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**COMPREHENSIVE
PLANNING PROGRAM**

**TEMPE
ARIZONA**

REPORT NUMBER ONE

POPULATION

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COMPREHENSIVE PLANNING PROGRAM TEMPE ARIZONA

THE
COMPREHENSIVE PLANNING PROGRAM
TEMPE, ARIZONA

Prepared Under Contract with the
Bureau of Business and Public Research
University of Arizona

by

TEMPE PLANNING DEPARTMENT
and
VAN CLEVE ASSOCIATES, CONSULTING PLANNERS

REPORT NUMBER ONE

POPULATION

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NOVEMBER 1965

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INTRODUCTION

As the City of Tempe undertakes a meaningful self-appraisal preparatory to comprehensive planning, it is essential to examine the number, location and characteristics of the people who compose its population. A study of population, together with other basic studies of land use and economics, is vital to understanding the needs and determining the goals for planning and development of a healthy, prosperous community.

This study of Tempe's population comprises both a quantitative study of past, present and estimated future inhabitants and a qualitative study aimed at identifying and projecting those population characteristics which influence planning for future growth and development.

In determining the best approach to analysis of Tempe's population and its basic characteristics, it is immediately evident that the high ratio of total population represented by ASU students presents special problems and requires special consideration. Since U.S. Census has not enumerated ASU resident students as a separate component of Tempe's population, the student body will distort all local population characteristics significantly. Even more importantly, it will demand special attention in all subsequent analyses of housing, economics, market, employment, labor force, and business factors which will follow as part of the fact-finding phase of the planning program.

Comparative analysis is always useful in studying and understanding local population characteristics. This report includes brief evaluations of the growth of the state, county, and certain other urban entities which are reasonably similar to the local area or whose comparison yields significant information and understanding of the data presented.

Much of the data contained in this report was extracted from publications of the U.S. Census of 1960; other sources are cited where applicable. Current population statistics came from a special census conducted in Tempe during October and

November, 1965. Since the special census recorded, in addition to head count, only the characteristics age, sex, and relationship to head of household, most of the report data on population characteristics has, of necessity, been drawn from 1960 Census publications. In most cases, data has been set down in the same form in which it was published by the Census; however, in some instances it has been arithmetically re-structured in order to reveal information not otherwise apparent.

Census and other source data was carefully screened on the basis of value and pertinence to subsequent planning studies and that selected for publication is limited to data providing factual background for consideration of future planning proposals.

PART I
POPULATION GROWTH

State and County Growth

During the first half of the Twentieth Century the general population growth experienced in the American Southwest was largely a continuance of the national pattern of westward expansion and frontier development which had begun in the early 1800's.

Before 1940, economic activity in certain specialized fields was the primary factor encouraging migration to Arizona. Employment and business opportunities were afforded by the development of agriculture and mining industries and related service activities, and by construction of major reclamation and transportation facilities. As a secondary growth factor, Arizona's climate attracted health seekers and retired persons from all over the nation. During the 1930's the growth rate decreased substantially and population increase was divided fairly evenly between in-migration and natural increase.

The establishment of military training bases and service industries in Arizona during World War II created an entirely new set of population growth forces. Originally assumed to be of a temporary nature, these forces proved to be self-generating and have continued to gain strength to the point that defense-oriented manufacturing and service industries have become a major component of Arizona's economy.

Military and industrial activity during World War II introduced thousands of servicemen and civilian employees to the Salt River Valley, and many have since returned to take up permanent residence in the Phoenix Metropolitan Area. Following the war, the national dispersal of defense-oriented industries, the increasing mobility of the nation's population, and the educational incentives offered war veterans sponsored a sharp rise in population growth rates in the Phoenix Metropolitan Area and in the City of Tempe.

Arizona's share of the nation's population has increased steadily since 1910, evidencing the national movement to the Southwest. In the period 1952-1962, two-thirds

of Arizona's population increase was attributed to net migration.^{1/} Most of the state's population growth has occurred in its two metropolitan counties. Figure 1 shows that Maricopa County's share of the state's population increased from 17% to 51% between 1910 and 1960, demonstrating the growing trend toward urban and metropolitan living. In 1965, the combined population of Maricopa and Pima Counties accounted for nearly three-fourths of the state's population with the balance spread rather thinly among the remaining counties.^{2/}

Local Growth

Between 1910 and 1940, when Tempe served primarily as an agricultural service center, the city grew slower than other areas in the county. After World War II, Tempe entered a period of transition from its agricultural service base to a more diversified economy and has consistently enlarged its share of the county population.

Figure 2 shows that between 1940 and 1960 Tempe grew at a faster rate than the state, county, city of Phoenix, and the suburban cities of Mesa and Glendale. The local growth rate has been most closely paralleled by that of Chandler, a free-standing community outside the metropolitan area which has been influenced by a somewhat different set of growth forces.

Between 1950 and 1960, Tempe's population increased more than three-fold, from 7,684 to 24,897, due chiefly to industrial expansion, rising college attendance and general in-migration for climatic and health reasons.

The State of Arizona, in general, and the Phoenix urban complex, in particular, are magnets which continue to attract interstate migration. Aside from the in-migration attracted by Arizona State University, it is clear that a major proportion of Tempe's population growth is the result of a secondary population movement from

1/ During 1962, natural increase accounted for 26,591 of the approximate 76,600 increase. Employment Security Commission of Arizona, The Economy of Arizona, February 1964.

2/ Valley National Bank, "Arizona Progress", July 1965.

Figure 1
POPULATION GROWTH, 1910-1965
 Arizona, Maricopa County & City of Tempe

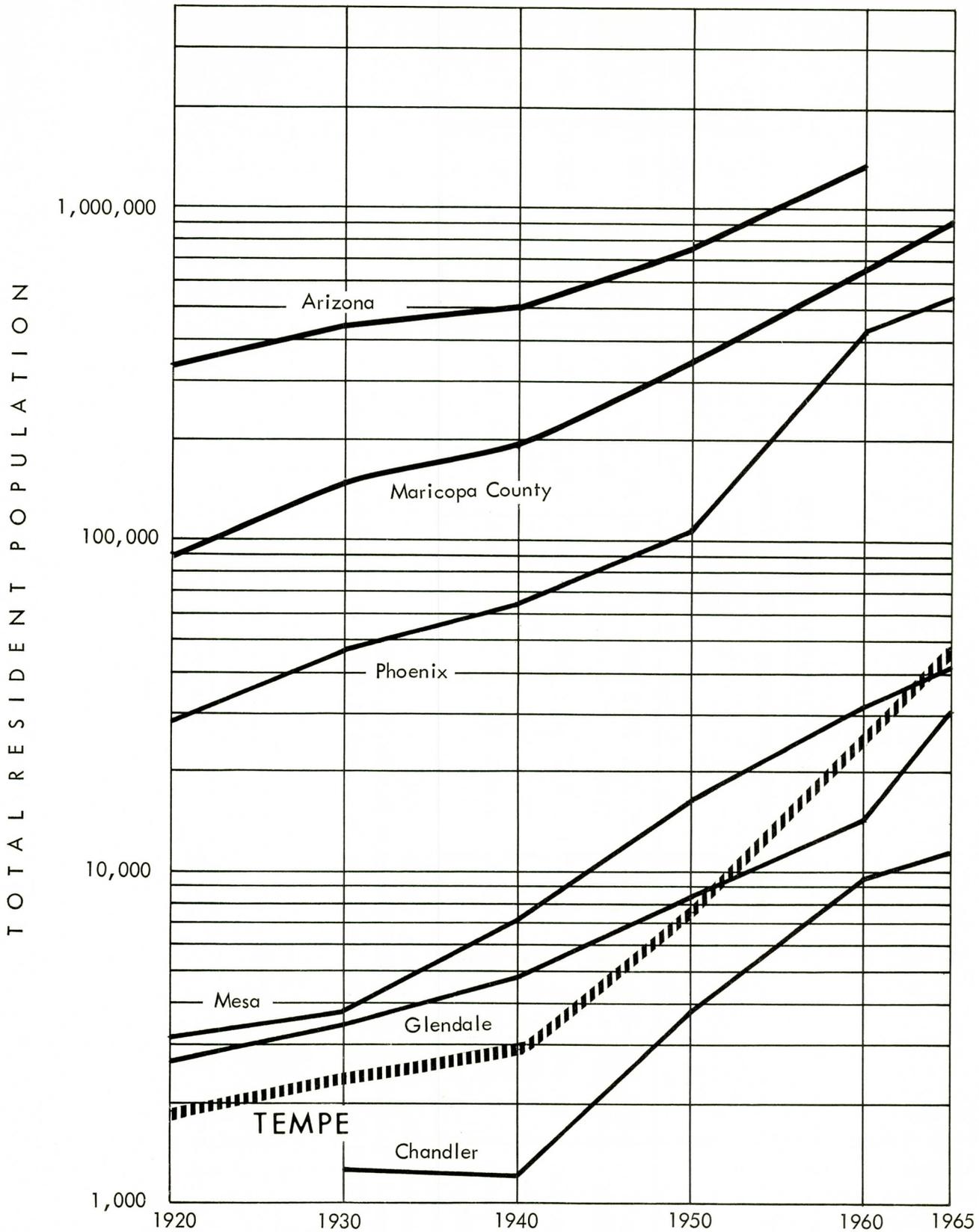
	1910	1920		1930		1940		1950		1960		1965	
	No.	No.	%Inc.	No.	%Inc.	No.	%Inc.	No.	%Inc.	No.	%Inc.	No.	%Inc.
Arizona	204,354	334,162	63.5	435,573	30.3	499,261	14.6	749,587	50.1	1,302,161	73.7	1,644,716	26.3
% of U.S.	0.22	0.31		0.35		0.38		0.50		0.73		0.85	
Maricopa Co.	34,488	89,576	159.7	150,970	68.5	186,193	23.3	331,770	78.2	663,510	100.0	861,831	30.0
% of Ariz.	16.9	26.8		34.7		37.3		44.3		51.0		52.4	
City of Tempe	1,473	1,963	33.3	2,495	27.1	2,906	16.5	7,684	164.4	24,897	224.0	45,638*	83.3
% of Mar. Co.	4.3	2.2		1.7		1.6		2.3		3.8		5.3	

*Preliminary total, Special Census, October 1965.

Source: 1910-1960 Statistics: U.S. Census of Population, 1960.

1965 Forecasts: Series P-25, No. 309, June 11, 1965, U.S. Bureau of Census.

Figure 2
POPULATION GROWTH, 1920-1965
 Arizona, Maricopa County & Selected Cities



Source: 1920-1960, U.S. Bureau of the Census
 1960-1965, Maricopa County Planning Department
 Annual Area and Population Report

other parts of the Phoenix Metropolitan Area.^{1/}

University Growth

Arizona State College was founded in 1885 as Arizona Territorial Normal School. Its enrollment grew steadily from 33 students in 1888 to 1,497 in 1940. World War II cut the enrollment in half, but enrollment climbed rapidly after the war spurred by the educational incentives of the GI Bill. Figure 3 shows the growth of ASU enrollment since 1950, compared to national average increases in college enrollment. Figure 4 shows the comparative growth of ASU enrollment and Tempe population.

Figure 3
FIRST SEMESTER ON-CAMPUS ENROLLMENT, 1950-1965
 Arizona State University

Year	ASU Enrollment ^{1/}	% Annual Increase ASU	% Annual Increase National ^{2/}
1950	4,045	-1.2	--
1951	3,804	-5.9	--
1952	3,870	1.6	--
1953	4,077	8.0	4.8
1954	4,332	6.3	11.1
1955	5,180	20.0	8.8
1956	6,414	24.0	7.1
1957	7,974	24.0	4.1
1958	9,708	22.0	6.2
1959	10,275	5.8	4.0
1960	10,640	3.6	6.1
1961	12,049	13.2	7.0
1962	13,765	14.2	7.0
1963	15,419	12.0	7.7 ^{3/}
1964	16,921	9.7	10.8 ^{3/}
1965	18,400	8.7	n.a.

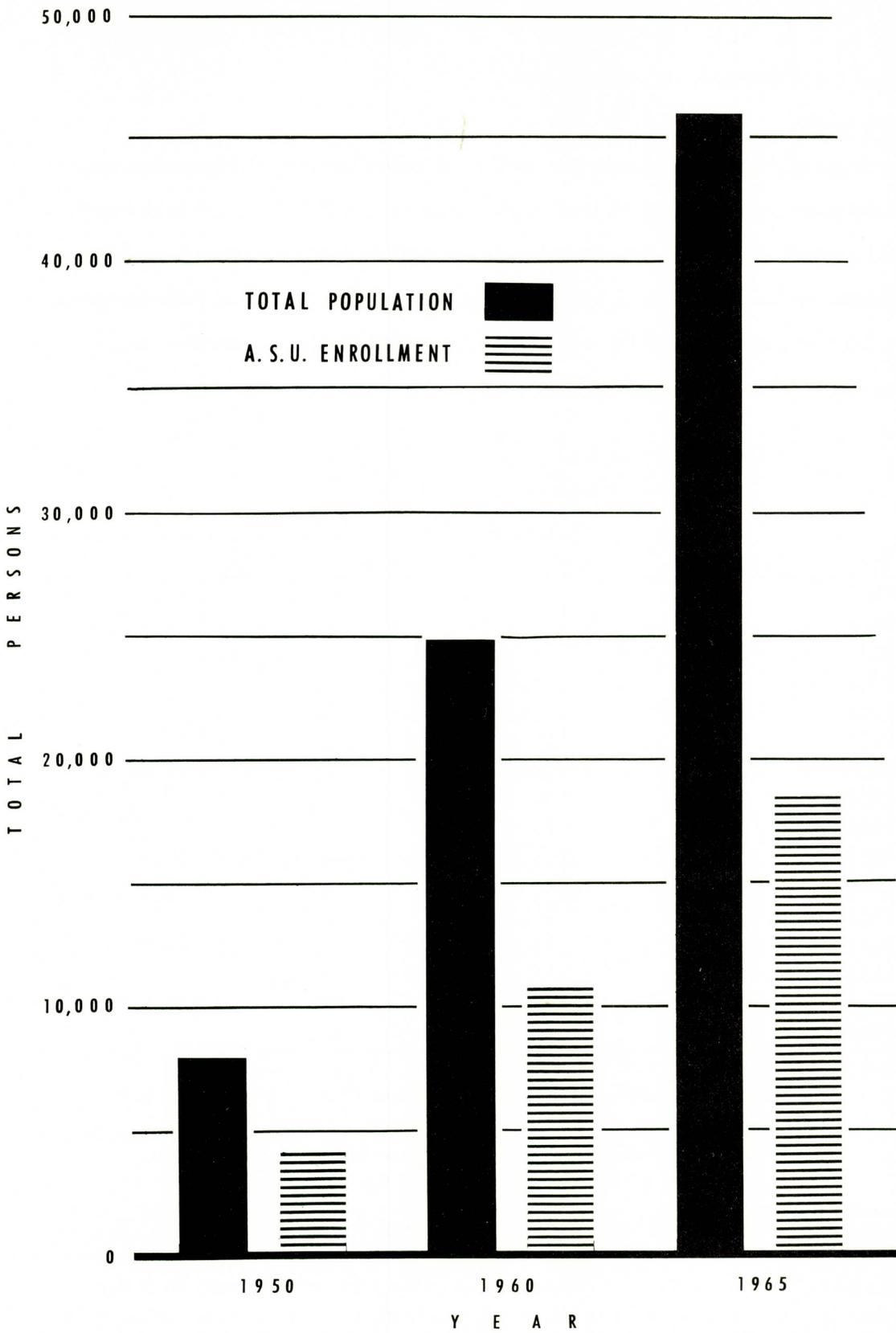
Source: 1/ "Arizona State Enrollment Summary for the Academic Year 1963-64", Arizona State University.

2/ United States Office of Education reports.

3/ "Opening (Fall) Enrollment in Higher Education, 1964" U.S. Dept. of Health, Education & Welfare.

1/ A survey of multi-family dwelling units in the City of Tempe conducted in October 1965 showed that more than 27% of the families had formerly lived elsewhere in the Phoenix Metropolitan Area and 10% were from other parts of Arizona. In multi-family dwelling units occupied exclusively by ASU students, 26% of the occupants came from the Phoenix Metropolitan Area and 21% from other places in Arizona.

Figure 4



COMPARATIVE GROWTH 1950 - 1965
A. S. U. ENROLLMENT AND TEMPE POPULATION

PART II
CURRENT POPULATION

In commencing population study prior to the Special Census of 1965, it was necessary to estimate the current population levels of the City and of the Planning Area. Of the several methods used, three were selected as most applicable to local conditions: (1) application of a step-down ratio of the city's share of the total county population; (2) a comparative mathematical method based on specific growth indicators; and (3) application of average persons per household to a dwelling unit count made in 1963 as a part of a land use survey conducted by the Valley Area Traffic and Transportation Study (VATTS).

Method 1: Tempe's share of the Maricopa County population has increased from 1.6% in 1940 to 2.3% in 1950 and 3.8% in 1960. A straight mathematical projection of this rate increase to January 1, 1965 produces a population estimate of 46,452. This estimate was considered valid, despite the fact that, since 1960, Tempe's growth rate has greatly exceeded that of Maricopa County.

Method 2: Figure 5 shows the growth records of the several public utilities, the elementary schools, and postal receipts. These records indicate that the 1965 population is somewhere between 37,840 and 53,133. An average of the three most reliable factors — electrical and water connections and school enrollments — produces a January 1, 1965 population estimate of 46,237 within the corporate boundaries.

Method 3: The land use survey conducted by VATTS in the summer of 1963 recorded a total of 10,064 living units^{1/} within the City of Tempe and 10,670 units within the limits of the Tempe Planning Area. The Phoenix Republic and Gazette consumer survey of 1964^{2/} indicated an occupancy rate of 94% for the Tempe area. The 1960

1/ VATTS definition of "living unit": a group of rooms, or single room, occupied or intended for occupancy, as separate living quarters, by a family or other group of persons living together or by a person living alone. VATTS Land Use Survey Manual, 1963.

2/ The Arizona Republic/The Phoenix Gazette, "1964 Inside Phoenix".

Figure 5
MISCELLANEOUS GROWTH INDICATORS, 1960*-1964
 City of Tempe

Item	1960	1961	1962	1963	1964	1965 Pop.Est. ^{1/}
Gas Connections	6,353	7,338	8,219	9,399	9,653	37,840
Persons Per Conn.	3.92					
Electrical Conn.	6,077	7,249	8,877	10,354	11,070	45,408
Persons Per Conn.	4.10					
Water Connections	4,893	5,650	7,171	8,421	10,069	51,251
Persons Per Conn.	5.09					
Telephone Conn.	5,284	5,860	6,843	8,027	9,222	43,436
Persons Per Conn.	4.71					
Elementary School Enrollment	4,413	5,053	5,662	6,371	7,147	42,052
Persons Per Pupil	5.64					
Postal Receipts	\$276,340	\$291,106	\$327,343	\$426,216	\$494,875	41,274
Dollars Per Capita	11.99					

*1960 Population: 24,897

^{1/} 1965 Population Estimate based on 1964 end-of-year connection totals multiplied by 1960 average number of persons per connection.

Source: City of Tempe records.

Census indicated that the number of persons per household in the Tempe area ranged from 2.80 to 5.79 with an overall average of 3.58 persons per living unit. An estimated 2,149 living units were constructed in the city between the date of the land use survey and January 1, 1965. ^{1/} Arithmetical combination of the number of living units, the occupancy rate and the number of persons per household, produces a population estimate of 41,098 for the City of Tempe on January 1, 1965. This estimate appears low, probably due to the distortion of average household size by University students.

^{1/} Based upon one-half of building permits issued in 1963 and all permits issued in 1964.

Based on the foregoing test methods it was estimated that the population of Tempe was 45,000 on January 1, 1965, with an additional 6,300 persons residing in the unincorporated portion of the Tempe Planning Area.

The Special Census of 1965, conducted in October-November, recorded 45,638* persons living in the City of Tempe.

Thus, we have several sources of population data for the Tempe Planning Area: (1) U.S. Census of 1960, covering all of the Tempe Planning Area and providing a full range of characteristics in addition to head count; (2) Estimates of the number of city residents in January 1965, and (3) Special Census of 1965, covering the city only, and recording only a limited number of population characteristics.

Addition of the January 1965 estimated population of the unincorporated part of the Planning Area to the Special Census figure of 45,638* city residents produces an estimated 1965 population of 52,000 for the Tempe Planning Area.

University-Oriented Population

The first semester, 1965-66, total enrollment of Arizona State University is 18,400. 3,992 students (22%) are quartered in school-assigned facilities (dormitories, contract motels and fraternities).^{1/} A census and sampling of multi-family unit occupancy conducted in October 1965 revealed that 2,944 students (16%) reside in apartments in Tempe.^{2/} A separate study of place-of-residence revealed that approximately 42% of the total student body actually resides in Tempe during the nine-month college year.^{3/} Dependents of married students residing in Tempe bring the total of students and student family members currently living in Tempe to approximately 9,522.

Approximately two-thirds of the faculty and three-fourths of the staff and auxiliary personnel employed on the campus live in Tempe. Faculty, staff and their families account for approximately 3,575 of Tempe's current population.

* Preliminary.

1/ Interview with Mr. T.T. Crance, Special Assistant to the President, A.S.U.

2/ Occupancy Survey, Multi-family Units, October 1965.

3/ Place-of-Residence Survey, October 1965.

Thus, the university-oriented component comprises 17,088 persons, or 37% of Tempe's current population, and the ratio of university-oriented residents to enrolled students is approximately 0.93 to 1.0.

PART III
POPULATION CHARACTERISTICS

University-Oriented Population

Full-time married students totaled 13% of the total ASU enrollment for the 1962-63 school year. According to a survey conducted by the ASU Bureau of Business Services, 45% of these married students lived in Tempe. The percentage of married persons in the student body has risen steadily for a number of years and it is safe to assume that an increasing percentage of married students reside in Tempe due to the improved availability of apartment units. Hence, it is estimated that the 1965 student body includes approximately 2,400 full-time married students and that approximately half of these students live in Tempe.

Of the 16,921 students enrolled the first semester 1964-65, 79% were from Maricopa County and another 7% were from other Arizona counties.^{1/} In 1964-65, the University employed full-time 1,191 wage and salaried personnel. In addition, an estimated 150 persons are employed on campus in auxiliary enterprises.^{2/}

Figure 6 shows the place of residence of the student body and faculty during the 1964-65 school year.

Figure 6
PLACE OF RESIDENCE OF STUDENTS & FACULTY, 1964-65
 Arizona State University

Place	Students		Faculty	
	No.	%	No.	%
Tempe	7,237	42	854	66
Phoenix	6,118	36	180	14
Scottsdale	1,944	11	179	14
Mesa	976	6	69	5
Chandler	306	2	6	} 1
Glendale	300	2	1	
Other	186	1	6	

Source: Place-of-residence survey, October 1965.

1/ Arizona State University, Enrollment Summary, 1964-65.

2/ Interview with Mr. T.T. Crance.

Population Distribution

In 1960, 85.2% of the population of the Tempe Planning Area lived within the city limits. Figure 7 shows the 1960 population distribution by enumeration district. Household size and composition vary widely through the planning area with the highest density located in the central area where University housing is concentrated. Other high density areas appear south of Broadway and east of Rural Road, and in the settlement of Guadalupe. The high density of the State TB Hospital must be considered a special case. Household size in typical single-family residential areas ranges between 3.13 and 3.55 persons, the normal range for urban single-family areas throughout the nation.

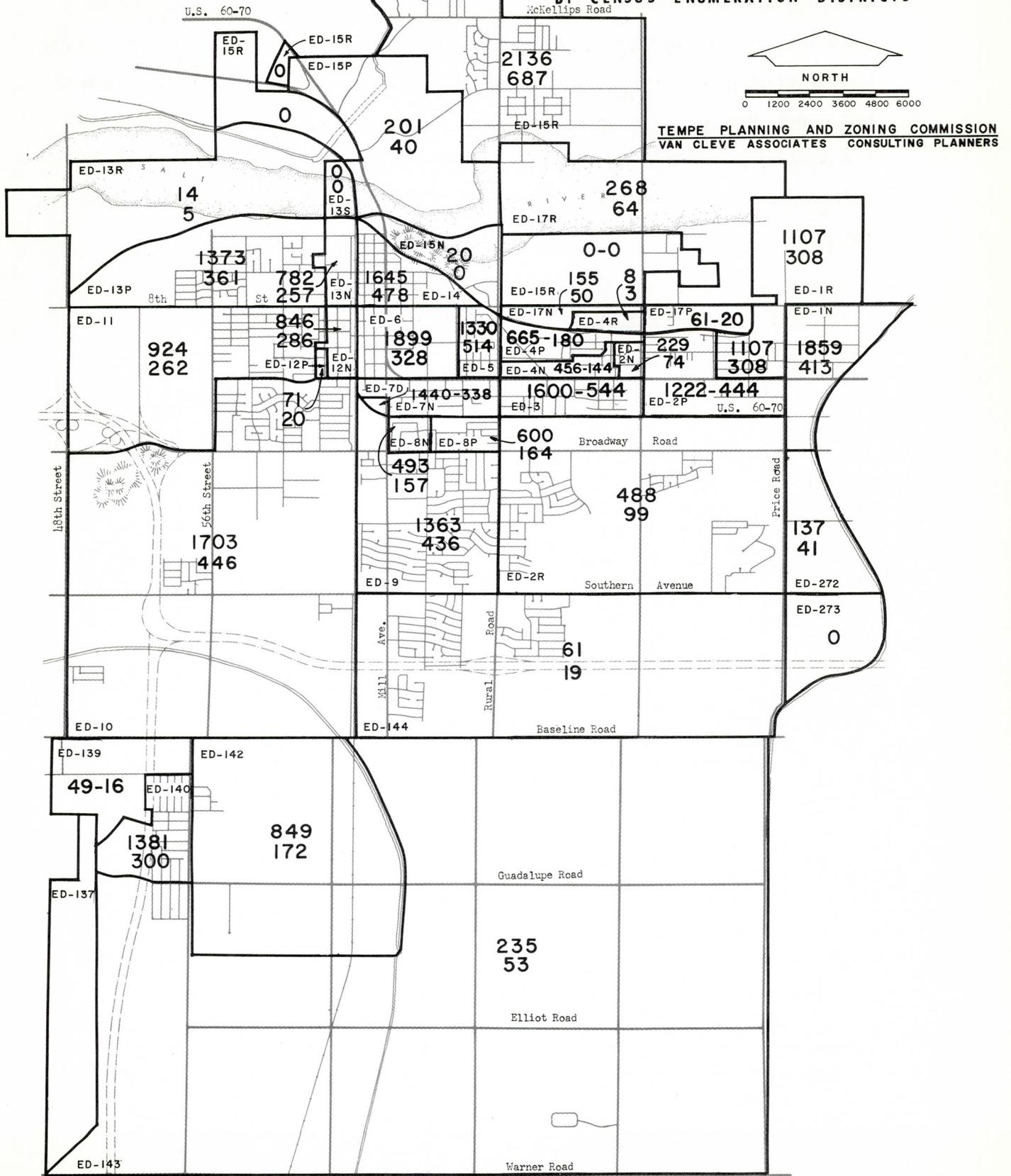
Figure 7

DISTRIBUTION OF POPULATION AND HOUSING UNITS - 1960

LEGEND

268 TOTAL POPULATION
64 TOTAL HOUSING UNITS

BY CENSUS ENUMERATION DISTRICTS



The preparation of this plan was financially aided through a Federal grant from the Urban Renewal Administration of the Housing and Home Finance Agency under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended.

Figure 8 shows Tempe's gross density of population in 1960 and 1964^{1/} as compared with that of other nearby cities. Tempe's gross density of population is substantially lower than that of any other city shown and of the county average. 1960 gross density figures for all communities in the Phoenix area are seriously distorted as the result of last-minute annexation actions preceding the 1960 census, when vast areas of rural and undeveloped land were annexed. Comparison of gross densities suggests the wide differences between communities in respect to development control and annexation policies.

Figure 8
GROSS DENSITY OF POPULATION, 1960-64
Tempe and Selected Entities

Entity	U.S. Census - 1960 ^{1/}			Estimated Population - 1964 ^{2/}		
	Pop.	Area (sq. mi.)	Pop. per sq. mi.	Pop.	Area (sq. mi.)	Pop. per sq. mi.
Chandler	9,531	2.15	4,433.0	11,425	2.83	4,037.1
Glendale	15,696	3.80	4,130.5	28,000	10.76	2,602.2
Mesa	33,772	14.03	2,407.1	44,000	17.10	2,573.1
Phoenix	439,170	187.40	2,343.5	513,667	222.60	2,307.6
TEMPE	24,897	20.20	1,232.5	43,000	23.75	1,810.5
Maricopa Co. Inc. Areas	555,663	237.90	2,335.7	724,680	367.65	1,971.1

Source: 1/ U.S. Census of Population, 1960.

2/ Maricopa County Planning Department, "Population and Area of Incorporated Places", 1964.

1/ Source: Maricopa County Planning Dept., "Population and Area of Incorporated Places", 1964.

Age, Sex and Marital Composition

The influence exerted by the University student body is immediately evident in the study of age, sex and marital composition of the Tempe population. Figures 9 through 11 show that:

1. The male-female sex ratio is higher than county and state averages influenced by the predominance of males in the student body;
2. Girls enter college at a younger age than men, producing a higher ratio of females in the 15-19 year age group;
3. The median age level is lower than that of state, county or any nearby city;
4. The ratio of total population represented by the 15-19 and 20-24 year age groups (24.8%) is extremely high;
5. The number of married persons in the population is considerably lower than state or county averages;
6. The 18-65 year age group is the most productive in both population increase and material wealth. The size of this age group is clearly effected by the University student body;
7. The low percentage (5.1) of persons 65 years and older, as compared to the City of Mesa (9.0%) suggests that Tempe has not been especially attractive to elderly or retired people

Births and Deaths

Births, deaths and net migration are the three basic components of population change. Natural increase^{1/} is a significant factor in the population growth of older, more stable cities subject only to normal population mobility. Although it has not proven so during Tempe's recent growth period, natural increase will become an increasingly important growth factor as the city stabilizes and matures. Nevertheless, for the next decade or so, in-migration will continue to overshadow natural increase as the dominant component of local population growth.

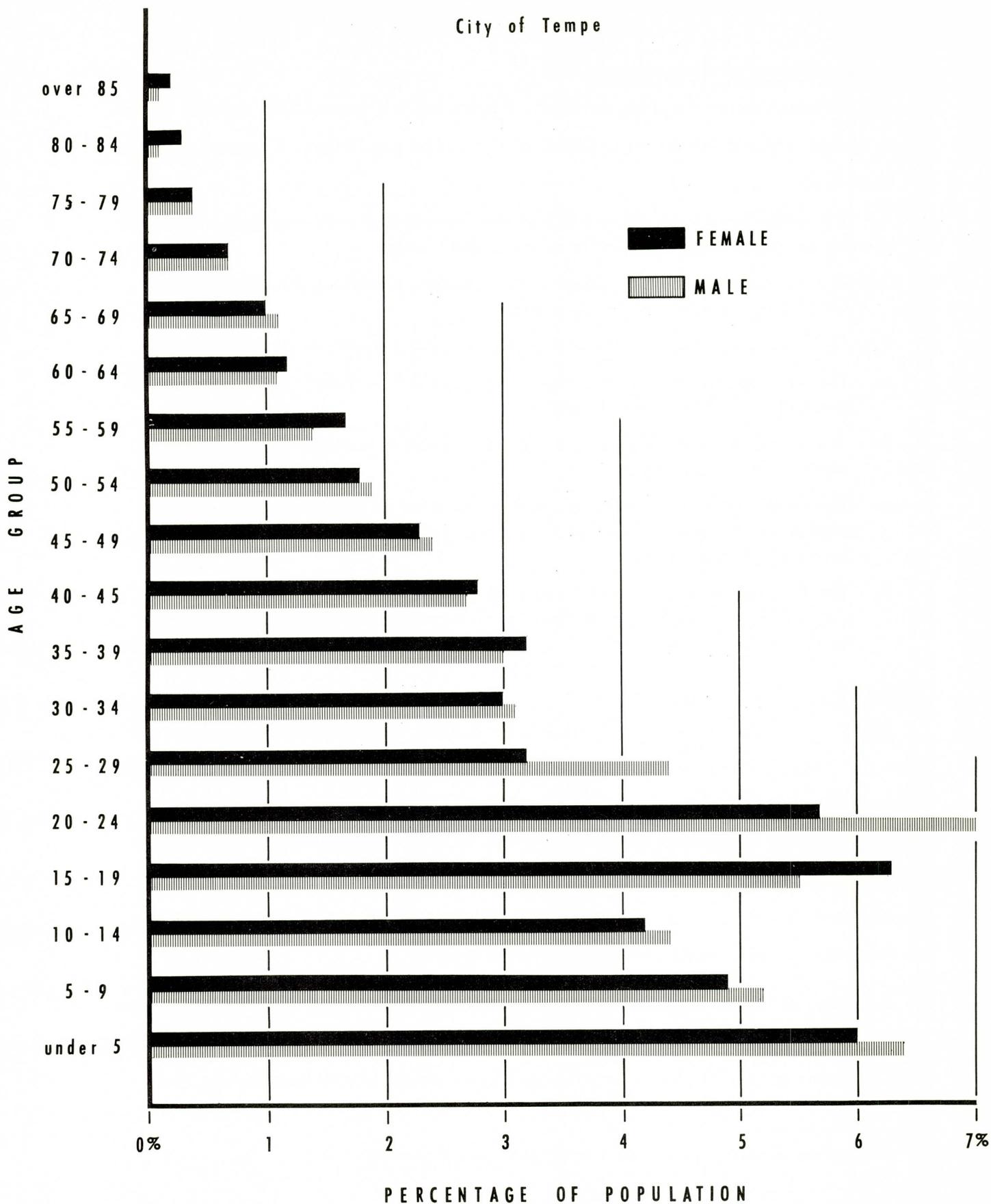
A variety of factors combine to influence the number and rates of births during any given period. Age and sex composition of the population, cultural and social standards, and economic conditions, all effect the number of women of childbearing age and

1/ The excess of births over deaths is termed natural increase.

Figure 9

AGE AND SEX COMPOSITION - 1960

City of Tempe



Source: U.S. Census of Population, 1960

Figure 10
POPULATION BY AGE GROUP, 1960
 City of Tempe & Selected Entities

Entity	Total Population	Median Age	Under 18 years		18-65 years		65 years & over	
			No.	% of Tot.	No.	% of Tot.	No.	% of Tot.
Arizona	1,302,161	25.7	517,429	39.8	694,507	53.5	90,225	6.9
Maricopa Co.	663,510	26.7	257,454	38.8	358,601	54.0	47,455	7.2
TEMPE	24,897	22.7	8,950	35.9	14,669	58.9	1,278	5.1
Chandler	9,531	n.a.	4,068	42.7	4,973	52.2	490	5.1
Glendale	15,696	23.8	6,329	40.3	8,104	51.6	1,263	8.0
Mesa	33,772	25.3	13,924	41.2	16,809	49.8	3,039	9.0
Phoenix	439,170	28.4	166,432	37.9	239,090	54.4	33,648	7.7

Source: U.S. Census of Population, 1960.

Figure 11
MARITAL STATUS OF POPULATION, 1960
 City of Tempe & Selected Entities

Entity	Males 14 years & older					Females 14 years & older					Total 14 yrs & older	% of Pop.
	Single	Married	% Marr.	Wid. & Divorced	Total	Single	Married	% Marr.	Wid. & Divorced	Total		
U.S.	15,413,000	42,417	69.1	3,532,000	61,362,000	12,380,000	42,749,000	65.9	9,785,000	64,914,000		
Arizona	108,368	301,183	69.1	26,435	435,986	76,873	298,782	68.7	59,541	435,196	871,182	66.9
Maric. Co.	52,674	157,222	70.5	13,212	223,108	37,857	156,357	69.2	31,651	225,865	448,973	67.7
TEMPE	3,212	5,332	60.0	336	8,880	2,413	5,307	61.6	889	8,609	17,489	70.2
Mesa	2,397	7,847	72.8	533	10,777	1,919	7,933	68.9	1,668	11,520		
Phoenix			71.8					68.4				

Source: U.S. Census of Population, 1960.

their propensity to have children. The prediction of future birth rates is based upon past and present trends in fertility rates. Figure 12 shows that Tempe's fertility ratios are lower than state and county averages in the 15-24 and 25-34 age groups, but higher in the 35-44 age group. Here again, the influence of the student component is evident in the low percentage of married women and the low birth rate in the 15-24 age group.

Figure 12
FERTILITY RATES BY AGE GROUP, 1960
 City of Tempe & Selected Entities

Entity	15-24 Age Group		25-34 Age Group		35-44 Age Group	
	Percent Marr. to Tot. Pop.	Births per Marr. Woman	Percent Marr. to Tot. Pop.	Births per Marr. Woman	Percent Marr. to Tot. Pop.	Births per Marr. Woman
Arizona	45.7	1.406	94.1	2.715	97.6	2.894
Maric. Co.	46.1	1.331	94.0	2.596	97.8	2.718
TEMPE	35.1	1.120	98.1	2.568	92.0	3.131

Source: U.S. Census of Population, 1960.

Figure 13 shows comparative birth and death rates for the city, county, state and nation for 1950 and 1960. National and state birth rates have declined steadily since 1950 while the county rate has gained slightly. With the trend towards smaller family size, increased urbanization, and a higher percentage of elderly persons in the population, the general decline in birth rates is expected to continue. It is anticipated that Tempe's birth rate will more closely parallel that of Maricopa County in the future.

A general decline in death rates has been demonstrated for many years, the result of constantly improving medical technology, improved availability of medical care, and the lowering retirement age. As the result of high birth rates of the 1940's, the death rate will continue to decline despite the increasing number of elderly persons in the population.

Figure 13
BIRTH & DEATH RATES, 1950 & 1960
 City of Tempe & Selected Entities

Entity	1950		1960	
	Birth Rate	Death Rate	Birth Rate	Death Rate
United States	24.1	9.6	23.7	9.5
Arizona	30.7	8.5	28.2	7.8
Maricopa Co.	26.9	8.3	27.3	7.7
TEMPE	27.5	6.5	26.3	4.6

Source: U.S. Census of Population, 1960.

Composition of Households^{1/}

Data regarding the composition of households provides the basis for analyzing current conditions and estimating future needs in several major areas of planning interest. Although 1960 Census figures related to family composition were based upon data for a single year, they are extremely useful in general planning studies. This characteristic of population is especially significant in consideration of current and future school loads, service areas, plant needs and systems planning. It guides the development of park and recreation standards and programs, and the planning of recreation systems and facilities. Very substantial differences in the composition of population would be required to produce significant changes in the average family composition for the city.

While it is relatively simple to count the number of occupied housing units in a given geographical area, it is difficult to accurately determine the age and relationship of residents. Consequently, the average numbers and ages of occupants of census-enumerated dwelling units are usually accepted as sufficiently accurate for general planning purposes. Figure 14 shows the average household size in Tempe as compared with that of other selected entities, while Figure 15 shows the average age composition of households.

^{1/} According to U.S. Census definition, a household comprises all persons occupying a housing unit. A housing unit is defined as a room or group of rooms occupied or intended to be occupied as separate living quarters.

Figure 14
HOUSEHOLD SIZE, 1960
 City of Tempe & Selected Entities

Entity	Total Population	Pop. in Households	No. of Hshlds	Pers/ Hshld	Persons in Grp. Qtrs.	
					No.	% of T. P.
Arizona	1,302,161	1,264,637	366,630	3.45	37,524	2.9
Maric. Co.	663,510	646,433	191,076	3.38	17,077	2.6
TEMPE	24,897	22,421	6,551	3.42	2,476	9.9
Chandler	9,531	9,476	2,702	3.51	55	0.6
Glendale	15,696	15,560	4,389	3.55	136	0.9
Mesa	33,772	33,675	9,586	3.51	97	0.3
Phoenix	439,170	433,027	132,083	3.28	6,143	1.4

Source: U.S. Census of Population, 1960.

Figure 15
AVERAGE COMPOSITION OF HOUSEHOLDS, 1960
 City of Tempe & Selected Entities

Item	Tempe	Chandler	Glendale	Mesa	Phoenix
1960 Population	24,897	9,531	15,696	33,772	439,170
No. Occupied Hsg. Units	6,551	2,702	4,389	9,586	132,083
Avg. Persons/ Occpd HU	3.42	3.53	3.55	3.51	3.28
Persons/ Occpd HU by Age Group					
Under 5	.47	.51	.49	.45	.39
5	.08	.09	.09	.08	.08
6-11	.44	.51	.46	.51	.44
12-13	.14	.16	.15	.16	.14
14	.06	.06	.06	.06	.05
15-17	.18	.18	.18	.19	.16
Under 18	1.36	1.51	1.44	1.45	1.26
18-64	2.24	1.84	1.85	1.75	1.81
Over 64	.19	.18	.29	.32	.25

Source: U.S. Census of Population, 1960.

Figure 16 shows the variations in household size in 1960 by enumeration district. Although household composition varies widely throughout the city, Tempe's overall average closely follows the norm for cities in the Phoenix Metropolitan Area.

With the advent of data processing, many school systems have taken advantage of this technique to develop and maintain enrollment data and housing characteristics for purposes of current and future enrollment analysis and prediction. Survey and data processing by the Tempe Elementary School District can provide a continuing flow of current data to the Planning Department in the future, particularly in respect to household size and composition.

Racial Composition

In 1960 less than one percent of Tempe population was non-white^{1/}. It is assumed that most of the enumerated non-white were university-oriented persons.

School Enrollment and Educational Attainment

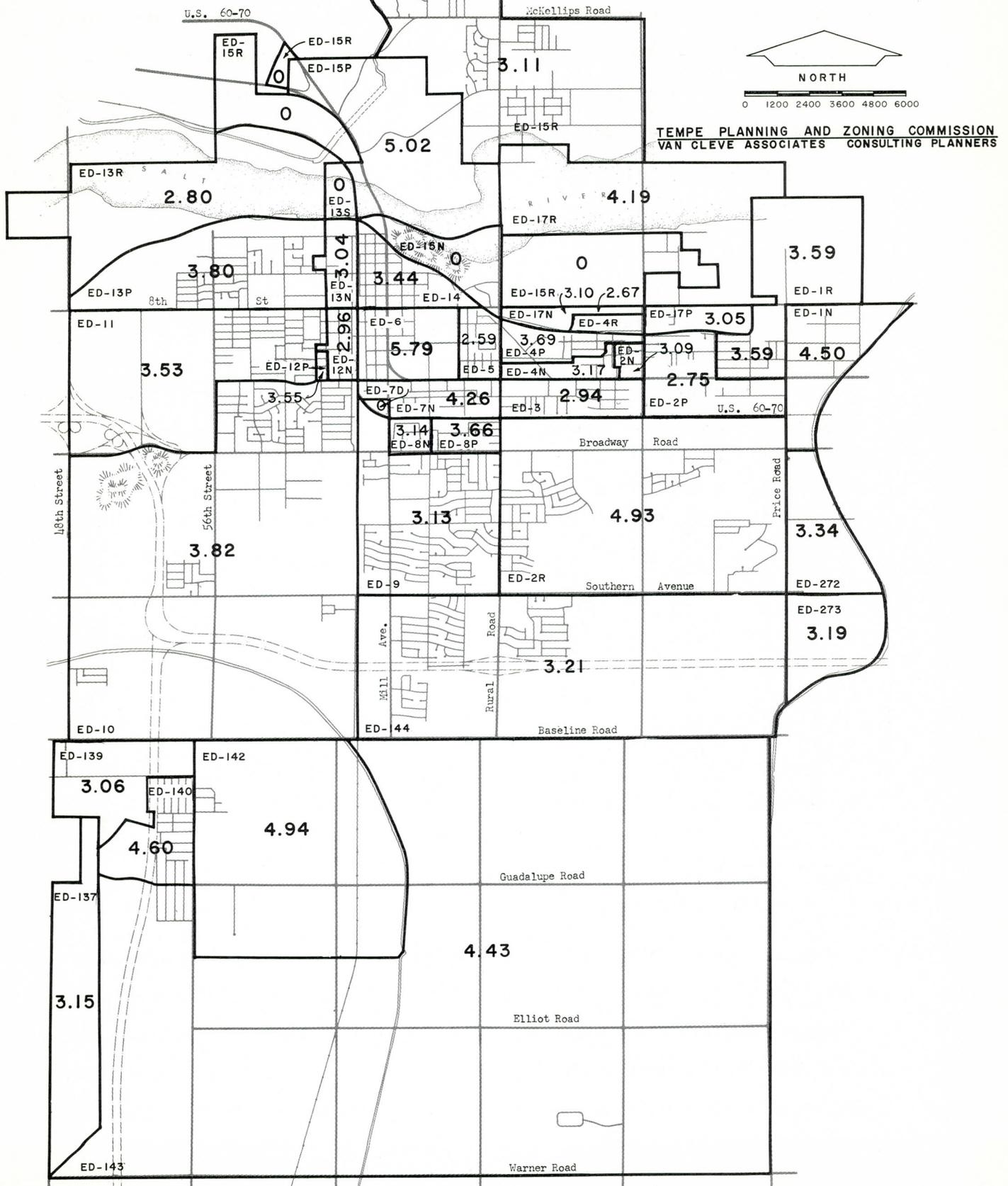
Two major school districts, Tempe Elementary School District Number 3 and Tempe High School District, serve most of the Tempe Planning Area. A small area of the city lies in the Scottsdale School District and part of the Planning Area is in the Kyrene Elementary School District. Figure 17 shows the growth of school enrollment in the Tempe Elementary and High School Districts during the period 1950-1965.

Figure 18 shows the 1960 school enrollment by age group for Tempe and selected entities. Whereas the City of Tempe had the highest percentage of its 5-13 age group enrolled in school, its percentage of the 14-17 year age group enrolled was

1/ The U.S. Census classifies as white those persons of Mexican birth or ancestry who are not definitely of Indian or other non-white race. Persons of mixed Negro and Indian descent are classified as Negro unless Indian ancestry very definitely predominates or unless the individual is regarded by the community as being Indian. Other persons of mixed racial parentage are classified according to the race of the non-white parent, or, in the case of mixed non-white parentage, by the father's race.

Figure 16

HOUSEHOLD SIZE - 1960 BY CENSUS ENUMERATION DISTRICTS



The preparation of this plan was financially aided through a Federal grant from the Urban Renewal Administration of the Housing and Home Finance Agency under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended.

lowest. At this writing, no explanation can be advanced as to why enrollment was low in the 14-17 age group. Elementary school enrollment normally amounts to 18 to 20% of the total population, while high school enrollment accounts for 5 to 6% of total population. Allowing for the distortion of all age group ratios by the University Students in the 17-24 year age group, it appears that the rule of thumb for estimating future elementary and high school enrollment in Tempe should be 16% and 5% of total population respectively.

Figure 17
SCHOOL ENROLLMENT 1950-65
 Tempe Elementary and High School Districts

Year	Tempe Elementary School District 3			Tempe High School District		
	End of Year Enrollment	Total Increase	Percent of Increase	End of Year Enrollment	Total Increase	Percent of Increase
1950-51	1,597			468		
52	1,762	165	10.3	478	10	2.1
53	2,009	247	14.0	596	118	24.7
54	2,720	711	35.3	677	81	13.6
55	2,839	119	4.4	717	40	5.9
56	3,109	270	9.5	768	51	7.1
57	3,421	312	10.0	885	117	15.2
58	3,525	104	3.0	971	86	9.2
59	3,868	343	9.7	1,113	142	14.6
60	4,413	545	14.0	1,237	124	11.1
61	5,053	640	14.5	1,417	180	14.6
62	5,662	609	12.0	1,650	233	16.4
63	6,371	709	12.5	1,915	265	16.1
64	7,147	776	12.1	2,264	349	18.2
65	7,765	618	8.6	2,544	290	13.9

Source: Tempe Elementary School District No. 3 and Tempe Union High School District.

Figure 19 shows that the educational attainment level of Tempe's population is appreciably higher than that of the county, state and nearby cities. The large number of residents associated with the university produce the extremely high percentage of Tempe residents having completed four years of college. However, people with higher educations are attracted to the social and cultural climate generated by educational

institutions and it is anticipated that the local level of educational attainment will climb even higher in the future. In general, high educational attainment creates higher income and directly effects the demands for educational, recreational and cultural facilities in the city.

Figure 18
SCHOOL ENROLLMENT BY AGE GROUP, 1960
 City of Tempe and Selected Entities

Entity	5-13 Yrs. Age Group				14-17 Yr. Age Group			
	Total Children	No. Enroll.	% of Total Child.	% of Total Pop.	Total Children	No. Enroll.	% of Total Child.	% of Total Pop.
ARIZONA	264,013	230,806	87.4	17.7	86,450	74,847	86.6	5.7
MARICOPA COUNTY	132,379	117,010	88.4	17.6	42,917	36,930	86.0	5.6
TEMPE	4,308	3,939	91.2	15.8	1,542	1,200	77.8	4.8
Glendale	3,075	2,580	83.9	16.4	1,083	940	86.8	6.0
Mesa	7,246	6,328	87.3	18.7	2,449	2,299	93.9	6.8
Phoenix	86,841	77,289	89.0	17.6	28,094	24,235	86.3	5.5

Source: U.S. Census of Population, 1960

Figure 19
EDUCATIONAL ATTAINMENT, 1960
 City of Tempe and Selected Entities

Entity	Persons 25 yrs old and over	Median School Year Completed	Elementary School Completed		High School Completed		4 Yrs. College Completed	
			No. Persons	% of Total	No. Persons	% of Total	No. Persons	% of Total
ARIZONA	661,102	11.3	522,943	79.1	302,224	45.7	60,011	9.1
MARICOPA COUNTY	346,110	11.6	282,605	81.7	165,247	47.7	32,361	9.3
TEMPE	11,044	12.2	9,408	85.2	6,150	55.7	1,927	17.4
Chandler	4,443	10.8	3,345	75.3	1,910	43.0	329	7.4
Glendale	7,482	8.9	5,127	68.5	2,402	32.1	391	5.2
Mesa	17,020	12.0	14,415	84.7	8,456	49.7	1,480	8.7
Phoenix	237,233	11.8	199,804	84.2	115,609	48.7	21,185	8.9

Source: U.S. Census of Population, 1960

Family Income

Figure 20 demonstrates the wide range of family income recorded in 1960 throughout the county, state and metropolitan area. It is noteworthy that of the entities listed only the City of Phoenix has a lower percentage of families having incomes less than \$3,000.

Figure 20
FAMILY INCOME, 1959
City of Tempe and Selected Entities

Entity	Total No. Families	Median Family Income	Fam. under \$3,000		Fam. over \$10,000	
			Total No.	% Total	Total No.	% Total
ARIZONA	312,036	\$5,568	66,345	21.3	44,897	14.4
MARICOPA COUNTY	162,697	5,896	31,042	19.1	26,211	16.1
TEMPE	5,508	5,933	954	17.3	724	13.1
Chandler	2,348	4,875	617	26.3	256	10.9
Glendale	3,812	4,679	1,155	30.3	334	8.8
Mesa	8,373	5,598	1,691	20.2	1,061	12.7
Phoenix	110,878	6,117	18,671	16.8	18,593	16.8

Source: U.S. Census of Population, 1960

Migration and Mobility

Migration involves the change of residence from one place to another. Ordinarily, people move to better their economic station in life or for such other reasons as health or retirement. During the past several decades Arizona has proven one of the nation's leading migration destinations. Annual average in-migration rates for Maricopa County between 1955 and 1960 exceeded 43,000 persons, while out-migration accounted for less than 17,000. Although the City of Tempe has been the recipient of an appreciable number of these migrants to the state and county, Figure 21 shows that nearly the same number of new Tempe residents in 1960 had come from elsewhere in Arizona as had moved directly to Tempe from another state or county. Since

the City of Phoenix, and more recently the Phoenix Metropolitan Area, is the major magnet of migration to Arizona, Maricopa County is expected to continue as a major contributor to Tempe's population growth by migration.

Figure 21
1955 RESIDENCE OF 1960 POPULATION*
 City of Tempe

Same House	5,560
Different House in Maricopa County	6,021
Different County In Arizona	1,657
Different State	7,366
Different County	491
Different House location not reported	702
TOTAL RESIDENTS	21,797*

*Residents 5 years old and older.

Source: U.S. Census of Population, 1960

The propensity to move has become a national problem. U.S. Census data show an inter-county mobility rate of 6.1% for the period between April 1961 and April 1962.^{1/} A survey conducted for the Area Redevelopment Administration of the Commerce Department found that between 1962 and 1963 15% of the surveyed families moved to a different house, 9% within the same county and 6% to a different county. People under 35 years of age and college graduates were found to be more mobile than others. Income level appears not to have a significant effect upon mobility nor does unemployment appear as a major factor. On the other hand, the location of relatives and a general preference for a specific area were significant.

^{1/} Economic Redevelopment Research "The Propensity to Move", U.S. Department of Commerce, Area Redevelopment Administration.

PART IV
POPULATION GROWTH DETERMINANTS

All of the factors affecting population change are reflected in terms of its three basic components, births, deaths, and net migration. Most methods of projecting future population change involve preparation of separate projections of fertility, mortality and immigration. Specific methods and mechanics of computation differ within these separate projections according to the statistical size of the problem and the demographers' interpretations of the meaning of past records and current conditions. The influence of these components on future population change is never equal; their relative importance varies widely depending on the governmental level and population of the entity being studied.

At the national level, future fertility rates are by far the most important component of future population change; death rates are less variable (more predictable) and immigration is determined largely by federal law.^{1/} In projecting U.S. population, the Bureau of the Census has developed four sets of assumptions concerning the rate of decline in fertility rates, which, when combined with separate assumptions on mortality and immigration, produce four series of population projections. These projections differ significantly in long-term results, with projections of the 1985 U.S. population ranging from 248 to 275.6 millions.

The redistribution of population through interstate migration is the major concern in projecting population change by state. Although projections of fertility and mortality rates for individual states must be generally consistent with national estimates,

^{1/} Since 1948 civilian immigration has fluctuated between 242,000 and 391,000. 300,000 per year has been assumed as net immigration by Census authorities, which estimates will now require adjustment in accord with 1965 modifications of immigration laws.

state projections are chiefly concerned with the reasons, characteristics, and volumes of interstate population movement.

Similarly, projection of population change at the community level is concerned not only with the net migration of population to the state but also with population movement within the state.

Net Migration to Arizona

The reasons for interstate migration are well documented, if not yet completely understood. These motivations are of major concern in projecting state population since the magnitude of interstate migration is influenced by world events and can be influenced by efforts of individual states in attracting in-migration and discouraging out-migration.

Factors favoring migration to Arizona include:

1. Continuing increase in national mobility.
2. Continued prominence of Arizona as a migration destination.
 - a. Climatic advantages to health and general living environment.
 - b. Development of attractive retirement centers.
 - c. Westward migration of industry.
 - d. Vigorous and constant state promotion on a nation-wide basis.
 - e. Availability of high-standard housing coupled with attractive residential environment at moderate costs.

Factors motivating out-migration from the state would be:

1. Faster growth of labor force than growth of employment opportunity.
 - a. Decreased employment resulting from mechanization and automation.
 - b. Lure of job opportunities in other states.
2. Increased manpower requirements of armed forces.
3. Reduction in the state's military and defense-oriented establishments.

The Bureau of the Census has recently prepared projections of population change for each state to 1985. Projections for Arizona are shown in Figure 22 compared with those for the Far West and the United States.

Figure 22
POPULATION PROJECTIONS TO 1985^{1/}
 United States, Far West & Arizona

	1960 (000's)	1964 ^{2/} (000's)	1970 (000's)	Increase 1960-70	1975 (000's)	1980 (000's)	Increase 1970-80	1985 (000's)	Increase 1960-85
ARIZONA	1,302	1,581	1,968	51.1%	2,295	2,640	34.1%	2,992	129.8%
FAR WEST TOTAL ^{3/}	24,342	27,563	32,076	31.0%	36,418	41,285	28.7%	46,503	91.0%
U. S. TOTAL	179,323	191,334	208,249	16.7%	225,123	244,566	17.4%	265,575	48.1%

1/ Projection Series I-B ("high").

2/ Preliminary estimates.

3/ Arizona, California, Washington, Alaska, Utah, Idaho, Nevada, Hawaii, Oregon.

Source: Current Population Reports, Series P-25, No. 301, Feb. 1965, U.S. Bureau of the Census.

Figure 23 shows that over the period 1960-1985 natural increase (excess of births over deaths) will be the dominant component of population increase in Arizona as well as in the U.S. and the Far West. Thus, as the state's population grows, net migration will account for a steadily declining ratio of total increase.

Figure 23
PROJECTED POPULATION CHANGE AND COMPONENTS OF CHANGE^{1/}
 1960 to 1985
 United States, Far West and Arizona

	Net Change 1960-85		Components of Change				
	Number (000's)	Percent	Births (000's)	Deaths (000's)	Percent Natural Increase	Net Mig. (000's)	Percent Net Mig.
Arizona	1,690	129.8	1,451	428	60.5	+ 667	39.5
Far West Total ^{2/}	22,159	91.0	20,984	7,465	61.0	+8,639	39.0
U.S. Total	86,251	48.1	130,546	51,936	91.1	+7,642	8.9

1/ Projection Series I-B ("high")

2/ Arizona, California, Alaska, Utah, Washington, Idaho, Nevada, Hawaii, Oregon.

Source: Current Population Reports, Series P-25, No. 301, Feb. 1965, U.S. Bureau of Census.

Net Migration to Tempe

Migration to Tempe will be composed of three components: (1) migration directly from other states and countries, (2) migration from elsewhere in the Phoenix Metropolitan Area, and (3) migration from other counties in Arizona.

There are few records which furnish leads to a judgment of the relative importance of each of these components. We know that 64% of the university students are from elsewhere in Maricopa County and another 7% are from other counties in Arizona.^{1/} Of families living in local apartments in October 1965, 20% had migrated from elsewhere in the Phoenix Metropolitan Area and another 10% had come from other

1/ Enrollment Summary, First Semester 1964-65, Arizona State University.

Arizona places.^{1/} Of the 1960 population, 35% had moved to Tempe from elsewhere in Arizona during the preceding five-year period.^{2/}

Based on this fragmentary evidence and a large measure of undocumented intuition, it seems reasonable to assume that at least half of Tempe's future growth by net migration will be people moving from elsewhere in Arizona. What factors will contribute to Tempe's continued ability to attract migrants from elsewhere in the state and, particularly, from the Phoenix Metropolitan Area? They include at least the following:

1. Favorable community "image".
2. Growth of Arizona State University.
3. Diversification of local economy and increased employment opportunity.
4. Availability of housing and attractive living environment.

Community "image" is an important factor in attracting new residents and minimizing out-migration. Continued progressiveness of community leadership and efficiency of government, improvement and expansion of community services, good schools, and a fair tax rate are primary ingredients of the Tempe image. Civic cleanliness and beauty, good utilities, freedom from land use conflicts, and effective health and protection services contribute to a family living environment which attracts and holds residents. The city exerts direct control over all of these factors.

The university student body, faculty and staff will always constitute a substantial ratio of Tempe's population. ASU's influence as a growth determinant will continue strong until the enrollment ultimately reaches its maximum level, at which point its relative influence on total population will commence a gradual decline.

Tempe's commercial and industrial base has been in a constant transition since the days when the city functioned primarily as a service base for the surrounding agricultural community. Continued diversification of the local economy resulting in increased local employment opportunity is essential to both economic growth and

1/ Occupancy survey, multi-family units, October 1965.

2/ See Figure 21.

population growth by net migration. Tempe should build on, rather than depend on, Arizona State University as a primary population and economic growth force. There appears to be special opportunity in the community's enlarging its share of regional tourist-oriented business and facilities. The university's rapidly growing technical and research facilities and staff suggests a major opportunity in development of new research-oriented industries.

The availability of desirable housing at a favorable price is a strong magnet encouraging inter-regional migration. This factor alone has been responsible for much of Tempe's growth during the past five years. Increased availability of rental housing will prove especially important to future growth.

Topographically, Tempe offers advantages over many other areas in the metropolitan region. New growth areas are well protected from the periodic flooding which endangers many other areas. Access to and from all parts of the region is normally good and will be vastly improved with completion of Interstate 10 and the projected Superstition Freeway; however, inadequate river crossings presently restrict access following intensive storms. An abundance of clean, attractive irrigated land exists ready for urban development within the Tempe Planning Area.

Natural Increase as a Component of Future Growth

Since 1958 Tempe has experienced a substantial population growth through natural increase. As the City's population grows, natural increase will be a progressive component, whereas long-term net migration will be a desgressive component. Consideration of the following factors leads to the prediction that both birth and death rates will continue to decline but that natural increase will ultimately prove the primary component of future population growth:

Factors Favoring Rising Birth Rates

1. Low median age level
2. High ratio of young adults
3. Increasing ratio of married students

Factors Favoring Rising Death Rates

1. Increasing numbers of elderly people
2. Increasing numbers of persons in poor health among in-migrants

Factors Favoring Declining Birth Rates

1. Increasing median age level
2. Low ratio of non-white population
3. High level of educational attainment
4. Low ratio of low-income families
5. Predominance of young adults among out-migrants
6. National trend toward lower birth rates
7. Increasing acceptance of birth control measures

Factors Favoring Declining Death Rates

1. High ratios of children and young adults
2. Improved environmental health
3. Improved medical techniques and facilities
4. Low ratio of low-income families
5. Low ratio of non-white population
6. Earlier retirement age

PART V

POPULATION TRENDS AND PROJECTIONS

Nearly every future decision related to public and private development is dependent upon reliable forecasts of future population numbers and characteristics. The development of long-range population forecasts is a point of departure for the analysis of current activities, city functions, public services and facilities, and for the subsequent planning for improved function, expanded services and provision of needed facilities. Hence, forecasting of future population numbers and characteristics is an essential, though difficult, part of the planning process.

No single method or combination of methods of forecasting population is wholly reliable. In a metropolitan region the influence of physical, social, economic and political factors is so great and interrelationships so complex that derivation of satisfactory formulae is impossible. The reliability of population forecasts depends upon sound judgment as to the cumulative effects of past and present population levels, characteristics and trends, major local growth determinants and state county and regional growth forces.

Estimates of future population change in Tempe are based upon three sets of assumptions which produce a range of population levels. Implicit in all estimates for the Tempe Planning Area is the basic assumption that no major national or local disasters or recession will occur during the forecast period.

Population forecasts must be related to time in order to facilitate long-range planning policy decisions; however, it should be recognized that forecasts of the general magnitude and character of future population are considerably more important to the planning process than forecasts of growth rates. Although clairvoyance as to the speed of population growth would be extremely beneficial to all planning purposes and processes, any attempt to predict precise growth rates merely introduces another major variable into an already complex judgment. It is therefore essential that the local planning commission maintain close surveillance on population changes and trends during the years between censuses and periodically adjust long-range forecasts.

POPULATION PROJECTIONS

Based on judgements of major growth determinants and trends previously discussed, three differing projections of population for the Tempe Planning Area are set forth in Figure 24:

Figure 24
POPULATION PROJECTIONS, 1970-1985
Tempe Planning Area

YEAR	LOW	SELECTED	HIGH
1970	66,715	67,880	71,634
1975	89,210	96,615	105,160
1980	108,395	126,195	140,975
1985	126,215	157,485	183,645

Low projections reflect a set of assumed circumstances as follows

1. Natural increase will be consistent with "low" projections (Series D) by the Bureau of the Census which predict a substantial decline in present fertility rates.
2. Net migration to Arizona will decline substantially throughout the projection period from the level established in the 1955-60 period.
3. Maricopa County will not substantially increase its share of the State's population.
4. Arizona State University enrollment will continue to grow at projected rates to a maximum level of 30,000 students.
5. Diversification of Tempe's economy will progress very slowly and relatively few new job opportunities will develop, resulting in failure to attract new non-university-oriented residents and to prevent excessive out-migration of young adults.
6. More attractive growth areas will develop in the metropolitan region, resulting in a decline in the net migration of non-university-oriented persons and a relatively slow rate of increase in Tempe's share of Maricopa County population.

High projections reflect a set of assumptions as follows:

1. Natural increase will be consistent with "moderately high" projections (Series B) by the Bureau of the Census which predict a moderate decline in present fertility rates.
2. Throughout the projection period, Arizona's share of interstate migration will approximate that experienced in 1955-1960.
3. Over the projection period Maricopa County will increase its share of the State's population by six percent.
4. Arizona State University enrollment will continue to grow at projected rates to a maximum level of 30,000 students.
5. Diversification of Tempe's economy will progress rapidly, producing many new job opportunities which will attract new residents and minimize out-migration of young adults.
6. Tempe will continue to attract migration from elsewhere in Maricopa County at rates consistent with that experienced in the 1960-65 period.

Excessive optimism and excessive pessimism are equally dangerous in the planning process. It presently appears most logical to expect future population levels somewhere mid-range between the high and low extremes. Mid-level population projections have therefore been selected for continuing reference throughout the comprehensive planning process.

Figure 25 shows population projections for the U.S., Arizona, Maricopa County and the City of Tempe. Figure 26 compares the projected growth rates by five-year periods for the same entities. The principal cause for the projected decline in U.S. growth rates during the period 1965-1970 is the expected continuance of the sharp decline in number of children born to women aged 24 to 39 years experienced since 1963. This decline is expected to reach its lowest point about 1968, after which the birth rate in this age group will commence its first period of increase since 1957.^{1/}

During the 1965-1970 period, State and County growth rates will be influenced by the same trend in fertility.

^{1/} Current Population Reports, Series P-25, No. 286, July 1964, U.S. Bureau of Census.

Figure 25
COMPARATIVE POPULATION PROJECTIONS, 1970-1985
 United States, Arizona, Maricopa County and City of Tempe

	1960 (000's)	1965 (000's)	1970 (000's)	1975 (000's)	1980 (000's)	1985 (000's)
<u>United States</u>	179,323	193,818				
Low (Series II-D)	179,323	193,818	205,139	218,108	232,395	247,206
Median-High (Series II-B)			208,249	225,123	244,566	265,575
High (Series I-B)			208,249	225,123	244,566	265,575
<u>Arizona</u>	1,302	1,608				
Low (Series II-D)			1,891	2,144	2,396	2,641
Medium High (Series II-B)			1,924	2,221	2,534	2,854
High (Series I-B)			1,968	2,295	2,640	2,992
<u>Maricopa County</u>	664	897				
Low			1,059	1,222	1,390	1,558
Selected			1,077	1,288	1,520	1,769
High			1,102	1,331	1,584	1,855
<u>City of Tempe</u>	2.45	4.56*				
Low			6.67	8.92	10.84	12.62
Selected			6.79	9.66	12.62	15.75
High			7.16	10.52	14.10	18.36

*Preliminary Total, Special Census, October 1965 and Arizona U.S.

Source: U.S. and Arizona 1965 Population Estimates (Provisional) Current Population Reports, Series P-25, No. 317, August 1965; U.S. and Arizona 1970-1985 Projections: Current Population Reports, Series P-25, No. 301, February 1965, U.S. Bureau of the Census; Maricopa County and City of Tempe 1965 Estimates and 1970-1985 Projections; Van Cleve Associates.

Until 1975, Tempe is expected to continue to increase its share of County Population at approximately the same rate demonstrated during 1960-65. After 1975, when ASU has reached its maximum enrollment level, growth of the university-oriented population will tend to stabilize and continued population increase will depend upon other growth determinants.

Figure 26
PROJECTED GROWTH RATES, 1970-1985
 U.S., Arizona, Maricopa County, & City of Tempe

Period	U.S.	Arizona	Maricopa County		City of Tempe	
	Percent Increase	Percent Increase	Percent Increase	Percent of Ariz.	Percent Increase	Percent of Maric. Co.
1960				51.0		3.5
	8.1	23.5	35.1		87.8	
1965				55.8		5.1
	7.4	19.7	20.1		47.6	
1970				56.0		6.3
	8.1	15.4	19.6		42.3	
1975				58.0		7.5
	8.6	14.1	18.0		30.6	
1980				60.0		8.3
	8.6	12.6	16.4		24.8	
1985				62.0		8.9

Source: U.S. and Arizona growth rates computed from Series II-B Projections by U.S. Bureau of the Census. (See Figure 25)
 Maricopa County and City of Tempe growth rates computed from Mid-Level Projections by Van Cleve Associates. (See Figure 25)

FUTURE POPULATION CHARACTERISTICS

University-Oriented Component of Population

Since 1960, resident university students and their dependents have accounted for about 20% of the City's total population. By 1975 this proportion will have dropped to about 15% and will continue to decline as the non-university-oriented segment of the population increases.

While the developing junior college system will relieve state institutions of a heavy load of underclassmen, the number and ratio of graduate students will continue to increase each year. It is anticipated that at some point in the future a decision will be made by the Board of Regents and the State legislature to limit ultimate enrollment of Arizona State University to approximately 30,000 students.

Sixty percent of higher education in the nation is presently provided by public institutions and it is projected that by the year 2000, 75% of the 22 million college students will be in public schools. During recent years the number of persons employed in higher public education has represented nearly half of the total state and local government employment and about 3.5% of all civilian employment. By the year 2000 employment in higher education is expected to reach 4.3% of total civilian employment and 48% of state and local government employment. Currently, there are 16 students enrolled for each higher public education employee and this ratio is expected to decline to 15:1 by the year 2000^{1/}

Based on the projected enrollment of 25,700 by 1970 and 30,000 by 1974, at least 35% of the 1970 population and 31% of the 1974 population of the Tempe Planning Area will be university-oriented persons. After 1974 when ASU enrollment has reached the 30,000 student plateau, the ratio of university-oriented residents to others will gradually decrease as the community continues to grow.

1/ ORRRC Study Report No. 23 "Projections to the Years 1975 and 2000," National Planning Association, Bureau of Labor Statistics U.S. Department of Labor

Population Distribution

The population density in the central area near Arizona State University will continue to increase as the student body, faculty and staff grows, and more apartment housing is constructed to satisfy the demand. In other areas of the city greater densities will develop around the shopping centers which form the nuclei for growing neighborhoods.

Age, Sex and Marital Composition

Little change in age, sex and marital composition of the population is expected until 1975, after which these characteristics will trend toward conditions more typical of suburban cities. Both birth and death rates will continue to decline slowly throughout the long-term future.

Household Composition

The concentration of students dwelling unit in the university area produce a wide variation in family size and dwelling unit composition among the several parts of the Tempe Planning Area. This condition will exist permanently, and render invalid the use of city wide averages in subsequent planning studies. After 1975, it is likely that the overall average size of households will tend to increase as student influence gradually diminishes. Similarly, the age composition of households will trend toward levels more typical of suburban communities. (See Figures 14 and 15.)

School Enrollment and Educational Attainment

The ratio of elementary and high school age children enrolled in school is likely to remain fairly constant through the next 15 years while the university is growing toward its ultimate maximum enrollment. After 1975, school enrollment ratios will gradually become more normal as the non-university-oriented component of population continues to grow.

The national level of educational attainment is rising constantly. The extremely high level of the Tempe population will continue to climb as increasing numbers of people with higher educations are attracted to residence in the city by the social and cultural climate generated by the university.

Family Income

Tempe's rapid growth from 7,684 in 1950 to 24,897 in 1965 has created a city of relatively new homes. Substandard and blighted residential areas are small and scattered. The city has a correspondingly low ratio of low-income residents - there has been little low-rent housing to attract them.

It appears unlikely that the present ratio of poverty-level family incomes will increase in the future. Similarly, there is little likelihood that the ratio of high income families will increase substantially. Thus, Tempe will continue to be classified as a high middle-income city.

Mobility

The large number of students and young adults in the population, and the high level of educational attainment point to a continuing high rate of mobility. The higher-than-normal in-and-out movement of the population will contribute to the vigor, enthusiasm and progressive attitudes of Tempe citizens. The same factors will also create greater demands for more and better public services and cause such demands to be expressed more vociferously.

PART VI
CONCLUSIONS

In the process of research and study which preceded preparation of this report, data from the 1960 U.S. Census was examined in detail, current population reports, projections and analyses of the Bureau of the Census were studied, Arizona State University authorities were interviewed and University records reviewed, and independent surveys were conducted. Conclusions drawn and reported herein, together with subsequent studies of economic growth and land development potentials, will serve to guide future policy, planning and action decisions of the Planning Commission, the City Council and the private development interests.

As a major conclusion of this report, a very substantial population growth is forecast for the City of Tempe, ranging between 126,000 and 184,000 by 1985. Even the lowest of the three estimates means that the present population will nearly triple. Although the city tripled its 1950 population in ten years, and nearly doubled it again in five years, the whole magnitude of population increase is changing rapidly — we are no longer dealing in thousands or even tens of thousands. These population forecasts have been checked and cross-checked by a variety of methods taking many diverse factors into account. They have stood these tests, and now they must stand the test of time.

Conclusions of this report are summarized briefly as follows:

Population Growth

1. Since 1950 Tempe's population growth rate has far exceeded that of the nation, the state, the county, and other cities in the Phoenix Metropolitan Area.
2. Net migration has been the primary component of local population growth since 1960, for which population movement within the metropolitan region has been responsible for more than half.

3. While the total city population has increased 499% since 1950, Arizona State University total enrollment has increased 354%.

Current Population

1. The current population of the Tempe Planning Area is approximately 52,000 persons, about 37% of which are university-oriented.^{1/}
2. All local population characteristics are distorted by the presence of a large number of University students in the 15-24 year age group.
3. Educational attainment is extremely high due to university-oriented residents and others attracted by the educational and cultural climate created by the University.
4. Annual family incomes are in the middle brackets, with relatively few under \$3,000 or over \$10,000. University students influence the median family income negatively.

Future Population

1. Long-term future population growth will be dominated by natural increase rather than by net migration as in the recent past.
2. The ratio of university-oriented residents to total population will gradually decline until ASU reaches its maximum enrollment level whereupon a more rapid decline will commence.
3. Based on three sets of assumptions regarding fertility, mortality and net migration, the 1985 population of Tempe will range between 126,200 and 183,600.

^{1/} Students taking 12 or more hours of academic work and their dependents, faculty members and dependents, and staff members and dependents.

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INTRODUCTION
TO
COMPREHENSIVE COMMUNITY PLANNING



What is Community Planning?

Urban areas are growing larger and more complicated. Urban problems are increasing in range and scale, frictions are developing, technological and social change is accelerating. Urban government operations are becoming more extensive and more costly. Taxpayers are wailing and gnashing their teeth.

Nobody seems quite sure what to do about this situation. There are some who feel that government operations can be simplified and costs reduced merely by slashing departmental budgets. Everyone resents the increasing inability of the individual to control his own destiny, and the local community's inability to solve its own problems independently. Yet, it seems axiomatic that more people living closer together in urban areas require an increasing amount and variety of services and that more jobs, more cars, more income, more children, more technology, and more leisure time give rise to new problems that require more public employees and tax money to solve.

As our society becomes more complex, most problems and their solutions become more closely interrelated than ever before. We find that no problem is really a separate problem that can be solved independently of all other problems — coordination is mandatory. Of necessity, the increasing need for governmental efficiency and interagency coordination can be satisfied only through better planning and the employment of more highly trained and talented personnel.

Comprehensive community planning was born out of this necessity. It is still a young profession and is even younger as an integral function of local government. Many small towns haven't even heard of it and many larger cities merely give it lip service.

Comprehensive planning is somewhat like writing a book — if the story is to reach a satisfactory conclusion, the author must know at the outset who the principal characters are and which ones are villains. He must know the historical period and the

geographic setting involved. Above all, he must have a purpose in writing the book — is it intended merely for the reader's pleasure, or for his information, education or persuasion?

In some respects comprehensive planning is also comparable to auto mechanics. Unless the mechanic fully understands the function of each part and how it works together with all the other parts, the car is unlikely to run well after assembly, and it may not run at all. Nor can the automotive engineer improve the design of any single part for better efficiency, smoother operation or more speed unless he understands exactly how the functioning of that part affects overall engine performance.

Objectives of Community Planning

The objectives of community planning are to ameliorate existing conditions, to preserve and enhance the health, safety, convenience, welfare and character of the community, and to develop its economic, social and cultural potentials to the fullest extent possible. Although planning may be directed toward solution of single problems, the planning process must nevertheless be comprehensive in scope. No single function or element of community activity or single segment of a community can be considered as independent of all other functions, elements and segments. In every instance the preparation of plans for part or parts must be coordinated with those for every other part so that the maximum overall public benefit will derive. There can be little question but that a community action program based upon sound and comprehensive planning will produce better returns for the tax dollar than the independent treatment of separate problems to satisfy pressures of the moment.

Where comprehensive planning has been established as an integral function of local government, it is less likely that growth will cause loss of community identity and character, that core areas will deteriorate into residential and commercial slums, or that foredoomed commercial development will be extended in endless strips along every major street. It is less likely that nuisance-producing industry will locate where it will contribute to the depreciation of residential areas, or, conversely, that industrial

productivity will be impaired by the intrusion of residential and other uses that are incompatible with industry.

Sound community planning may be better understood by examining the adjectives with which it is usually described:

Comprehensive: A process by which all types of land uses and facilities are examined individually and collectively, and evaluated in relation to the community's long-range needs.

Long-Range: Concepts, ideas and plans which look ahead a reasonable distance in the future and anticipate community needs in terms of land and facilities. Planning is not restricted in scope to existing financial structures or limitations, or even to present trends and technologies. Instead, its goals and objectives are expressed within the general framework of the financial, administrative and technical potentials of the community.

General: Through comprehensive planning we strive to establish the general location and extent of major land uses and facilities. The planning process also establishes the general principles and standards for land development which are necessary to accomplishment of community objectives.

The Comprehensive Plan (often called the "master plan") is a guide for future physical growth and development. It comprises a written and graphic statement of community goals and objectives, and outlines the means by which they may be achieved. It establishes a broad framework within which both public and private policy and action decisions can be made — decisions that will: (a) relieve and ameliorate unfavorable existing conditions, (b) establish standards for the guidance of future growth and development, (c) insure maximum effectiveness of public expenditures, (d) facilitate efficient municipal administration, and (e) assist private enterprise toward maximum

participation and success commensurate with the welfare of the community and the citizens at large. Through a coordinated planning and development program, a community can preserve and enhance its existing amenities while directing new growth into the pattern of attractive, pleasant and economic environment it seeks to achieve and perpetuate.

The Planning Process

The total process of comprehensive planning includes, in addition to the technical aspects of research and plan preparation, the adoption, administration and enforcement of plans and related regulations, the programming and financing of capital improvements, the dispensing of information and guidance to the public, and finally, the translation of concepts, words and drawings into constructive actions.

Planning is a continuing process — it does not end with completion of the Comprehensive Plan. Actually, the Plan merely provides sufficient orientation and basic information to direct the detailed studies, designs and financial programs which must precede construction of any of the elements it proposes.

"Good planning is an organized arrangement for getting the most out of the tax dollar, for taking advantage of opportunities before they get by, for heading off problems while they are small, and for holding mistakes of omission and commission to a minimum."

- Frederick Bair, Jr.

THE TEMPE PLANNING PROGRAM

The accompanying chart shows the broad outline of the comprehensive planning program underway by the City of Tempe. The total program is divided into four major phases. During the first phase the past and present physical, social, and economic conditions will be studied, current problems and needs identified and evaluated, and future potentials defined. The information and recommendations resulting from this research will be presented in a series of reports dealing with the subjects Population Growth and Characteristics, Existing Land Use and Development, and Economic Growth and Development.

In the second phase each of the principal functions and activities of the community will be studied, criteria and standards for the achievement of potentials developed, and tentative plans for future development prepared. Reports on this work will include the subjects Housing and Residential Environment, Business Districts, Industrial Districts, Transportation, Public Utilities, Community Facilities, and University-City Relationships.

The third phase involves preparation and publication of the Comprehensive Plan itself — a plan which finalizes and coordinates all earlier data and proposals into a single cohesive, graphic and written statement of community goals and the basic approaches to their realization.

The fourth and final phase of the program is concerned with the ways and means by which objectives of the Comprehensive Plan can be achieved through capital improvements programming, improved zoning and subdivision regulations, continuing planning administration, and public understanding and support. Information and recommendations will be presented in reports on Capital Improvements Programming, Public Administration, and Land Development Objectives, Policies and Standards, and in drafts of a Zoning Ordinance and Subdivision Regulations.

One of the important objectives of Tempe's planning program will be to help the Planning Commission enlarge its understanding of the purposes, scope, and techniques of planning and improve its efficiency in the conduct of its business and fulfillment of its assigned responsibilities to the Council and the community. During the course of the program, the consultant will meet regularly with the Commission to review work progress, discuss problems and proposals, and present reports. In these meetings he will expect to test planning proposals against the commissioners' knowledge and opinions of local conditions, needs and desires, and at the same time provide the professional guidance necessary to developing a clear understanding of the planning process and the plans which evolve. Thus, plans will be developed as much as possible by the Commission rather than for the Commission.

Continuation of Planning Beyond the Current Program

The most soundly conceived and conscientiously conducted planning program can achieve little for the community unless its objectives are fully understood and supported by the elected and appointed officials, staff members, civic groups and citizens at large. Its concepts and objectives must be representative of local public opinion if it is to function effectively as a guide for private development as well as public policies and projects. It requires follow-up detailed planning and constructive actions.

The Comprehensive Plan, when completed, will constitute an outline of principles and guides within which new data, techniques and potentials can be put to work as they are discovered. To keep the Plan responsive to changing conditions, a continuous reappraisal of problems and causes and a continuous fitting and refitting of solutions are required.

VAN CLEVE ASSOCIATES - CONSULTING PLANNERS

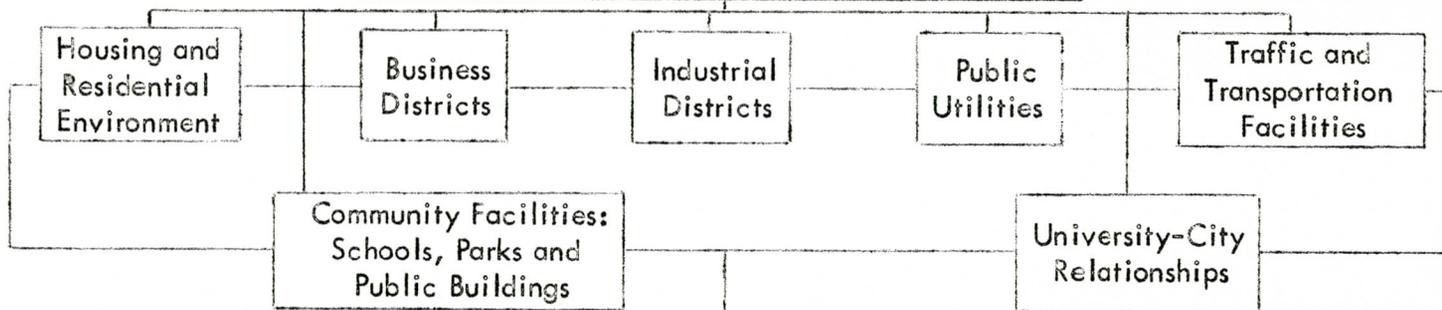
November 1965

Outline
COMPREHENSIVE PLANNING PROGRAM
Tempe, Arizona

Phase 1
BACKGROUND STUDIES FOR PLANNING



Phase 2
PLANNING STUDIES OF FUNCTIONAL ELEMENTS



Phase 3

COMPREHENSIVE PLAN

Phase 4

IMPLEMENTING MEASURES



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