1	2116 .90	1882 .99	1795 .93	1319 .83	767 .57	1550 3.32	1133 .87	818 .78	13,816
1969-70		2333 1.13	2319 .95	2157 1.02	1717 .91	1443 .80	822 .62	1336 1.74	984 .63	733 .65	13,844
1970-71		2242 1.05	2257 .97	2296 .99	1881 .87	1434 .84	868 .60	1120 1.36	835 .63	544 .55	13,477
1971-72		2318 1.06	2193 .98	2272 1.01	2174 .95	1631 .87	976 .68	1177 1.36	669 .60	540 .65	13,950
1972-73		2341 1.12	2214 .96	2160 .98	2130 .94	1797 .83	1039 .64	1101 1.13	670 .57	623 .93	14,075
1973-74		2300	2234	2214	1983	1672	1119	1206	722	601	14,051
Average Ratios to 1970/71- Projections to 1973/74		1.00 2200	.94 2068	1.01 2089	.88 1839	.85 1562	.64 1000	1.64 1640	.81 1328	.71 943	14,668
Average Ratios to 1972/73 Projections to 1973/74		1.02 2244	.95 2132	1.01 2153	.90 1938	.85 1647	.65 1071	1.52 1628	.75 1221	.73 891	14,925

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