

# Planning Background

Arizona State University

IPR

The Arizona State University West Campus Plan consists of two separately bound documents:

## ASU West Campus Plan Planning Background

The first document details the Campus Plan and the second document provides more detailed information and analyses of the planning process.

The NBBJ Group  
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TABLE 4

PERSONS 18 YEARS OLD AND OVER BY YEAR OF SCHOOL COMPLETED<sup>1</sup>

	<u>Total Persons</u>	<u>Percent</u>
Elementary (0 to 8 Years) through High School, 1 to 3 Years	36,286	21.14%
High School, 4 Years	68,622	39.98
College:		
1 to 3 Years	38,594	22.49
4 Years	16,049	9.35
5 or more Years	<u>12,085</u>	<u>7.04</u>
Totals	171,636	100.00%

<sup>1</sup> 1980 Census data for selected West side tracts using CENSPAC Program.

Source: ASU's Management and Financial Analysis, 11/14/83.

Thus, in 1980, nearly 40,000 West side residents had some college, but had not completed four years. This indicates a significant number of potential upper division students in the area. In addition, nearly 30,000 residents could be considered as potential users of graduate level education as they have already completed four or more years of college. Given the significant population growth forecast for this area post 1980, the potential pool will be much larger by the time a new campus is available.

Both the need and desire of West side residents for accessible higher education was also examined by both ASU and Behavioral Research Center (for the City of Glendale) through public opinion polls. The results of these polls were consistent with the information drawn from the 1980 Census. In the poll conducted by ASU, over 41% of the area's residents indicated they had some college, while approximately 16.5% indicated that they had not completed a degree.

Analysis of the occupations of the residents of the area conducted by ASU's Management and Financial Analysis group shows that over 58% of the employed West Valley residents are in administrative and technical fields. This group, which numbered nearly 40,000 in 1980, is a group which may be very anxious for accessible higher education to promote career growth.

## 2) Current Enrollments at ASU West Side Courses

ASU began offering courses in leased facilities at several locations in the West side in 1978. The number of students and credit hours has been fairly consistent, but has declined somewhat in the past several years due to budget constraints which forced reductions in the number of classes offered on the West side.

It can be assumed that all of those students currently enrolled in West side courses would enroll in the new campus. In the Fall of 1984, a total of 506 FTE students were enrolled. If a new campus were not available and courses and use remained constant, 615 FTES could be expected in the West side courses in 1990, if enrollment increases paralleled the forecast population growth of 3.2% a year. 800 FTES could be expected in the year 2000.

While this is not a probable scenario, given plans for the ASU West Campus, it does point out a significant demand and underscores the existence of a large pool of potential students from whom ASU can draw 5,000 to 10,000 FTES.

## 3) Transfers from West Side Community Colleges

Many students in the Phoenix area complete lower division work at one of the Maricopa County community colleges and then transfer for upper division course work at universities. In the Fall of 1983, a total of 3,373 students transferred to the ASU Main Campus from Glendale and Phoenix Community Colleges, both of which serve primarily West side residents. In addition, the Board of Regents (BOR) staff identified 445.5 FTE students with West side addresses who transferred to the University of Arizona and Northern Arizona University in 1983 and enrolled in programs similar to what will be offered at ASU West.<sup>1</sup> BOR staff also analyzed 1,540 of the 3,373 ASU West side transfers as enrolled in courses which will be offered at the new campus.

All of the students can be considered as part of the potential pool of students for ASU West. Many will be drawn to commuter campuses which are easily accessible and offer educational opportunities equal to those available on the main campuses of the State's three major universities.

The Maricopa County Community Colleges District (MCCCD) forecasts significant growth in the number of students it will serve over the next 15 years. This projected increase is due to the significant population growth in the area; studies conducted by MCCCD have found a very high correlation between the number of students enrolled and population.<sup>2</sup>

<sup>1</sup> Potential Impact of ASU Enrollments on Other University Campuses, Board of Regents Staff, September 1984, page 5.

<sup>2</sup> Maricopa County Community Colleges Overview, Comprehensive Capital Development Plan 1984-2000, Maricopa County Community Colleges District, May 1984, page 9, Appendices.

Forecasts prepared by Maricopa County Community Colleges District (MCCCD) show a potential 1990 FTE enrollment in the District ranging from 34,725 to 40,560 depending on population growth. This represents a potential increase of enrollments of 19.5% to 50.0%.<sup>1</sup> Thus, by 1990, the potential number of West side community college transfers to the new campus is significantly higher than the nearly 2,000 identified in the Fall of 1983. By 1990, 2,390 to 4,000 FTES completing work at community colleges could be potential enrollees at ASU West if West side community college increases parallel those forecast for the Maricopa County Community College District as a whole.

#### 4) Summary of ASU West Campus Enrollment Forecasts

The planning assumption of 5,000 to 10,000 FTES at the ASU West Campus appears realistic. The demographic profile of the West Valley population, as well as the tremendous population growth forecast for the area, support the assumption. Students will come from the following groups:

- Those currently attending ASU classes at West side locations. Those now number 506 FTES; as ASU West expands West side courses in anticipation of the new campus, this number will grow and provide a solid group of potential users for the new campus. Even without a new campus or expanded course offerings, the number of ASU West side FTES could grow to 617 by 1990, if use remained constant.
- Those students completing lower division work at West side community colleges who traditionally have transferred to other upper level universities. In 1983, nearly 2,000 FTES were identified as West side community college transfers into Northern Arizona University, University of Arizona and ASU Main programs similar to those to be offered at the new campus. Depending on population growth, this potential pool could grow to 2,390 to 4,000 FTES by 1990. It is reasonable to assume that a significant number of these students, especially those who would transfer to ASU Main, will enroll at the new campus.
- Those living and/or working on the West side who have completed some college course work, but not taken an undergraduate or graduate degree. A review of the information gathered by the Census, which has been supported by ASU research, shows a potential pool of 40,000-70,000 residents over 18 on the West side who have completed some college but have not completed an undergraduate or graduate program.

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<sup>1</sup> Maricopa County Community Colleges Overview, Comprehensive Capital Development Plan 1984-2000, Maricopa County Community Colleges District, May 1984, page 10, Appendices.

This pool will grow significantly since the population increases forecast between 1980 and 2000 are significant. The majority of this group are working adults with limited time to spend on furthering their educations.

The increased access to quality education which can be offered by a new West Campus should draw a large number of these "non-traditional" students.

It should be noted that the experience of the few other "upper level universities" in the country indicates a failure to achieve original enrollment projections. There are a variety of reasons for this, including "image" and perceived quality of the institution and the education offered. If ASU West can establish a strong image and presence and avoid the "step child" problems previously discussed, the potential is there for achieving enrollment projections. During the development of the new campus it will be important to carefully monitor enrollment figures and bring buildings and programs on line which will allow phased growth.

b. Student Headcount Forecast

The forecast of the headcount of students attending the new campus is important input into the master planning process. Headcount impacts the need for such support facilities as food service and will determine parking requirements for the new campus.

The current ASU Main Campus experience shows a ratio of .775 FTE per headcount; this has declined in recent years as a larger percentage of students are part-time.

The majority of those attending ASU West will be "non-traditional" students--working adults who have a need to continue their education on a part-time basis. It can be assumed, therefore, that the ratio of FTE to headcount will be lower at ASU West than that experienced at more traditional campuses.

Throughout the previous planning done for the new campus ratios of .533 undergraduate FTE/headcount and .550 graduate FTE/headcount have been used. These ratios are probably high; the commuter campus concept of ASU West will probably draw an even greater number of part-time students, at least during its early phase. The headcount forecasts were revised to:

	<u>5,000 FTE</u> <u>Headcount</u>	<u>10,000 FTE</u> <u>Headcount</u>
Ratio FTE/.42 Headcount	12,000	24,000

As the campus matures, it may more closely approximate other university campuses and have a smaller proportion of part-time students, quite possibly a 24,000 headcount may not be necessary to realize 10,000 FTES. The FTE/headcount ratios should necessarily be monitored carefully throughout the development of the campus to assure that impacted support facilities (including parking) are accurately sized.

## 2. FACULTY AND SUPPORT STAFF FORECASTS

### a. Faculty Forecasts

ASU's previous planning has assumed an overall ratio of 18 FTES to 1 faculty. This assumption is based, in part, on the anticipated split of 75% undergraduate and 25% graduate students on the new campus.

TABLE 5

#### ASU FACULTY ASSUMPTIONS

20:1	-	Undergraduate FTE: Faculty
15:1	-	Graduate FTE: Faculty
18:1	-	Total FTE/Faculty

Given the importance of avoiding the concern that the new campus be considered a "step child," the previously forecast FTE/faculty ratios are low. In graduate level programs a 10:1 ratio is more realistic and a 15:1 ratio may be more appropriate for upper division undergraduates. Therefore, an overall student/faculty ratio of 14:1 has been used in this analysis.

Budget constraints and Board of Regents policy have the major impact on student/faculty ratios. While 14:1 may be low compared to actual experience at other State universities, it is felt that the "ideal" of 14:1 should be used as a planning assumption. This allows the development of a master plan which will allay "step child" concerns by providing for an educational environment which will draw students and faculty.

### b. Support Staff Forecasts

Support staff on the new campus will consist of two types -- academic and administrative support staff. Previous planning work for the West Campus has used a ratio of 1.2 academic and support staff for each full time equivalent faculty member. This assumption was based, in part, on a review of ASU peer institutions and is too low for master planning purposes.

The support staff/faculty ratios at ASU Main are approximately 1.5:1. For the purposes of master planning and to assure the necessary excellence in support staff and facilities at ASU West, a ratio of 1.8:1 has been used.

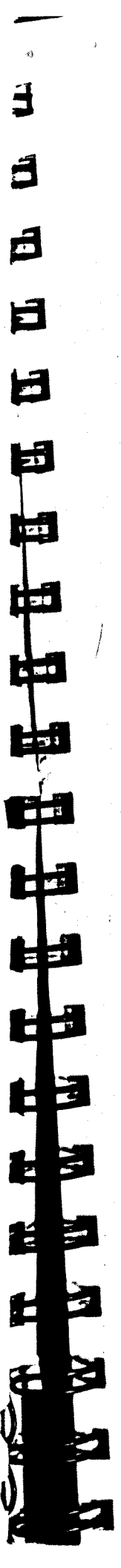
c. Summary of Faculty and Staff Forecasts

Based on the assumptions discussed, the following faculty and staff forecasts will be used in the master planning effort.

TABLE 6  
ASU WEST CAMPUS  
FACULTY AND STAFF FORECASTS

	<u>5,000 Student FTEs</u>	<u>10,000 Student FTEs</u>
Total Number of Faculty/FTEs	357	715
Total Number of Support Staff/FTEs	643	1,287

# Planning Background







Student, Staff and  
Faculty Forecasts

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## STUDENT, STAFF AND FACULTY FORECASTS

Throughout the previous planning for the West Campus, a student forecast of 5,000 to 10,000 full-time equivalent (FTEs) upper level and graduate students has been assumed. This number was developed from a review of statistics from past and current West side offerings by ASU, through analysis of West side demographics and by a number of surveys of West Phoenix residents. In addition, the number was felt to be an appropriate target for an upper level university.

As part of the development of the West Campus Master Plan, the student forecasts were reviewed/verified in order to ensure their appropriateness and faculty and staff levels were analyzed. This "workload" on the new campus is a major "driver" of site and facility sizing, development and phasing.

At the beginning of the review effort, a number of parameters were established:

- The forecasts of students on the new campus cannot be based on analysis of current and past enrollment figures in courses offered by ASU at West side locations. Lack of a campus and its support staff and facilities, as well as the small number and range of classes offered on the West side, has limited past and current enrollment. An analysis of the number of students who may use the new campus must consider the demographic profile of the area and also recognize that travel time and distances to upper level education in the Phoenix area can severely limit access for many people.
- The assumption has been made that the new campus will not grow beyond 10,000 FTEs. This assumption is consistent with the Arizona Board of Regents policy governing the planning for ASU West.
- The new campus will be a non-residential one, serving primarily working adults. Thus, most students will be part-time and classes, at least initially, will be concentrated in the late afternoon/evening and weekends.
- The ASU West Campus should not be a "step child" where students, faculty and staff feel that their needs and concerns are not as fully met as they could be on the Main Campus. It is important, therefore, that students and faculty at the new campus have the support staff and facilities which will foster a teaching and learning environment equal to that at the Main Campus.

A great deal of analysis of the potential demand at ASU West has already been done by the University and others. During the review/verification effort a number of documents were reviewed. These include:

The Whiteman Report	Commissioned by the Arizona State Legislature, 1976
Off-Campus Educational Services Provided by Arizona State University	Frank Sackton Arizona State University, 1983
ASU West Campus Planning Report	Arizona State University, 1983
Glendale Chamber of Commerce Report	Behaviorial Research Center, 1983
Potential Impact of ASU Enrollments on Other University Campuses	Staff, Board of Regents, 1984
Review of Board of Regents Study of Potential Impact of ASU Enrollments on Other University Campuses	Arizona State University, 1984

The results of the review/verification effort are detailed in the following material.

#### 1. STUDENT FORECASTS

The new ASU West Campus will be an upper level university serving upper division undergraduates, as well as graduate level students. A number of degree programs will be offered including the Liberal Arts, Business Administration, Nursing, Education and Engineering. The new campus will offer increased access to residents desiring higher education who have already completed lower division course work or who have completed undergraduate degree programs. The degree programs on the campus will focus primarily on the needs of working adults whose access to additional education is limited by the hours which they work.

In forecasting student workload on the campus, two sets of numbers were developed:

- Full-Time Equivalent Students (FTES): 15 credit hours per semester at the upper division undergraduate level are considered as equal to one full-time student; 10 credit hours per semester are equal to one full-time graduate student. FTES are used as the basis for determining the number of faculty and staff needed to support students, as well as many other campus variables.

- Head Count Students: Equates to the actual number of "bodies" on the campus and is determined by assumptions of the number of credit hours that students will have. The headcount on the campus will drive parking needs, as well as impact such other campus variables as food service.

A forecast of FTE'S is made as the first step. Once those numbers have been calculated, a conversion factor was is used to develop an estimate of student headcount. 1987 is assumed to be the forecast year for the first phase of campus development; this is the earliest that facilities could be on-line on the site.

a. FTE Forecast Methodology

Students attending the ASU West Campus will come from three sources:

- Students currently attending courses offered at West side locations.
- Students currently attending upper division and graduate classes as ASU Main Campus and at other university campuses who live and/or work in the West Phoenix area or who would have easier access to the new campus than to other campuses.
- New students who have completed lower division course work and who are currently not attending an upper division university and students who have completed their undergraduate work and who are currently not attending graduate school.

Due to the lack of a campus with all the necessary support staff and services and because of the limited range of course offerings now available at West side locations, a forecast of future students cannot be based on historical trends. The primary force behind the development of ASU West has been the concern that West Phoenix residents are denied access to higher education because of time and travel distances to the Main ASU Campus in Tempe. Availability of a conveniently located campus with an established institutional identity on the West side should draw a number of students, primarily those not currently taking classes.

As has been previously discussed, ASU has targeted 5,000 to 10,000 FTES. This assumption is based on several factors including an analysis of the West Phoenix demographic profile, an understanding of travel time and distances in the Phoenix area, as well as the assumption that 5,000 to 10,000 FTES is an appropriate target for an upper level university in the Phoenix area.

In order to verify these assumptions, several steps were undertaken:

- Review of previous planning work especially that recently completed by the ASU Management and Financial Division.

- Review/verification of the West Phoenix demographic profile.
- Review of the experiences of other upper level universities.

The purpose of the review was to verify that the target of 5,000 to 10,000 FTES were realistic given the variables which will impact use. These forecasts of potential students were then used as major input to the development of the Campus Master Plan.

#### 1) Demographic Profile of West Phoenix Residents

A review of the 1980 Census shows that in 1980 approximately 250,000 people lived in 80,000 households in the seven West Valley legislative districts. As shown in Table 1, the Maricopa Association of Governments (MAG) projects that the area's population will grow over 407,000 by the year 2000.

TABLE 1  
FUTURE POPULATION DISTRIBUTIONS FOR MARICOPA COUNTY AREAS<sup>1</sup>

<u>Municipal Planning Area</u>	<u>1980<sup>2</sup></u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>
Avondale	14,920	17,500	27,000	38,000	48,000	55,000
El Mirage	4,497	6,500	9,000	11,600	14,000	16,000
Glendale	100,329	116,000	139,000	164,000	188,000	216,000
Goodyear	4,068	5,300	13,600	21,800	30,000	41,000
Peoria	15,058	23,000	42,000	58,000	76,000	95,000
Surprise	4,248	5,200	7,200	9,100	111,000	14,000
Tolleson	4,476	5,000	10,000	15,000	20,000	20,000
Youngtown	2,239	2,300	2,400	2,500	2,500	2,500
Buckeye	3,434	4,300	5,900	7,500	9,300	12,000
Wickenburg	3,535	4,500	5,600	6,700	8,000	9,000

<sup>1</sup> Maricopa Association of Governments. Future Population Distributions for Maricopa County. March 16, 1982.

<sup>2</sup> Maricopa Association of Governments data and projections include municipal areas only and do not include those residing in unincorporated planning areas (UPAs). West side census data used in this report includes MAG figures plus all other persons living outside these municipal areas within the seven West side legislative districts. Therefore, population projection figures for the entire West side will be greater than the numbers shown in the MAG municipal projections above.

Source: From material prepared by ASU's Management and Financial Analysis Division, November 1984.

It should be noted that there are a variety of population forecasts available. By order of the Arizona Executive Branch, the State Department of Economic Security (DES) is mandated to develop state, county, city and town projections for such purposes as revenue sharing and development of State budgets. State law also allows local Councils of Governments (COGs) to develop projections for local areas with or without the assistance of DES. In addition, some local areas choose to develop their own projections of future growth. While there are a variety of forecast sources which vary in methodology, the differences are not significant enough to be of concern in a student forecast for ASU West. It is not possible to develop a trend analysis based on past enrollments and, therefore, the discrepancies are not significant. A comparison of several population sources is shown in Table 2. The Maricopa County area as a whole is forecast to grow by approximately 75% between 1980 and the year 2000; this equates to an annual growth rate of approximately 2.8%. The West Valley area, according to MAG data, can anticipate annual growth rates of 3.2%.

TABLE 2  
COMPARISON OF POPULATION FORECASTS

<u>Area</u>	<u>Department of Economic Security</u>	<u>Maricopa Association of Governments</u>	<u>Glendale Planning Department</u>
Glendale			
1985	115,630	115,630	
2005		216,000	230,187
Peoria			
1985	22,520	23,000	

Of the nearly 250,000 West Valley residents reported by the Census in 1980, nearly 35% are 22 to 44, the age group from which the largest number of college students are traditionally drawn. In addition, close to 17,000 West Valley residents are high school aged potential college students. In Table 3, on the following page, age distribution of the population is displayed.

TABLE 3

AGE DISTRIBUTION OF WEST VALLEY RESIDENTS, 1980<sup>1</sup>

<u>Age</u>	<u>Total</u>	<u>Percent</u>
0- 5	24,055	9.8 %
6-13	33,961	13.8
14-17	16,504	6.7
18-21	12,736	5.2
22-24	11,341	4.6
25-29	21,692	8.8
30-34	22,699	9.2
35-44	29,883	12.2
45-54	19,231	7.8
55-59	10,356	4.2
60-61	4,187	1.7
62-64	7,226	2.9
65-74	23,467	9.5
75-84	7,656	3.1
85+	1,162	0.5
Total	<u>246,156<sup>2</sup></u>	<u>100.00%</u>

<sup>1</sup> 1980 Census data for selected West side census tracts using CENSPAC Program.

<sup>2</sup> Total does not equal 246,252 total population figure due to CENSPAC sample error.

Source: ASU's Management and Financial Analysis, 11/14/83.

The age distribution experienced in 1980 is not likely to shift significantly enough throughout the 1980s to impact the number of potential users of the new campus.

The most significant indicator of potential student volumes on the new campus is seen in the analysis of the educational levels of the West Valley population. According to the Census, nearly 40% of the area's residents over 18 years of age have some college experience; only about 16% have completed four or more years. This information is detailed in Table 4, on the following page.