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ABSTRACT

In the last decade, Stamford has been transformed from a suburban town to an urban center of national renown. A responsive yet directive public school system is critical in preserving a feeling of community. The Stamford Educational Planning Committee, a team of interdisciplinary professionals and a broad-based community group, examined trends in the environment and their effect upon public education in Stamford, and proposed policy changes. This first volume of their four-volume report considers emerging educational priorities in light of the social and physical environment, and an assessment of issues, concerns, and career trends. It then addresses future directions for the Stamford public schools. Highlights of these include the following: (1) enabling students to pursue higher education and/or meaningful employment upon graduation; (2) providing students with an awareness of work and cultural opportunities in the community and the knowledge and skills to pursue them; and (3) providing an education of a quality adequate to establish and maintain personal dignity. Appendixes contain a list of working papers for the study, lists of persons consulted and interviewed for the study, and an interview guideline. (LHW)

STAMFORD EDUCATIONAL PUBLIC POLICY IMPACT STUDY

VOLUME I

The Future Direction of the Stamford Public Schools:
The Impact of Policy Trends on Public Education

Stamford Public Schools

1983

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PREFACE

Unlike any community of comparable size in New England, Stamford, Connecticut has undergone vast changes in the past two decades. These changes, which have occurred in the urban systems[1] which comprise the context of the planning of its public school system, have begun and will continue to alter the character of the Stamford Public Schools.

A goal of the Stamford Public Schools is to maximize cost-effective, desegregated, quality education in an optimum learning environment while providing for change with a minimum of disruption for students. In order to attain that goal, this study was requested by the Superintendent of Schools, Dr. Jerome B. Jones, and the Stamford Educational Planning Committee to provide complementary information to their own studies. It is an assessment of the changes in the social and physical policy environment affecting Stamford and the implications of these changes upon the future of public education in the city. Initiated in January 1982, it was completed in December of that year.

The four volumes which present the results of this study document the impact of the future direction of policy trends upon the educational programs and services of the Stamford Public Schools. They must be read in context with the subcommittee reports of the Educational Planning Committee. It is our expectation that these studies will enable the informal dialogue necessary for making educated decisions regarding the future of Stamford's public school system to

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[1]The urban systems in the physical policy environment are land use, housing, open space, transportation, and infrastructure. In the social and economic policy environment they are population, social indicators, the economic structure including labor market and the changing structure of jobs, and fiscal analysis.

take place.

Several social and physical policy trends which structure the school system have been highlighted by this comprehensive policy analysis:

- A shift in the fundamental structure of the American economy of which a revitalized Stamford has been a leading indicator
- A transformation from a town which encompasses a series of neighborhoods to an urban community with a wide range of living styles and a potential for a vibrant urban life
- A sudden spurt of urban planning problems, e.g., a shift in land use to corporate office space; a change in residential construction to multi-family dwellings, primarily condominiums; a tight, expensive housing market; a dramatic increase in commuters into the city; a switch in retail trade from local to regional shopping which lead to a new visual profile - exciting, but congested
- A sound municipal fiscal base, but with an erosion of public support for education

In concert with these contextual trends, there have been significant changes in the policies which frame this city. Fundamental shifts in land use and its concurrent shifts in the economic and residential structure are buttresses by municipal planning and zoning policies as well as key decisions by the private sector. Advances in educational technology and basic changes in federal and state roles in education, and a spurt in the growth of private schools, are some of the policies which impact upon the future of public education. These changes in policy have also been documented in the study and have been examined for their impact on public education through a series of scenario analyses. Stamford is changing and this change can be an exciting opportunity for planning and directing the future of the schools.

In response to these changes, the major policy question becomes, "What are the priorities that the Stamford Public Schools should address in revising its educational thrust to meet the demands of the year 2000?" The answer to this issue will enable the Stamford Public Schools to move forward in a policy directed fashion, to prepare its citizens to be functioning adults in the American economy in the year 2000, and to remain an educational leader in the nation.

The Study Team would like to extend its appreciation to Dr. Jerome B. Jones, Superintendent of Schools; Dr. Norman Walsh, Assistant Superintendent for Research and Development; Mr. Alan Grafton, Assistant Superintendent; and their administrative staffs. Most particularly, we want to thank the members of the Stamford Educational Planning Committee for their assistance in a close working relationship. I would also like to gratefully acknowledge the commitment and work of the Study Team, and especially the research staff: Ms. Betsy Fobert, Chief Planner; Ms. Doris Minor; Ms. Lia Vasconcelos; Ms. Joanne Cassulo; Ms. Deborah Kupa; Ms. Linda Louro; Ms. Jeanne Devine; and Ms. Gloria Abrams.

Marcia Marker Feld, Ph.D.

Study Director

INTRODUCTION

The future of the Stamford Public Schools must be both responsive and directive; responsive to the needs and wishes of the community and directive in leading students toward the goals of effective citizens, consumers, and workers. This is a time of transition for the Stamford Public Schools, a time to chart a new course as a response to new challenges.

This report is an outcome of an intensive year long study by a team of interdisciplinary professionals and a broad-based community group, the Stamford Educational Planning Committee. The team's goal was to examine trends and proposed policy changes in the environment and to ascertain their effect upon public education in Stamford. During the course of this study, meetings were held with hundreds of individuals - parents, teachers, students, community leaders, businessmen, and public and private sector managers - and mail surveys with follow-up interviews were conducted. In addition, the professional/community team met monthly to discuss the findings and their implications.

Over the past twenty years many changes have occurred in the social, economic, and physical environment in Stamford. The transformation from a town into an urban community has brought a shift in land use to corporate office space; an increase in the construction of multifamily dwellings, primarily condominiums; a tight, expensive housing market; a dramatic increase in commuters into the city; a switch in retail trade from local to regional shopping; and the erosion of public support for education.

Trends in the national economy have also impacted the city. The new thrust of the American economy is complex and, as yet, not fully understood by economists,

sociologists, and planners. However, some startling indicators have emerged: there is strong unemployment among blue collar workers and less unemployment in finance, technology, management, and information transfer. There are significant changes in family patterns, with a shift from the extended family to the nuclear family, and now to single-parent families.

This comprehensive planning and policy study explores these major changes and their impact on the future of the city's school system. Its results are a sense of direction for the community and the schools, an identification of the specified target populations for future school enrollment, and some indication of policy options for the public schools. The next step, to be undertaken by the Stamford Public Schools, will be the development of curriculum and programs which respond to these trends.

Yet, it is essential that the recommendations developed for 1990 and the year 2000 be monitored, reevaluated, and revised as new information develops and new initiatives are completed.

Policy Framework

Educational goals and policy assumptions provided the policy framework for the study. In its development the professional/community team utilized the values, goals, and aspirations of the school system, its Board, its staff, its students, and the larger community as its criteria. The educational goals and policy assumptions which follow were identified initially in meetings with the Stamford Educational Planning Committee, members of the Stamford Board of Education, Stamford teachers, administrators, parents, and community members. They were then examined and revised after a review of the Stamford School System Planni Reports for the last five years. Finally, they were documented at meetings held in September and October 1982, through the subcommittee reports of the Educational Planning Committee presented in October, and in a presentation to

the Board of Education.

The educational goals are to maximize cost-effective, desegregated, quality education in an optimum learning environment and to prepare students to function successfully as citizens, family members, parents, workers, and consumers. The policy assumptions are:

- reasonable and equitable racial balance
- academic balance and feeder pattern continuity
- student access to appropriate educational programs
- safe, sound, and environmentally fit facilities
- adequate space and resources for advanced curriculum
- provision of orderly and timely reduction of surplus capacity
- maximization of quality educational experience
- provision of services to meet the needs of all students in the school system, reduction of out-of-school placements
- minimization of student disruption by continuity through the grades in the same school
- minimization of social/neighborhood disruption
- preservation of neighborhood orientation
- provision of equitable distribution and cost efficient transportation

The framing of these goals and objectives is based upon the understanding that the school system serves a diverse population. Educational programming should maximize benefits resulting from this population by bringing students together in a learning process which includes a focus on post-secondary employment, technical and trade schools, and college and professional schools.

Not all of these policy assumptions can be met equally. For example, the policy assumption that neighborhood orientation should be preserved may be in-

compatible with criteria of academic balance and feeder pattern continuity. The largest number of minority students do not reside near the newer and structurally flexible facility. These students are located in only a few of the study neighborhoods. Despite this situation, the assumptions can be implemented as part of school policy once discussion of the pros and cons of each, and the trade-offs involved in the implementation of each have taken place.

However, some of the policy assumptions, if agreed upon, will not conflict. For example, the commitment to student access to an appropriate educational program and the need for a safe, sound, and environmentally fit facility can be paired with providing for an orderly and timely reduction of surplus capacity.

While these assumptions are complex, it is time for decisions to be made. Stamford is in a transition phase and needs leadership to determine the direction of its schools and to build upon the system's strong elements - the programs that are working, the appropriate curriculum, the special school programs, and the commitment of its teachers, administrators, students, and parents. This will enable Stamford to meet its goal of maximizing cost-effective, desegregated, quality education in an optimum learning environment while providing for change with a minimum of disruption for students.

The Study Team's planning and policy process designed to accomplish the goals and objectives of this study is based upon the concept of the role of the school in the community; the supportive nature and the influence that each has upon the other. The school is often an anchor for the community, providing a central focus and stability in the environment. It is a symbol of local governance in New England as well as that of neighboring areas, and is, in fact, central to the growth and learning of children and their families. The school has played these roles in the historical development of this country. It is the mechanism by which local and national social policy has been implemented -

- an examination of educational policy trends and their implications for Stamford
- an assessment of the city's Master Plan and its amendments through an examination of its holding capacity study to gauge the impact of its policies upon the school system
- a housing market analysis which studied the re-use potential of the current housing stock to identify areas where upgrading of zoning may increase or decrease the total population
- a determination of the cost of housing for renters and owners
- an examination of the labor markets operating in Stamford for their effect upon the school system in terms of their dependent impact upon the housing market and the municipal finance system as well as their impact upon educational programs, services, and facilities
- an evaluation of the municipal fiscal environment in the city by comparing the relative cost of educating students in Stamford to other municipal services, by measuring the amounts expended on education in Stamford against other cities and towns, and by assessing the quality of educational outcomes (see Figure i-One)
- a forecast of the demand for public educational services needed to prepare Stamford students to function successfully in the work force
- an assessment of the school system's present strengths, weaknesses, and problems

Phases of the Study

As indicated in Table i-One, this comprehensive policy and planning study is comprised of two phases, each with three stages. In Phase One, Impact Analysis, three activities were completed. During Stage One, data was collected on the

whether that policy be for a literate people, for an industrializing new republic, or an integrated society for a stable democracy. Most importantly, the school, its staff, and the parents provide the learning environment for the students.

Concurrent with this concept of the role of the school in the Study Team's approach is the sense that education policy planning, to be useful, must be comprehensive in scope and focus on a multiplicity of issues and information, all within the context of the educational system's response to the needs of the students. The key concept underlying this approach lies in the understanding of the interrelationships of elements within the policy environment which comprise a community: population, land use, economic structure, housing, transportation, fiscal structure, and physical infrastructure. All of which are constrained by governmental structure and by the policies and behavior of the private sector.

The approach in the Public Policy Impact Study has been to utilize a number of different planning techniques including goals analysis, needs assessment, fiscal consequences, and scenario analysis. The key to this process is its iterative nature; that is, once the criteria for the decision are established, the process is repeated and each criterion or decision factor is further refined. At some point in the process, some decision weights were given to the policy assumptions which are stated by the Stamford School Board, the Educational Planning Committee, and the community.

In this study, the trends and proposed policy changes in the environment were examined to ascertain their effect upon public education in Stamford. An assessment of these changes utilizes as its criteria the values, goals, and aspirations of the school system, its Board, staff, and students, along with the larger community.

Included in the activities undertaken to complete this study are:

Figure i-One

Analysis

Identification of Critical Public Policy Impact Elements

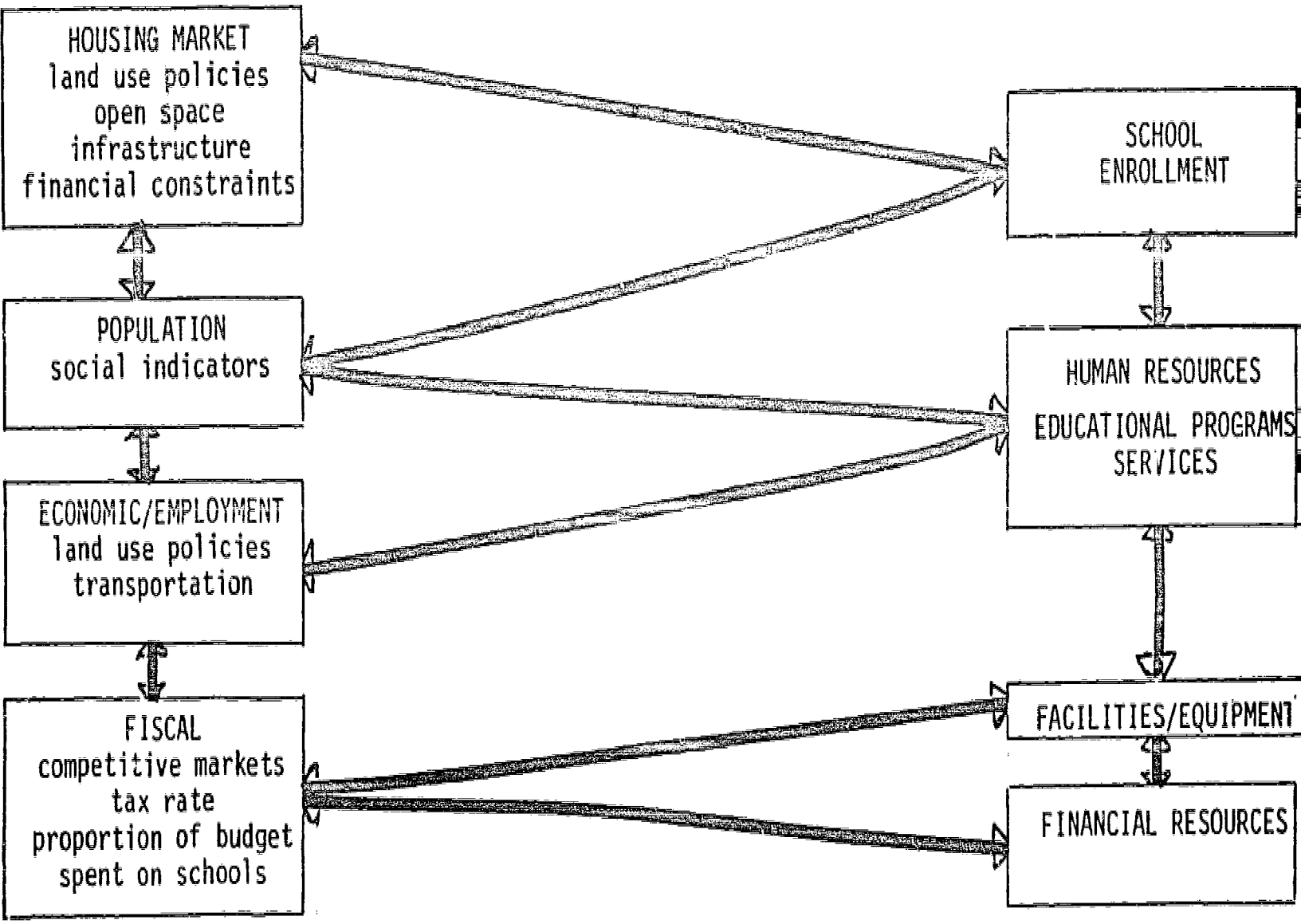


Table i-One

Study Components

PHASE ONE: IMPACT ANALYSIS			PHASE TWO: SCENARIO ANALYSIS		
Stage One	Stage Two	Stage Three	Stage One	Stage Two	Stage Three
Issue Analysis, Data Collection, Analysis and Projection	Policy Assessment	Discrepancy Analysis	Intensive Impact/ Issue Analysis	Scenario Analysis	Final Report
- Population - Social data - Land use - Housing - Open lands - Transportation - Environment - Economic - Labor market - Occupation - Fiscal	- Assess educational policy trends - Public vs. private schools - Role of federal government - Role of state - City of Stamford Master Plan and Amendments - Zoning and subdivision codes - STEP	- Forecast the demand by stratified characteristics for educational services - Coordinate with Educational Committee study of community values, aspirations, and ideals about education	- Assess school system's present strengths, weaknesses, and problems in light of demand projections - Develop a social indicator model to assist in the identification of student needs	- Forecast and analyze the impact of the trends in Phase I on the future of public education - Assess the impact on enrollment, education program and services, fiscal resources, facilities, and relationships with other agencies	- Review all series of status reports - Develop a final report highlighting the information base and the findings - Provide a foundation for public policy decisions - Meet with appropriate decision makers to indicate how this report can be utilized to develop strategies of implementation

urban systems of the social policy environment, i.e., population, social indicators, the economic structure and the fiscal analysis, and the urban systems of the physical policy environment, i.e., land use, housing, open space, transportation, and infrastructure. The information was analyzed and used as the basis for projections in these areas for the years 1990 and 2000.

In Phase One, Stage Two, educational policy changes occurring throughout the country were examined. Among the issues reviewed were public support for education, school finance reform policies, the changing role of the federal government in education, the increasing popularity of private schools, and the emergence of instructional technologies. The impact of these trends on the Stamford Public Schools were assessed.

In Phase One, Stage Three, studies were completed which forecast the demand in magnitude, scope, and character for the public educational services needed to prepare students in Stamford to function successfully as citizens, family members, parents, workers, and consumers; which assess the school system's strengths, weaknesses, and problems that need to be considered in meeting projected demands for services; and which analyze the impact of the changes forecast in the environment upon the future of public education in Stamford prepared in collaboration with the Stamford Public Schools and the Stamford Educational Planning Committee.

Phase Two, Scenario Analysis, consisted of three stages: Issue Analysis, Scenario Analysis, and Final Report. The first stage, Issues Analysis, began with an assessment of a primary source of information: an exchange process with the public relying on an understanding of the goals and objectives, and issues and concerns about the Stamford Public Schools. These exchanges represent one component of the broader consultation process, which is a means of identifying

the views of relevant individuals and groups through a series of interviews and discussions, utilized in this comprehensive planning and policy study.

The consultation model is a planning mechanism for encouraging citizen participation in the process of making decisions on critical issues facing a city or a community. The goals of the process in this study are to identify issues and perspectives on the future of the Stamford Public Schools and to inform individuals about the project and its goals.

During the consultation process a significant amount of information was collected. This data was analyzed in an ongoing manner to allow the Study Team to utilize the information in the development of the scenario analyses. A list of key issues, which are presented in Chapter III in Volume I, were compiled and categorized at the conclusion of this activity.

In reviewing the direction of educational priorities for Stamford, information other than that gathered in the consultation process was examined and utilized. The additional sources tapped were SAT student interest data and several recent reports on career education in Stamford. Their importance lies in the identification of specific career clusters which may be appropriate for the secondary schools in the city and in the assessment of earlier labor market information.

In the second stage of Phase Two, a set of scenario analyses, viewing the future of Stamford in two modes, was developed. The first assumes that all current trends will continue. What will happen if, in fact, no changes in public policy are made, nor significant changes within the private sector occur? The second scenario introduces the probable impacts of the proposed Master Plan and Zoning Ordinance as these might affect Stamford's growth, and thus, its educational system.

Phase Two culminates in the final report, a four volume series of which this is the first. The data and findings revealed in this report provide a foundation upon which the Stamford Public Schools can make informed decisions regarding educational policy.

Final Report

During the conduct of this study twelve working papers were issued. A list of titles and their dates of publication are offered in Appendix A. In preparing the final report these papers were compiled into four volumes. Each must be read in context with the other volumes and the subcommittee reports of the Educational Planning Committee. Together, these works assess the implications of the current trends and policies in the social and physical policy environments for the future of public education in Stamford.

Volume I presents a summative view of the study. It documents the impact of the future direction of the policy trends upon the educational programs and services of the Stamford Public Schools. Volume II reviews the social and physical policy environment within which the public education system operates. It describes existing trends and conditions, and examines areas where their impact is potentially the strongest. Volume III examines the educational policy changes that are occurring throughout the country. It discusses the impact of these trends on the future of public education in Stamford. Volume IV introduces a Facilities Utilization Plan for the Stamford Public Schools.

Volume I

As previously indicated, this volume addresses the key issues which have emerged from this study. That is, in view of the policy context for public education, what are the priorities that the Stamford Public Schools ought to be addressing? How does the public policy analysis highlight the direction of

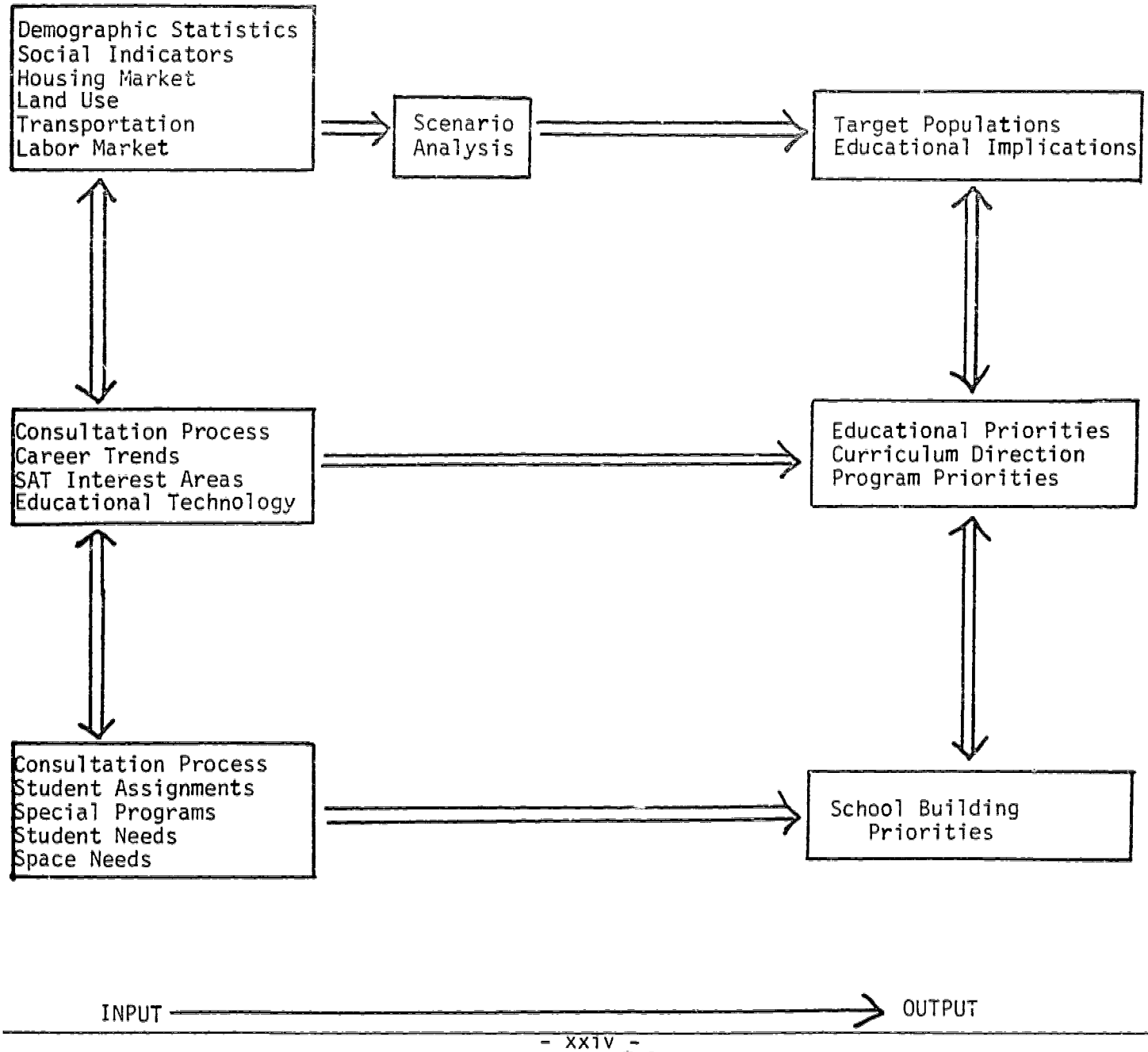
Stamford's curriculum and programs?

Figure i-Three illustrates that the future direction of the Stamford Public Schools described in this report resulted from an analysis of the social, economic, and physical policy environment. The examination of these trends through a series of scenario analyses led to a set of educational implications which are described in Chapter I.

Chapter II examines the career trends identified in several significant career education studies and surveys, assesses the concerns and issues raised by various constituents of the school system, and looks at the impact of the newly emerging education technology on potential directions for curriculum and program priorities.

Chapter III summarizes the future directions for the Stamford Public Schools. It reviews the educational implications and target populations emerging from the policy analysis of the social, economic, and physical environments and specifies four target populations whose needs should be met by the Stamford Public Schools. It assesses educational priorities and curriculum directions which have been identified through the primary information exchanges with persons concerned about public education in Stamford, and examines SAT student interest areas and several career trend reports. The chapter reviews the impact of state of the art educational technology which documents the previously designated educational priorities. It then concludes with highlights of the potential direction for Stamford's curriculum programs, and recommends five curriculum themes for design during the next phase of this comprehensive planning process, curriculum development.

Figure i-Three
Future Directions for the Stamford Public Schools



I. THE SOCIAL AND PHYSICAL POLICY ENVIRONMENT: EMERGING EDUCATIONAL PRIORITIES

This chapter addresses the impact of current trends and policies on the future of public education in Stamford through a review of the social, economic, and physical policy environment within which the public education system operates.[1] Specific policy issues have been identified for their impact upon the school system. Both implications of probable changes in the policy environment, and existing trends and their impact on public education have been examined in a neighborhood structure. The findings emerge as an assessment of the impact that changes in demography, land use, housing and labor markets, and the municipal fiscal environment have upon public education in Stamford.

Social and Economic Changes in Stamford

Chief among the external factors which affect education is that of Stamford's own change in character, from a suburban town to an urban center. The decline in school enrollments, the increases in the elderly population and in the number of single parent families, and the growth in the proportion of minorities to the total population have contributed to the changing climate for schools and have occasioned the need to refocus educational programs.

The complex changes in the population have been closely analyzed in order to assess the specific needs of the public school age population (see Table I-One).

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[1]Documentation of this analysis is found in Volume II, Stamford Educational Public Policy Impact Study (SEPPIS).

Table I-One

Analysis of the Social Indicators by Neighborhood

Area of Concern	Profile Characteristics	Policy Implications
Population	Second largest share of population in Fairfield County; overall population has declined; increase in the share of minorities; school age population has decreased.	Change in demand for services and programs. Change in racial composition; special programs. Change in demand for educational services.
Education	Decline in public school enrollment; % minority enrollemnt increased; nonminority enrollment decreased; increase in number of high school and college graduates.	Change in demand for school facil ties; special programs. (eg. bilingual programs). Quality of home environment.
Housing	Owner occupied units increased; owner occupied higher than renter occupied; substandard units decreased; number of new houses authorized by building permits decreased.	Economic access to education. Quality of home environment.
Economic	Number of families under the poverty level increased; percentage AFDC recipients increased; nonagricultural employment increased; manufacturing employment decreased; non-manufacturing employment increased.	Economic assistance to education. Financial assistance for students.

Source: Stamford Study Team Final Report: Social Policy Environment (June 30, 1982)

Some aspects of the social and economic changes of Stamford point to clear needs and emphasis in educational programming. For example, the large growth of single parent families should encourage the expansion of all day kindergartens, after school activities for the elementary and middle grades, and an emphasis on pre-school activity programs. Similarly, the increase in the elderly population should offer opportunities for higher levels of volunteerism in the classroom to that age group, as well as a potential demand for the use of school buildings for senior citizen activities.

While the overall Stamford population is declining, minorities, particularly the Spanish-speaking and the Asian-Americans, have increased substantially. Additional E.S.L. (English as a Second Language) programs and "transitional" courses, which facilitate acculturation into American society, would seem to be relevant public school course offerings.

Stamford has had an increase in family income and has had the lowest rate of unemployment in the United States during the summer of 1982. Nevertheless, segmented unemployment does exist and will grow as the need for job skills shifts, particularly among those persons whose demographic and economic profiles have not changed in the last decade and among those who did not, or will not, continue on to post-secondary education. With the economy of Stamford moving strongly into the nonmanufacturing sectors where high levels of technical skills will be in demand, a concerted effort aimed at providing Stamford residents, whether in school or graduated, with appropriate training, job counseling, and job placement seems warranted.

The focus of educational programming revisions, however, might well be for those students who are considered "average", and whose educational needs are becoming more apparent.

The School Population

The total public school enrollment between 1977 and 1981 declined by 3,300 students. Although whites and blacks consistently decreased in absolute numbers, the Spanish-speaking and Asian-American students increased, to the point that overall, across the five-year period, a 7 percent increase (from 33 percent to 40 percent) resulted in the proportion of minority students to whites in the total enrollment.

Between 1977 and 1982, the citywide elementary population declined by almost 1,700 students. Here also, the number of blacks and whites declined, but the proportion of minority students to the total rose from 36 percent to 41 percent. Spanish-speaking students, Asian-Americans, and, despite losses in numbers, blacks, increased slightly in proportion to the total population.

During the same five years, the middle school population declined as well, by less than 1,000 students. Since minorities had decreased in absolute numbers at a lesser rate than whites, their proportion to the total population increased, from 35 percent to 41 percent.

The senior high schools experienced the least decline in numbers, less than 800 students. The number of whites declined; all other groups gained slightly, as reflected by the increase of more than 10 percent in the population of minority students (from 25 percent in 1977 to 37 percent in 1982).

The racial and ethnic composition of the school age population (5 to 19 year-olds) by neighborhoods for 1980 parallels the citywide population and its demographic profile.

Five neighborhoods with a combined school age population of 8,102 (or 43 percent of the total city school population) have a combined minority population of under 5 percent: Westover, Springdale, North Stamford, Turn of the River, and Shippan. Three neighborhoods with a combined school age population of

6,241 contain approximately 52 percent of the total minority school age population: Mid-City, Glenbrook, and East Side-Cove. Three other neighborhoods, Waterside, South End, and West Side, with a combined population of 4,406 students (less than 25 percent of the combined total school population) have a minority composition ranging from 60 percent to almost 80 percent.

This spatial distribution of the minority population has a significant policy direction - a continuation of the need to define school-attending neighborhoods broadly so that the fundamental commitment to desegregation can be maintained. Those neighborhoods with the largest minority population also have the fewest local schools; given Stamford's social equity policies, attendance areas and transportation routes must be created which will maintain the current school ratios. Moreover, those areas of population growth are the neighborhoods which house the minorities. After school programs, extracurricular activities, and similar programs must be the key to decisions about the transportation network.

The Stamford Housing Market

More than any other single factor, the housing market and its segmented demand and supply has a critical impact on the size and composition of school enrollments. It is the key constraint. The demand for housing by the new Stamford resident, likely employed in the growing corporate sector, will dominate the new construction and rehabilitated housing market. The trends are toward fewer families and smaller household sizes.

Stamford is both urban and suburban in nature. Mid-City has the lowest percentage of families with a growing elderly and young professional population and a declining school enrollment. Construction information shows a large increase in the number of condominiums and the trend is expected to continue.

This new construction will not allow for a stable or increasing school age population. In many neighborhoods, the pattern to remain in one's home after the children have graduated from school will impact negatively upon the school enrollment. Lastly, those neighborhoods with similar socioeconomic and housing characteristics are losing dwelling units due to renovation and rehabilitation; yet, these areas have a number of housing groups who are attempting to preserve and protect housing and encourage the current residential population to remain in these neighborhoods. Since the potential growth in public school population will come from these neighborhoods, predominantly lower-income and minority, and from newer immigrant groups, maintaining these homes will have a positive impact on the school environment.

If Stamford continues to grow in the manner indicated by the policy analysis, the trend will be toward more condominiums, smaller household size, and additional multifamily units. Unmet demand is perceived to be greatest for the elderly, young couples, and low- to middle-income families. Unless more incentives and innovative programs are established for construction of other housing, Stamford will continue to have a housing shortage for the middle-income and low-income families. Increasingly, there will be competition for the re-use of housing in the West Side and Waterside, with the market forces and current municipal policies supporting renovation and the upgrading of housing stock. There will be a concomitant rise in value - both rent and sales. In ten years, Stamford may be less affordable for middle-income and low-income families. This situation will continue to have an increasingly negative impact on both public school enrollment size and composition and a concomitant impact on its educational program needs.

A significantly smaller student population shifting to high school age

and, possibly a more homogeneous one, will result from this situation. The emphasis will increase on college preparatory courses and equally on high technology to the detriment of other career orientation. With a potentially smaller elementary and middle school enrollment some important early preparatory courses could be lost.

Land Use in Stamford

Stamford's current population of approximately 102,453 live within an area of 39 square miles, resulting in a density of 2,600 persons per square mile, or over four persons per acre. The highest density is found in the downtown, or Mid-City, area; the lowest, north of the Merritt Parkway.

The Connecticut Turnpike and the parallel Merritt Parkway combine as major physical boundaries between the downtown and North Stamford.

Except for industrial use along the West Branch Channel, waterfront land is devoted to residential or recreational use.

The major nonresidential trends in land use are in the categories of retail, commercial, and corporate center/office buildings.

Because of limited suitable land, sprawling, horizontal corporate headquarter buildings are not expected to be built, though the demand and desirability for a Stamford location may induce the purchase of air rights over highways and easements for new construction. The Stamford Town Center, the largest mall in the New York-Southwestern Connecticut metropolitan region, will encompass 130 stores when fully occupied. Office space, which totalled 7.5 million square feet in 1981, is projected to reach 13.5 million square feet by 1986, according to an analysis by the Southwestern Regional Planning Agency. Additionally, several major hotels are planned or are under construction in Stamford. Little heavy industry remains in the city; it is being replaced by lighter industrial uses and commercial distribution facilities.

In the housing realm, land use is shifting to multifamily dwellings, either completely replacing single-family units or as additional structures on subdivided lots. New housing construction, primarily of condominiums, is occurring mostly in the East-Side Cove and Glenbrook districts and, to a limited extent, in Springdale where in-fill land is being utilized. Large residential structures, it is expected, will be renovated to accommodate more, but smaller, dwelling units, reducing potential housing resources for families with children.

It appears that present land use trends will continue. One result will be the eventual development of all buildable vacant land not permanently committed to open space usage. Thereafter, land which is now only marginally used will be sought, as it will be the most economical to develop.

The impact on education programming can be measured through housing and labor market analyses as well as in examining the spatial distribution of the population. The growth in Stamford will be primarily at the upper income levels and this will form a constraint on school enrollment. This, in turn will cause the closing of school facilities and finally a reduction in the number and type of programs offered by the school system.

The high cost of land and housing, and the high density, small family-size housing that is being built are occasioning the out-migration of Stamford families with school age children. Current land use patterns and those predicted are not known or expected to fulfill the housing needs of these families. Unless the public sector intervenes to change land use patterns the public school enrollment will be constrained, resulting in a decline in the total student population.

The Stamford Labor Market

Some 68,560 people work in Stamford, a 27 percent increase since 1973.

From 1970 to 1980, the amount of office space in the city nearly doubled. From 1980 to 1981 alone, it increased again by 42 percent.

The primary labor market has shifted. While there was a decline in manufacturing industries, the nonmanufacturing sectors offset the losses by increasing their activity 28 percent. These included transportation services, utilities, wholesale trade, finance, insurance, real estate, and legal services. The secondary labor market also showed a decline in the manufacturing sector, while the unstable, low-wage, nonmanufacturing sector grew.

Clerical, professional, technical and like workers, in addition to managers, officials, and proprietors account for over half of all employment in the Stamford SMSA (see Table I-Two). About 60 percent of the Stamford employment growth occurred between 1974 and 1980. Transportation operatives, laborers, and others represented 18 percent of the work force and 10 percent of employment growth. Occupational projections show that clericals (including bookkeepers and computer operators), professionals, and those in technical occupations, along with service employees, particularly in retail, will continue to increase. However, the low-wage, unstable nonmanufacturing sector, sales and retail, will show the most dynamic employment trends.

Occupational Projections

This is a time of major shifts in the occupational mix of the economy. For Stamford, the transition away from manufacturing, toward clerical and technical employment, occurred earlier and more decisively than in the rest of the country. There is a slight probability that manufacturing employment will be an important source of new jobs in Stamford in coming years. Land is too expensive and vacant space too scarce in the area to attract an

TABLE I-TWO

OCCUPATIONAL DISTRIBUTION
OF STAMFORD LABOR MARKET AREA: 1974-1980

Occupation	1974 Number Employed	1974 Percentage of Total	1980 Number Employed	1980 Percentage of Total	1974-1980 Percentage of Employment Change
TOTAL					
Professional, Technical, Kindred	16,950	.17	19,590	.17	.17
Managers, Officials, Proprietors	12,620	.13	15,250	.13	.17
Sales Workers	6,680	.07	8,250	.07	.10
Clerical Workers	18,430	.19	22,330	.19	.25
Crafts and Kindred Workers	12,560	.13	14,430	.13	.12
Operatives, Except Transport	11,550	.12	12,580	.11	.07
Transport Operatives	2,760	.03	3,250	.03	.03
Service Workers	12,060	.12	13,300	.12	.08
Laborers, Except Farm	4,220	.04	4,570	.04	.02

Source: Annual Planning Information, Fiscal Year 1982: Stamford Labor Market Area, Connecticut Labor Department, Employment Security Division

appreciable amount of new manufacturing. As the occupational distribution shows, clerical occupations can be expected to provide an even greater proportion of job growth between now and 1985 than they did during the 1970s.

Professional and technical occupations will continue to contribute 17 percent of new jobs. Service jobs may grow at a somewhat faster rate in the eighties, while crafts and kindred workers may drop to only 9 percent of total job growth.

The rate of growth in Stamford's economy will begin to decline for several reasons. The labor pool is operating at or near capacity. Any new firms would be bidding on a fairly fixed pool of labor. It appears that the greatest set of constraints which exist on the labor market come from other markets, housing and land. Stamford is no longer competing with midtown Manhattan for employers. It is competing with central New Jersey and the Danbury to Waterbury corridor in Connecticut.

The greatest growth in employment has been in the clerical occupations. This work force needs to find housing, and for new entrants to the labor pool the trade-offs between wages, housing, and commuting costs are a notable concern. The next spurt in local employment will come from the low-wage, unstable, nonmanufacturing sector of the economy. Employees in this sector are primarily sales and service workers. In 1980, 18 percent of the jobs in Stamford were in these categories. The Connecticut Department of Labor feels that 20 percent of the employment growth will be in these occupations, however, it might be higher.

Education and the Tiered Labor Market

There are three labor markets in Stamford. The highest is for managers and professionals in the stable, high-wage, nonmanufacturing industries. These positions are filled after the firm engages in a nationwide, and

sometimes worldwide, search. A local resident cannot compete for these positions unless he or she has earned the proper credentials and has the requisite amount of experience. The second labor market is local, including those jobs in the primary labor market, both nonmanufacturing and manufacturing, which demand stable, mature, employees. Credential barriers often exist in this market, but they are more easily crossed. Unfortunately, the manufacturing jobs are rapidly disappearing. The third is the secondary labor market, where jobs do not demand a great amount of skill, there are no promotional ladders, and on-the-job training is not important. Trends indicate that these jobs will grow in Stamford in the next decade.

A new challenge to the school system is to provide resources for those whose first experience in the world of work is in the secondary labor market. It is important to the workers, and to the local economy that these individuals not become trapped there. Traditionally young workers could pick up new skills on the job which would lead to an improved set of employment opportunities. This was especially true for young males entering manufacturing plants. Today, basic education and literacy are crucial to success in the labor market and will become increasingly so as time passes. The role of on-the-job training is diminished in an office environment.

It is feared that young adults who enter the secondary labor market will not have the skills or experience to move into the primary market. Young people need a chance to acquire basic job skills, training, and some time to be reeducated once they have matured. The system of post-secondary education may not meet the needs of someone who requires skills rather than a diploma.

A program which would fill the training void that was created in Stamford's economy with the demise of secondary manufacturing employment is necessary.

Such a program would be useful to the local labor market because it will help to alleviate a bottleneck which will arise within the next five years. This will be a shortage of skilled clerical help, bookkeepers, and computer operators. The school system will have to take people from the counters of fast food restaurants and put them behind desks.

The secondary school curriculum must focus more sharply on providing resources for those whose first job experience would otherwise be in the secondary labor market. Basic education and literacy are not enough for the computer and technological skills necessary to compete in the local primary labor market. On-the-job training or on-site training programs cannot substitute for a comprehensive and sound technical education.

Municipal Fiscal Changes

The City of Stamford has a very stable fiscal situation overall with an increase in real wealth over the last ten years. However, the city has recently undergone a state-mandated property reassessment, the results of which have had a direct impact on city support of the public school system. There was a cut approaching $4 million in the operations budget request. It is the financial attitude of the city, rather than the actual dollar squeeze, which will continue to affect the school system, most likely in terms of the closing of facilities, of a reduced level in curriculum offerings and of teacher layoffs. However, once the enrollment range and the necessary curriculum adjustments are identified, an orderly resource assessment may alter the city's approach.

Emerging Educational Priorities

The city of Stamford has been shifting to a new profile. The social and economic reformulation of the town has brought about a desire and a necessity to rethink the fundamental goals and objectives of the school system. This

process is ongoing, although decisions must be made daily concerning the future of the school system. The changing character of Stamford suggests that there will be significant changes in the public school population. However, there are contradictory aspects to these changes. While the minority community, predominantly Hispanic, and the number of poor has increased, housing market prices have risen steeply and those neighborhoods which house these groups have been targeted for renewal and rehabilitation. This process may force out the very groups which contribute to the growth of public school enrollment and enhance the cultural diversity of the schools.

The demographic changes, e.g., an increase in single parent families, a growth in young singles and in the elderly population all point to the need for an expansion of public school services and the "constituency" of schools. The demography of Stamford, as well as the labor market, suggests that those schools expand their programs to young adults, both those who need basic skills and those for whom taking courses is an expansion of knowledge as a leisure time activity.

The demographic characteristics are constrained by the housing market and land use patterns. More so than in other New England communities, the character, type, and price of housing will set the dimensions of the public school enrollment, its composition, and even the curriculum emphasis. As housing continues to become owner occupied and more expensive, the student population will become older and more homogeneous. Course offerings will decline as will the number of facilities.

Second only to housing as the major determinant of future directions for public education is the Stamford labor market. The unique characteristics of the labor market lie in its shift in the last ten years from manufacturing to management, corporate, and technical activities.

Jobs now fall into three categories: national primary labor market, local primary labor market, and secondary labor market. The first include managers and professionals and are found nationwide. The second covers office clerical, technical, proprietors, and transportation operatives; the third, which requires few skills, shows little stability and few promotional opportunities. Services fall into this category.

It is essential that the secondary school curriculum review the directions of the Stamford labor market area and identify those careers for which students lacking post-secondary education can be prepared. A sound and comprehensive technological education is important. Managers, and financial, insurance, and real estate professionals are and will be in demand, along with trained technicians, in both commerce and business. Service employees in sales and retail, which is a low-wage, unstable sector, are and will also continue to be in demand. The curriculum development phase must carefully identify these areas of career potential and must create programs which will motivate the average and/or marginal student to proceed in an employable direction.

Lastly, municipal finance changes are dependent upon the government and population perception of the school system and its leadership. It is believed that with this comprehensive planning process a new dialogue can be initiated which will more accurately express the community's value of public education.

II. ASSESSMENT OF ISSUES, CONCERNS, AND CAREER TRENDS: EMERGING EDUCATIONAL PRIORITIES

This chapter addresses the educational priorities which emerged from an assessment of the school system's present strengths, weaknesses, and problems which need to be considered in meeting projected demands for services. These priorities are based on the findings and analysis of an intensive exchange process and the analyses of career trends, SAT interest designation, and educational technology.

The first part discusses the findings of the consultation process. This process is the method used in this study to identify the perceived issues and concerns of educators, administrators, and members of the community through interviews and informal discussions. The purpose of the process is to identify the present philosophy, goals and objectives, and educational aspirations of the school system and the community.

The second part is an analysis of the changes in intended areas of study expressed by students taking the Scholastic Aptitude Tests (over the years 1975-1982). The SAT survey population is limited to those students who intend to go on to post-secondary education. The discipline areas reviewed include: arts and humanities; biological sciences and related areas; social sciences and related areas; psychology and social sciences; and business, commerce and communications.

The last part of the chapter summarizes two key reports concerned with the labor market and high school career education, THE HIGH SCHOOL CAREER

EDUCATION CENTER: A Multi-cluster Design, by Claire D. Friedlander (November 1982) and the REPORT AND RECOMMENDATIONS OF THE SACIA BUSINESS ADVISORY HUMAN RESOURCE PANEL (1981). Following, there is a brief recapitualation of the educational policy trends which were identified earlier in this comprehensive study.

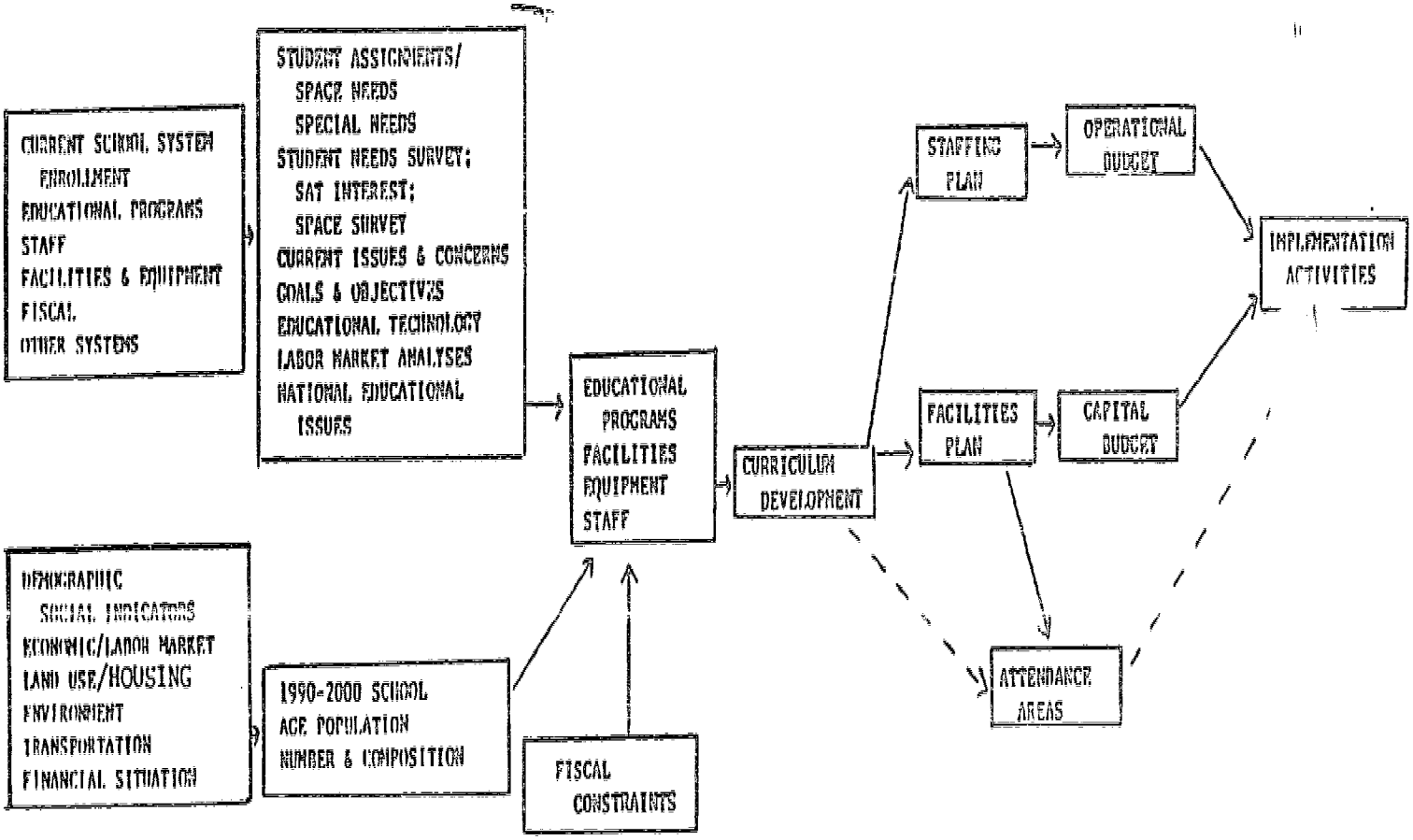
Consultation Process

Figure II-One traces the comprehensive planning process utilized in the study design and highlights the location of the consultation process in it. During the consultation process the Study Team and the Educational Community completed three related tasks as displayed in Figure II-Two. The Study Team identified the goals and objectives for the study, analyzed the school system's needs, and defined and developed the scenarios which arose from the first two steps. Through an exchange process, two-way communication between the Study Team and the Educational Community was achieved by means of interviews. In interviews conducted by the Study Team members of the Educational Community identified their goals and objectives for the study, articulated their issues and concerns, and suggested solutions. Each of the steps in the consultation process, displayed in Figure II-Two, shows the sequential series of the two-way dialogue which existed throughout the study.

Interviews were scheduled with some central office administrators, elementary principals, assistant principals, middle school principals, curriculum supervisors, high school administrators, department heads, students, and chairpersons of the Stamford Educational Planning Committee (see Appendices for lists of participants). An interview questionnaire (see Appendix E) was used as a guide for discussion. Meetings varied in length from twenty minutes to one and a half hours. There were some individual meetings, but the

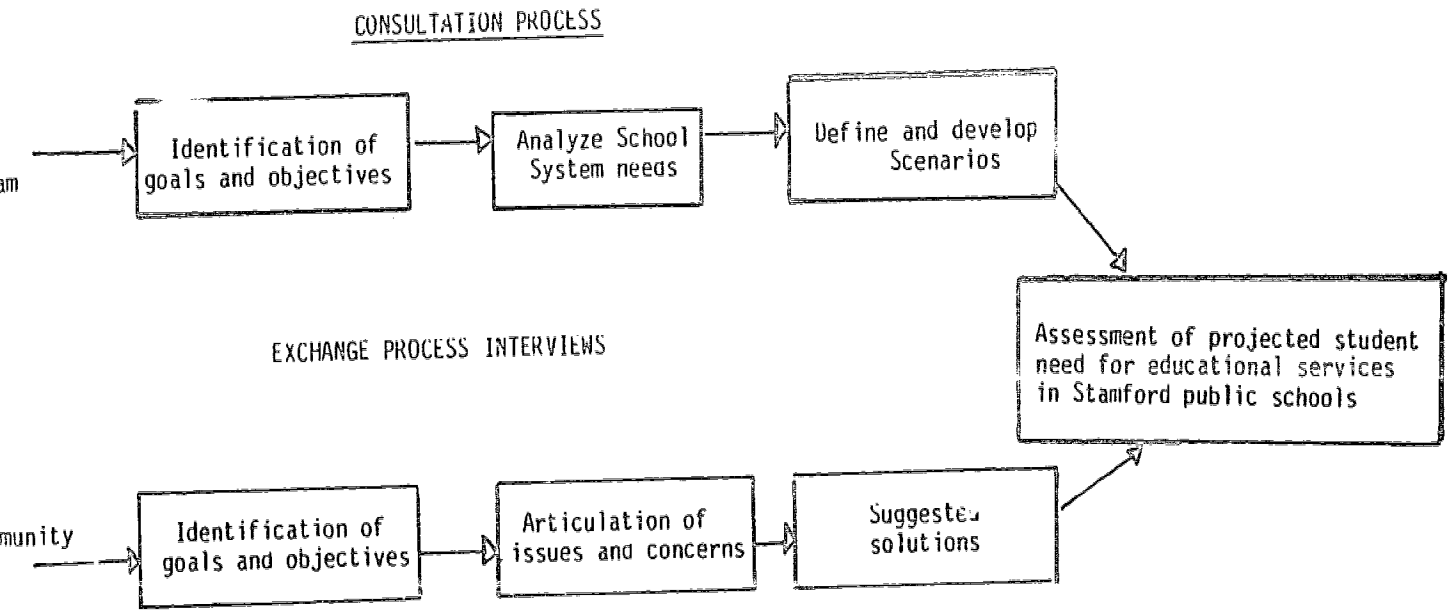
Figure II-One

ASSESSMENT OF PROJECTED PROGRAM NEEDS
FOR STAMFORD STUDENTS



STAMFORD EDUCATIONAL PUBLIC POLICY IMPACT STUDY

Figure II-Two



majority were held with as many as fourteen participants. Every effort was made by members of the Study Team to accurately represent the results of the interviews and to identify comments and concerns expressed by the collective group.

The products of the consultation process were representative lists of critical concerns from each population interviewed. The following tables present these concerns in summary form. Table II-One provides a general list of the issues and concerns which arose from the process. Tables II-Two to II-Four offer the issues, concerns, and solutions identified by three different groups, i.e., elementary and middle school principals and assistant principals, high school administrators and department heads, and student liaison high school committees. A more detailed discussion of this information follows the table.

Issues and concerns. In terms of educational programs, the elementary and middle school principals and assistant principals agreed as a whole that the emphasis on basic skills should continue. They were concerned about the shortage of science and mathematics teachers and the need for the science curriculum to respond to the labor market. There was an overriding concern that computer literacy be introduced as early as possible and that the pilot projects be expanded to all middle schools. Lastly, there was a concern on the part of some of the principals about the future funding level of bilingual/ESL education given the increasing diversity of the student population.

In terms of other issues, they all felt that staff development was an important component in the school system and should be reinstated. The lack of parental involvement was perceived as a key concern. Specifically, the

Table II-One

Consultation Process

Issues and Concerns

Educational Programs and Services

- Curricula Issues
- Special Programs
- Support Services
- Organizational and Structure of School

Community Involvement

- Parents
- Community and Human Services Agencies
- Corporations
- Universities

External Factors Which Affect Education

- Changing Population
- Corporation Center
- Public View of Education
- Private Schools

Table II-Two

Elementary and Middle School Principals

and Assistant Principals

Issues and Concerns	Suggested Solutions
Educational Programs	
Basic skills emphasis	Expansion of reading programs
Quality of instruction due to recruitment of teachers to other professions	
Shortage of science teachers	
Need for science curriculum to respond to industry	Focus career educations as early as possible and revise business curriculum
Computer literacy	Expand computer courses
Bilingual/ESL - concern for funding level in future and increasing diversity of population	
Staff Development	
- Important component in school system	
Parent Participation	
- Lack of parental involvement in school activities	Initiate week-end activities Address needs of single parent households Increase publicity on positive image of school system
External Factors	
- Lack of human service involvement with the school system	Expand relationship
- Lack of long term commitment by corporations to the school system	

Table II-Three

High School Administrators and Department Heads

Issues and Concerns	Suggested Solutions
Curriculum	
- Need for additional courses to meet labor market demands and changing student population	Review and update curriculum Long term planning Support from business community
Special Programs	
Increase in non-English speaking population	Add more selections of ESL
Training for handicapped students	Special vocational educational program
Integration of learning disabled students with other students	Increase consultation with special education staff
Organization and structure of schools	
Larger high schools and their effect on quality education (class size increase, fewer courses...)	Use the "house plan" or school within a school approach
Effect of budget cuts on teacher quality	
Public Relations	
- Low level of exposure of students and teachers' accomplishments by media	
External Factors	
Changing labor market	
Changing population	
Shortage in housing	

Table II-Four

Consultation Process: Issues and Concerns Offered by Student Liaison High School Committees

Issues and Concerns

Organization and Structure of Schools

Closing of Rippowam:
Increase of class size
Reduction in availability of courses

High Schools in the Year 2000:

Positive Criteria

Diverse student population

Personal contact with administration

Involvement in decision-making process

Internships

Additional extracurricular activities

distance needed to travel to reach some of the schools was seen as a barrier to participation. The needs of single parent households were raised as an important consideration in planning for future services from the school system. Lastly, certain external factors were mentioned including the lack of human service involvement with some of the schools and the lack of long term commitment by corporations to the school system (see Table II-Two).

The most salient issue identified by high school administrators and department heads was the need for additional courses to meet labor market demands and the changing student (see Table II-Three). They recommended a review and update of the curriculum in a long term planning effort and the initiation of on-going support from the business community. In terms of special programs, the secondary school staff saw the need to respond to the increase in the non-English speaking population, to provide additional training for handicapped students, and to continue to integrate learning disabled students with other students. Significantly, emphasis was placed on the organization and structure of schools. Given the larger high schools, one suggestion was to utilize an organizational pattern that would allow for smaller segments within the comprehensive high school. This is modeled after the house plan or school within a school approach. Another issue raised in these meetings was that of public relations, in that there was a prevailing sense that there was a low level of exposure in the media for the many excellent student and teacher accomplishments.

The external factors that were mentioned as a concern included the changing labor market, the changing population, and the shortage in affordable housing.

The high school student liaison committees outlined their perceptions

of the ideal school in the year 2000 (see Table II-Four). Requirements for this are: a diverse student population, personal contact with administration, involvement in decision making, internships, and additional extracurricular activities.

Findings. Among the findings of the consultation process was a sense that two groups of students need more attention and assistance in fulfilling their potential. These are the child who is average in terms of skills and learning abilities, and, at the middle school and high school level, the noncollege preparatory students, particularly those who do not attend Wright Technical School. These general perceptions relate very directly to the programmatic issues which were raised. For example, the emphasis on basic skills has shown that there is a continuous shortage of teachers in mathematics and science. Moreover, the mathematics and science teachers who remain in the system feel, that in light of Stamford's changing economic structure and labor markets, these subjects should be given a higher priority.

A need for an "overhaul" of the curricula to meet the future labor market demands was expressed, especially at the high school level. Strong emphasis was placed upon the need to provide computer literacy for all students, utilizing computers not only as a remedial recourse, but also as a positive career related learning experience. The need is for system-wide access to computer education which would involve students over a range of skill levels. This recognition of the emerging role of computers in our society as a fundamental aspect of an education system is merged with, and sometimes submerged in, discussions of career education. As Volume III of this report indicates, computer literacy is necessary or will be necessary for every possible job opportunity in the United States, from checkout counter clerk

at the local supermarket to the complex communications knowledge necessary for the president of the major corporations. Then, the discussion of concerns about computers and career education raised issues concerning student and teacher awareness of this issue and the support services such as social workers, psychologists, speech and hearing pathologists, and guidance/counseling staff development. All participants felt that these services were well staffed in the elementary and middle schools, but that the high school level needed additional staff and possibly staff development.

In other program areas, bilingual education was considered a sound program with a possible need to decrease busing distances. Other educational options, particularly the magnet program, were highly valued by many who were interviewed. Suggestions were made that the best of these programs be infused into the regular elementary school curriculum. Moreover, given the one gifted child program in the middle schools, it was potentially important to consider an infusion of these programs for the elementary and middle schools. Generally, there was a sense that other forms of alternative education, whether formal or informal, would be important to meeting the current needs of the students.

Community involvement in the consultation process covered a wide range of activities including parent involvement; community and human service agency involvement; corporate, business, and university involvement; and lastly, a review of external factors which are impacting education, particularly enrollment decline and perceived public support. In almost all of these areas, there was a perception that more participation on the part of the parents, community, and private sector would be welcome and is very necessary for the ongoing success of public education. Concomitantly,

there is a concern that parental involvement is dwindling and that, because of the changing demography and changing economy, those persons traditionally involved with public schools are unable or unwilling to continue to be involved. A great many sound suggestions were offered to encourage parental involvement. Similarly, there was a concern that those in the private sector, corporations and businesses, are only interested in "one shot", noncontinuous experiences. Given the burgeoning and shifting Stamford economic structure, it was considered important to creatively involve these corporations and businesses in the future learning environment. Higher education was criticize as well for "taking from the school system", but "not giving" in any substanti measure. Lastly, it was noted that the community and human service agencies were involved programatically with the school system. There was mention, several times, of the hope of cooperation, further integration, and joint programming between the school system and the many social services in Stamford

Conclusion. The consultation process described above played a key role in refining and adapting the recommendations made by the Study Team. Each of the issues discussed was considered in the literative planning process and helped to set the framework for the scenario analysis. The concerns most consistently expressed were: the direction of secondary education, the continuation of the high level of elementary and middle school programs, the need for computer literacy in an open access situation, the need for science and mathematics, the need for increased parental participation and involvement of the community and corporations, and the need to present to the community the excellent work of the teachers and students in the school system. These issues were considered to a significant degree in the recommendations about the future direction of the Stamford Schools. The amount and diversity of

the individuals included in these dialogues, along with the importance placed upon these views expressed during the discussions reflects a deep commitment to establishing a collaborative effort among all parties involved in and/or affected by the Stamford Schools.

SAT Student Interest Survey

A key component of the assessment of the school system's strengths and weaknesses relies on an evaluation of the fields of study selected by students taking the Scholastic Aptitude Tests. The analysis which follows is based on Table II-Five and Chart II-One which show the first choices from 1975-1976 to 1981-1982 of those students taking these tests. Conclusions drawn from this data can aid the school system in assessing the priority given to those areas of study selected by students.

Findings. The demand for Arts & Humanities has shown some minor fluctuati between 1975-1976 and 1981-1982, but has been essentially the first choice of some 15 percent of the students.[2] The largest change from 1975-1976 to 1981-1982 within subcategories of Arts and Humanities was less than 1 percent. In a sample of this size (around 600 students), that represents approximately six students which is not a significant number.

The Biological Sciences and Related Areas category showed the greatest decline, from the first choice of 21 percent of the 1975-1976 students to that of only 11.8 percent in 1981-1982. The decrease was a fairly steady one, with a slight rise in only one year. Although all of the subcategories in this area exhibited a decline, the largest change was in Health and Medical studies which fell from 11.1 percent to 5.9 percent.

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[2]Refer to Chart II-One for graphic trend analysis.

Table II-Five

Specific Fields of Study

Intended Areas of Study F/M (1st choice)	1975-76 326/294 620	1976-77 296/293 589	1977-78 333/294 627	1978-79 335/308 643	1979-80 308/315 623	1980-81 594	1981-8 320/25 578
Arts & Humanities	15.0	14.9	14.8	16.0	17.2	18.2	15.1
Architecture/ Environmental Design	2.1	2.1	1.1	2.3	2.6	3.7	1.4
Art	5.6	5.6	4.6	5.9	7.2	6.7	5.9
English Literature	2.6	2.6	2.9	2.6	2.6	2.7	3.3
Foreign Languages	.8	1.7	1.3	1.1	0.8	.7	0.5
Music	1.7	1.9	3.0	2.0	1.8	2.4	1.7
Philosophy and Religion	0.5	0.0	0.5	0.5	0.2	.2	0.3
Theater Arts	1.7	1.0	1.4	1.6	2.1	1.9	1.9
Biological Sciences & Related Areas	21.0	19.0	19.0	14.5	12.5	15.2	11.8
Agriculture	3.6	2.3	1.8	.8	1.1	.7	1.2
Biological Sciences	5.0	5.7	4.8	5.3	2.9	3.5	4.2
Forestry/Conservation	1.3	0.7	1.3	.6	1.0	1.7	0.5
Health & Medical	11.1	10.3	11.2	7.8	7.5	9.3	5.9
Business Commerce & Communications	20.6	23.3	27.8	29.5	27.1	32.2	36.0
Business & Commerce	15.2	18.3	23.9	23.8	23.6	26.8	31.1
Communications	5.4	5.0	3.8	5.8	3.5	5.4	4.8
Physical Sciences & Related Areas	11.7	13.0	13.6	11.7	13.8	14.6	14.2
Computer Science System Analysis	1.7	1.0	2.6	2.3	2.9	4.4	5.2
Engineering	5.8	8.0	7.0	6.7	9.0	7.4	7.6

Table II-Five (cont.)

Specific Fields of Study							
Intended Areas of Study F/M (1st choice)	1975-76 326/294 620	1976-77 296/293 589	1977-78 333/294 627	1978-79 335/308 643	1979-80 308/315 623	1980-81 594	1981-82 320/258 578
Mathematics	2.5	1.0	2.6	1.4	0.6	0.5	0.3
Physical Sciences	1.7	3.0	1.4	1.2	1.3	2.4	1.0
Social Sciences & Related Areas	23.7	22.8	19.8	22.1	20.7	13.8	17.1
Education	8.7	6.4	4.9	7.5	6.4	4.9	4.2
Ethnic Studies	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Geography	0.0	0.0	0.0	0.0	0.0	0.2	0.0
History & Cultures	1.8	1.4	0.6	1.1	1.1	0.7	1.2
Home Economics	0.7	0.5	0.5	0.2	0.0	0.2	0.2
Library Science	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Military Science	0.5	0.5	0.5	0.9	0.3	0.2	0.5
Psychology	4.0	3.7	5.1	5.6	4.8	2.4	3.5
Social Sciences	7.8	10.1	8.0	6.8	8.0	5.4	7.6
Miscellaneous	8.2	6.9	5.1	6.2	8.7	6.1	5.9
Other	2.0	0.7	0.8	0.8	1.0	.5	1.0
Trade & Vocation	0.8	1.0	0.5	0.5	0.8	0.3	0.7
Undecided	5.4	5.2	3.8	5.0	6.9	5.2	4.2

Chart II-One

Trend Analysis of Interest Inventory

	Years (1900) 75 76 77 78 79 80 81	Range Low/High %[1]
Arts and Humanities (overall)		14.8/18.2
Architecture		1.4/3.7
Art		4.6/7.2
English Literature		2.6/3.3
Foreign Language		0.5/1.7
Music		1.7/3.0
Philosophy & Religion		0 /0.5
Theatre Arts		1.0/2.1
Business, Commerce and Communications (overall)		20.6/36.0
Business & Commerce		15.2/31.1
Communications		3.5/5.8
Physical Sciences & Related Areas		11.7/14.6
Computer Science System Analysis		1.0/5.2
Engineering		5.8/9.0

[1] 1 percent = 6 students

Another area in which student interest has decreased is in Social Sciences and Related Areas. Here the percent of first choice went from 23.7 to 17.1, again in a fairly consistent downward pattern. The subcategory most involved in this decline is Education, going from the first choice of 8.7 percent to that of 4.2 percent of the students.

Two other subcategories, Psychology and Social Sciences, remained small, but fairly stable, and the other subcategories (ethnic studies, geography, history and cultures, home economics, library science, and military science) were virtually nonexistent throughout.

The two intended areas of study in which student interest increased in this period were Physical Sciences and Related Areas and, even more dramatically, Business and Commerce.

For the former, the overall percentage went from 11.7 percent to 14.2 percent. However, this overall figure masks some interesting subcategory changes. The fields of Math and Physical Sciences both declined, while Engineering grew slightly (5.8 percent to 7.6 percent) and Computer Science/ System Analysis grew from 1.7 percent to 5.2 percent, in a steady increasing rate of change since the middle of the period. The figure for computer sciences for males is slightly higher in 1981-1982 than for females (5.8 percent to 4.7 percent) and it is dramatically higher for Engineering (15.9 percent to .9 percent).

The category called Business, Commerce, and Comm ations increased from the first choice of a fifth of the students (20.6 percent) to that of over a third (36 percent). Since the Communications subcategory dropped slightly (5.4 percent to 4.8 percent), this actually reflects the growth in interest in Business and Commerce as a field of study. The percent of

students making this their first choice doubled, from 15.2 percent to 31.1 percent. The trend has been a continuous one, with the percentages rising each year.

Interestingly, the amount of change has been greater for young women than for young men. Of the former, 13.2 percent made Business and Commerce their first choice in 1975-1976, rising to 33.1 percent in 1981-1982; for males, the corresponding figures are 17.4 percent to 28.7 percent.

Conclusions. The most significant increase in the SAT student interest has been in the physical sciences area, underscoring the interest in computer science/system analysis and secondarily in engineering. Business, commerce, and communications show a major increase, particularly in the subareas of business and commerce. This, in some measure, is a reflection of the dominant economic activity in Stamford as well as in the national economic situation. The disciplines of greatest decline are biological sciences (particularly health and medical studies) and social sciences. In the latter, education is the major area of diminished interest. Again, this reflects the student awareness of the job market as well as perhaps illustrating some curriculum needs. Arts and Humanities remains about the same, the first choice of some 15 percent of the students.

Significant High School Career Studies

Several studies of the Stamford labor market and its relationship to educational needs have been completed in the last few years indicating the awareness of the business community to the critical role which the Stamford secondary schools play in filling their labor needs. In November 1982, a career paths study was completed by the Stamford School Department of Guidance Services which indicated the recommended direction of curricular themes for

both students planning to enter the work world upon graduation as well as students pursuing post-secondary institutions prior to beginning their work.[3]

The November 1982 study, The High School Career Education Center: A Multi-cluster Design, addresses the issue of designing targeted high school curricular themes that will enable young people to focus upon clear paths, while obtaining a comprehensive high school education. The cluster themes around which proposed curriculums would be developed are:

1. health, science, and technology
2. communications, media, and the arts
3. hospitality, recreation, and services
4. business, office, and marketing

According to the study, these themes are "growth oriented and mobile, with greater than average opportunities for placement and advancement." Stamford is cited as "having within the cluster areas significant job opportunities at the entry level, trained and professional or managerial levels,"[4] and a high employment demand in each of the cluster themes.

The study states that classes taught currently in the Stamford schools fit into the cluster theme, as follows:

- in communications, media and the arts - fine arts, English electives, foreign languages, music, and social studies
- in health, science, and technology - industrial arts, math, science, and vocational agriculture
- in hospitality, recreation, and services - home economics, health, and physical education
- in business, office, and marketing - business

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[3]Claire D. Friedlander, The High School Career Education Center: A Multi-cluster Design (Stamford, Connecticut: Stamford Public Schools, 1982)

[4]Ibid.

Students opting for such a career education program would have four phases of experiential testing to go through: (1) processing (exploratory), (2) shadowing, (3) cooperative experience (training or voluntary), and (4) internships. These phases would occur in sync with each grade level.

In 1980, Professor Hyung C. Chung of the Urban Management Institute at the University of Bridgeport administered a survey to area business people and employers. The results of this study, entitled "The Stamford Labor Makret Area: Its People, Labor Force and Jobs," identified a need for individuals with professional, technical, and clerical skills. In addition to these "white collar" positions, craftsmen and operatives for both manufacturing and construction industries were cited as being in short supply in the Stamford area in 1978. The survey also noted that employers perceived the basic "3 R's" skills in professional and technical occupations and skills in clerical occupations as necessary training.

Prior to Chung's study, the "Report and Recommendations of the SACIA Business Advisory Human Resource Panel" (1980) identified the following human resource needs as those requiring priority attention from the educational community:

- Secretarial/Clerical
- MIS/Data Processing
- Technical Non-Exempt/Skilled Craftsmen
- Energy Level Manufacturing
- Engineering/Professional
- Retail Clerks
- Food Service Workers
- General Service Workers

Those perceived by the panel as the "highest priority areas" were Secretarial/ Clerical; Technical and Skilled Crafts; Professional, e.g., MIS, Engineering, Financial; and Entry Level Manufacturing.

Five basic problems pertaining to the shortage of workers in each of the above listed categories were identified, with recommendations presented by the panel addressing various manners in which the problems could be alleviated. The five basic problems follow, with selected recommendations by the panel.

1. The lack of consolidated information from employers on human resource requirements and the need for more effective communication of these requirements to ensure that individuals are being educated and trained for skills/positions in demand.
2. The need for better information and a more effective means of communicating this information regarding career options and opportunities to potential (students) and current job candidates.
   RECOMMENDATION: The panel recommends working with guidance personnel in local public and private schools and exercising other options for disseminating information, such as "career days" and speaker bureaus.
   RECOMMENDATION: Programs be developed to provide research assistance and information exchange for guidance counselors and teachers.
3. The need to improve support systems (e.g., housing, transportation) which are necessary to help attract or retain individuals in the required positions.

4. Insufficient communication and collaboration between education and training institutions, business and training institutions, and business and education institutions.

   RECOMMENDATION: Identify personnel resources in the school systems and training establishments, i.e., curriculum development specialists, counselors.

   RECOMMENDATION: Use the above linkages to advise and assist in the development of curriculums which will improve student's career development.

   RECOMMENDATION: Develop and provide information to businesses and industry on educational offerings, training, and work force development programs available in the study area.

5. Uncertain future of programs for the underemployed and unemployed and the need for a definition of industry's role in view of pending government cutbacks.

In order to develop the preceding information, the panel designated a study group to undertake a survey of area employers "to determine...which classes of employees represent various concerns in terms of availability and what training resources have been utilized by firms to alleviate these problem areas..." The survey instrument was sent to area employers in the form of eight multiple response questions, each related to a priority need area. Selected questions follow:

- Which job scarcities are you most affected/concerned by?
- Do you provide scholarships or tuition aid for outside study?
- Do you have any type of co-op program with any educational institution?

The panel concluded, in part, that secretarial and word processing positions were the most critical concern in terms of availability and skills to area employers; on-the-job training was the most heavily utilized form of skill and knowledge building currently used; on-the-job training was not viewed as the most effective resource for training; and that there was a large gap between the available resources in high school, community colleges, and trade schools and labor market demands.

Two of the three recommendations which were presented include: in-depth dialogue between the high school, community colleges, and trade schools for the purpose of identifying labor market needs so that curriculum development can match employment possibilities, and the development of a model training program with secretarial, clerical, and word processing as the targeted job classifications.

Conclusions. There are a number of broad labor market needs in the Stamford area which are reflected in the recommendations of these reports. Chief among them are the areas of business and commerce. In those areas technical aspects are particularly stressed. Communications, computer technology, data processing, and other high-tech areas of the world of work are perceived as important career futures. Similarly, the service area including the expanding role of recreation and hotel management was shown to be expanding in the job market. In the latter area, it would seem that a professionalization would be necessary in order to assure that high school students emerging from this recommended career cluster would be placed in career ladder opportunities with appropriate high skill levels. Underlying the service area as well is the need for knowledge of computers.

Educational Policies, Issues, and Trends: National, State, and Local Policies

Several educational issues and trends were identified during the study which are relevant to the Stamford Public Schools (see Table II-Six). These issues are national as well as local in scope.

National issues. Several national issues in education have been documented. Among these are school finance reform; increased enrollment in, and selection of, private schools; public support for education; the role of federal and state governments; the impacts of technology, computers, cable television, and concomitantly the shortage of science and math teachers; institutional concerns such as teacher competency and licensing; the secondary school curriculum; and changing student/parent actions with regard to schools.

Of these national issues, three were identified as particularly relevant to the educational programs and services of the Stamford Public Schools. In terms of the computer technology revolution, the Connecticut State Board of Education has recently adopted a policy statement which acknowledges computers as a problem solving tool and a medium of instruction, and recommends their use in all school districts. There is a critical need for computer literacy prior to graduation to meet the technological skills requirements of the developing labor markets in Stamford. In order to meet this need, the present curriculum needs to be revised, a new curriculum must be developed, textbooks need to be purchased, and the staff must be trained.

The teacher shortage in science and mathematics in Stamford is severe, and applies particularly to physics, the earth sciences, and chemistry as well as mathematics. The community's emphasis on basic skills since the late sixties contributed to the neglect of the science curriculum, which now needs to be enhanced and made relevant to the needs of the students as well as to emerging

Figure II-Three

Educational Policy Trends: Diagrammatic Schema

Public Support for Education

- -Decrease in number of individuals with interest in schools
- -Increase in over-65 age group
- -Possible increase in persons 18-44

Role of Federal Government

- -Deregulation
- -Elimination of categorical programs
- -Elimination of U.S. Department of Education
- -Tuition tax credits
- -Voucher system

Emerging Education Issues

- -Technology (computer)
- -Technology (cable TV)
- -Shortage of science and math teachers
- -Minimal competency
- -Teacher competency and licensing
- -Secondary schools
- -Changing student/parent population

School Finance Reform Policies

- -State support
- -State general aid formulas
- -Financing basic quality education
- -Special education
- -Tax structure changes

Increasing Popularity of Private Schools

- -Increase in students
- -Transfers
- -Student outcomes

local industries.

Several concerns in the area of curriculum and instruction are presently being or should be addressed in Stamford. Basic skills, i.e., reading, writing, and mathematics are considered an integral part and at the core of the curriculum. The secondary level curriculum is being reassessed in response to the community's economic and social needs. Career education is a complex area which does not have a clear priority system-wide and has given rise to debate on the best method for educating the noncollege preparatory student. Important needs to address a more sophisticated level of expertise for clerical and technical categories are the development of new priorities for social studies and a revision of the business curriculum.

State and local issues. Three issues have been examined at the state and local levels: the equalization of school finance policies, the erosion of public support for education, and the potential of increased support for and enrollment in private schools. Of particular interest to Stamford in terms of school finance policies are the percentage of monies allocated by the state to local school systems; new block grant sharing formulas, which have reduced state contributions; and the tuition tax credit bill pending in Congress that would affect state and educational policies.

The erosion of public support for education has relevance for Stamford. During the most recent budget process, the proposed school operating budget was sharply cut by city government (the Board of Finance and the Board of Representatives). The reasons for these cutbacks are complex. Two of them are the impact of mandated property reassessment in the city, and the loss of young, middle class families with, relatedly, increases in the single adult (24 to 34 year-olds) and the elderly population whose interests in

public education are not paramount.

Currently the population of children attending private schools has not substantially increased in Stamford, itself. Attendance at private school is higher in communities surrounding the city, but lower at the statewide level. Such a trend is one to be watched, particularly as an indicator of public response to the Stamford Public Schools.

Conclusion. The educational policies, issues and trends, at the national, state, and local levels tend to cluster in areas similar to those identified in the consultation process. There is a national shortage of science and mathematics teachers and simultaneously, there is a demand for increased learning in computer technology. Overall, there is a need to bring secondary school curriculum into concordance with the social and economic policy environment; career education within the context of the arts and humanities. Since this situation is taking place at the same time as the diminished role of the federal government, a sense of withdrawal of public support for education through property taxes is evident. New and imaginative funding strategies will have to be developed.

Emerging Educational Priorities

The outcome of the dialogue between the Study Team and the Education Planning Committee, which has explored the future needs of the Stamford students, has been the identification of elements which ought to be incorporated into a curriculum development process. They include:

- emphasis on development competencies in basic skills including computer literacy
- preparation of students for post-secondary entry-level jobs and for education including professional schools

- the need to be receptive to student interests and abilities
- the need to provide learning options in specific thematic areas that will attract students
- parental and community involvement
- involvement of the business and professional community as an active partner in the educational process

The direction for educational priorities which have emerged from a review of the issues and concerns of the school system and community; the examination of the trends of the SAT student interest survey; the summary of the recent significant high school career studies; and the assessment of national, state, and local educational trends and emerging technology show certain clear trends. Chief among these is a need for a more highly professional curriculum in business and technology. A key part of this area is the generic management techniques - which serve both the public and the private sector. The second highest area which emerges from this analysis is that aspect of the physical sciences which relates to high technology skilled technicians, such as computer science systems analysts and engineers. The health sciences and education area has declined as an interest of seniors planning to attend post-secondary educational institutions, but remains as a strong labor market need. Lastly, the demand for arts, communication, and design careers remains stable nationally and regionally.

III. FUTURE DIRECTIONS FOR THE STAMFORD PUBLIC SCHOOLS

In the last decade Stamford has been transformed from a suburban town to an urban center of national renown. The skyline of Stamford rivals that of Houston, a similarly fast-growing corporate center. Yet, Stamford has thus far retained its feeling of community - it has not succumbed to the anomie, alienation, and other characteristics of a central city.

A critical element in preserving the sense of community is a responsive, yet directive public school system. The public schools in New England have traditionally played the role of transmitting the social goals of the larger community and of enhancing the quality of life of the citizens. They continue to do so. Nonetheless, chief among the public municipal services, public schools are the most vulnerable to economic, physical, fiscal, and social changes in the environment. This comprehensive study examined those changes.

The findings have identified the educational implications as well as the target populations for the Stamford Public Schools in the next two decades. The Study Team has assessed the issues and concerns about the schools which have emerged from a consultation process with over one hundred persons; has examined several sources of information about student career desires and employment potential in the Stamford labor market; and has examined the education technological state of the art as it affects the future labor market. The consultation exchange process has provided the study with the community's educational goals and aspirations and their perceptions of the weaknesses and strengths of the school system. The secondary data has indicated the

significant trends.

The Education Planning Committee's subcommittee reports complement this data and add a further dimension to it. They define and expand this information to shape a set of priorities for the schools as well as for their programs.

The school system serves a diverse population. The educational programming which will be developed should maximize the benefits of this diversity and bring students together in a learning environment which includes a strong orientation to post-secondary employment, technical and trade schools, and college and professional schools.

Educational Implications and Target Populations

The school system will be serving a smaller and more diverse population than a decade ago. In the next two decades that population may continue to be younger in age and grow in diversity; conversely, given the housing market constraints, it may be an older, more homogeneous population. In the last ten years, while the city population has declined almost 6 percent, the school age population has declined 26 percent. Moreover, the future school age population, 0-4 years, has declined a precipitous 35 percent. At the same time, the young adults, mostly single, have grown almost 20 percent and the over 65 have exceeded that number, to 22 percent. Concurrently, the median age has shifted from 31 years to 34 years.

However, even more significant, are the changes in the composition of the population. The white population has decreased in proportion about 12 percent and the minority population has increased by 34 percent, particularly among Hispanics and Asian-Americans. The median ages of these groups are quite different: for whites, 36.5 years; for blacks, 25.7 years and for Hispanics, 24.3 years. The forecast of the natural increase (cohort survival)

model indicates that the minority population will continue to expand in 1990 and the year 2000, especially in the younger age groups.

The implication for public school enrollment is evident. A younger, more diverse population will require different services. One target population, the newer immigrants, will have needs for increased ESL/Bilingual programs with support services to succeed in the mainstream of public education and for curriculum which will enhance their understanding of the privileges and responsibilities of the American political system.

Another target population, the children of single parent families, now spans all income groups. Stamford has an excellent support system to work with these children, but it would be useful if that system itself were further supported by the resources of other human service agencies in the business community, the city, and the region. A close continuing relationship, possibly a formal one, should be encouraged for the near future.

A third target population which has emerged from this information and from a review of the Stamford test scores and placement of high school graduates, is the "average" child. This is the student in the classroom not placed in the intellectually gifted child program, nor in the support and remedial programs. The average student needs more specific individualized attention both in terms of cognitive and affective education. Primarily white, this group of children have traditionally been the mainstay of the public education system. It is this group however, that is most vulnerable to the private school market. If the housing market population forecast proves more descriptive, this will be the fastest growing and largest student group in the next two decades.

The fourth target population encompasses several very different strands. There are those persons who are 19 years-old and older, and who range economically from below the poverty level to the upper middle class. They have one commonality - a need for specific skills training so as to enter the Stamford labor market in an employable position. These are, possibly, former students of the Stamford schools in earlier days, who did not specialize in college preparatory or business courses. They now find themselves in "dead end", part time, underpaid jobs. For this group, remedial education is necessary. Also, within this target population are those middle aged persons for whom the job market has passed by; women returning to the work place after years of working in the home, men whose skills have not kept up with the new technology, and lastly, older retired persons who are interested in learning new ways. This target population can be served through a new initiative by the Stamford Schools, an Advanced Career Center which would combine the newest in technology and career opportunities with a combined high school/community college degree.

The educational implications of the housing market and the land use trends are perhaps the key constraint upon target populations. Given the forecast model based upon current land use and housing policies of upgrading housing stock and down-zoning neighborhoods, there might be a school age population which will be smaller, older and more homogeneous than otherwise predicted. This target population would come from owner occupied homes, with higher educational attainment, smaller household size, and middle or upper class income. These trends have a contrasting impact on the public school enrollment in contradistinction with the natural increase model forecast. Moreover, these trends could diminish the diversity of composition. At

this moment in Stamford it is unclear which of these forecasts will be more descriptive of the year 2000. However, even if the housing market constraint forecast proves more accurate, the only change in the target populations will be the first target population.

While these social and physical policy trends indicate the target populations, the implications for future educational programs are found more specifically through an examination of the labor market and projected occupational trends.

The Stamford labor market has been characterized as having three submarkets. The national primary labor market with a demand for professionals and chief managers requires a high skill level and provides a high-wage level. This market is national and international in scope. Academic credentials include graduate school and professional degrees. The Stamford school age population, to compete in this market, will need a strong high technological foundation, minimally a K-12 computer literacy program and in secondary school, traditional college preparatory courses with a new specialization in management. Management here is defined as generic management tools and techniques, i.e., logical thinking, problem solving, decision theory, as well as such techniques as PERT and MBO,[5] are applicable to both the public and private sector.

The second submarket is the local primary labor market. Here the demand is for high level clerical and office workers, technicians, and service workers with an emphasis on business, commerce, health sciences, and recreation. These are high skill, high-wage positions which will require post-secondary technical or business schools, a community college degree, or advanced skill courses in

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[5]PERT is program, evaluation, review and technique; MBO is management by objective.

the junior and senior years as well as beyond high school. For the Stamford school age population to compete in this market, it will need a strong technological foundation, K-12 computer literacy as well as a pre-college curriculum. Separate special interest programs specializing in business and commerce, high technology as a separate track, and health sciences will provide the necessary courses. These programs are for those students who intend to complete their formal education with a Stamford high school diploma as well as for those who plan to continue on to college and postgraduate work. This curriculum direction would also be appropriate for the fourth target population described earlier, namely the group of persons in their middle years who need to upgrade their employment skills to compete in tomorrow's Stamford labor market.

The third submarket is the local secondary labor market. The jobs in this market range from low-wage unskilled sales to service workers, including lower level hotel employees. Such jobs, currently exemplified by fast food restaurants and formerly, by the temporary Christmas post office workers, are a high labor demand area. Stamford high school students will enter this job market. The Stamford Schools can help them by providing the best available basic skills program, an extensive job counseling service with post-secondary school placement and followup, infusion of career exploration for every student, and an open door policy for those former students who wish to return, either to complete their high school diplomas or to learn new skills for a more upwardly mobile job market.

Educational Priorities and Curriculum Directions

A review of the issues and concerns raised by the consultation process was summarized for the Stamford Facilities Utilization Plan (November 9, 1982)

and is reproduced in part below.

In the elementary schools there was a sense of continuation and enhancement of current existing programs with an expanded use of computers and a continued emphasis on basic skills, especially mathematics and science. There should be an additional dimension given to the world of work. Moreover, there should be an expansion of such educational support programs as all day kindergartens and supervised after school programs. To compete in today's public/private school market, public schools must enhance the positive aspects of the elementary schools and initiate other complementary programs. Emphasizing this will attract both those interested in a range of programs for the intellectually gifted child, those whose concerns are for basic education, and those who need the special education programs.

In the middle schools there was a sense that the COGs should be continued and that an emphasis on humanities and career exploration should be encouraged. There was also a sense that the counseling and guidance aspect could be strengthened. There was a perceived need for new initiatives to respond to slow learners, the average child, and the highly gifted. The middle schools are perceived as potential trouble spots for early adolescents. In terms of learning, there is a need for a sustaining and nurturing environment which will provide a bridge to secondary education.

In the high schools there was a sense that the comprehensive high school curriculum needs to be examined in depth; that while continuing as a comprehensive high school, the large school should be reorganized as a school within a school or a "house plan". Moreover, the curriculum needs to respond

to the fundamental economic shifts in society and identify appropriate curriculum themes for students in college preparatory as well as those who view high school as the end of their formal education. The basic elements of such a curriculum could be: interdisciplinary curriculum development across academic and special interest areas; a strong academic core; a pre-technical and technical core; a delineation of special school requirements; an exploratory program in an area of proven student interest and need; a pervasive career oriented focus; and a wide choice of interdisciplinary electives tied to career goals.

Such themes could be business and commerce, health sciences, performing arts/communications, high technology, and public and private sector management. It is further suggested that consideration be given to the development of an 11-14 year school, at Rippowam, which would be geared to both college and noncollege bound students, to provide skills for significant post-secondary employment. Students would obtain a high school diploma along with a certificate of advanced standing. The school could be developed in collaboration with a community college. This approach will meet the needs of students at all levels of skill and learning.

Other programmatic issues raised dealt with the involvement of parents and other community groups participating in the learning process, concerns about the inclusion of human service agencies actively working with their counterparts in the public school department, and the lack of ongoing corporate and university involvement.

The student interest designation in the SAT examinations showed a strong set of priorities: business, commerce, and communications with a strong emphasis on business and commerce, followed by physical sciences, particularly computer

sciences and engineering, which formed over 20 percent of the responses; social sciences which dropped to below a fifth with a strong drop in education; biological sciences which declined as well; and the arts and humanities which remained stable at a relatively low percent. These student [illegible]ions accurately reflect the reality of the Stamford labor market. In [illegible]reas, the technological aspects are emphasized. Computer technology, data processing, and other similar skills are considered important for all career futures.

The career studies are even more skewed to today's job market. Business and commerce are strongly shown needs, as are professional and technical positions, which point to public and private management skills. Communications, computer technology, and data processing are considered valuable knowledge. These needs are visible in all potential jobs whether they are health sciences, communication and the arts, recreation, or service areas. Although there is an immediate need for service employees in Stamford, it is strongly suggested that these students be given a professionalized approach to those jobs so that when career ladder opportunities are available they will be able to assume them.

The second most significant need as identified by the private sector are secretarial and clerical, particularly with computer/word processing skills, followed by technical and professional jobs.

Lastly, a review of the state of the art of educational technology documents the above findings. These point to a need for science and mathematics, computer literacy, and the promotion of a diversity of career opportunities. It is strongly suggested from an assessment of occupational projections that all students participate in a post-secondary education program, particularly since in Stamford, entry into the primary national and

local labor market is entry into a successful life in the world of work.

Highlights of Directions for Stamford's Curriculum and Programs

This report has responded to the policy question of designating the priorities that the Stamford Public Schools ought to be addressing in the next two decades through a needs assessment that has included both primary and secondary information. Although many combinations of curricular themes are possible and ought, in fact, to be studied, certain directions recommend themselves when examined in the context of the educational goals and objectives determined by the Education Planning Committee, the Stamford School Board, and the participants in the consultation process. These goals stress an underlying philosophy that high school students would benefit from an educational program directly related to their needs and interests and based upon an instructional framework that recognized career development needs. The goals of the curriculum development phase should include:

- To provide a strong education which will enable each student upon graduation to pursue either higher education or meaningful employment or both
- To provide each student with an awareness of the opportunities available in the work and cultural community and the knowledge and skills necessary to take advantage of these opportunities
- To develop the specific knowledge and skills required for student entry into a major area of work within the community
- To provide each graduate with an education needed to establish and maintain a level of personal dignity.[6]

[6]Marcia Marker Feld, Neutral Site Plan, Volume I (Providence: University of Rhode Island, CPAD/Providence School Department, 1978)

The central purpose of these programs is to provide instructional programs geared to the student's academic, career, and personal needs. Specifically, these curriculum themes will make it possible for the students to become more familiar with their own personal talents and ambitions.

Students can gradually move towards a decision-making level that will allow them to select the best focus for themselves. Most important, their sense of self concept will be enhanced due to the variety of opportunities available to them, thus providing for both personal and academic growth. All high school students will be offered the opportunity to choose from these new curriculum theme programs. All will carry a significant emphasis upon career education directed towards helping students understand their talents and ambitions as they relate to the world of work. These programs will help students develop positive attitudes towards work and life-long learning. Students will learn how to learn and the concomitant skills and attitudes necessary for a world that will be in transition and change.

The curriculum directions which ought to be examined further include:

- a highly professionalized and technical approach to business and commerce
- a generic management program which includes both public and private sector career options
- a physical sciences program relating directly to highly skilled areas in computer science, mathematics, and natural sciences
- health sciences and recreation services which should be grounded in a technological base
- the arts and communications which should encompass the performing arts, the graphic arts, and, particularly, the new forms of media communications

These curriculum directions, emerging from a year long comprehensive policy analysis and planning process, are recommendations to be examined by the curriculum development thrust of the continuing planning process. These highlighted directions are a response to a series of articulated needs for quality education programs and from the demands of the world of work. The needs were identified through the planning process and examined within the context of the goals and objectives of those involved in Stamford's public education system. The curriculum direction when examined should be coordinated with the support programs identified with each target population.

The planning process to be successful, however, must include implementation strategies. Once decisions are made about the direction of the curriculum for the school sytem, the facilities recommendations must be reexamined in greater depth, the student assignment patterns developed, and other apsects of the implementation strategies established. A vigilant and continuous reassessment and monitoring of the manifold elements which comprise the planning process is essential through a continuing collaboration of the Stamford School Board, the Education Planning Committee, the Superintendent, administrators, teachers, students, parents, and the community.

APPENDICES

APPENDIX A

WORKING PAPERS FOR
STAMFORD EDUCATIONAL PUBLIC POLICY IMPACT STUDY

Preliminary Report, Objectives A and B: Social and Physical Policy Environment (April 30, 1982)

Preliminary Report, Objective C: Client Group Analysis (May 31, 1982)

Preliminary Report, Objective D: National Policy Trends (May 31, 1982)

Final Report, Objectives A and B: Social and Physical Policy Environment (June 30, 1982)

Final Report, Objective C: Client Group Analysis (July 31, 1982)

Final Report, Objective D: National Educational Trends and State and Local Implications (July 31, 1982)

Preliminary Report, Objective E: Issues and Concerns about Stamford Schools (July 31, 1982)

Preliminary Report F: Scenario Analysis (August 31, 1982)

Population Supplement (August 31, 1982)

Final Report, Objective E: Issues and Concerns about Stamford Schools (September 30, 1982)

Final Report, Objective F: Scenario Analysis (October 15, 1982)

Facilities Utilization Plan (November 10, 1982)

APPENDIX B

PARTICIPANTS IN THE CONSULTATION PROCESS

Superintendent: Dr. Jerome B. Jones

Educational Planning Committee:

John Grasso	Stamford Education Association
Roslyn Neson	Chair, Student Needs
Sandy Schlachtmeyer	Chair, Space Standards
Rose Marie Grasso	Chair, Districting
Otto Calder	Chairman
Jill Beaudry	Chair, Student Assignment

Curriculum Supervisors:

Michael Tozzoli	Unified Arts
June Florelli	Staff Development
Mary Jane Hagan	Physical Education
Paul Peknik	Science/Mathematics
Beverly Peterman	Reading
John Nerreau	Art/Music
Richard Harper	Social Studies/Language Arts
Armando Touron	Bilingual Education
Deborah Stampfer	Mathematics

Director of Pupil Personnel Services: Edward Friedlander

Director of Guidance: Claire Friedlander

Middle School Principals:

Charles Robinson	Dolan
Granville Roman	Turn of River
Mike Dagostino	Cloonan

Elementary School Principals:

Theodore Bocuzzi	Davenport Ridge
Richard Harper	Hart
Thomas Callahan	Murphy
Nadine Schultz	Newfield
Harvey Okun	Northeast
John Gilchrist	Riverbank
Robert Giapa	Rogers
Pauline Rauh	Roxbury
Frank Jerabek	Ryle
Edward Matthews	Springdale
Vito Cascia	Stark
Mark Carlucci	Stillmeadow
Frederick Fontneau	Toquam
Edward Barbieri	Westover

Elementary School Assistant Principals:

Joseph Dinnan	Davenport Ridge
Thomas Lombardo	Murphy
John Mahan	Newfield
Thomas Coyne	Northeast
Joan McGee	Riverbank
Katherine Cole	Rogers
Geraldine Maher	Roxbury
Mary Savage	Springdale
Frank Valluzzo	Stark
Rudolph Saumell	Stillmeadow
Michael Virgilio	Toquam
George Ruffels	Westover

APPENDIX C

LIST OF ADMINISTRATORS AND DEPARTMENT HEADS INTERVIEWED

WESTHILL HIGH SCHOOL

Jerold Warmsky, Assistant Principal
William Barney, Vice Principal
Charles F. Miller, Vice Principal
Frank Silverstris, Acting Assistant Principal
Richard Boritz, Media Depertment Head
Leon Chimelewski, Arts Department Head
Jesse Chapman, Music Department Head
Dr. Edward Lapinski, Guidance Department Head
Dom Pacerenza, Physical Education Department Head
Anita Cobb, Special Education Department Head
Sondia Melzer, English Department Head
Vincent Falcone, History Department Head
Mary Bankonski, Business Department Head
Vincent Martino, Foreign Language Department Head
Myra Zeleznik, Mathematics Department Head

RIPPOWAM HIGH SCHOOL

Thomas J. Kernan, Social Studies Department Head
Elizabeth B. Gaffney, Foreign Language Department Head
Andrew J. Vitick, Physical Education Department Head
Lean Treglia, Guidance Department Head
Michael A. Renzulli, Unified Arts Department Head
Georgiana D. White, English Department Head
Gylvia T. Moss, Math Department Head
John Hardiman, Vice Principal
Arthur I. Jacuzw, Principal

STAMFORD HIGH SCHOOL

Thelma King, Principal
Tony Markosky
R. Preu, Vice Principal

STAMFORD HIGH SCHOOL (Continued)

H. Bruce Tucc, Assistant Principal
W. Comeoci
Edward R. Komecz
Jerry McWilliams
Jim Bellantoni
John Hags
Al Sches
Lou Parente
Helen Almange
J. Nolan

APPENDIX D

STUDENT LIAISON COMMITTEE INTERVIEWED

WESTHILL HIGH SCHOOL

Mia Tucker
Jennifer Kaplan
Diane Bauer
Adam Morgan

RIPPOWAN HIGH SCHOOL

John Kuczo
John Leydon
John Martelli
Ruth Plumb
Amy Cohan
Stacy Lanzer
Allison Hight
Mindy Feller

STAMFORD HIGH SCHOOL

Hattie L. Cooper
Lisa M. James
Liz Liebow
Bruce Miller
Maureen O'Rourke
John Vines
J. Carpentiere
Deanna Miller

APPENDIX E

INTERVIEW GUIDELINE

High School Consultations

Background of Study:

Looking at external factors (population, land use, housing, labor market and finances) that will and do impact on the Stamford School System.

A. General Questions:

1. What do you see as the external factors affecting education?

2. What do you see as needs identified by changes in community or nation?

3. What do you see as priorities as determined by the school or system?

4. Describe programs and services:

   a. school organization/curricula
   b. special programs
   c. support services

5. What is the level of community involvement? University? Business?

B. If you had the opportunity to create your school, projecting needs to the year 2,000, what would the school look like? What would you add, get rid of, create?

C. Are there specific goals and objectives for your program and/or school in operation now?

D. Have you projected anticipated long-term goals and objectives for the next ten years? Twenty years?

E. Specific issues to be raised if not mentioned

   basic skills
   math/science

E. Specific issues to be raised (continued)

computer or high technology
career education
business curricula
general program
alternative education
gifted
bilingual
special education

F. Private School - Why? How do you attract back?

G. Try to get additional information on:

community education
adult education
peer counseling/tutoring
house plans, clusters, groupings
ratio of counselor to student/role of counselor
extended day activities
extra curricular/sports - Is transportation available?
volunteer program - any work with elderly in high schools?
teacher incentives
public relations