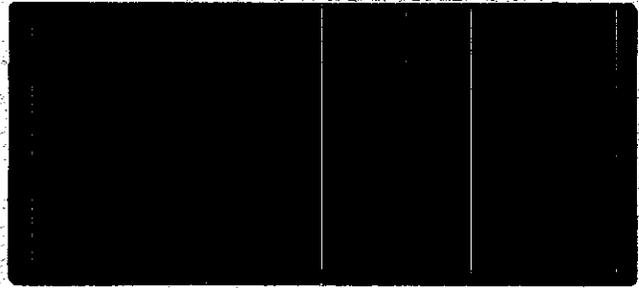


**COMPREHENSIVE
PLANNING PROGRAM**

Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

**AVONDALE
ARIZONA**



THE
COMPREHENSIVE PLANNING PROGRAM
AVONDALE, ARIZONA

Prepared Under Contract with the
Division of Economic and Business Research
University of Arizona

for
AVONDALE PLANNING COMMISSION

VOLUME TWO
PLANNING STUDIES

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

VAN CLEVE ASSOCIATES, CONSULTING PLANNERS

1967

AVONDALE PLANNING COMMISSION

James Bonds, Chairman

John Watson

Vic Allen

Walter Harrison

Richard Ogorchock

G. F. Ross

Louis Skubitz

AVONDALE CITY COUNCIL

John F. McCauley, Mayor

John Summers, Vice-Mayor

Fred Campbell

Emory R. Evans

Dessie M. Lorenz

A. B. Sernas

John Watson

L. M. Acevedo, City Manager

VAN CLEVE ASSOCIATES - CONSULTING PLANNERS

Paul W. Van Cleve, Director

John W. Stansel, Principal Planner

VOLUME TWO

CONTENTS

Report

- SIX - HOUSING AND RESIDENTIAL ENVIRONMENT
- SEVEN - TRANSPORTATION AND UTILITIES
- EIGHT - COMMUNITY FACILITIES

HOUSING AND RESIDENTIAL ENVIRONMENT

PLANNING REPORT

NUMBER SIX

AVONDALE, ARIZONA

Prepared Under Contract with the
Division of Economic and Business Research
University of Arizona

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

VAN CLEVE ASSOCIATES, CONSULTING PLANNERS
SCOTTSDALE, ARIZONA

FEBRUARY 1967

CONTENTS

		Page
PART A.	INTRODUCCIÓN	1
PART B.	COMPOSITION OF HOUSING	2
PART C.	CONDITION OF HOUSING	7
PART D.	PROJECTIONS OF HOUSING NEEDS	17
PART E.	CONCLUSIONS AND RECOMMENDATIONS	21

ILLUSTRATIONS

Figure

1	Table	Composition of Housing, 1960 and 1966	3
2	Table	Housing Occupancy Characteristics, 1960	5
3	Table	Housing Occupancy by Household Size, 1960	6
4	Table	Condition of Housing, 1960 and 1966	8
5	Map	Structural Condition of Housing, 1967	9
6	Table	Age of Housing, 1960	10
7	Map	Non-Structural Condition of Housing, 1967	11
8	Table	Housing Requirements, 1985	19
9	Table	Projected Housing Needs by Type of Structure, 1985	19
10	Table	Projected Residential Land Needs, 1985	20

PART A
INTRODUCTION

The strength of an urban area depends largely upon the quality of living it provides. Desirable residential environment is a basic criterion of the long-term social and economic welfare of the entire community as well as of the individual citizen. Creation and preservation of residential amenity is both a private and public responsibility.

As cities grow larger, people live closer together and associate with larger numbers and more different types of people. As population density increases, all human relations become more complex. This grouping together of people in an urban society creates special problems and needs which can ultimately be resolved only through group action. Some of this group action is the responsibility of the city through its officials, its administrative boards and staff, while other group actions are produced by private and quasi-public organizations.

In rapidly growing communities and those which are handicapped by inadequate local tax base, the public first strives to provide the services and facilities which are fundamental to urban life, e.g., schools, streets, water supply and sewage disposal. Such second priority needs as parks, playgrounds, community buildings, and cultural and esthetic improvements, frequently lag far behind other elements of community development. Nevertheless, both first and second priority services and facilities have direct and personal meaning to every citizen, and are essential ingredients of a desirable and satisfying living and working environment.

Residential development constitutes the largest single use of land in the urban community. Residences typically occupy about 40% of the developed land in large cities and over one-half that of small cities. This study is primarily concerned with housing conditions. It reports the results of analyses of structural conditions and of those less tangible but nonetheless important characteristics of site conditions, function, physical design and appearance.

Sources of housing data used in this study are the 1960 U.S. Census of Housing, large-scale aerial photographs taken in April 1966, and special field surveys conducted in November 1966.

PART B

COMPOSITION OF HOUSING

Urban residents are housed in several different types of structures and dwelling units. Most of the population lives in single-family dwellings--single structures each housing one family on a separate lot. A relatively small percentage lives in two-family dwellings (duplexes)--two attached dwelling units on a single lot. An increasing ratio of the urban population is housed in multi-family dwellings--single structures comprising three or more dwelling units situated one structure to a lot or several to a parcel.

The general term apartment applies to any dwelling unit in a multi-family structure. Apartments arranged side-by-side, each having its own independent utilities and entrances, and frequently its own front and backyards, are commonly called rowhouses. Other types of apartments may be arranged one above another in multi-story structures, usually without independent utilities or direct private access at ground level, and frequently with overlapping floor plans. Rowhouses, more recently called townhouses, may be arranged for sale by individual units to separate owners under the ancient principle of condominium ownership, wherein an individual may own part of the structure with or without the land actually occupied by that part, and hold other parts of the structure, land or project improvements jointly with others.

The occupation of mobile homes as permanent, year round residences is of increasing importance in the urban community, particularly in Arizona and other states having mild climates. The mobile home may be situated on a rented site in a mobile home park or on an individually-owned lot in a mobile home subdivision, both of which are especially designed and developed for such occupancy.

Some communities, including Avondale, contain institutional types of housing broadly categorized as group quarters. Group quarters are occupied predominately by single persons, and includes dormitories, fraternities, rest homes, hospitals, correctional or penal institutions, and, in the case of Avondale, the farm labor supply camp.

Composition of Avondale Housing

Figure 1 shows the composition of housing by type of unit as enumerated in Avondale in 1960 and 1966. Single-family residences account for approximately three-fourths of the total housing supply. It is evident that the ratio of total housing represented by single-residences has decreased appreciably since 1960 as housing production has intensified in other categories, particularly in mobile homes. Figure 1 does not include that portion of the total housing supply represented by the farm labor supply camp. Persons residing in that camp in 1960 were enumerated as living in group quarters.

Housing construction has slowed appreciably during the past two or three years and future growth is expected to continue at a moderate rate. Consequently, future housing composition is expected to remain fairly consistent with that recorded in 1966.

Figure 1
COMPOSITION OF HOUSING, 1960 and 1966
City of Avondale

Year	Total Housing Units	Single Family		Two Family		Multi-Family		Mobile Homes	
		No.	% of Tot.	No.	% of Tot.	No.	% of Tot.	No.	% of Tot.
1960 ^{1/}	1,397	1,193*	85.5	25	1.8	177	12.7		*
1966 ^{2/}	1,774	1,284	72.4	64	3.6	330	18.6	96	5.4

*Mobile homes were enumerated as single dwellings.

Sources: 1/ U.S. Census of Housing, 1960

2/ Van Cleave Associates Survey, November 1966.

Housing Density and Distribution

Housing density is commonly expressed in numbers of dwelling units per net residential acre*, while population density is expressed in terms of persons per acre or persons per square mile. Housing density is used primarily as a measure of the open space, light and

*Net residential acre: Actual area of the lot or parcel remaining after dedication of public streets and alleys.

air available to each dwelling unit and other conditions directly related to the adequacy of the dwelling unit itself. Population density standards, on the other hand, are employed to prevent traffic congestion and the overcrowding of schools, parks, playgrounds and other community facilities.

Housing density varies considerably throughout the City of Avondale, ranging from an equivalent ratio of 24 units per acre in the southern section (where in one instance six dwelling units are located on a 0.15 acre parcel) to less than three units per acre in sparsely settled areas. In general, newer residential areas in the northern part of the city are not very dissimilar in housing density from those in the blighted southern section, averaging six to seven units per net acre. The city-owned Circle Housing Project has a density of about ~~6.7~~^{6.1} units per acre, very low for multi-family housing. The Deci Apartments has a density of 15.3 units per acre and Palo Verde Apartments 14.0 units per acre. Estrella Mobile Homes Park has a density of 14.3 units per acre while the mobile home park on Central Avenue has a 12.3 ratio.

Whether housing density ratios are judged to be high or low depends upon the location and type of the individual community. In general, housing densities are comparatively low throughout the Phoenix metropolitan area. Based upon local economic and environmental factors, it appears that density ratios of four to seven units per net acre for single-family residences, eight to ten units per acre per mobile home parks and subdivisions, and twelve to twenty units per acre for multi-family development are reasonable guides for future residential development in Avondale.

Avondale housing is widely scattered. Intermittent vacant lots and parcels exist throughout most single-family areas and most contain a mixture of single residences, duplexes, and apartment buildings. Deteriorating and dilapidated residences exist in areas dominated by sound housing and in a few instances new residences have been constructed in deteriorating and blighted areas. Mobile homes exist on scattered individual lots among conventional homes. In many instances, particularly south of U.S. 80, several separate single-family structures have been crowded onto single lots. The distribution and mixture of housing types in Avondale exhibits a general lack of past direction and control of development and evidences a failure to understand and conform to the basic criteria of residential amenity.

Occupancy Characteristics

Figure 2 shows the 1960 occupancy characteristics of Avondale housing as compared with those of Maricopa County and nearby cities. The 93.8% occupancy rate is above the county average and similar to that of other cities in this part of the metropolitan area. Avondale's ratio of owner-occupied housing units is substantially below that of any other entity listed, while the number of persons per occupied housing unit is markedly higher in Avondale than in other entities listed, reference to Figure 12 of the Population report shows that Avondale's household size is similar to other small Westside cities having relatively low median family income levels and many farm workers in the population.

Figure 2
HOUSING OCCUPANCY CHARACTERISTICS, 1960
City of Avondale and Selected Entities

Item	Maricopa County	Phoenix	Avondale	Glendale
Total Housing Units	211,865	143,076	1,397	4,602
Occupied HU's (No.)	191,076	132,083	1,311	4,389
(%)	90.2	92.3	93.8	95.4
Owner Occp'd. HU's (No.)	125,267	87,552	628	2,499
(%)	65.6	66.3	47.9	56.9
White Owners (No.)	121,057	84,242	538	2,430
(%)	96.6	96.2	85.7	97.2
Non-white Owners (No.)	4,210	3,310	36	69
(%)	3.4	3.8	14.3	1.8
Renter Occp'd. HU's (No.)	65,809	44,531	687	1,890
(%)	34.4	33.7	52.1	43.1
White Renters (No.)	60,849	41,089	584	1,878
(%)	92.5	92.4	85.0	99.3
Non-white Renters (No.)	4,960	3,442	103	12
(%)	7.5	7.6	15.0	.7
Persons/Occp'd. HU	3.4	3.3	4.1	3.6

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

Figure 3 shows the 1960 breakdown of housing occupancy by household size. Whereas the median occupancy rate of 3.7 persons per unit is not unusually high, it should be noted

that more than one-third of the total occupied units housed five or more persons. It is probable that a substantial proportion of the larger households occur in the southern section of the city. The median household size has probably not changed significantly since 1960.

Figure 3
HOUSING OCCUPANCY BY HOUSEHOLD SIZE, 1960
 City of Avondale

No. Persons	No. Occupied Housing Units	Percent of Occupied HU's.
1	111	8.5
2	276	21.1
3	219	16.7
4	241	18.4
5	167	12.7
6	119	9.1
7	61	4.7
8 or more	117	8.9
Median occupancy, all housing units--3.7 persons		

Source: U.S. Census of Housing, 1960

PART C

CONDITION OF HOUSING

Structural Condition

Structural condition is the primary determinant of housing quality. Basic factors contributing to structural condition are age of structure, quality of materials and workmanship in original construction, and the quality and consistency of maintenance.

Data obtained from the 1960 Census of Housing indicates that the structural condition of housing in Avondale varies widely and that the ratio of sound housing units is one of the lowest in the state.

The 1960 Census used three basic categories for classifying housing units according to structural condition:

SOUND - housing which has no defects, or only slight defects which can be corrected with normal maintenance procedures (cracked windows, missing paint, etc.)

DETERIORATING - housing which requires repairs in excess of normal maintenance to permit continued use as adequate and safe shelter, defects being of a type leading to serious structural damage and unsafe living conditions if not corrected (small holes, missing bricks, rotted window frames, sagging roof, etc.)

DILAPIDATED - housing which endangers the health, safety or well-being of occupants, having one or more defects sufficiently critical to require extensive repair, reconstruction or removal of structure (large segments of walls or roof missing, extensive cracking of foundation, substantial rotting of structural members, etc.)

A November 1966 field survey of housing conditions conducted by Van Cleve Associates used the same general criteria employed by the 1960 Census, and found that housing conditions were generally about the same as they had been in 1960.

Figure 4 indicates the condition of housing in Avondale in 1960 as compared with that of the state and county. Also shown are data from the November 1966 survey. The ratio of deteriorating and dilapidated housing units in Avondale is roughly three times as high as in Maricopa County. Nor, have conditions improved appreciably since 1960, as shown in Figure 5.

Figure 4
CONDITION OF HOUSING, 1960 and 1966

Entity	Total No.	Sound		Deteriorating		Dilapidated	
	Hsg. Units	No.	%	No.	%	No.	%
State of Arizona, 1960	415,790	332,385	79.9	53,257	12.8	30,148	7.3
Maricopa County, 1960	211,857	179,770	84.8	21,547	10.2	10,540	5.0
AVONDALE, 1960	1,397	800	57.2	366	26.2	231	16.6
AVONDALE, 1966	1,774	1,014	57.2	502	28.2	258	14.6

Source: 1960 Data: U.S. Census of Housing, 1960
1966 Data: Field Survey, November 1966, Van Cleve Associates

Age and Obsolescence

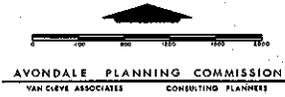
Age is a useful guide to analysis of current condition and value of housing. Ultimately, a structure passes beyond its economic life expectancy and, although there are exceptions to the rule, older housing is the most susceptible to obsolescence, deterioration and dilapidation. Figure 6 shows the age of Avondale Housing as recorded by the 1960 Census.

It should be noted that nearly 42% of the 1960 housing units were constructed during the 1940's. During and immediately after World War II the demand for housing in this area close to military bases and war industries greatly exceeded the supply, and time pressures further contributed to the substandardism inherent in poor workmanship, poor materials and relaxed building codes. During this period many small dwellings units were constructed by occupants and others having little basic knowledge of construction techniques. Many small units were built in the rear of existing dwellings or crowded several on a single lot. Many of these substandard housing units are still in use and represent a large share of the dilapidated structures.

During the 1950's, many farm labor families who were once part of the migrant labor force settled in that section of the city lying south of U.S. 80. Many purchased small lots and constructed their own homes using a wide variety of new and used materials and employing the help of friends who were equally inexperienced and unskilled in construction trades. Many of these dwelling units are presently dilapidated, unsafe and wholly unsatisfactory for

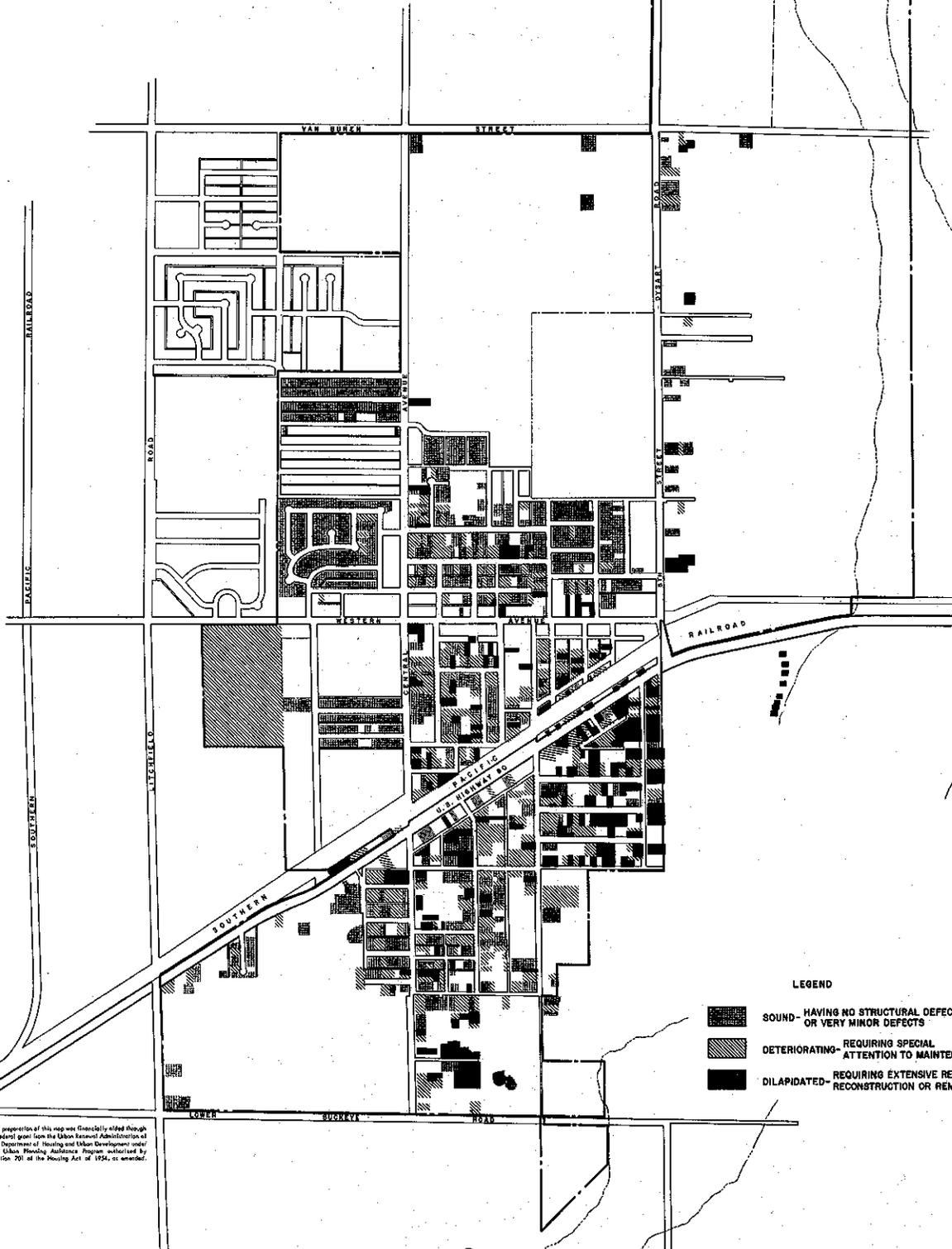
Figure 5

STRUCTURAL CONDITION OF HOUSING AVONDALE, ARIZONA



1967

GROUP QUARTERS NOT ORIGINALLY
CONSTRUCTED OR PRESENTLY SUITABLE
FOR FAMILY OCCUPANCY. NO SOLID FOUNDATIONS,
FEW UNITS IMPROVED WITH
RUNNING WATER, SANITARY FACILITIES,
MODERN HEATING AND LIGHTING.



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

human occupancy.

In 1943, the federal government constructed the Circle Housing Project in Avondale to provide housing for service families and military employees of Goodyear Aircraft. This project comprises 178 units having from one to three bedrooms and is presently owned and operated by the City. It was constructed as temporary housing, using materials and construction standards which have contributed to rapid deterioration. The project has not received the degree of continuing maintenance required to maintain satisfactory housing conditions and has fallen into a serious state of disrepair. A thorough evaluation of structural conditions, value, necessary repairs, and cost of rehabilitation should be made as a basis for determining the City's future course of action.

Figure 6
AGE OF HOUSING, 1960
City of Avondale

Year Constructed	Before 1940	1940-1950	1950-1955	1955-April 1960	Total
Number of Units	217	583	299	298	1,397
Percent of Total	15.5	41.7	21.4	21.4	100.0

Source: U.S. Census of Housing, 1960

Site Conditions and Appearance

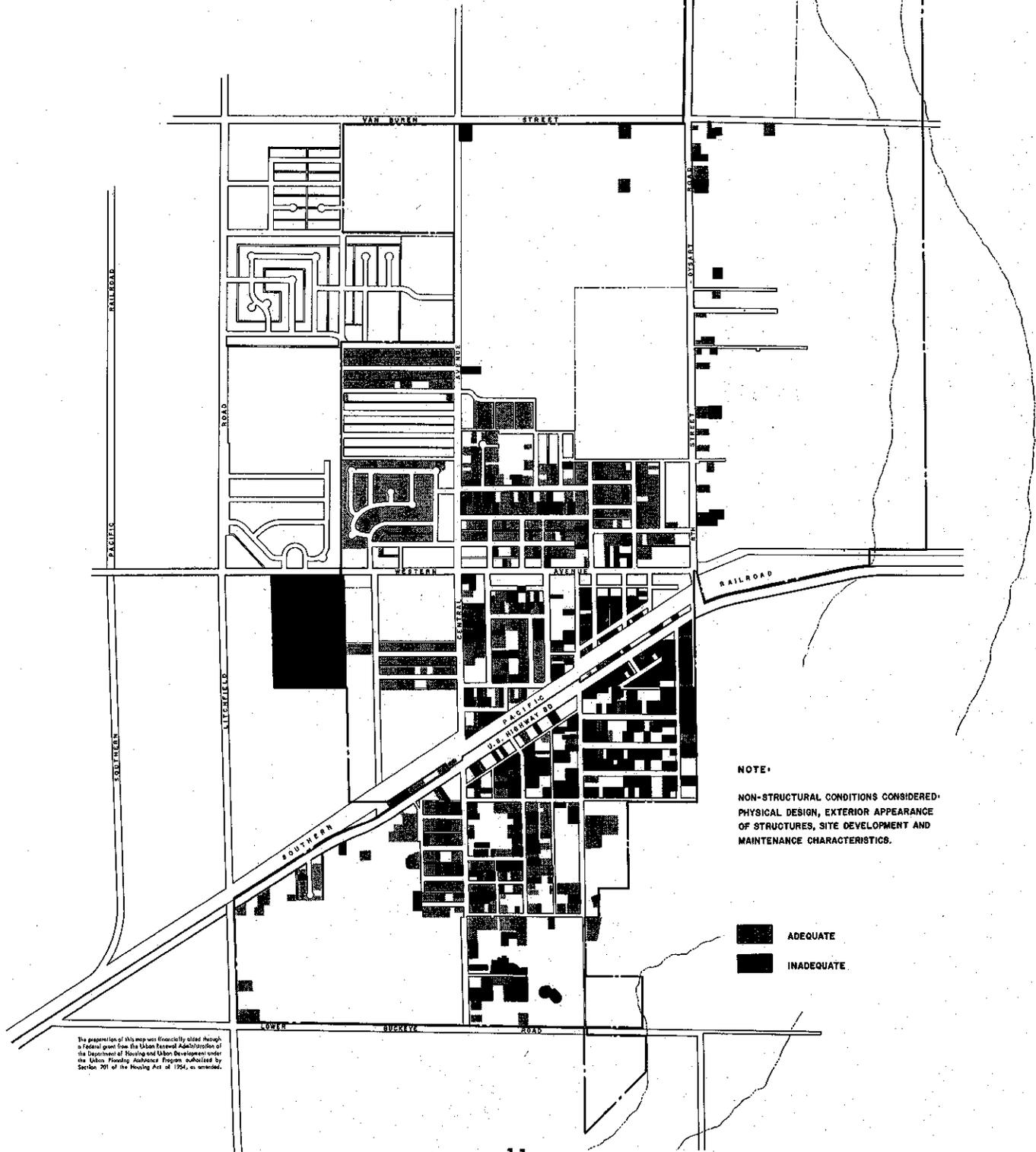
In addition to determining existing structural conditions of housing, the November 1966 survey rated each dwelling according to its physical design and appearance, and the general characteristics of site development and maintenance. Figure 7 shows graphically the findings of this survey.

Each structure was rated adequate or inadequate as to general design of the structure, use of exterior materials, use of ornamentation, and apparent maintenance. Forty-six percent of Avondale's residential structures were rated unsatisfactory in appearance. In the area south of U.S. 80, 65 % of the dwellings received negative ratings in design and appearance.

Figure 7
**NON-STRUCTURAL CONDITION
 OF HOUSING**
 AVONDALE, ARIZONA



1967



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

Site conditions were rated as adequate or inadequate based on the following factors: drainage, building location on the lot, relationship to other structures on the same parcel, access to a public street, utility services, existence of improved streets, curbs and sidewalks, presence of refuse and material storage on lot, landscaping, and general maintenance. Forty-eight percent of the city's housing units received negative ratings in respect to site conditions. Major contributing factors were:

1. Substandard public street improvements.
2. Lack of sidewalks.
3. More than one residential structure on a standard residential lot.
4. Excessively small lots.
5. Presence of scrap materials and refuse on residential lots.
6. Lack of landscaping and grounds maintenance.
7. Wide variety of front yard fencing in deteriorating condition.
8. Poor drainage.
9. Substandard front or side yard set backs.

Eighty five percent of the housing units in the area south of U.S. 80 were rated inadequate and in the area east of Fourth Street, over 95% of the lots were rated inadequate.

Off-site Environment

Figures 5 and 7 reflect the quality of living conditions as they pertain to individual housing units and sites. Mapping of these individual judgments pinpoints the areas of the city where depreciation and blight is most prevalent on a structure-by-structure basis. However, to better determine the causes of depreciation and blight it is also necessary to consider that part of the residential environment which exists beyond the limits of the individual site.

In general, major factors determining the quality of living environment afforded by the residential neighborhood, or micro neighborhood, include:

1. Relationship of adjacent structures and sites.
2. Degree of conflict between residential and non-residential land uses.
3. Extent of street and alley improvements and continuing maintenance.
4. Presence and continuity of sidewalks, street lighting, and street tree plantings.
5. Location of schools, parks, playgrounds and other supporting facilities in relation to home sites.
6. Extent and type of development on public facility sites and their efficiency of function.

Figures 5 and 7 show that major areas of residential blight exist in the section south of U.S. 80. The area between Fourth Street and the east city limits is severely blighted. Sixty-four per cent of the dwelling units in this area are dilapidated, and another 30% are in various stages of deterioration. Ninety-five percent of the structures have poor site characteristics and 89% are poor in physical design and appearance. This area houses farm labor families, low-salaried military personnel and a large number of welfare recipients; few if any of whom have the means of improving their economic and environmental plight. This area has deteriorated beyond the stage where conservation and rehabilitation efforts can be effective, and requires more-or-less complete clearance and redevelopment.

Conditions in the area immediately to the west, bounded by Fourth Street, Central Avenue and Harrison Drive, are not quite so severe. An active and forceful conservation and rehabilitation program, supplemented by spot clearance and redevelopment, might be successful in upgrading this area to a satisfactory level of housing condition and residential environment.

The area south of Harrison Drive, between Central Avenue and Fourth Street, is in need of major redevelopment action. The stability and physical suitability of this area for residential use is aggravated by a lack of adequate street rights-of-way and the division of property into irregular and odd-shaped parcels under separate ownership.

The remaining developed area south of U.S. 80 is subject to many factors which encourage deterioration and blight. The City should give serious consideration to undertaking a combined conservation, rehabilitation and redevelopment program embracing all developed and undeveloped land south of U.S. 80, including non-residential properties.

Figures 5 and 7 also show that housing conditions are spotty and generally less severe in the section north of the railroad. The majority of these deficiencies can be corrected and the area returned to economic stability through an active conservation and rehabilitation program supplemented by spot clearance and redevelopment.

Special Housing Areas

Mobile Homes and Mobile Home Parks

Avondale has five mobile home parks of which only one can be considered as providing adequate residential environment. The others, as described below, are poorly located, designed and maintained. Some are overcrowded, while others have excessive vacancy rates--conditions conducive to low maintenance and rapid deterioration. None of the five provides the space, privacy or auxiliary facilities which are expected in modern mobile home parks occupied on a year round basis.

The park located on South Fourth Street is poorly located and suffers from a low occupancy rate, contributing to inadequate maintenance and rapid deterioration. The park located behind commercial frontage on U.S. 80 just west of First Avenue has an excessively high density and is adversely influenced by adjoining non-residential uses and very poor entrances. Estrella Trailer Park, located on west U.S. 80, accommodates about 40 units, most of which are too large for the lots on which they are situated, reducing already minimal open spaces and resulting in encroachment upon access drives and adjoining lots. Most of the units are supported on jacks and blocks without skirting, creating an unsightly appearance and appreciable health and safety hazards. The mobile home park on Central Avenue is fairly well designed, developed and maintained although its density is excessive and it fails to meet modern standards in many respects.

Numerous individual mobile homes are situated on single-family lots among conventional dwellings. Even under the best conditions this mixture of dwelling types tends to downgrade a single-family neighborhood. The construction of inexpensive, owner-built auxiliary building space in conjunction with the mobile home often contributes to poor housekeeping and rapid deterioration of the lot and immediate area. The mobile home industry has long insisted that all mobile homes should be located either in mobile home parks or in subdivisions especially designed for mobile homes, and never scattered among conventional dwellings.

Avondale Circle Housing Project

This housing project was built by the Federal Government during World War II as

temporary housing for military families and employees of Goodyear Aircraft industries. The project is presently owned and operated by the City of Avondale and houses military personnel, farm laborers, Goodyear employees and welfare families. The project consists of 178 units of one, two and three-bedrooms renting from \$39 to \$56.60 a month.

While the general design and arrangement of the project is adequate, the buildings are seriously deteriorated and the grounds need major rehabilitation and redevelopment. Some of the most obvious conditions contributing to the project's poor appearance and poor site utilization are:

1. Unattractive appearance of structures fronting Western Avenue makes an unfavorable impression on the passing public.
2. Entrances are narrow, ill-defined and unattractive.
3. Exterior appearance of most structures is poor.
4. Exposed evaporative coolers add to the clutter and poor appearance.
5. The project is a poor location for the public library.
6. Access drives need major repair and reconstruction.
7. Parking areas are poorly located, designed and improved.

In addition to correction of the foregoing deficiencies the following actions are needed as a minimum.

1. Water tank tops along drives should be replaced by vertical curbs.
2. Refuse areas should be improved and screened from public view.
3. Laundry and clothes drying areas should be improved and screened.
4. Play areas for small children should be developed.
5. Overhead utilities should be relocated underground.
6. Adequate night lighting should be provided.

Many Avondale citizens are concerned about the future of the housing project and many suggestions have been made as to appropriate actions. Overall housing conditions in the City, together with the very low income level of many of its residents, suggest that the City should continue and possibly expand its roll in public housing. However, any future policy decision in this regard should be delayed until a full-scale feasibility study is made. Such a decision should be coordinated with plans for relocation of persons presently occupying substandard housing which would be removed under an urban renewal program. It may be found that current value of the project does not warrant the extensive repair and reconstruction required to bring it up to passable condition.

Avondale Farm Labor Supply Center

This forty-acre development was constructed in 1937 under the Farm Security Administration Program for the purpose of providing better accommodations for migrant farm laborers. The labor camp originally consisted of 312 shelters intended for groups of single workers, together with supplementary administrative and operational facilities.

Operation of the camp was taken over by Maricopa County in 1948 and by 1950 families were no longer accepted as tenants. In 1952 the camp was reopened for the Mexican National Braceros Program and housed five men to a shelter. During the past year, in response to new federal minimum housing standards, the County has added electricity, running water and sewage disposal units in 29 of the shelters to provide for temporary occupancy by migrant laborers. The camp is currently being used as a manpower development training center.

The labor supply camp has served its purpose. The demand for migrant labor housing is declining rapidly and most of the facilities are so substandard they do not provide satisfactory housing even on a temporary basis. However, the site has certain amenities which suggest its redevelopment for more productive urban uses. It is recommended that the City negotiate for acquisition of the facility and redevelop the site for residential and/or park use. Policy decisions regarding the optimum future use of the site should be based upon detailed economic feasibility studies and the upcoming General Plan.

On land adjoining to the north of the labor camp, Maricopa County maintains 36 single dwelling units and 15 duplexes as low income housing for farm laborers and welfare recipients. These small widely-spaced units have been permitted to deteriorate, although a rather minor amount of repair and maintenance would vastly improve their appearance and economic value.

Dysart Road will become an important entrance to the City when Interstate 10 is completed. Appropriate development and maintenance of the site occupied by this housing will directly influence the appearance and attractiveness of the future City. It is recommended that these one and two family units be acquired by the City and the site replanned and redeveloped, possibly as part of a future public housing project. A second alternative would be their acquisition, rehabilitation and sale to individual home buyers.

PART D

PROJECTIONS OF HOUSING NEEDS

Revision of adequate housing and desirable residential environment for Avondale's projected 1985 population of 11,200 will require a major overhaul and expansion of public facilities and services. The evident readiness of Avondale citizens to demand and support the rehabilitation and renewal of substandard and blighted residential areas will have major impact on the future quality of the city's housing. Advancements in residential construction technology, changes in family composition and living habits, and increased federal, state and local activities in housing programs will have a positive influence on character and composition of housing. Implementation of the forthcoming Avondale General Plan will assure a steady improvement of environmental conditions.

Avondale's future housing market will develop from several sources: (1) new residents, (2) new families formed through marriage, (3) families seeking escape from substandard dwellings, and (4) families being relocated through urban renewal programs. These people will demand and support a wide variety of housing types. Although single-family conventional dwellings will continue to dominate the housing supply, there will be increased demand for multi-family housing, particularly for low-income family occupancy. Although the current and future household size will encourage the provision of more spacious dwellings with several bedrooms, there will be a continuing demand for efficiency and one-bedroom apartments, and mobile homes will provide an increased share of housing for couples and small families.

It is assumed that Avondale will continue to have a relatively young population. Average household size is expected to decline only slightly. Median family income and educational attainment levels are expected to increase substantially, but will remain below state and county levels.

Residential Development Trends

Avondale is not a typical small Arizona city. It has been influenced by unique social and cultural conditions which have effected the character and composition of its housing.

The City has gained experience in the administration and management of public housing. Its citizens are ready to initiate and support programs for the arrest and elimination of urban blight. All of these factors will influence future development trends in Avondale.

Development of single-family residences is expected to continue at a moderate pace, extending toward the north and avoiding the area south of U.S. 80 until redevelopment action is underway. Single-family residence construction will be characterized by a broader range of house and lot sizes, but a relatively small ratio of new homes will be above or below the middle income level. Improved zoning and subdivision regulations will assure that new housing will meet progressive standards.

The proportion of two-family dwellings in the city's housing inventory has risen from 2% to 5% since 1960. This increase is largely attributed to the annexation of the public housing units owned and operated by Maricopa County. In addition, a number of older single homes have been converted to two-family use. Although there will be continuing conversion of older single homes for two-family occupancy in areas where zoning permits, the percentage of duplexes in the housing supply is expected to decrease.

Multi-family housing accounted for 12.6% of the city's 1960 housing. This unusually high ratio resulted from the relatively large number of units in the Circle Housing Project. Recent local emphasis on single-family construction has reduced the percentage of multi-family units. The economic impossibility of providing adequate housing and environmental conditions for low income families in single homes will encourage an increased ratio of multi-family construction in the future. It is anticipated that multi-family units will increase to the 15% level by 1985.

Despite the number of new dwelling units constructed since 1960, the number of deteriorated and dilapidated units has increased from 42.8% to 52.1% of total units. It is obvious that deterioration has progressed faster than construction. Actually, nearly all of the new units are housing new residents with higher incomes and very few have been built as replacement for dilapidated units.

It is anticipated that by 1985 all of the dwelling units presently rated as dilapidated (341)

and at least 40% of those rated as deteriorated (574) will have been removed from the housing supply and replaced by new construction.

Figure 8 indicates the projected 1985 housing needs for the Avondale Planning Area based on earlier projections of population numbers, household size and composition. Computation of the total number of new housing units required assumes a 5% vacancy factor and the loss of 671 existing dwelling units due to age, obsolescence and dilapidation.

Figure 8
HOUSING REQUIREMENTS, 1985
 Avondale Planning Area

$\frac{11,202 \text{ (Projected 1985 Population)}}{3.8 \text{ (Assumed No. Persons/Hshld.)}}$	$=$	2,947 (Total Occup'd. Hsg. Units, 1985)
$2,947 + 147 \text{ (Assumed 5% Vacancy)}$	$=$	3,094 (Total Hsg. Units Needed, 1985)
$3,094 - 1,756 \text{ (1966 Hsg. Units)} + 671 \text{ (1966 Sub-Std. HU's Replaced)}$	$=$	2,009 (Total New Hsg. Units Required, 1985)

The more than 2,000 new housing units which must be constructed during the next 18 years will require an average annual production of 112 units, a slightly higher rate than that experienced in recent years.

Although any projection of future housing composition by type of units is subject to a vast array of variables, estimates shown in Figure 9 have been developed largely as a guide in reviewing zoning and building applications and keeping abreast of market demands.

Figure 9
PROJECTED HOUSING NEEDS BY TYPE OF STRUCTURE, 1985
 Avondale Planning Area

Type of Structure	Percent of Total Hsg. Units			HU's Req'd.
	1960	1967	1985	1985
Single-Family	85.6	80.3	73.0	2,151
Two-Family	1.8	5.1	2.0	59
Multi-Family	12.6	8.1	15.0	442
Mobile Homes	---	6.5	10.0	295
	Total			2,947

Residential Land Use Needs

In the preparation of a valid long range development plan, it is essential to estimate the amount of land which will be devoted to residential and other urban uses. Such an estimate requires certain assumptions regarding housing density as well as a projection of the number of units required to house the future population. These assumptions and projections appear in Figure 10.

Figure 10
PROJECTED RESIDENTIAL LAND NEEDS, 1985
Avondale Planning Area

Type of Housing	HU's Req'd. 1985	HU's/ Net Acre	Total Net Acreage
Single-Family	2,151	5+	395
Two-Family	59	14	4
Multi-Family	442	14	30
Mobile Homes	295	8	37
	Sub-Total		466
	Plus Public Streets (25%)		116
	Plus Neighborhood Supporting Facilities (15%)		70
	Total		652

It is estimated that by 1985 residential development in Avondale will occupy a net land area of approximately 466 acres, compared to the 278 acres presently occupied by housing. In addition, about 25%, or 116 acres, will be required for public street and alley rights-of-way in residential areas. An additional 15%, or 70 acres, will be needed for elementary schools, neighborhood parks and playgrounds, churches and other public and quasi-public supporting facilities which are a part of residential area development. Thus, a total of about 652 acres will be required to accommodate housing and supporting uses by 1985.

PART E

CONCLUSIONS AND RECOMMENDATIONS

By 1985, Avondale will nearly double its present population through natural increase and in-migration. Over 2,000 new dwelling units will be needed to accommodate this added population and to replace the large number of housing units lost through deterioration and dilapidation. Residential development and supporting facilities will occupy a total of about 650 acres, including established residential areas, new subdivisions and redeveloped areas.

Growth prospects, aside from problems related to the current prevalence of deterioration and blight, demand that the community gird itself for action and make the policy decisions which will lead to constructive action programs.

Despite substandard housing conditions (and to some degree, because of these conditions) Avondale has attracted in-migration by once-migrant labor families and other farm workers. It will probably continue to serve as a home base for seasonal as well as year round farm labor families, but these people will probably comprise a very minor component of future in-migration.

Although middle-income families will dominate the in-migration, the agricultural and unskilled labor base will continue to hold the median family income below state and county levels. A recent survey of California's farm labor families found that:

"Farm labor families--although larger in size than the average family--earn only \$2,668 a year. Workers of Mexican lineage and Negroes receive less than this median, with 36% of the Negro families getting less than \$1,500 annually."

Farm labor pay scales in Arizona are generally similar to those in California. These people simply do not have sufficient income to pay for even the most fundamental and low cost housing available in today's open market. Achievement of the goal of safe and sound housing for all citizens will require extensive and probably continuing assistance of these very low income families.

To raise below-subsistence incomes through vocational training and suitable full-time

employment is an essential step in the process of upgrading the living conditions of this segment of Avondale's population. But, regardless of the scale and success of a vigorous adult training program, there will remain a large number who will be unable to compete for work and will require assistance by the public.

Avondale, unfortunately, is the victim of an area-wide problem which it cannot solve by itself. It can, and must, however, provide the local initiative and administration mechanics required to undertake a massive social and physical program coordinating all available local, county, state and federal resources. Some of the actions, programs and resources which can be put to work in seeking a long-term solution to this major problem by the various levels of government are discussed below. It should be noted that a great many related local problems are likely to be solved in the process of upgrading local housing conditions and residential environment.

Local Actions

Implementation of the forthcoming General Plan will facilitate the attraction of labor-based industry to Avondale and vicinity, with a resultant improvement of the median income level. The Plan will outline the areas of the City most suitable for residential growth and for expansion of commercial and industrial activities. It will establish locational criteria and development standards which, when enforced through implementing regulations, will assure population and housing density control, adequate circulation and access, improved function of residential, commercial and industrial areas, and provision of adequate space for parks, playgrounds, schools and other public facilities. The Plan, however, will merely serve as a guide for future public and private actions--its effectiveness will depend entirely upon support of its proposals by the citizens and city officials, and by the subsequent adoption and consistent enforcement of improved zoning, subdivisions regulations, building codes, housing codes, and related measures.

Although the Plan must anticipate the redevelopment of existing blighted areas and areas subject to future deterioration, it will not itself constitute more than one basic step toward a full-scale program for redevelopment of those areas. The Plan must be followed by a more

detailed examination of local conditions and an intensive study of financial ways and means of attacking the problem.

Once the facts are known, the City can outline its action program and seek the assistance of other governmental agencies and programs.

County Actions

The difficult problem of finding suitable places for once-migrant labor families and other low income and unskilled people to live and work are area-wide problems, not restricted to a single governmental jurisdiction. This principle has been accepted by Maricopa County government as evidenced by its acquisition and management of a number of public housing projects and its various welfare programs. However, the County program as it pertains to operation of the Farm Labor Supply Center and adjoining low income housing, has not proven sufficiently effective. However, it is clear that these County-owned and operated facilities could be reorganized and redeveloped as key facilities in a coordinated total attack on the problem. At this point, it appears logical that the City serve as program coordinator as well as the landlord operating specific housing projects. The City's position would be strengthened by acquisition of the aforementioned county facilities.

Actions at the State Level

Inasmuch as migrant worker and poverty problems are not unique to the Avondale area, it would be desirable for the state to establish and maintain an agency and program charged with responsibility for assisting and guiding municipalities and counties in planning and financing low-cost housing as well as other activities in relief of poverty.

Federal Programs

The federal programs currently available for assistance in all aspects of the poverty problem are almost too numerous to mention. Many of the oldest assistance programs are concerned primarily with urban renewal and low-income housing, including the following as examples:

Urban Renewal
FNMA, Construction Financing for Low Income Housing

FHA, Housing Sales Program for Low Income Families
Mortgage Insurance for Group Practice Facilities
Mortgage Relief for Homeowners Near Closed Military Installations.

In addition to federal programs oriented to renewal and housing, the new Comprehensive City Demonstration Program, enacted as part of the Housing and Urban Development Act of 1965, provides a high ratio of financial assistance to communities organizing a comprehensive approach using all available ways and means of developing solutions to complex social and cultural deficiencies as well as to those more commonly associated with low income housing and elimination of blight.

TRANSPORTATION AND UTILITIES

PLANNING REPORT
NUMBER SEVEN

AVONDALE, ARIZONA

Prepared Under Contract with the
Division of Economic and Business Research
University of Arizona

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

VAN CLEVE ASSOCIATES, CONSULTING PLANNERS
SCOTTSDALE, ARIZONA

MARCH 1967

CONTENTS

		Page
SECTION ONE	TRANSPORTATION - INTRODUCTION	1
PART A.	STREET SYSTEM PLANNING	3
PART B.	EXISTING CONDITIONS	10
PART C.	PRELIMINARY STREETS AND THOROUGHFARES PLAN	15
PART D.	RAIL AND AIR TRANSPORTATION	18
SECTION TWO	UTILITIES	19
PART A.	WATER SUPPLY AND DISTRIBUTION	19
PART B.	SANITARY SEWERAGE	21
PART C.	STORM DRAINAGE AND FLOOD CONTROL	24
PART D.	ELECTRIC POWER, GAS AND TELEPHONE	25

ILLUSTRATIONS

Figure			
1	Table	Recommended Street Cross-Section Standards	7
2	Chart	Recommended Street Cross Sections	8
3	Map	24 Hour Vehicular Traffic Flow	11
4	Map	Streets and Thoroughfares Plan	16
5	Map	Water Sewage and Drainage	22

SECTION ONE - TRANSPORTATION

INTRODUCTION

The modern city is a complex arrangement of homes, stores, factories, offices and public facilities, all linked with a network of streets, water lines, sewers, and communication channels. The Transportation Plan integrates major streets and highways, railroads, and airports into a functional system which efficiently serves land use, communication and circulation needs of the community.

The movement of people and goods is the lifeline of our economy without which modern urban life could not exist. Transportation brings to the community consumer goods and materials for manufacture, and carries away products for sale and distribution. Inadequate or obsolete transportation facilities, either external or internal, can effectively deter the growth and economy of an entire city or region.

Increased dependency on the truck and private passenger car has rendered most other transportation systems uneconomical. While the railroad once played an important role in Avondale's transportation system, it is now limited generally to transport of heavy freight. Local residents are dependent upon Phoenix Sky Harbor Airport for commercial air passenger service.

Since streets and highways will continue to dominate national, regional and local transportation throughout the foreseeable future, this report places major emphasis on this element of the total transportation network. The city has the most direct control over vehicular transportation and can improve its own system through appropriate planning and action programs.

Major objectives of this report are to:

1. Promote a general understanding of the proper function of streets and highways in the community.
2. Demonstrate the need for development of a functional street and highway system which will:
 - a. coordinate internal and external transportation facilities
 - b. serve existing and future uses of land efficiently
 - c. minimize nuisance and hazard resulting from traffic conflicts
 - d. provide standards for improvement of existing and future streets

3. Develop a preliminary plan for streets and highways in the Avondale area.
4. Consider methods of carrying out a streets and highways plan.
5. Consider existing and future need for air and rail transportation facilities and service.

Definitions

Thoroughfare: a general term denoting a route having sufficient width and continuity to carry large volumes of through traffic; a term embracing such other commonly used terms as major street, highway, or arterial.

Highway: a state or federal route primarily serving to carry both through traffic and destination traffic, and secondarily to serve abutting property.

Freeway: a limited access highway carrying large volumes of high-speed, long distance traffic.

Major Arterial: a principal through traffic route in urban areas which feeds traffic to and from highways and collector streets and serves major commercial, industrial and residential areas.

Collector Street: a street which provides both circulation and property access in residential neighborhoods, commercial districts and industrial areas, and which carries traffic from local streets and to major arterials.

Local Street: a general term describing all minor streets carrying only localized traffic and providing access to abutting properties.

PART A

STREET SYSTEM PLANNING

In the years before mounting transportation needs forced a change in concept, all streets provided concurrently for traffic, access to abutting property, and parking. This concept still dominates Avondale's street system.

More recently, transportation planners have taken a new approach wherein the principal function of each street in the system is defined and its design is related directly to its function. In this system, some streets function solely in the movement of traffic, some serve primarily as traffic carriers and secondarily as means of property access, and some function equally as traffic carriers and means of property access. All modern systems tend to restrict or eliminate street parking.

Functional Street System Planning

The need for transportation facilities is largely determined by the community's pattern of land use. Once the pattern of land use and land development has been established, it is difficult and often impractical to change the pattern and use of adjoining streets. Scattered employment, apartment and business centers require greater driving and parking time, and generate less pedestrian traffic than when concentrated. Strip commercial makes one-stop shopping impossible, creating more travel, traffic conflicts and street use.

While street patterns usually dictate the size and shape of land parcels in older developed areas, the varying land requirements of industries, apartments, shopping centers, schools and parks should determine the location and function of streets in newly developing areas. In growing neighborhoods, arterial and collector streets should be planned and located in advance of subdivision development proposals, while the arrangement of local streets should remain unspecified until development is imminent or proposed.

Adjoining land uses frequently interfere with the movement of traffic. Heavy turning movements, curb parking, pedestrian traffic, blind intersections and other transportation characteristics of certain land uses substantially reduce the speed and volume of traffic carried by adjacent streets. Without careful planning and control, such condi-

tions can seriously reduce the carrying capacity of major streets and defeat their primary purpose.

Conversely, streets can create or destroy the usefulness and value of adjoining property. While the efficient movement of people and goods within an urban area is critically important, heavy traffic frequently creates undue nuisances and hazards which are injurious. Streets may help to unify related land uses and activities, or may divide them.

Community Objectives for a Coordinated Street System

Community objectives for planning and development of the street system can be defined within the framework of the following criteria:

1. The street system should function in harmony with and make maximum use of the existing network of streets.
2. Street planning should be coordinated with land use planning, taking into consideration both the influence of existing and future land uses on the function and design of streets as well as the influence of streets on the basic structure of the community and the overall usefulness and value of land.
3. The street system should help preserve residential amenities as well as serve business and industry.
4. Future street planning should be based on surveys and projections of traffic needs and conform to the best possible engineering practices.
5. A system should be developed through orderly financing and programming within the community's financial resources and capabilities.

Street Classification

Major urban areas are the focal point for most long distance vehicular travel and coordination of the local street system with the highway network is a major consideration in comprehensive community planning. In cognizance of this situation, the Bureau of Public Roads provides initiative and incentives for planning and programming major thoroughfare improvements within urban areas by encouraging and supporting inter-agency cooperation in the development of urban street systems. When jointly accepted by city and state governments, and approved by the Bureau, primary urban street systems qualify for federal highway aid.

An urban primary system includes highways, freeways and major arterial streets, any of which may be a part of the federal or state highway network under the jurisdiction of those agencies. Secondary systems are composed of collector and local streets and are the sole responsibility of the municipality. Hence, an integrated street system for Avondale includes the federal and state routes carrying traffic to and through the urban area, as well as those streets required for internal circulation and service.

Streets in the urban transportation system are classified according to function as follows:

1. Major Arterial Streets provide for through traffic movement on state highways, for exchange of traffic between highways and collector streets, and for major movements within the urban area. As a secondary function, major arterials may provide access to abutting property.
2. Collector Streets serve traffic generated in residential neighborhoods, business districts and industrial areas, and exchange traffic between local streets and major arterials. Traffic movement and property access have the same relative importance.
3. Local Streets provide access to residential, commercial, industrial and other property. Continuity is unimportant and through traffic movement should be discouraged.

Geometric Design Standards

A city street carries vehicular traffic and usually provides parking space. It carries pedestrian traffic on sidewalks and on crosswalks at intersections. A curb and gutter collect and carry storm drainage to points of discharge into surface or underground drains. Street rights-of-way also provide location for underground and overhead utilities.

Geometric design standards involve various elements of street and highway design, including the number and width of traffic and parking lanes, and the location of other components of the right-of-way. Design standards for streets in the primary system are controlled principally by state and federal standards since they are usually part of the total Federal Aid System. Design standards recommended in Figures 1 and 2 are sufficiently flexible to be applicable to improvement of existing rights-of-way as well as to the design of new streets. These design standards are explained as follows:

Major Arterial Streets. Streets carrying state and federal highway routes within the city are under the jurisdiction of the State Highway Department and are located and

designed in accordance with agreements negotiated with the city and approved by the Bureau of Public Roads. Other arterial streets serving the community are under local jurisdiction and should be located and designed according to existing and future needs determined by detailed survey and study of traffic characteristics.

Major arterial streets normally require four or six traffic lanes and two parking lanes. Traffic lanes should be 12 feet wide and parking lanes 10 feet in width, making a total four-lane paved surface of 68 feet. To maximize traffic-carrying capacity and safety, intersections with local streets should be held to a minimum. Similarly, driveway openings should be restricted to the absolute minimum necessary for the economic use of abutting land.

Collector Streets. These streets carry traffic from local streets to major arterials and other collectors, and provide access to abutting property. Residential collector streets should be designed with limited continuity, usually not over one-half mile, since greater continuity encourages use by through traffic which should be carried by major arterials.

Collector streets require two traffic lanes and two parking lanes. In residential and commercial areas, traffic lanes should be at least 10 feet wide and preferably 12 feet wide. In industrial areas, traffic lanes should be 12 feet wide. Parking lanes should be 8 feet wide in residential areas, 10 feet wide in commercial areas, and 12 feet wide in industrial areas. Total paved width varies from 40 feet in residential areas to 48 feet in industrial areas.

Local Streets. Local streets provide access to abutting property and carry strictly local traffic to and from collector streets. In single-family residential areas, a three-lane street width permits parking on both sides with the center lane open for moving traffic. Although this design causes occasional inconvenience of waiting while a car passes, it effectively restricts traffic speed and minimizes street construction costs. A variation of this cross-section, frequently employed when traffic volumes increase for unpredictable reasons, restricts parking to one side and allows for two moving lanes.

Figure 1

RECOMMENDED STREET CROSS-SECTION STANDARDS

Avondale Urban Area

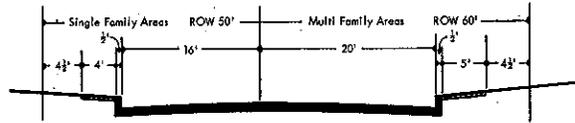
Street Elements	No.	Width in Feet							
		Min- imum	Desir- able	50' R/W	60' R/W	70' R/W	80' R/W	90' R/W	100' R/W
Local Streets - Single-Family Residential Areas:									
Traffic Lanes	2	--	12	12	12	--	--	--	--
Parking Lanes	1	--	8	8	8	--	--	--	--
Total Paved*		--	32	32	32	--	--	--	--
Sidewalks	2	--	4	4	4	--	--	--	--
Local Streets - Multi-Family Residential Areas:**									
Traffic Lanes	2	10	12	--	12	--	--	--	--
Parking Lanes	2	7	8	--	8	--	--	--	--
Total Paved*		34	40	--	40	--	--	--	--
Sidewalks	2	4	5	--	5	--	--	--	--
Collector Streets - Residential Areas:									
Traffic Lanes	2	10	12	--	12	--	--	--	--
Parking Lanes	2	7	8	--	8	--	--	--	--
Total Paved*		34	40	--	40	--	--	--	--
Sidewalks	2	4	5	--	5	--	--	--	--
Collector Streets - Commercial Areas:									
Traffic Lanes	2	10	12	--	--	12	--	--	--
Parking Lanes	2	8	10	--	--	10	--	--	--
Total Paved*		36	44	--	--	44	--	--	--
Sidewalks	2	10	13	--	--	13	--	--	--
Collector Streets - Industrial Areas:									
Traffic Lanes	2	12	12	--	--	12	--	--	--
Parking Lanes	2	10	12	--	--	12	--	--	--
Total Paved*		44	48	--	--	48	--	--	--
Sidewalks				(not always necessary)					
Major Arterial Streets:									
Traffic Lanes	4-6	10	12	--	--	12	12	12	12
Parking Lanes	2	8	10	--	--	10	10	10	10
Total Paved*		56-76	68-92	--	--	11	12	12	12
Sidewalks	2	4	5	--	--	4	5	5	5

*Pavement width measured from face-to-face of curbs.

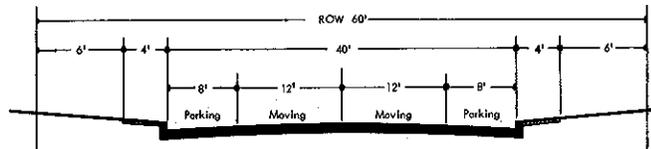
**Also abutting such traffic generators as schools and churches.

Figure 2

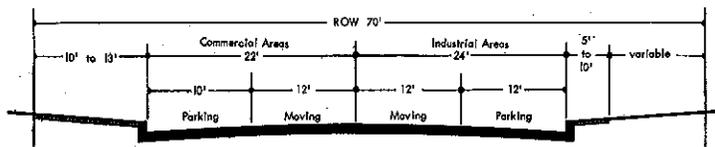
RECOMMENDED STREET CROSS-SECTIONS
AVONDALE, ARIZONA



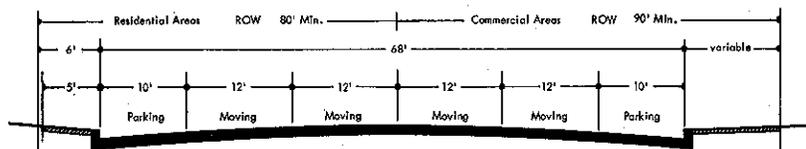
LOCAL STREET - RESIDENTIAL AREAS



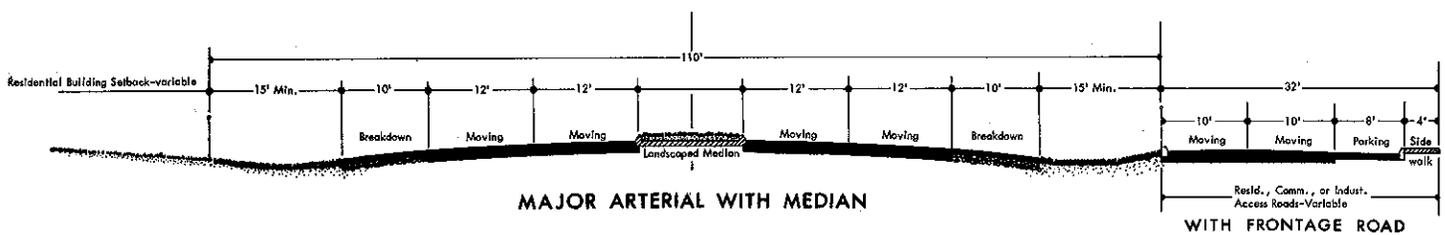
COLLECTOR STREET - RESIDENTIAL AREA



COLLECTOR STREET - COMMERCIAL
AND INDUSTRIAL AREA



MAJOR ARTERIALS



MAJOR ARTERIAL WITH MEDIAN

WITH FRONTAGE ROAD

Local streets in low-density areas should be paved 32 feet wide. Streets abutting multi-family housing, schools, churches and shopping centers need two moving lanes and two parking lanes, and require a minimum width of 34 feet, with 40 feet being more desirable. The primary function of local business streets is to provide access to abutting properties; they require two moving lanes and two parking lanes. Parking lanes should be 10 feet wide and moving lanes 12 feet wide, making a total paved width of 44 feet.

On-Street Parking. Curb parking substantially reduces the traffic-carrying capacity of any street. Only parallel parking should be permitted in residential areas, and is preferred to angle parking in business districts. In parallel parking, greater utilization of available curb space, as well as improved maneuverability and less interruption of moving traffic, can be easily accomplished by locating meters or marking pavement so that each two parked cars are positioned with the rear bumper of the forward car close to the front bumper of the other. In the 44 feet required for two cars parked parallel, this arrangement insures 8 feet of open space for each car to maneuver in and out.

Sidewalks

Sidewalks are an important component of local streets. In residential areas they provide for pedestrian movement between homes and for children walking to and from school. Wherever residential density is greater than two or three dwelling units per acre, there should be a sidewalk on both sides of all streets. Whereas sidewalks in single-family areas need be only 4 feet wide, they should be 5 feet wide in multi-family areas or near schools, churches, and other traffic generators. In business areas, sidewalks should be at least 10 feet wide, and 15 feet or more may be required on main commercial streets.

PART B

EXISTING CONDITIONS

Highways

U. S. Highway 80, the principal route between Phoenix and San Diego, passes through the center of Avondale. It connects with Interstate 10 and 17, U. S. 60-70-89-93, and State route 87 in Phoenix, providing access to all parts of the state and nation. Through Avondale, U. S. 80 consists of four wide traffic lanes with wide shoulders, and is capable of handling existing and projected future traffic volumes. In 1965, U. S. 80 carried an average daily traffic volume of 5271, an increase of almost 1000 cars over the 1963 ADT. Continued increase in traffic volumes are expected on U. S. 80 until Papago West Freeway (Interstate 10) is completed.

In Avondale, U. S. 80 performs several functions: (1) It carries a high volume of through highway traffic; (2) It provides direct access to several commercial establishments; and (3) It carries a considerable amount of strictly local traffic. In the latter two functions, U. S. 80 serves as a major arterial street in the local street system. Major points of conflict occur at the Dysart Road, Fourth Street and Central Avenue intersections. Traffic at the Dysart Road intersection has reached the point where signalization would be beneficial. A detailed traffic study of this intersection by the State Highway Department is warranted.

Major Arterials

Western Avenue, Dysart Road and Litchfield Road function as major arterials in the local system. Figure 3 indicates that Western Avenue, the main commercial street, presently carries more traffic than any other street in the city. Western Avenue is a fully improved street consisting of four traffic lanes and two parking lanes, and is capable of handling projected traffic volumes for the immediate future. Traffic movement on Western Avenue is interrupted by an excessive number of driveway openings which should be reduced in the course of future development. Median development in front of City Hall adds considerably to the attractiveness and safety of the street. An extension and possible widening of this median through the elimination of parking would greatly enhance the appearance and the future prestige of business property.

Figure 3

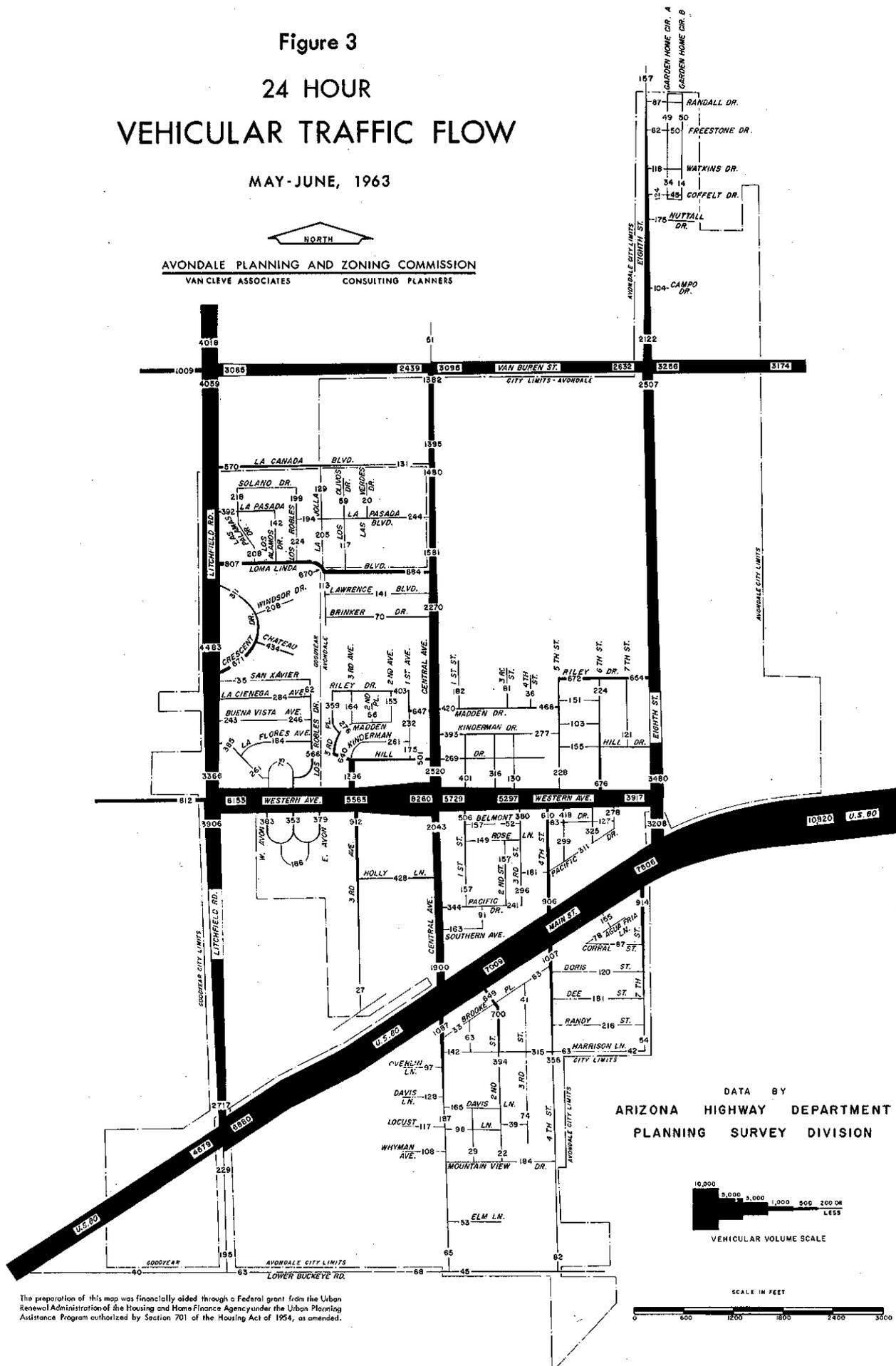
24 HOUR

VEHICULAR TRAFFIC FLOW

MAY-JUNE, 1963



AVONDALE PLANNING AND ZONING COMMISSION
VAN CLEVE ASSOCIATES CONSULTING PLANNERS



The preparation of this map 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.

Dysart Road presently exists as a major north-south route extending between U.S. 80 and U.S. 60-70-89 and carries the second highest traffic volume in the city. It will ultimately serve as the major entrance street to the city from Papago West Freeway and, although existing improvements appear adequate for the time being, its widening and further improvement should be planned and scheduled for construction to coincide with completion of the Freeway. In the improvement of Dysart Road and the control of abutting development, Avondale has an opportunity to develop a highly desirable and attractive main entrance street. Duplication of the confusion and distressing appearance of U. S. 80 must be prevented.

Central Avenue is fully improved and presently functions as a collector street directly connecting northern and southern areas of the city. Due to its location between Dysart Road and Litchfield Road it is not felt that this street should develop into a major street.

Collector Streets

Avondale presently has no streets which can be appropriately classified as collectors other than Central Avenue. However, several are shown on the plan.

Local Streets

Avondale's street pattern is basically rectilinear, with only minor variations from the gridiron. In the street-by-street process of platting, the need for continuity and connection with adjoining future subdivisions has occasionally been disregarded. This pattern and process has produced a number of undesirable conditions:

1. An excessive number of street intersections.
2. An excessive number of "T" intersections.
3. Permanent dead-end streets without adequate turn-arounds.
4. Acute angle intersections.
5. Excessively short block lengths.
6. Lack of continuity.

Right-of-way widths in Avondale vary from over 100 feet on parts of U.S. 80 to less than 30 feet on some local streets. For the most part existing right-of-way widths are adequate to serve existing and most future needs. However, a few streets, particularly Belmont Street between First and Third Streets, should be extended for improved circulation

and utility extension. Similarly, a few half-street rights-of-ways are required to complete some existing streets. These half-streets should be required when adjoining lands are platted. The railroad right-of-way limits north-south traffic circulation somewhat; however, the low volume of rail traffic does not significantly restrict local street traffic flow.

Avondale has many unpaved streets which create a dust nuisance for adjoining properties. Other streets are not graded properly to carry storm drainage, creating mud and maintenance problems. On the other hand, certain recent street improvements have exceeded normal widths required to handle existing and future traffic volumes, constituting an over-improvement.

To provide uniformity and economy in design and construction, as well as a reasonable balance between safety, function and beauty, the City should develop and adopt standard street cross-sections similar to those shown in Figure 2.

Traffic Volumes

Average daily traffic (ADT) is a statistical figure used to determine the number of moving lanes required to handle given volumes of traffic. One lane of a city street is considered to have a capacity of 1,200 to 1,500 vehicles per hour when traffic is moving without interruption at 35 to 40 miles an hour. However, closely spaced intersections with streets of comparable importance may reduce this capacity by as much as 50%. Where parallel parking is permitted, the capacity of the moving lane nearest the parking lane is further reduced from 33% to 50% depending upon parking design. Lower speed limits and other local conditions also reduce traffic carrying capacity. Thus, a typical single lane in an average community may handle a capacity no greater than 300-525 vehicles per hour. A safe average hourly capacity of most Avondale streets is approximately 350 to 400 vehicles per hour.

Street and highway improvement planning is commonly based upon peak hour traffic estimates of 12 to 15% of the anticipated ADT. Thus, a street carrying 5,000 vehicles per day would have an hourly capacity of 600 to 750 vehicles, and a two-lane street with an average hourly capacity of 800 vehicles would have an ADT of approximately 5,300.

Although such a volume could conceivably be carried on a two-lane residential street with minimum interruption, it could not be accommodated on a business street having numerous intersections, driveways, pedestrian crossings and curb parking.

Figure 3 shows that with the exception of Western Avenue local streets carry extremely low volumes of traffic and are of sufficient width to accommodate all foreseeable future traffic.

PART C

PRELIMINARY STREETS AND THOROUGHFARES PLAN

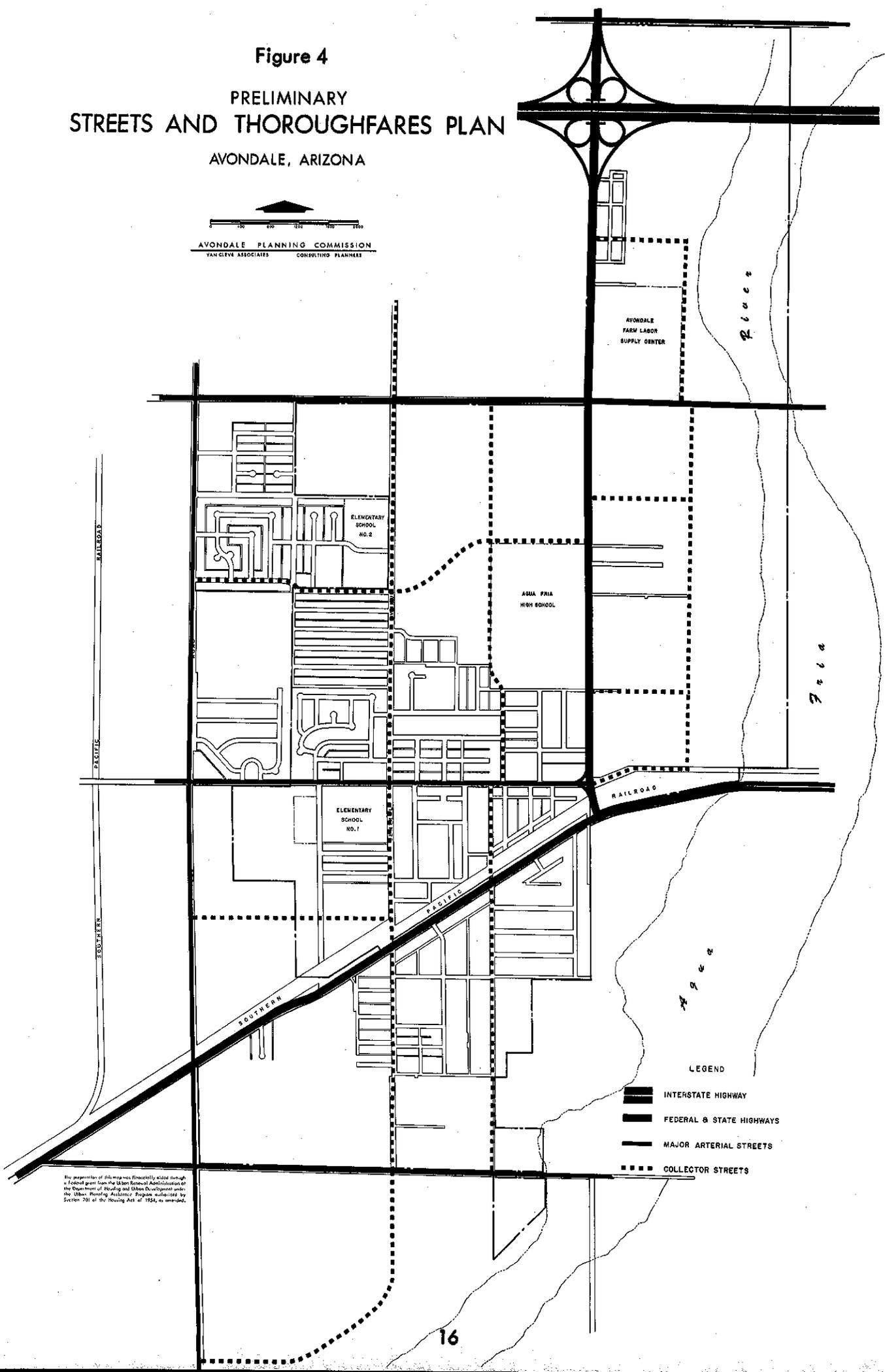
Figure 4 is the preliminary plan for a functional street system recommended for Avondale. This plan is based upon and supplemented by cross-section standards shown in Figures 1 and 2.

Development of Interstate 10 will dominate Avondale's future street system and will change the character and relative importance of U.S. 80 and Dysart Road. U.S. 80 will continue to serve as a part of the federal highway network and retain its current local function as a major arterial. Dysart Road will become the city's main connecting link to Interstate 10 and should be developed to a higher standard of design than other major streets in the city. Avondale should negotiate with the State Highway Department to have Dysart Road between U.S. 80 and I-10 taken in to the state primary highway system, with the possibility of its eventual extension north to U.S. 60-70-89.

Detailed studies for improving traffic conditions and visual appeal of Western Avenue should be conducted as part of a special business district study.

Experience proves that there is a very definite correlation between the quality of public street improvements and the initiative evidenced by property owners in improving and maintaining the quality of abutting properties. Without doubt, the poor quality of streets in the area south of U.S. 80 has contributed significantly to the area's decline and to the hesitancy of property owners to make substantial improvements. An areawide street improvement program must be made an integral part of any future redevelopment actions in such areas. Since any street or utility improvements which the City might ordinarily make of its own accord in such areas may be counted as part of local financial participation in any federally-assisted renewal program, it is recommended that any street construction presently planned by the City be delayed until it can be made a part of an organized, areawide redevelopment project. For example, the recent expenditure of gas tax funds in improvement of South Central Avenue and Fourth Street could probably have been delayed long enough to generate matching funds as part of an urban renewal

Figure 4
 PRELIMINARY
 STREETS AND THOROUGHFARES PLAN
 AVONDALE, ARIZONA



The preparation of this map was financially aided through a Federal grant from the Urban Renewal Administration of the Department of Housing and Urban Development under the Urban Renewal Act of 1954, as amended.

project. Unfortunately, these major improvements now tend to restrict the redesign of area street patterns which should be part of any future approach to renewal.

To the maximum extent possible, the future improvement of highways and major arterials should be planned and constructed as part of the Federal Aid System in collaboration with the State Highway Department. The City has sole responsibility for the planning, design, and programming of collector street improvements. The cost of design and construction of local streets and portions of collector streets should be borne by the property owners, as should all street development costs in new subdivisions.

Land subdivision regulations, to be prepared later in the comprehensive planning program, will establish standards for subdivision design and define responsibility for construction of street, utility and other subdivision improvements. Similarly, comprehensive amendment of the zoning ordinance will involve careful consideration of physical, functional, and economic relationships between streets and abutting land uses. Adoption of improved traffic controls, regulation of curb cuts, and similar regulations can significantly increase the efficiency of the existing and future street system.

PART D

RAIL AND AIR TRANSPORTATION

Rail Transportation

The main line of the Southern Pacific Railroad from Phoenix to the West Coast passes through Avondale. The Litchfield station located just west of the Avondale city limits formerly served as a passenger boarding station; however, the area no longer receives passenger service, freight service is very limited, and the station is soon to be abandoned. Hence, rail facilities exert little influence upon the local transportation system.

Air Transportation

No public or private airport facilities presently exist in the Avondale area. With the closing of the Litchfield Naval Air Station, the cities of Avondale and Phoenix, as well as other interested groups, have indicated interest in acquiring and maintaining the facility as a public airport. Regardless of who may ultimately acquire the facility, it is important that it be retained and developed as a part of the Phoenix Metro Area air transportation system. Its ultimate function should be that of a satellite airport providing for private aircraft operations, charter service, and air freight handling, but probably without scheduled commercial passenger service.

SECTION TWO

PART A

WATER SUPPLY AND DISTRIBUTION

Existing Conditions

The City of Avondale owns and operates its own modern water supply and distribution system. Domestic water is supplied from three wells and distributed through a system of 2, 4, 6 and 8 inch lines to more than 1,160 users. Water is stored in a 300,000 gallon ground level reservoir located at First and Hill streets. Pressure is maintained through use of 12,000 gallon pneumatic pressure tanks at each well. The system includes approximately 90 fire hydrants which provide reasonably good fire protection to the entire city.

Water is pumped from the Agua Fria River aquifer which is recharged annually by storm runoff from a large watershed. The city is thus assured of an adequate long-term water supply for domestic and industrial consumption. Water quality is good and extensive treatment is not required.¹

The water supply and distribution system is a major factor in determining local fire ratings. Avondale's present fire rating, last established by the Arizona Fire Rating Bureau in 1961, is rather poor. Although recent improvements to the system enable the city to provide a reasonable degree of fire protection, they have proven insufficient to gain a higher rating. The addition of a second major reservoir with an 8-inch connecting loop to the existing storage facility, presently proposed by the City, should warrant a more satisfactory fire rating within the immediate confines of the system.

Proposals

As a general policy, new water lines should be located in street rights-of-way, and fire hydrants should be located at street intersections. With the exception of a few four-inch lines used for short connections, new water lines should not be smaller than six inches.

¹ Dr. Heinrich J. Thiele, Present and Future Water Use and its Effect on Planning in Maricopa County, Arizona, 1965.

All feeder lines should be looped and no two-inch lines should ever be installed. A program for replacement of undersized lines should be planned and programmed in conjunction with any system expansion program.

In planning improvement and extension of existing supply, storage and distribution facilities, Avondale should conform with standards recommended by the Arizona Fire Rating Bureau for cities of 12,000 or more population. Whenever major improvements to the system are constructed, a reclassification study by the Bureau should be sought. The savings in insurance premiums would be substantial.

PART B

SANITARY SEWERAGE

Existing Conditions

Avondale and the Town of Goodyear are served by a single sewage disposal plant constructed in 1958 and owned and maintained on a cooperative basis. The City of Avondale has sole responsibility for the physical operation and management of the plant. As shown in Figure 5, the collector system is composed of three major trunk lines, one of which serves Goodyear. Sewers have been extended concurrently with all new development and the system presently serves more than 1,140 connections in Avondale and 650 in Goodyear. Comparison of water and sewer connections discloses that there are very few residences in Avondale which are not yet connected to the system.

Noxious odors from the sewage treatment plant disturb nearby residents. Arizona State University is presently carrying out experiments for improvement of oxidation methods which, it is hoped, will alleviate the odor problem. The City has recently purchased 59 acres to the southwest of the existing plant in order to expand and improve oxidation ponds as indicated by the studies underway.

Proposals

The general welfare of the community as well as the economic development and efficient operation of the municipal sewerage system depends largely upon the general policy regarding the requirement of connecting all occupied properties with the system. Avondale established reasonably good operational procedures in its 1957 adoption of a sewer code, which has since been improved through amendments. However, existing local standards still permit the installation of four and six-inch sewer lines.

New lines should not be smaller than eight inches in diameter. An eight-inch line not only provides much greater capacity than a six-inch line but is far easier to clean and maintain. The slightly higher original cost is justified as insurance against future maintenance expense.

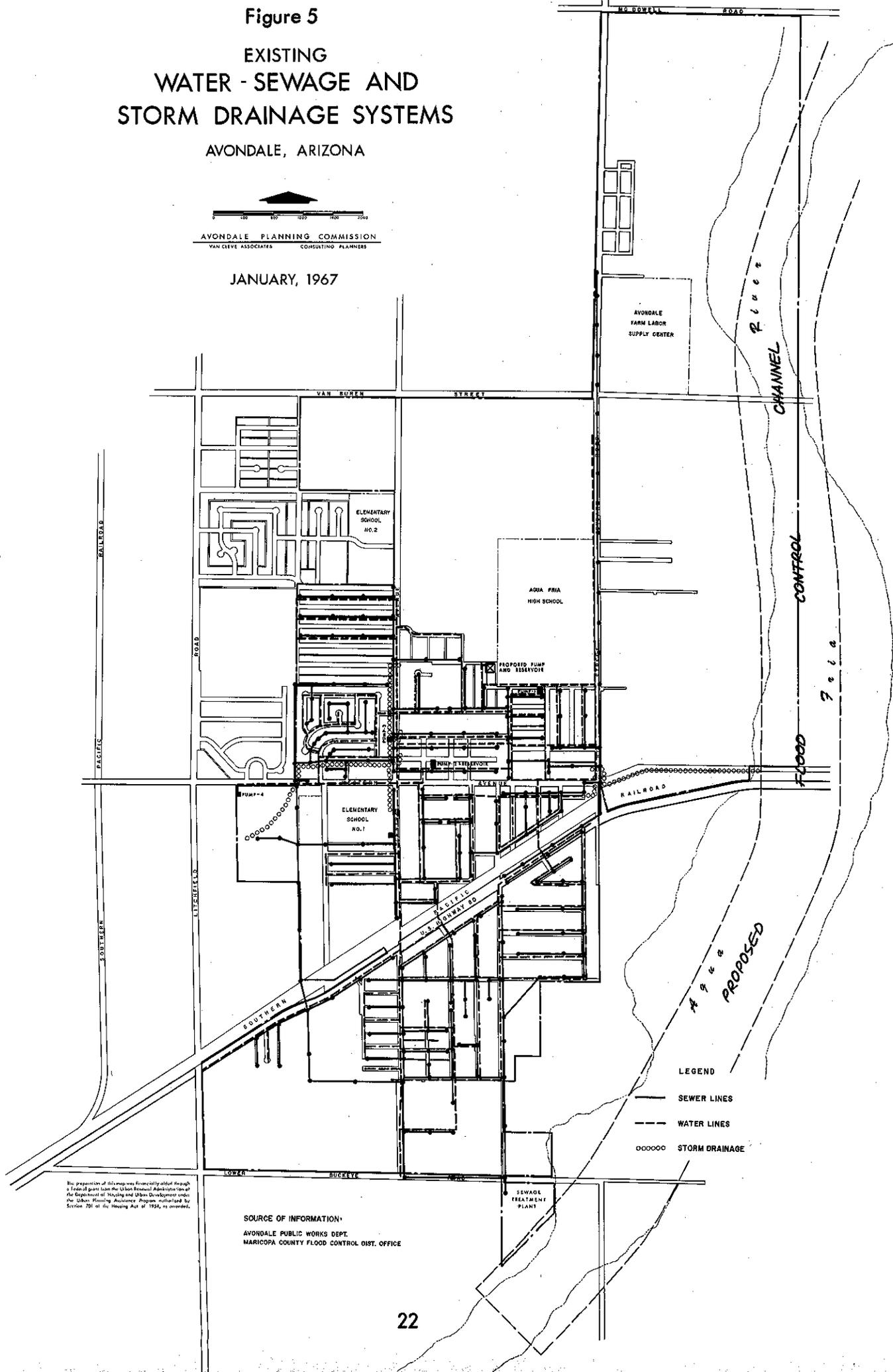
Underground utility lines to be located in street rights-of-way should be installed

Figure 5 EXISTING WATER - SEWAGE AND STORM DRAINAGE SYSTEMS

AVONDALE, ARIZONA



JANUARY, 1967



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

SOURCE OF INFORMATION:
AVONDALE PUBLIC WORKS DEPT.
MARICOPA COUNTY FLOOD CONTROL DIST. OFFICE

before streets are paved. Taps extending to the property line should be installed at the same time, regardless of whether the immediate building program includes construction of every abutting lot. A program for staged replacement of undersize lines should be carried out in conjunction with any sewer expansion program.

PART C

STORM DRAINAGE AND FLOOD CONTROL

Existing Conditions

Avondale is relatively free of major flooding problems, and, for the most part, local streets provide adequate storm drainage. The Agua Fria River carries high volumes of floodwater during periods of peak storm activity, but existing urban development in the area is reasonably well protected and the principal effect of flooding is the closing of the dryweather river crossings of Van Buren Street and McDowell Road.

Drainage problems occur in two areas of the city: (1) the north central area between Gould and Pasada Boulevards; and (2) the area along South Seventh Street and immediately to the west.

Proposals

Flood control of the Agua Fria River is a part of the program of the Maricopa County Flood Control District. Flood protection plans have been prepared by the U.S. Corps of Engineers which propose a concrete lined channel beginning at the confluence of the Agua Fria and New Rivers and extending south past Avondale to discharge into the Gila River. The extremely low cost-to-benefit ratio of the proposed plan, together with the recently demonstrated public apathy toward flood control, make it doubtful whether the Agua Fria River flood control proposal can be carried out in the immediate future. It may be necessary to increase and improve the diking along the west bank of the Agua Fria as an interim protection measure for urban development occurring before more major action can be taken. Any future urban renewal program for the area south of U.S. 80 must include the protection of the South Seventh Street area as well as the provision of adequate internal drainage to satisfactory outfall.

Engineering studies should be conducted to solve the north central area drainage problems.

PART D

ELECTRIC POWER, GAS AND TELEPHONE

Existing Systems

Avondale is provided electric power and natural gas by Arizona Public Service Company. Telephone service is provided by Mountain States Telephone Company. All of these utility companies maintain up-to-date systems and carry on continuing programs of improvement assuring reliable and efficient services.

Future Improvements

Although it may be assumed that the utility companies will expand and improve their present levels of services, they should be vigorously encouraged and assisted in the elimination of unsightly overhead facilities, and should be required to construct low-profile, landscape screened substations which do not adversely influence surrounding residential properties. Modern equipment and construction techniques have substantially reduced the cost differential between underground and overhead installations. Local power utilities have recently indicated that they will install distribution lines underground for twelve or more residences if the developer will dig and fill the trench, and that they will install individual service lines underground at a very low extra cost under the same condition.

The City should take advantage of the opportunity to require that developers install all utilities underground in all new residential areas. Under some type of conditional zoning, the City should also require that substations to be constructed in residential areas be so designed and set back as to avoid the unsightliness presently associated with such installations.

COMMUNITY FACILITIES

PLANNING REPORT
NUMBER EIGHT

AVONDALE, ARIZONA

Prepared Under Contract with the
Division of Economic and Business Research
University of Arizona

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

VAN CLEVE ASSOCIATES, CONSULTING PLANNERS
SCOTTSDALE, ARIZONA

APRIL 1967

CONTENTS

	Page
SECTION ONE SCHOOLS - INTRODUCTION	1
PART A. BACKGROUND DATA FOR SCHOOL PLANNING	2
PART B. SCHOOL SERVICE AND SITE STANDARDS	9
PART C. FUTURE NEEDS AND PLANS	12

ILLUSTRATIONS

Figure

1 Table	Miscellaneous School Data, 1960-1966	5
2 Map	School District Map	6
3 Map	Elementary School Enrollment, 1960	13
4 Table	School Enrollments, 1965-1985	14

SECTION TWO PARKS AND RECREATION - INTRODUCTION	15
PART A. RECREATION DEMANDS	17
PART B. BACKGROUND DATA, STANDARDS AND NEEDS	19
PART C. PARKS AND RECREATION PLAN	27
PART D. CARRYING OUT THE PLAN	30

ILLUSTRATIONS

Figure

1 Table	Classification of Urban Parks and Recreation Areas	21
2 Table	Recommended Standards for Community Parks and Recreation System	25
3 Table	General Park and Recreation Needs, 1975-1985	26
4 Map	Preliminary School and Park Plan	28

SECTION THREE PUBLIC AND QUASI-PUBLIC FACILITIES -		
	INTRODUCTION	33
PART A	EXISTING BUILDINGS AND FACILITIES	35

SECTION I. SCHOOLS

INTRODUCTION

A comprehensive planning program is much concerned with the effects of future population changes on the community's educational facilities. In-migration of new families, together with natural increase, raises the number, and often the ratio, of school-age children in the local population. Rising enrollments require expansion of existing school facilities and frequently the development of entirely new school plants.

The location of new school sites affects the quality of education to a far greater extent than is commonly recognized, and exerts a basic influence on family life, residential stability and population movement within the community. School location also affects the function of the street system and the system of recreation space and facilities, and vice versa.

School enrollment in the Avondale District has changed substantially with variations in the number of migrant labor families and military personnel, and with local employment opportunity. Although population growth of the School district has been steady, school enrollment has increased significantly. Furthermore, current population characteristics of age composition and family size indicate that school loads are likely to increase appreciably in the foreseeable future.

Hence, school planning objectives in Avondale are concerned with the need for locating and constructing new school plants for additional pupils as well as with general improvement of educational opportunity. This objective includes improvement of existing school plant facilities as well as the improvement of curriculum and education system.

An equally important objective is encouragement of a spirit of cooperation, collaboration and mutual concern between School and City in development of improved community stature, cohesiveness and function.

PART A

BACKGROUND DATA FOR SCHOOL PLANNING

Population and population characteristics exert a powerful influence on the physical and economic planning for and use of school sites and facilities. Age composition of the school district population is the most critical of the several characteristics which influence school planning. Other important factors influencing school enrollment and the proper location of school facilities are local fertility rates, the size and age composition of families, family income, education level and the distribution of population in the service area.

Figures 4 and 6 of Planning Report No. 3, Population and Population Characteristics, present these several important facts bearing on present and future school enrollment generated in the City of Avondale.

1. Avondale has a high ratio of population under 18 years of age.
2. The 20-to-24 year-old group, normally the age group exhibiting the highest fertility rate, is above normal for cities under 10,000 population.
3. The ratio of children under 10 years of age in 1960 and 1965 was exceptionally high.

The population report also pointed out that Avondale's fertility ratio of 813 children under five years old per 1,000 women in the 15-to-49 year age group, is far above the average of 514 for the state's urban areas. Figure 12 of that report shows that Avondale's average of 4.10 persons per household is above average, reflecting the large number of children under 18 years of age.

In combination, population characteristics indicate that a relatively high birth rate is normal to Avondale and that, unless the age composition of the population changes significantly in the future, natural increase (excess of births over deaths) will play a positive role in future population growth.

Current Enrollments and Trends

Enrollment records show that in 1930-31 the Avondale Elementary School District had a total enrollment of 336 with a nine-month ADA* of only 146, less than one-half the enrollment. By 1939-40, enrollment had increased to more than 1,000 with nine-month ADA still less than one-half. In 1958-59, school enrollment reached the 2,000 mark and the nine-month ADA had increased to 71% of total enrollment. Last year's enrollment reached an all time high of 2,356 with the nine-month ADA accounting for 77% of total enrollment.

The large differential between enrollment and ADA in earlier years is clearly attributable to the large number of migrant labor families, the economic depression and the lesser concern of the public for proper schooling.

World War II also influenced the relationship of enrollment to ADA. In 1941-42, ADA only accounted for 40% of total enrollment. While Avondale's school enrollment is still fluctuating with migrant labor and military personnel residence, ADA is steadily increasing its ratio of total enrollment. School plant planning should be based upon enrollment, whereas administrative and financial planning are usually based upon estimated ADA.

The relationship of high school enrollment and ADA has resembled that of elementary figures, indicating a substantial turnover of students as well as a marked degree of absenteeism in earlier years. High school enrollments have increased from 263 to more than 730 since 1955.

Due to the extremely large size of elementary and high school districts and the inclusion of several urban centers, it is difficult to completely analyze Avondale's specific contribution to total school enrollment or its future implications.

*ADA: Average Daily Attendance

Figure 1 records miscellaneous school data for the past five school years. The growth of elementary school enrollment has paralleled Avondale's population growth. High school enrollments dropped slightly in 1964-65 when Litchfield High School was established.

The districts have maintained teacher-pupil ratios below 1:25 for elementary schools and below 1:20 for high school. Both districts have slowly gained in assessed valuations, although assessed valuation per capita has fluctuated to some extent and remains as one of the lowest in Maricopa County.

Although both districts have had a continuous struggle with increasing enrollments and low valuations, a broad well balanced education program has been maintained on a reasonable tax rate.

Existing School Facilities

The City of Avondale lies in the Avondale Elementary School District and the Agua Fria Union High School District as shown on Figure 2. The Avondale Elementary District presently operates two school plants. The school located on Western Avenue in Avondale accommodates grades 1 thru 5, while the other, located on North Central in Goodyear, accommodates grades 6, 7 and 8. On November 15, 1966, the public approved a \$500,000 school bond issue for expansion of the school in Goodyear and for construction of a new lower elementary school on an adjoining site.

Before 1924, elementary school was held in a one-room adobe building. This building is still standing and is one of the few remaining buildings that may be worthy of historical preservation. In 1924, three structures were constructed at the present site of School No. 1, which, through a series of expansion programs, have been developed into a modern elementary complex of considerable charm. The plant presently comprises over 50 classrooms, library, auditorium, cafeteria, nurse's room, music room, administrative offices and other incidental facilities, on a 17-acre site. Several of the existing

Figure 1
MISCELLANEOUS SCHOOL DATA 1960-1966
 City of Avondale

Avondale Elementary and Agua Fria Union High School Districts

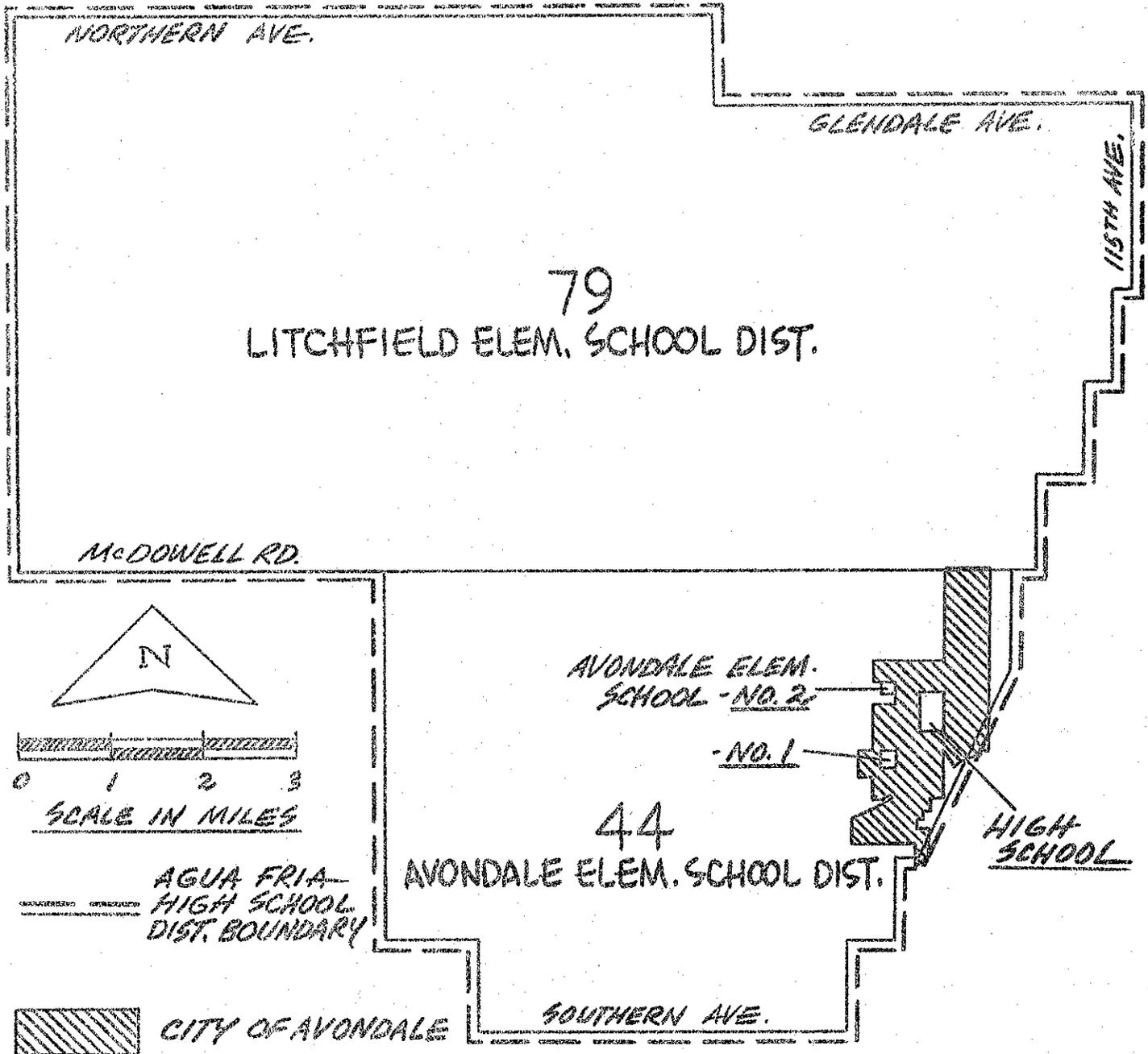
Item	1960	1965			
Total Population City of Avondale	6,151	6,581			
Population Aged 5-14	1,342	1,818			
% of Total Population	21.7	27.6			
	1961-62	1962-63	1963-64	1964-65	1965-66
9 Month ADA*					
Avondale Elem.	1,567	1,626	1,693	1,751	1,816
Agua Fria H. S.	641	658	768	727	730
Total No. of Teachers					
Avondale Elem.	62	67	69	74	70
Agua Fria H. S.	30	33	36	39	40
District Assessed Valuation					
Avondale Elem.	\$5,470,864	\$5,689,694	\$6,657,431	\$6,657,431	\$7,862,299
Agua Fria H. S.	\$8,669,013	\$9,087,186	\$10,452,424	\$10,452,424	\$11,649,031
Per Capita Assessed Val.					
Avondale Elem.	\$ 3,562	\$ 3,556	\$ 3,932	\$ 3,802	\$ 4,328
Agua Fria H. S.	\$ 17,911	\$ 13,810	\$ 15,349	\$ 15,170	\$ 17,463
District Tax Rate		(dollars per assessed \$100.00 valuation)			
Avondale Elem.	3.44	3.32	3.82	3.82	2.70
Agua Fria H. S.	2.12	2.03	2.95	2.95	2.70

* ADA: Average Daily Attendance

Source: Annual Reports, Superintendent of Public Instruction, State of Arizona.

FIGURE 2
SCHOOL DISTRICT MAP

FOR AVONDALE, ARIZONA



classrooms were purchased as surplus government buildings in 1945 and are now in substandard and deteriorated condition. The remaining facilities are sound. A pleasant Spanish Modern architectural character has been achieved throughout most of the complex and satisfactory playgrounds, recreation space and landscaping are provided.

Existence of several substandard buildings constitute a major deficiency. Parallel parking along the entire front of the property complicates traffic movement and detracts from the appearance of the site. Third Avenue bisects the site, causing disruption of playground, educational and administrative activities. Vacation of Third Avenue would unite the entire complex and provide additional space for recreation and construction as well as eliminate traffic conflicts.

Avondale Elementary School No. 2, a modern one-story, 18-classroom, open-corridor facility was constructed in 1957 on a 11-acre parcel. Seven additional classrooms were constructed in 1963, reducing the open space for recreation below a desirable minimum. The acquisition of the adjoining 10-acre site, recently approved by the voters, will improve recreation space and function if site development is properly arranged. The total site should be developed as a combination school-park site and planned for provision of year-round recreation activities.

In addition to the foregoing school plants the Elementary District has been conducting a pre-school program at the Avondale Community Church, and a spring and fall swimming program using the Y.M.C.A. pool located on Lama Linda Boulevard in Goodyear.

The Aqua Fria Union High School District encompasses all of the area shown in Figure 2 and operates one school plant located near Dysart Road north of Western Avenue. High school was originally conducted in Litchfield Park until 1956-57 when present facility was opened. The school plant is designed as an open campus-type facility. Major additions were constructed in 1960, 1961 and 1966. The site presently contains three large classroom wings, administrative offices, gymnasium, cafeteria and band room,

industrial arts shops, automotive and metal shops and vocational agricultural building. The 52-acre site also contains football field and stadium, baseball field and bleachers, tennis and basketball courts.

The High School District is presently expanding its vocational agricultural curriculum by constructing a cattle feeding pen and operation center at the northern edge of its site. This facility will undoubtedly injure the livability and economic value of future residential property nearby.

The high school site is of adequate size to accommodate a complete combined high school community playfield facility, providing that the agricultural program does not occupy a large part of the site. Existing facilities are in excellent condition and adequate for present needs.

PART B
SCHOOL SERVICE AND SITE STANDARDS

Enrollment Standards

During recent years many factors in educational philosophy, administration and facilities have been thoroughly examined to determine their influence on the cost and quality of education. As a result, the following general standards for enrollment levels and teacher loads are among those developed and widely accepted as guides by school authorities:

1. An average elementary school class size between 25 and 30 students is considered the best compromise between maximum educational experience for the student, most effective teacher usage, and most efficient school administration.
2. Elementary schools should have at least one teacher per grade level, and a minimum enrollment of 200 pupils. Important educational advantages and operating economics accrue until enrollment exceeds 600 pupils.
3. A four-year senior high school should have an enrollment of at least 600. A graduating class of less than 100 is considered too small to afford a sufficiently diversified curriculum. Again, important advantages accrue from a larger enrollment, with the optimum generally considered to range from 1500 to 2000 students.
4. An average pupil/teacher ratio of 20 to 1 is considered a desirable maximum for senior high schools. ^{1/}

Avondale elementary schools have about 25 students per classroom, while the high school has a teacher-pupil ratio of about 1:16.

Due to the distribution of the elementary grades between the two elementary schools, the aforementioned optimum enrollment ratios are not pertinent.

Current total enrollment of Agua Fria Union High School ranges from 700 to 750 with a graduating class typically averaging 130. The high school provides a full curriculum and carries out an extensive agricultural vocational program.

^{1/} Committee on Economic Development, Paying for Better Public Schools.

Location, Accessibility and Size of School Sites

Avondale's schools are all centrally located in respect to student residence and within walking distance of most students. Both pedestrian and vehicular access to elementary schools are excellent. Access to the high school is restricted from the west and north and is otherwise disrupted to some extent by the existing street pattern and parking arrangement. The wide open parking bay facing Riley Drive should be separated from the street by a curbed area and proper entrance and exit should be provided.

The elementary district operates five school buses and currently transports approximately 660 students per day, 100 of which attend kindergarten. District policy is to transport children who live farther than one and one-half to one and three-fourths miles from school.

The high school district currently operates four buses and transports from 90 to 100 students daily. There is no stated policy pertaining to mode of transportation or maximum walking distance. About 30% of the students drive cars to school while the rest of the students who live more than one and one-half miles from school are bussed. The school parking area accommodates more than 300 cars.

Without adequate site area, schools can adversely influence the livability of surrounding residences. In addition to the space required for buildings and outdoor activities which are a part of the educational program, school sites should be large enough to permit adequate building setbacks, lawns and landscaped areas, and off-street parking for staff, students and others attending auditorium and athletic events. Senior high schools should have a minimum area of 30 acres plus one acre per 100 students of total future enrollment. Elementary school sites should have a total of five acres plus one acre per 100 students of total future enrollment. Intermediate schools should have 10 acres plus one per 100 students.

With the addition of 10 acres to Elementary School No. 2, all Avondale School sites will be up to standard size. The proposed new school to be combined with School No. 2 should be designed to achieve maximum educational and recreational advantages of the site.

PART C
FUTURE NEEDS AND PLANS

Needs

The projection of long term future school enrollments is subject to all of the variables and inaccuracies that affect the projection of future population. In addition, the difficulty of projecting levels, characteristics and rates in communities subject to heavy migration, seriously affect the reliability of long-range school forecasts. Projections for Avondale schools are further complicated by the vast size of the districts and the fact that they include other urban centers and such facilities as the Litchfield Air Station, Goodyear Aerospace Company. The future development of Litchfield Park will ultimately make a substantial contribution to both school enrollment and assessed valuation.

Although it is outside the scope of this report to project future enrollment for the school districts, it is desirable to consider Avondale's school needs and contribution to total enrollment. Figure 3 indicates the findings of a January 1966 survey to determine school population loads and the center of the school population. The survey did not distinguish the place of student residence and therefore provided no data regarding pupils-per-population or pupils-per-family ratios.

As a general rule, elementary school enrollments typically comprise 15% of a city's total population (about 0.60 students per dwelling unit) while high school students comprise 5% of the population (0.18 per dwelling unit).

Avondale's population characteristics deviate from the norm sufficiently to indicate that ratios of 18% and 6% for elementary and high school students would be more appropriate.

Based upon population projections from the Population Report, Figure 4 indicates Avondale's contribution to school loads.

FIGURE 3

ELEMENTARY SCHOOL ENROLLMENTS - 1966

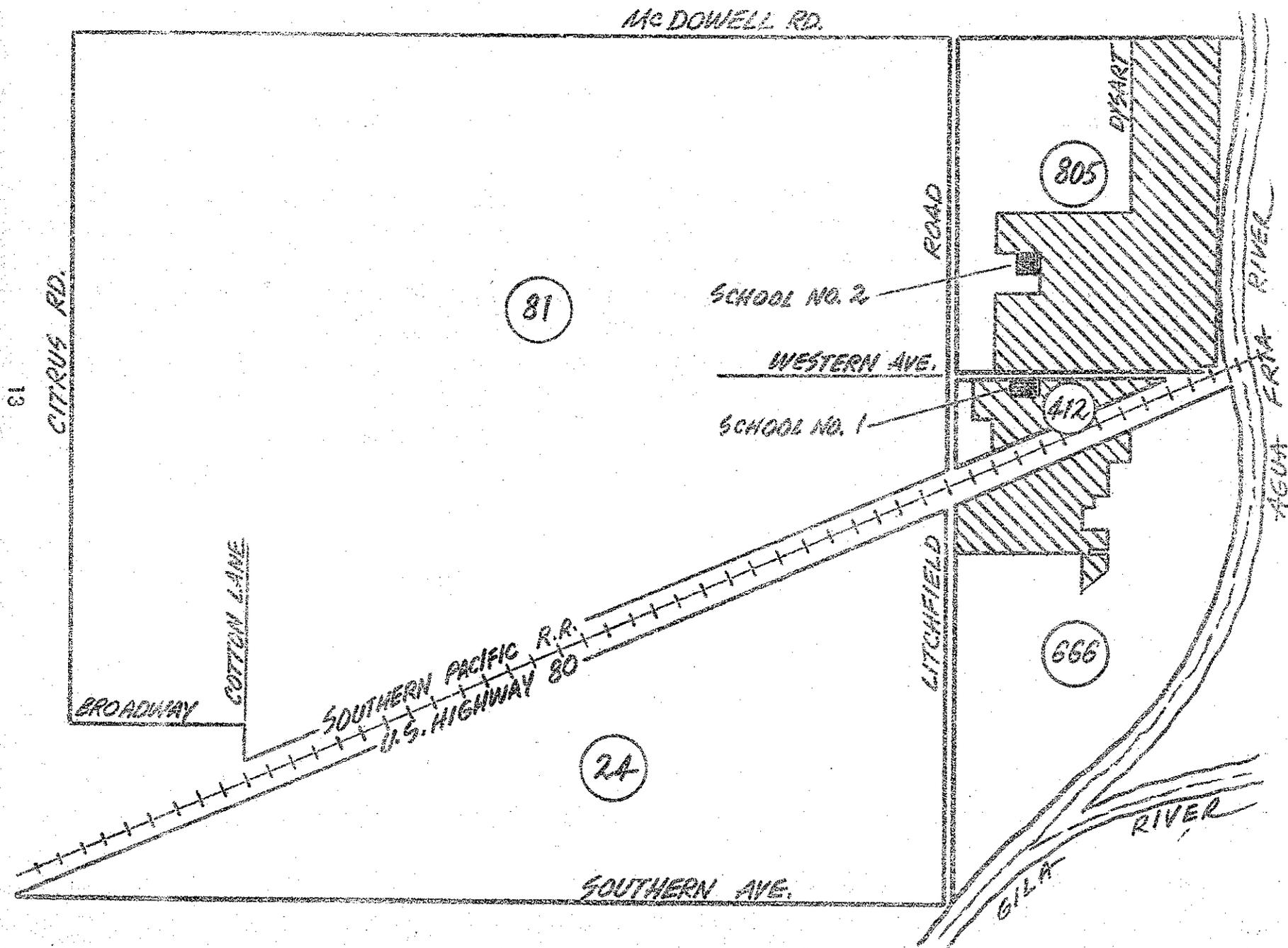


Figure 4
SCHOOL ENROLLMENTS 1965-1985
 City of Avondale

Year	Population	Enrollments	
		Elementary (18%)	High School (6%)
1965	6,581	1,184	394
1970	7,766	1,398	466
1975	8,931	1,608	536
1980	10,092	1,816	605
1985	11,202	2,016	672

Plans

The area south of U.S. 80, from Agua Fria River west to Litchfield Road, is less than 40% developed. Figure 3 shows that this area is presently at the border line of containing sufficient children to support an elementary school. Population projections and assumptions indicate that this area could support a lower or full elementary school within the next few years. A school in this area will reduce walking distance and eliminate the hazards of crossing U.S. 80 and the railroad tracks walking to Avondale Elementary No. 1.

Location and development of a school in the area south of U.S. 80 should be part of any future redevelopment plan for the area.

It also appears likely that a new elementary school will be needed east of Dysart Road in the vicinity of Van Buren.

The Agua Fria High School will accommodate future needs for many years. It is planned that a second high school will ultimately be located in the Litchfield Park area.

Recommendations as to the future location of schools are indicated in the School, Park and Recreation Plan.

SECTION II. PARKS AND RECREATION

INTRODUCTION

"Recreation" constitutes any form of leisure-time activity which is engaged in voluntarily for the enjoyment and satisfaction it brings the participant. It may provide opportunity for self-expression, creative activity, service to others, or the pure joy of living. As long as the activity is freely chosen--because it is refreshing and interesting to do--then it serves the basic function of "recreation".

Recreation needs and interests of the individual change several times during his life span. In infancy, play is restricted to the home or home grounds where it has parental supervision. As a child grows, the scope of his interests and activities outgrows the confines of the home, and from that time forward through life until advanced age again restricts his travel distance, outdoor activities play an essential role in his life.

Space, facilities and programs for healthful recreation for all age groups is an essential ingredient of the public welfare, and is clearly a function of local government. However, local government obviously cannot seek to provide all of the recreational opportunities people desire. Public responsibility must be limited to those desired activities which citizens cannot provide for themselves and which are not otherwise available. The federal government has responsibility for preservation and development of areas having outstanding natural, historic and recreational values. At a lesser scale, the state has similar responsibilities within its bounds. In addition, any counties, including Maricopa County, have extensive programs for development and operation of regional park systems providing space and facilities for large-scale outdoor recreation.

Local municipal responsibility for recreation includes the provision, maintenance and operation of a system of parks and playgrounds, and the administration and leadership of a balanced program of athletics, music, drama, crafts and other activities. Hence, recreation space and facilities is an integral part of the comprehensive plan for community improvement and growth.

Avondale residents have definitely and publicly expressed the need for improved local recreational facilities. Provision of space, facilities and programs to satisfy this need requires foresight, determination, and a coordinated effort by community leadership. The purpose of this study is to provide the basic information, standards, and preliminary plan for development of an Avondale parks and recreation system.

PART A
RECREATION DEMANDS

Americans are seeking the out-of-doors as never before in history. Today's children are experienced and skillful in more kinds of outdoor activities than their parents; each new generation will have more leisure time and spend more of it out-of-doors.

A general broadening of recreational interests is expected in the future as a result of higher income and higher educational attainment. Records show that over the past three decades an average of 5% of total disposable^{1/} income in the United States was spent on recreation. With higher incomes, most families find it both possible and desirable to allocate increasingly larger percentages of their income to recreation. The relatively low median family income in Avondale will tend to produce a lower ratio of spending for recreation, resulting in a greater demand for municipal facilities.

The age of entry into the working force is gradually increasing and is producing a corresponding increase in leisure time among minors. New and improved features of the home and home equipment have increased the housewife's leisure time substantially. Improvements in the national social security system and the widespread growth of retirement pension plans enable people to enjoy the leisure of retirement at earlier ages. Medical advances and health programs have materially increased the life span and prolonged the physical vitality of elderly people with the result that recreation has become an increasingly important need during later life.

The need for schools is readily acknowledged, but expenditures for recreation space and facilities have too often been regarded as "deferrable". Yet, at the same

^{1/} "Disposable" income represents the income remaining after deductions of personal tax and non-tax payments for government.

time, there is a fast-growing recognition throughout the nation that our society has fallen far behind in developing the creative and imaginative potentials of children, and physical fitness has reached an all-time low. Admittedly, recreation offers only a partial solution to these shortcomings, but it can affect a tremendous improvement in both.

The family has never been able to provide creative recreation on its own individual plot of ground and this ability is constantly decreasing with the trend toward higher residential density and less private family space. The scale and variety of play facilities is too great and individual resources too small. Family participation and the gathering together of groups for informal recreation is decreasing and it can hardly be questioned that the lack of adequate facilities is largely responsible. Participation in recreation is directly related to the availability and accessibility of adequate space and facilities.

PART B

BACKGROUND DATA, STANDARDS AND NEEDS

Existing Public Recreation Space and Facilities

The City of Avondale is seriously deficient in recreation space and facilities. The City presently owns only one recreation site--the Westside Community Center--which is leased and managed by a group of interested citizens.

The Westside Community Park comprises a dirt and grass basketball court with goals and volleyball net, two tetherball rings, storage and restroom building situated on a site less than an acre in area. Despite the well meaning efforts of the Westside Community Park Committee and the support of other interested citizens, the site is not an asset to the community. Due to insufficient space, poor site planning, inadequate development and lack of maintenance, the facility has deteriorated into blighted condition much like the surrounding area. General location, small size and poor condition lead to the recommendation that no major improvements be made to the park until an overall plan for area redevelopment can be completed.

The City leases and maintains a second recreation site at Western Avenue and 4th Street, on property owned by the Roosevelt Irrigation District. This park site is slightly under one acre in area and contains swings, teeter-totter, slide and merry-go-round. Facilities include a ramada with picnic table and a small equipment storage shed. The site has a few mature trees, well-grown shrubbery, and a fair lawn, and is well maintained by the City. This site can be expanded through acquisition and redevelopment of adjoining blighted properties to provide a pleasant downtown-neighborhood park facility.

Public recreation facilities are otherwise limited to playgrounds and playfields provided by the public schools. The roadside park along U.S. 80 provides more beautification than recreational value. Tri-City Y.M.C.A. pool and grounds on Loma Linda Boulevard in Goodyear, help satisfy the City's recreation needs. Privately-owned Sierra Estrella park and swimming pool on west U.S. 80 at Greenleaf Lane also contributes.

Avondale has not suffered to greatly from lack of physical recreation space. School playgrounds, vacant parcels, lightly-traveled streets and open fields throughout the City have alleviated Avondale's need for more developed public recreation space. However, as the City grows these relief areas will be developed and must be replaced by permanent public recreation space.

Maricopa County Parks and Recreation Department has conducted organized summer recreational programs on local school sites for several years, contributing significantly to the recreational needs of westside youngsters. Since this program is expected to be gradually phased out as a County function, the City should be prepared to take over the program, providing sufficient improved facilities.

Classification of Recreation Space

Recreation areas are classified according to function and scope of service. The types and number of areas comprising a balanced park system varies somewhat according to the size and character of the community and the density distribution and age composition of its population.

Facilities for two basic categories of outdoor recreation are needed: (1) Active recreation facilities, including playgrounds, playfields, sports centers, swimming pools, etc., for adolescents and young adults, providing opportunity for outdoor exercise, good social relationships, and release of energy which may otherwise be expressed in less desirable manner; and (2) Passive recreation space and facilities, including neighborhood and community parks important to mothers and young children, elderly people, and entire families. Proximity of Estrella Mountain Regional Park and the Casey Abbott Semi-Regional Park influences planning of Avondale's parks and recreation system.

Avondale's parks and recreation system should include: (1) neighborhood parks and playgrounds; (2) community parks and playfields serving several neighborhoods; and (3) special recreation facilities, including a recreation center and athletic fields.

Figure 1
CLASSIFICATION OF URBAN PARKS AND RECREATION AREAS

Type of Area	Age Group	Typical Size	Area Served	Site Character	Use and Typical Activities
Neighborhood Playground	5-15 years	3 to 7 acres	One urban neighborhood	Close to or adjoining elem. schl.	Active; apparatus, court and field games, arts and crafts, water feature, open play.
Neighborhood Park	Primarily adults	2 to 7 acres	One urban neighborhood	Landscaped and protected	Passive; for quiet relaxation; walks, benches, game tables, gardens, shelter.
Community Playfield	over 15 years	12 to 50 acres	Several neighborhoods or entire small city	Preferably adjoining junior or senior high school	Active; diversified use, primarily large-area games and sports.
Community Park	All ages	12 to 50 acres	Several neighborhoods or entire small city	Preferably combined with community playfield	Passive; primarily a family & group activity area; picnicking, social events, assemblies.
Community Recreation Center	All ages	Dependent on facilities	Several neighborhoods or entire small city	A building in community park or playfield	Active and passive; gym, swimming pool, auditorium, craft shops, meeting rooms; preferably part of or adjoining junior or senior high school.
Special Recreation Areas	All ages	Dependent on use	Entire small city	Usually public, but may be private and open to public on fee basis	Active or passive; golf, swimming, athletics, group camps, amphitheaters, zoos, museums, etc.; often adjoining large city park.
City Park	All ages	Various	Several neighborhoods or entire small city	Public natural area with scenic features	Active or passive; relief from urban pressures; not intensively developed; riding, hiking, picnicking, etc.

Notes: Neighborhood playground usually includes a pre-school area and may be combined with a neighborhood park. Community parks and playfields are frequently combined where feasible.

Figure 1 shows the general classification of urban parks and recreation areas.

Neighborhood Recreation

Neighborhood parks and playgrounds serve residents of the immediate area in the same manner as the elementary school and locational criteria are identical:

1. Sites should be centrally located within their service areas for easy access by pedestrians and vehicles.
2. Children should not be forced to travel or cross major thoroughfares on their way to and from playgrounds.

Strategically located schools can provide some of the facilities and leadership essential in meeting neighborhood recreational needs. School plants are too expensive to lie idle during after-school hours, weekends, and summer months when their facilities are needed, and the public has the right to demand their dual use for recreation. Recent trends in educational programs and construction of school plants have greatly enhanced the school's ability to assist in communitywide recreation programs.

The "park-school" concept, in which elementary school and recreation space and facilities are combined in a single neighborhood center, is an ideal arrangement. When elementary school and neighborhood playground share a common site or are developed on contiguous sites, they provide a focal point for both indoor and outdoor recreation and social activities, as well as assuring maximum service at minimum cost and upkeep.

The neighborhood playground is the principal outdoor play center for children from 6 to 14 years of age. It is an active recreation facility ranging from 3 to 7 acres in area, depending upon population and characteristics of its service area. For elementary age children, it provides an apparatus area; open space for free play, running and throwing games; all-weather, surfaced multi-use areas for organized play and court games; field games, areas for softball, junior baseball, etc.; quiet area for crafts, storytelling and small group passive activities; and water feature such as wading or spray pool. For older children and adults, it provides game courts for such low-organized games as

tennis, shuffleboard and horseshoes.

The neighborhood park is a smaller area typically 2 to 7 acres in size which provides for passive recreation at all age levels. Shade, walks, benches and a pleasant atmosphere of quiet and relaxation are its chief requirements. It usually includes game tables and courts for such semi-active recreation as shuffleboard, horseshoes and croquet. The neighborhood park is an especially important facility in any area containing significant numbers of elderly residents. It can often be developed on the same site as the neighborhood playground, but it should be buffered from intrusion by noisy activities.

Community Recreation

The community playfield provides for the diversified outdoor activities of young people and adults, and is primarily concerned with those forms of recreation which require more space than can be provided in each neighborhood. It usually provides a playground for children living nearby, areas for field games and sports, several paved game courts, area for lawn games, swimming pool, and picnic facilities for small groups and families. Since the community playfield provides for many activities used by persons of high school age, there are definite advantages in combining playfields with high school sites.

Community parks serve the entire community and often include both active and passive facilities for all age groups. They range from 10 acres to over 100, depending on location and population to be served. A community recreation center building provides for both active and passive indoor recreation, including gymnasium, swimming pool, auditorium, craft shops, and meeting rooms. High schools can often provide such indoor space efficiently and at lowest overall cost.

Every community has special recreation areas which appeal to special segments of the population. Such special areas include golf courses, swimming pools, sports centers, rodeo arenas, gun ranges, etc.

Recreation Area Standards

Many recreation groups, following the lead of the National Recreation Association, have developed recommended minimum standards for the amount and distribution of recreation space needed by an urban community. These standards provide useful guides both for the evaluation of existing space and facilities, and for planning of future development.

During recent years, increased leisure time, earlier retirement and the corresponding demand for recreation facilities have led most recreation authorities to conclude that 15 to 20 total acres of permanent, publicly-owned open space are needed for each 1,000 population. This space is developed for neighborhood and community recreation, and located inside or immediately adjoining the municipality. The California Committee on Planning recommends 15 acres per 1,000 for in-city parks and recreation facilities.

Based on consideration of all existing local conditions of need and financial ability, a total recreation space standard of 10 acres per 1,000 population is recommended as an absolute minimum for Avondale. Future needs may well dictate the upgrading of this standard.

Figure 2 shows the recommended standards for a parks and recreation system for the City of Avondale.

Needs

Based upon the recommended standards of Figure 2, population projections from the Population Report and other community factors, Figure 3 provides a general guide to the city's future park needs based on 1975 and 1985 population estimates.

Figure 2
RECOMMENDED STANDARDS FOR COMMUNITY PARKS AND RECREATION SYSTEM
 City of Avondale

Recreation Area	Age Group Served	Site Size	Maximum Travel Distance	Population Served	Preferred Location	Remarks
Neighbrhd Playground	5 to 15 years	3 ac. min., 5ac. desirable to 7ac. (1ac/800 pop.)	1/4 mi. in dense areas, 1/2 mile otherwise	3000-5000 or one neighbrhd	Center of neighborhood, adjac. to elem. school	Also serves pre-school children & young adults; may include playlot.
Neighbrhd Park	All ages	2 - 5 acres (1-1 1/2 ac./1000 pop.)	1/4 to 1/2 mi.; within easy walking dist.	4000-7000 or one neighbrhd	Center of neighborhood	Primarily mothers, young children & elderly; may be combined with playground.
<p>A Neighborhood Playground and a Neighborhood Park may be combined where uses can be zoned by age group and type of activity. These facilities may also be combined with an elementary school on a common site or adjoining sites and called a <u>Park-School</u>.</p>						
Community Playfield	Youths & adults, 15+ yrs.	15ac. min., 20-30 ac. max. (1 ac/800 pop.)	1/2 to 1 mile or 20 mins. by car	15,000 to 20,000 (4-5 neighbrhds)	Adjacent to jr. or sr. high school	Usually includes playgrnd & athletic fields.
Community Park	All ages	15-50 acres (1 ac/1000 pop.)	1 - 1 1/2 miles	Same as playfields	Preferably combined with plyfds	Usually includes playground and playlot.
Community Recreation Center	All ages	Dependent on facilities provided	Same as playfields	Same as playfields	A building in community park or playfield	Uses school facilities if possible for max. efficiency.

Community Playfield and Community Park may be combined where uses can be zoned for protection and enjoyment of all age groups. A Community Park and Playfield may also be combined with a High School on a common site or adjoining sites.

Total 10 acres per 1000 persons to be served.

See: National Recreation Association's Standards for Municipal Recreation Areas, 1962.

Figure 3
GENERAL PARK AND RECREATION NEEDS 1975-85
 City of Avondale

Year	Population	Type of Park	Park/Pop. Ratio	No. of Parks	Site Acreage
1975	8,931	Neigh-Playgd.	1/3000 to 5000	2-3	10 to 15
		Neigh-Park	1/4000 to 7000	2	7 to 10
		Comm. Plyfld.	1/15,000	1	20
		Comm. Park	1/15,000	1	15
		Total Acreage			52 to 60
1985	11,202	Neigh-Playgd.	1/3000 to 5000	3	15
		Neigh-Park	1/4000 to 7000	2	7 to 10
		Comm. Plyfld.	1/15,000	1	20
		Comm. Park	1/15,000	1	15
		Total Acreage			57 to 60

PART C
PARKS AND RECREATION PLAN

The Avondale Planning Area contains considerable more land than will be utilized by the 1985 population. However, in preparing a long-range land use plan, including a park and recreation system, the entire planning area will be considered. Consequently, the Preliminary Park and Recreation Plan deviates somewhat from previously stated 1985 projected park needs.

While the Preliminary School and Park Plan shown in Figure 4 assumes full development of the planning area, emphasis should be placed upon current 1975 and 1985 projected needs in determining development priorities.

Three general residential areas are delineated, based on existing and proposed major street and highway locations: (1) area south of U.S. 80; (2) area north of the railroad and west of Dysart Road; and (3) area north of the railroad and east of Dysart Road.

The plan proposes four neighborhood park-schools, two of which are located in conjunction with existing elementary schools No. 1 and 2. The third park-school location is indicated south of U.S. 80 and should be planned for development in conjunction with a general area redevelopment program. The fourth park-school is indicated east of Dysart Road and should be delayed until such time as flood control facilities have been constructed along the Agua Fria River.

The plan recommends that community playfield facilities be developed jointly with Agua Fria High School. A detailed study of the high school site, existing facilities and future expansion plans should be made to determine whether additional land will be required to develop a fully-developed, combined high school-community playfield.

In addition to the neighborhood park-schools and community playfield, the Plan recommends development of a city park located on the site of the Farm Labor Supply Camp. This park would provide competition swimming pool, recreation center, family picnic areas,

playfield areas and an area for large group activities such as community barbecues and assemblies. This park should be carefully planned to make maximum use of existing major buildings, roads, and landscaping. Steps to acquire this property should be initiated as soon as possible.

The Plan also shows a downtown park, proposed for development in conjunction with a civic center complex. This park is visualized as an expansion of the existing downtown park, providing an adult passive area and an attractively landscaped public open space.

The Plan provides for an open space land reserve where Dysart Road terminates south of U.S. 80. This area is presently vacant and subject to flooding by the Agua Fria River. This reserve land can be used initially as a city or westside area land fill with staged development into a special area for Billy Moore Day celebrations, rodeos, carnivals, circuses and similar special events requiring large amounts of open space.

Reservation and development of an Agua Fria River Park and Open Space Recreation Reserve is also proposed--presumably as part of a future County parkway project. This area contains part of the County's proposed Hiking and Riding Trail Systems. Such an Open Space Reserve would also contain the proposed flood control channel. The existing roadside park on U.S. 80 should be extended to the west, eliminating a number of obsolete and deteriorating structures, improving traffic safety, and further improving the attractiveness of this important approach to the community. The City should also plan to establish and maintain landscaped areas and medians along the major public streets and to provide attractive landscaped grounds for all public buildings and facilities.

PART D

CARRYING OUT THE PLAN

To carry out land acquisition and park development in accordance with the Plan, Avondale should establish a parks and recreation board. This board should serve as a study and advisory committee to the council regarding:

1. Park and recreation system planning;
2. Site selection and acquisition;
3. Negotiations with school districts and governmental agencies for acquisition, lease, financing, development, operation and maintenance of park sites and recreation programs;
4. Park and playground development;
5. Selection of professional staff, consultants and contractors;
6. Park rules and regulations;
7. Budgetary appropriations and other financing.

The Park and Recreation Board should pursue the following sequence of actions toward development of an adequate park and recreation program for the community:

1. Initiate discussions with the Avondale Elementary and Agua fria Union High School District Boards to investigating separate and mutual needs, objectives and goals, and reaching firm and comprehensive agreements regarding future school-city relationships affecting the parks and recreation system;
2. Initiate discussions with the Town of Goodyear regarding mutual objectives and goals, establishing firm agreements as to future development and joint use of recreation facilities;
3. Based on the Avondale General Plan prepared under this program, develop and adopt a more detailed Master Plan for Parks and Recreation, including designation of specific sites to be acquired and developed during the next 5 to 10 years. This plan should be developed collaboratively with the school districts and the Town of Goodyear in respect to sites subject to joint use;
4. Simultaneously with preparation of the detailed Master Park Plan, have preliminary site development plans and cost estimates prepared for the first

sites selected for development, including completion of school sites into park-schools;

5. Prepare a Long-Range Capital Improvement Program covering the next 10 years;
6. Proceed with preparation of final construction documents for top-priority recreation sites.

Financing

General obligation or revenue bond issues have traditionally been a principle source of funds for public facility capital improvements. In some states, cities may organize special assessment districts to finance park acquisition and improvements, but this avenue is not yet possible in Arizona.

Avondale's current and future needs for capital investment in parks are so great that the general obligation bond issue should be used as a principal means of improvement financing. Such funds would make available the matching funds required for participation in the following federally-assisted parks and recreation programs for which Avondale may be eligible:

1. Open Space Land Program, Department of Housing and Urban Development: grants up to 50% of cost of acquiring permanent open space and of limited development of such space;
2. Land and Water Conservation Funds, Bureau of Outdoor Recreation: grants up to 50% of costs of acquiring and developing parks and other outdoor recreation space and facilities.
3. Urban Beautification Program, HUD: grants up to 50% of the amount by which costs of beautification projects exceed normal local expenditures for the purpose.
4. Urban Renewal Program, HUD: matching fund grants for acquisition and redevelopment of blighted properties for public purposes, including recreation.
5. Public Works Planning, HUD: interest-free advances to assist planning of specific public works or facilities, including recreation projects.
6. Neighborhood Facilities Program, HUD: grants up to 75% of project cost of neighborhood youth centers and similar facilities, with emphasis

on projects supporting a community action program under the anti-poverty program and projects of special benefit to low-income families.

7. Demonstration Cities and Metropolitan Development Act of 1966, HUD: grants up to 80% of the cost of planning and developing a city demonstration program for rebuilding or restoring slum and blighted neighborhoods.

Local matching funds may derive from any non-federal source, including bond issues, operating budgets, special taxes, special assessments, gifts and dedications, and state and county assistance.

SECTION III. PUBLIC AND QUASI-PUBLIC FACILITIES

INTRODUCTION

The conduct of municipal government and provision of essential community services require several types of buildings and sites. These facilities usually accommodate a wide variety of municipal, county, state, federal and quasi-public functions and organizations. They may be owned by the occupying service or services, singly or jointly, or leased from private owners. They typically include city hall, county and state office buildings, federal office buildings, post office, civic auditorium, library, community clubhouse, recreation centers, police and fire stations, buildings and yards for equipment and materials storage and repair, sewage disposal plants, and sanitary land fills.

The number, size and character of public buildings are normally determined by the using agency, guided by the parent government. The Planning Commission should contribute effectively to these decisions, particularly by providing data related to future needs and locational studies.

The location of public buildings should facilitate functions of the using agencies and their service to the public. Maximum service and efficiency demand careful consideration of functional relationships between activities situated in the same building as well as between those situated in separated buildings or sites. In general, public buildings either serve the entire community and are located near its center, or serve sectors of the community and are distributed accordingly. All public buildings in Avondale should continue to be of the central type.

Smaller cities, to a greater extent than larger areas, benefit from grouping public buildings in a civic center.

A harmoniously-designed group of buildings is quickly recognized as a major esthetic and cultural asset and can be an invaluable symbol of local civic interest.

progressiveness and cultural attainment. When local conditions do not justify a fully-integrated complex of public buildings, significant cultural and esthetic advantages may be achieved by locating separate buildings on visually and functionally related sites in loose groupings with other public and quasi-public activities. Location and design of a civic center should consider the future needs of the public and quasi-public services to be accommodated, public convenience, adequate parking, attractive settings, and architectural harmony.

During the next decade, Avondale will need several new public and quasi-public buildings. Some existing facilities are reaching the end of their economic life, some have already outgrown existing space, and entirely new agencies and services will seek building space. It is the objective of this report to analyze the general scope of the community's present and future need for public buildings and facilities.

PART A

EXISTING BUILDINGS AND FACILITIES

Administration and Protection Facilities

The Avondale City Hall, located on the southwest corner of Western Avenue and Sixth Street in the downtown area, houses administrative offices, council chamber and police department.

Administrative offices and council chamber utilize approximately 1,500 square feet while the police department occupies the rear 1,200 square feet. Both administrative and police spaces are crowded and poorly arranged to efficiently function in the conduct of municipal affairs.

City court was recently removed from city hall to a remodeled building located across Sixth Street to the east. This building contains approximately 1,600 square feet and also houses the Magistrates Office, Civil Defense Office and the Police Departments' photographic facilities. Adjacent to the city court building is a municipal parking lot for employees and visitors of both municipal buildings.

Across the street south of City Hall is a 40'x70', two-story building housing Fire Department, Public Works Department and Building Inspection Office. The latter offices are presently rather crowded.

The Fire Department consists of a salaried full-time fire chief, 21 volunteer firemen, three pumper trucks, a 24-ft. hydraulic lift ladder truck, and a pick-up truck. Due to its size and general growth projections, Avondale will probably not be large enough to warrant a full-time Fire Department staff for many years. However, growth of the Avondale-Goodyear-Litchfield Park Area may warrant formation and joint operation of a full-time fire department.

Municipal construction, maintenance and repair equipment under the Department of Vehicles and Equipment is located on South Fourth Street on a nine-acre parcel

containing a storage yard and a 30'x40' office and repair shop.

Immediately to the south on lower Buckeye Road is the city's twelve-acre Sewage Treatment Plant. To the southwest, 59 acres have recently been purchased for expansion of the plant and oxidation ponds. The Sewage Treatment Plant also accommodates the Town of Goodyear. The plant is well protected and landscaped with a cyclone fence and oleander screen. Similar treatment should be considered for the municipal maintenance yard.

Presently the city's trash and land fill operation is located east of the Agua Fria River and south of lower Buckeye Road. The land fill is operated by the City of Avondale, and jointly financed and used by the Town of Goodyear and Maricopa County. City trucks drive over 30 miles daily in the process of collecting and disposing of rubbish. The Maricopa County Health Department is currently in the process of studying various techniques, processes and practices in the disposal of solid waste materials. The findings may prove the suitability of more centrally located facilities.

The city library presently occupies about 1,000 square feet of space in the central building of the Circle Housing Project. The library owns approximately 6,000 volumes, and local residents have the advantage of the state and county library extension programs.

Annual volume circulation normally exceeds 18,000. Last year's circulation dropped nearly 1,000 volumes from the preceding year, attributed to the closing down of Litchfield Naval Air Station.

The Public Library Association recommends for cities between 5,000 and 10,000 population a book collection of 15,000 books plus two books per capita; one square foot of shelf space for every 10 books; four reader seats per 1,000 population at 30 square feet per reader, 150 square feet of floor space per staff worker plus 1,000 square feet for miscellaneous uses. Avondale's present estimated library space needs are about 4,500 square feet. Needs in 1985 will exceed 5,000 square feet.

The existing public library is poorly located, poorly housed and the continued expansion of its collection and reader service is rigidly restricted by lack of space and funds.

Hospital

No hospital facilities are available within the Avondale area. Local residents use private hospitals in Phoenix and Glendale and some residents use the Maricopa County Hospital at 35th Avenue and Durango in Phoenix. Military personnel have access to the Luke Air Force Base library and hospital.

The Maricopa County Health Department operates a health service office on Central Avenue south of Western which provides for special clinic programs such as cancer screening, chest x-ray, family planning, family health and pediatrics on certain days of the month. However, this office provides no medical, first aid or emergency treatment. As west side communities grow a more centrally located hospital, health and emergency treatment facilities will be needed. The City should undertake a special study to determine the physical and economic feasibility of locating such a westside facility in Avondale.

Cemetery

There is no cemetery in the Avondale Area. The Litchfield Cemetery located just south of Indian School Road is the newest cemetery, but very few interments take place at this facility. The few people who pass away each year are usually interred in cemeteries located in Phoenix, Glendale or Buckeye.

Other Government Facilities

In addition to city facilities, other county, state or federal offices are located within urban communities. These supplementary facilities are often coordinated and developed into buildings or groups of buildings which enhance the use, service and attractiveness of all facilities. Maricopa County may ultimately establish a westside office for issuance of licenses and permits, deputy sheriff and justice-of-the-peace.

offices and expand its health services. The state may establish an employment service office and possibly an agricultural commodity and extension office. Federal offices and facilities will probably include a U.S. Post Office, Office of Economic Opportunity, a Manpower Development Office, low income housing and rent supplement offices and other county or state offices operating under federal programs. An appropriate location and consolidation of some of these facilities into an attractively designed complex can add significantly to the community.

Civic Center

There are few municipal projects that bolster civic pride and promote a community's image more than a well-designed and located civic center.

This study has concluded that:

1. The city's administration offices, police department, fire station and public works offices are all in a crowded condition beyond economic and efficient limits;
2. The public library is extremely deficient in volume and area;
3. That the City is deficient in public health and medical facilities;
4. That the establishment of other governmental offices will be necessary in the future;
5. That the City is seriously deficient in community recreational and social facilities;
6. In addition to satisfying the city's growth needs, Avondale needs to strengthen and rejuvenate its commercial district along Western Avenue.

The above present predictable public and quasi-public projects offer Avondale an unparalleled opportunity to develop an attractive civic center in the downtown area. The location of a civic center in this area would strengthen the area and help to discourage further decentralization of retail business.

The City should have undertaken a physical and economic feasibility study to determine the most appropriate uses and areas that may be included in a civic center complex.