

**Planning
Principles and
Concept Plan**





Community and Campus Integrated and Embedded

- Create a vibrant 24/7 living/learning environment for education and culture that is embedded in the community and interwoven into surrounding neighborhoods and commercial districts
- Build connections to the community by respecting neighborhood borders
- Provide clear, porous, and welcoming perimeters by improving the streetscape, providing active uses at the perimeters, and identifiable gateways
- Establish connections between campus and natural features such as "A" Mountain, Tempe Town Lake, and the ASU Desert Arboretum

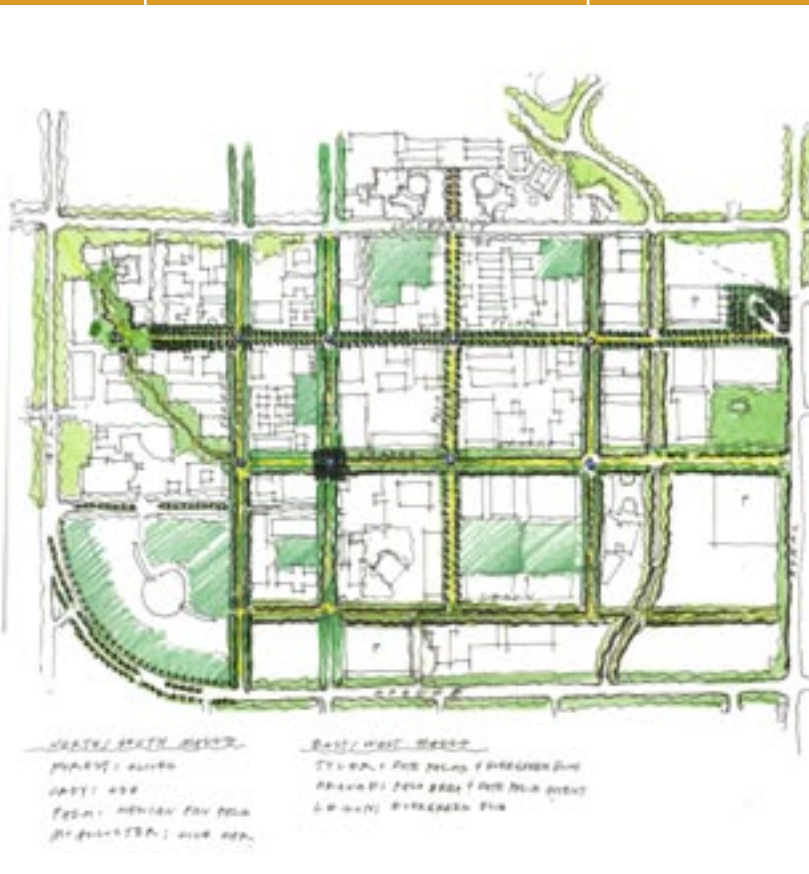
Community and Campus Linked by Civic Spaces

- Create buildings and grounds that reflect the stature of a world-class research institution
- Create a campus that is responsive to the unique history, place, climate, and sustainability of the region
- Maximize the development potential of the campus with an optimal balance of built environment and shaded open space
- Develop a comprehensible hierarchy of open space and buildings that assist in navigation and express uses across campus as a series of districts

Community and Campus Comprise Well-connected Districts

- Integrate mixed-use facilities and housing nodes connected via street network and transit
- Maximize the potential of connections between academic and research facilities and housing, mixed-use facilities to the north, athletic facilities, and natural features such as "A" Mountain
- Minimize automobile, bicycle, service, and pedestrian conflicts while clarifying and improving campus access
- Strengthen campus transportation corridors linked to activity nodes, maximize the potential of connections between campus and other aspects of the surrounding urban environment





Landscape Concept Plan

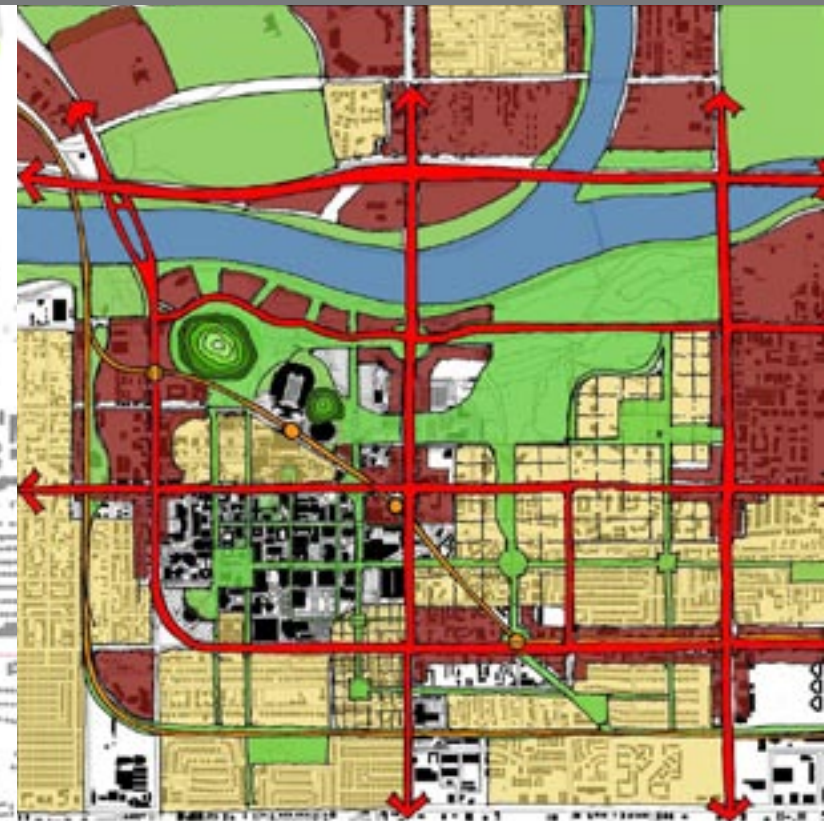


Interconnected Paths and Nodes



Malls and Open Space Diagram

■ Landscape Zones
 ■ Major Malls
 ■ Minor Malls/Pathways
 ■ Plazas



Concept Diagram

**Comprehensive
Plan and Elements**





ASU at the Tempe campus is located adjacent to downtown Tempe. Most elements of the campus transportation system are integrated into the transportation system for Tempe as a whole, and for this reason the various transportation elements of the campus and Tempe are discussed together. For example, most of the campus is bordered by several major arterials that are controlled by the city, the city operates transit service to and on the campus, and many of the city's bicycle routes are designed to access the campus.

REGIONAL CONDITIONS AND PLANS

Existing Conditions

The four ASU campuses are situated within Maricopa County, an area of 9,223 square miles containing 24 incorporated cities and towns, five Native American communities, and a large area of unincorporated land. Maricopa County contains approximately 60 percent of the population in Arizona. For the past several decades, the region has been one of the fastest growing metropolitan areas in the United States, increasing 44 percent in the decade from 1990 to 2000 to a population of just over 3 million.

The region's transportation system has struggled to keep pace with the travel demands of the growing population. While the region has a well-developed highway system consisting of freeways and grid patterns of major arterials, traffic is increasing at a dramatic rate as result of rapid growth and regional development patterns that have favored sustained residential growth on the fringes of the urbanized area. In addition, improvements to transit service have not kept pace with the population growth.

Initiatives and the Regional Transportation Plan

Regional transportation issues, priorities, and initiatives affect and provide a framework for transportation decisions at the local level, including the ASU campuses. The Regional Transportation Plan (adopted November 25, 2003), prepared by the Maricopa Association of Governments (MAG), is a comprehensive, multi-modal, and coordinated plan that provides a blueprint for future transportation investments in the region for the next several decades.

The report warns that the region faces significant challenges in meeting the growth and mobility demands anticipated during the next thirty years. The region's population is projected to double over the next 30 years, resulting in significant increases in congestion on the region's major road system as vehicle-miles of travel continue to increase at a faster rate than population growth. A variety of transportation approaches will be necessary to respond to the different types of development occurring in the region, and must include increases in highway capacity, expanded mass transit service and alternative modes.

The plan is multi-modal, including free-ways, highways, streets, high occupancy vehicle (HOV) lanes, bus service, high capacity transit, and other transit services, as well as modes such as airports, bicycles, pedestrians, and freight. Despite major investment in new and improved roads over the next few decades (more than \$10 billion), congestion is projected to worsen.

Transit

Current transit services in the region comprise on-street bus systems planned and operated by local cities (including Phoenix, Tempe, Mesa, and Glendale). Regional connections are provided by Valley

Metro. While much of the region is served, the level of convenience offered (i.e., frequency of service, travel times, etc.) does not make it an attractive alternative to many travelers who have an automobile available to them.

The Regional Public Transportation Authority (RPTA) has developed a regional transit plan, including a new light rail system. The plan is a component of the MAG Regional Transportation Plan. The plan is a phased implementation plan with the horizon year of 2030, and is designed to serve all needs for transit service in the Valley.

KEY FEATURES OF THE PLAN:

- A total of 57.5 miles of light rail transit (LRT) (see below).
- A regional bus plan known as a "super-grid." The supergrid concept includes new or enhanced service on 30 routes, plus the creation of 10 new routes.
- Improvements to express/bus rapid transit (BRT) service, including enhancements to 16 existing routes and the creation of 14 new routes.

The regional LRT system ultimately will provide a vital connection between the four ASU campuses. It will improve access to the campuses, in particular the Downtown and Tempe campuses, which will be directly served by LRT, and will have the potential to reduce long-term parking needs and traffic.

The initial section, from Bethany Home Road in northern Phoenix to east of the Tempe campus, is scheduled to open in 2008. Extensions and additions will follow soon after, including a line along Rural Road which will intersect the initial LRT route. The Tempe campus therefore will be served from all four directions.



Regional High Speed Capacity Corridors

Trip Reduction Measures

Transportation Demand Management (TDM) programs promote the use of alternative modes of travel, including carpooling, vanpooling, riding transit, walking, bicycling, alternative work schedules that reduce trips, telecommuting, and compressed work schedules. According to the MAG Regional Transportation Plan, 37 percent of people use alternative commute modes or work schedules one or more days a week.

Recently, ASU and the City of Tempe have partnered in creating the ASU Bus Pass Program which allows all eligible ASU faculty, staff and students to ride existing Valley Metro bus routes, including the Phoenix Rapid and regional express buses, for free. Promotion of this is key to its success and can foster a transit oriented campus.

State and local legislations mandate that employers with 50 or more employees prepare and implement travel reduction plans to reduce the rates of single occupancy vehicle (SOV) trips or vehicle miles traveled. To date only a small percentage of employment sites have reached their targets, but currently there are no penalties for not reaching trip reduction targets.

Valley Metro Rideshare provides a variety of TDM services, including a free carpool/vanpool on-line ride matching service, the promotion of SOV alternatives, assistance to Transportation Management Networks and employers in the county's Trip Reduction Program, administration of the Vanpool Program and promotion of the telecommuting program. Valley Metro also coordinates a system of publicly and privately owned park-and-ride lots throughout the metropolitan area. The Arizona Department of Admin-

istration Travel Reduction Program offers carpool matching and other rideshare services to all state employees located in the county.

CITY OF TEMPE CONDITIONS AND PLANS

Transportation Goals and Objectives

Transportation is a major issue for the City of Tempe. In addition to students commuting to the Tempe campus, the city has more jobs than residents to fill those jobs, resulting in an influx of commuter traffic. Because of its location within the region, city staff members report high levels of through traffic. The city has made the decision not to widen roads in response to increasing travel demands, but instead is focusing on alternative modes such as transit and bicycles, as well as increasing housing within the city to reduce the level of commuting.



The city's transportation issues, objectives, and plans are outlined in the transportation element of the Tempe General Plan 2030 (adopted December 2003). The focus is on improving the ability to move people, rather than the historical approach of focusing on moving vehicles. The plan recognizes that no single mode of transportation will be sufficient to meet the mobility needs of Tempe. The objectives and implementation strategies are designed to enhance and encourage the use of a variety of transportation options for people and reduce single occupancy vehicle trips. The overall goal of the plan is to "develop an effective multi-modal transportation system integrated with sound land-use planning, thereby creating safe, efficient, and accessible mobility for persons, goods, and commerce within the city and region."

Streets

The figure below shows the current street system in and around the campus. The core of the campus (the area bound by University Drive/McAllister Avenue/ Apache Boulevard/Mill Avenue) is contiguous in that there are no major through streets dividing it. In the past, several city streets extended into and crossed the campus (College Avenue, Orange Street, Forest Avenue), forming a more finely-grained street system. Over time these streets have been converted into pedestrian malls, or closed to through traffic. While this has created a more pedestrian-friendly environment, it has caused some unintended consequences, such as access issues for service and emergency vehicles, limitations on transit routing, and the mixing of cyclists and pedestrians on crowded malls.

On the other hand, while the several major streets that surround the campus enhance vehicular access on the periphery of campus, pedestrian safety and the character of the areas surrounding campus are affected. Rural Road is a seven lane undivided road with traffic traveling at high speeds, while Apache Boulevard and a section of Mill Avenue have six lanes and a landscaped median. University Drive is a five-lane road east of College Avenue and a four-lane road with a median to the west. These streets all carry high volumes of traffic at speeds that are incompatible with the level of pedestrian activity (Rural Road, adjacent to the campus, carries close to 50,000 vehicles per day).

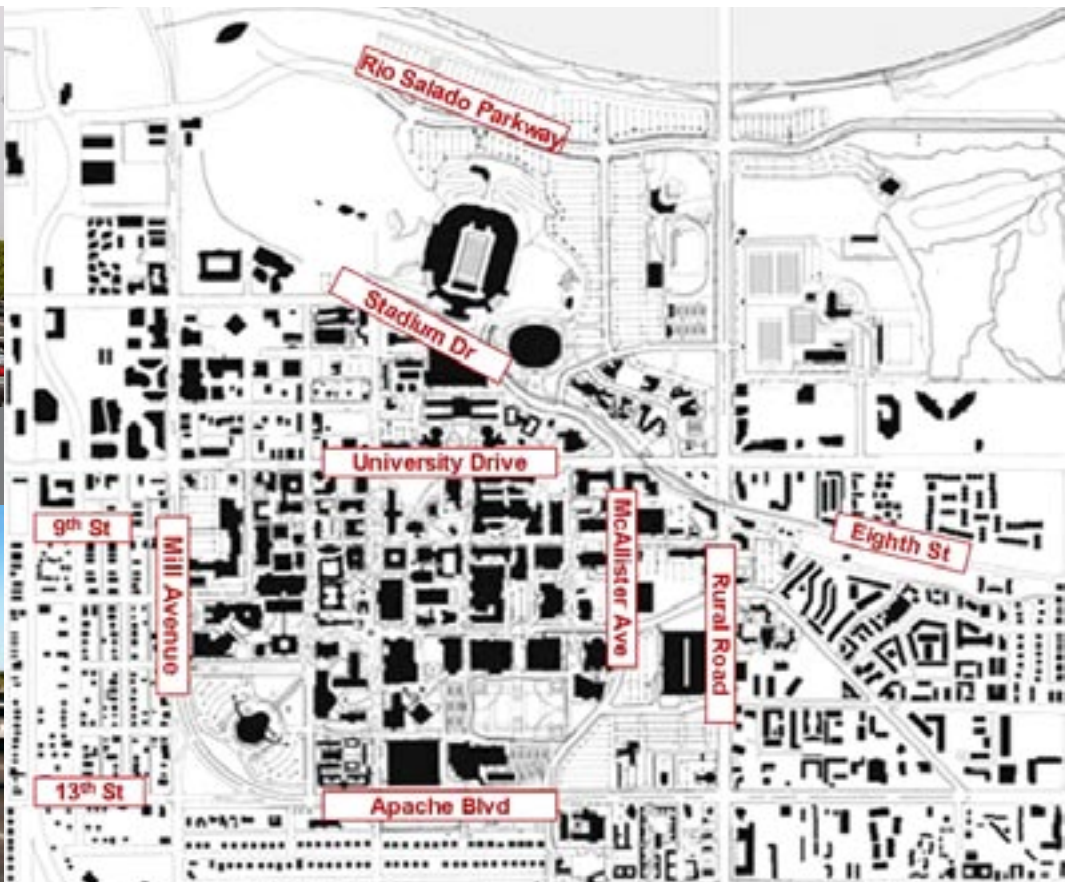
The objectives of the Tempe General Plan 2030 for streets are consistent with the goal of decreasing the reliance on and dominance of the motor vehicle, and include:



Apache Boulevard



Rural Road



ASU Street System



Tempe Bus Routes



Tempe FLASH Routes

- Creating a compatible relationship with adjacent land uses
- Achieving traffic speeds appropriate to adjacent land uses
- Providing safe pedestrian and bicycle environments along streets
- Avoiding widening streets as a solution to traffic congestion
- Reducing cut-through traffic and speeding on neighborhood streets

Transit

The City of Tempe provides extensive bus service, supplemented by regional service operated by Valley Metro, that links Tempe to activity centers throughout the region. In a shared arrangement with ASU, Tempe also provides free high-frequency bus circulator services (Flash Forward and Flash Back). The city also provides a free neighborhood Flash service along an east-west corridor that extends past Loop 101 to the east and Priest Drive to the west. Running every

15 minutes, the service is very successful and is used by many campus commuters from neighborhoods east and west of the campus.

The city bus service operates seven days a week. Tempe buses are wheelchair accessible, and all buses are equipped with bike racks. Most major destinations in Tempe provide convenient bicycle parking and lockers. Recently ASU and the City of Tempe have partnered in creating the ASU Bus Pass Program which allows all eligible ASU faculty, staff and students to ride existing Valley Metro bus routes, including the Phoenix Rapid and regional express buses, for free. Promotion of this is key to its success and can foster a transit-oriented campus.

Tempe has two transit transfer centers, the primary one located at 5th Street and College Avenue. The campus, and particularly the 5th Street transit center, is

the focus of the system, thereby providing a high level of accessibility from most areas of the city.

In the 2003-04 academic year, the Flash system carried up to 140,000 riders per month (typically 100,000+), and was at capacity in the peak periods. The city provides the vehicles and other capital needs, while ASU pays for most of the operating costs.

ASU provides campus shuttles between the campus in Tempe and the Polytechnic campus in Mesa and the West campus in northwest Phoenix adjacent to Glendale, as well as to Mesa Community College. These links will become even more critical over time. In the 2003-04 academic year, the Polytechnic campus shuttle carried an average of 850 riders a week, and the West campus an average of 1,400 riders.



A number of improvements have been made to the Tempe transit service since the citizens passed a local sales tax in 1996. These include increased rush hour service, free neighborhood circulator buses linking residential areas to bus routes or major activity centers, and new bus shelters. Bus ridership increased 417 percent from 1996 to 2002.

Light Rail Transit

Phase I of the Central Phoenix/East Valley Light Rail Project, which is scheduled to be completed by 2008, passes through Tempe, extending from the Phoenix Spectrum Mall to Mesa. The line will pass along the northern edge of ASU at the Tempe campus (from the west, using the railroad right-of-way on the north side of Stadium Drive, and Terrace Road to Apache Boulevard to the east). There are four stops that would potentially serve the campus:

- Mill Avenue and 3rd Street
- 5th Street and College Avenue
- Rural Road and University Drive
- Dorsey Lane and Apache Boulevard (east of Rural road)

The 5th Street station will become the primary Tempe transit transfer center (relocated from College Avenue). With planned extensions north along Rural Road to Scottsdale and a spur south to Broadway, the Rural Road station will become a major transfer center in addition to serving the campus. The station will be designed to enable connecting city and Flash buses to travel between Rural Road and McAllister Drive.

Bicycles

Bicycle usage on the campus is very high. A 2001 parking study estimated that there are 15,000 bicycle trips per day. The study also determined that ASU has

over 11,800 bicycle parking spaces on the campus, equating to a ratio of .27 bike spaces per student. It noted that, in comparison with other "bicycle friendly" universities, this ratio is below the average.

It is recommended that the number of bike parking spaces be increased to a ratio of .35 bike spaces per student, or an increase of approximately 3,500 bike spaces over the next five years. In conjunction with this increase in bicycle parking, the study also recommended providing more bicycle lockers and segregated bicycle paths to minimize pedestrian and bicycle conflicts on the campus pedestrian malls.

Bicycling is an important mode of travel throughout Tempe, and the city has a long-standing commitment to encouraging bicycling through the development of bikeways and various educational and promotional programs. In 1997 Tempe was the first



Light Rail Plan

- Light Rail Station Location
- Future Station Location
- Light Rail Alignment
- Park-and-Ride Location





Bike Lanes at University of Colorado



Proposed ASU Bike Plan

city in the Phoenix metropolitan area to be designated a “Bicycle Friendly Community.” 2000 Census data indicate that 3.4 percent of all commute trips are by bicycle, the largest proportion of bicycle commuters among all the cities in the metropolitan area. Currently the city has more than 100 miles of bike lanes, routes, and paths. The city also has completed the Tempe Bicycle Facilities Plan Update as well as a Multi-Use Path System Plan, which identifies path projects in the city.

Existing and planned bicycle paths and lanes are shown below. Specific strategies included in the Tempe General Plan 2030 of relevance to ASU are:

- Bike lanes on Apache Boulevard and Rural Road
- Extension of the Mill Avenue bike lanes southward
- Bike lanes on 13th Street west of Mill Avenue
- Bike paths on the campus malls

Pedestrians

ASU is a heavily pedestrianized campus. Many students and employees walk to campus from home, and the malls are very crowded, particularly between classes. Many pedestrians must cross the arterials that surround the campus, which are dangerous given the high volumes of traffic and high speeds. Rural Road and Apache Boulevard, both seven lane roads, are particularly hazardous. A pedestrian overpass has been built over University Drive (as an extension of Palm Walk) because of the large amounts of housing on the north side; however, many students prefer to cross at street level.

The City of Tempe places a high priority on pedestrians and is committed to improving conditions citywide. ASU and Mill Avenue are high generators of pedestrian traffic. Specific strategies proposed in Plan 2030 that are of relevance to ASU include:

- Improving the pedestrian network to include sidewalks on all streets in accordance with prescribed standards; street crossing improvements, as well as crossings at railroad right-of-ways, canals, freeways, and other barriers to travel; and additional multi-use paths and crossings
- Improving shading on all pedestrian paths to encourage pedestrian traffic
- Implement improvements on designated Transit Streets and Green Streets to increase use by pedestrians, bicyclists and public transit
- Evaluating the sidewalk system and pedestrian network to assess adequacy and implement specific improvements, such as eliminating gaps, removing barriers, and widening sidewalk capacity to facilitate and thereby encourage increased pedestrian travel
- Improving the pedestrian network in Tempe to accommodate all types of pedestrians



Parking

As of January 2004 (prior to the construction of the ASU Foundation Parking Structure and Parking Structure #7A on Packard Drive), there were 20,726 parking spaces on the campus in over fifty surface lots and six parking garages. The location of parking facilities is shown in the figure below. Approximately 39 percent (7,476 spaces) are in the six parking structures, which generally ring the core campus area. The total surface parking is 13,194 spaces (almost 6,200 in remote Lot 59, a 15 to 20-minute walk from the center of campus and served by FLASH).

The total amount of parking on the campus has not changed significantly over the last 10 years, nor have any parking structures been built in that time. Some of the more significant recent losses/gains (since 2003) are:

- Loss of 600 spaces in Lot 59N for construction of Parking Structure #7
- Loss of 189 spaces in Lot 51 for construction of the new ASU Foundation building and parking structure
- To compensate for the above interim losses, Lot 59N was expanded in summer 2003 to temporarily add 1,500 spaces (until the Rio Salado development occurs)
- Orange Parking – approximately 220 spaces (not including the supply in Lot 36)
- Perimeter Parking – approximately 5,000 spaces
- Other (ADA, Motorcycle, Restricted, etc.) – approximately 950 spaces

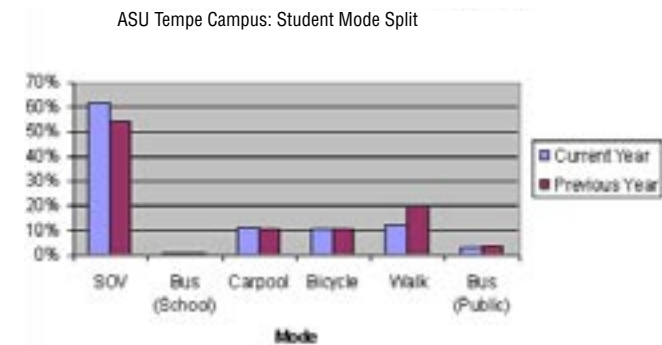
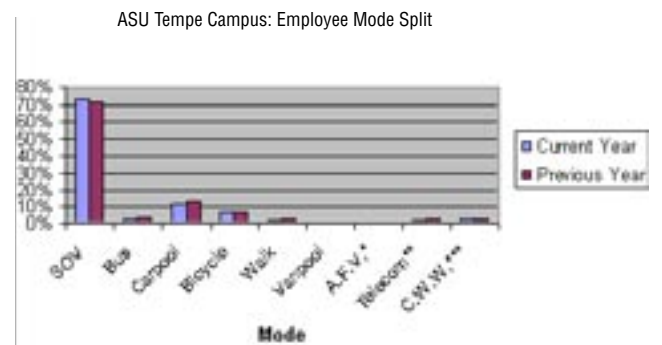
Of the available parking spaces, approximately 90 percent are designated for the use of ASU students, faculty, and staff members. The parking inventory was made up of the following parking types:

- Access "A" – approximately 8,000 spaces (7,532 in six structures, plus Lot 44)
- Access "B" – approximately 1,400 spaces
- Residence Halls – approximately 1,700 spaces

Currently there are no parking restrictions on any campus groups and permits. Typically there are spaces available in remote Lot 59. To date the parking supply has kept up with demand; however convenience has suffered as interior surface lots have been removed.

Since the completion of this study, two additional structures under construction have been completed:

- Parking Structure #7A with 1,500 spaces
- A parking structure associated with





the new ASU Foundation building with 1,200 spaces at the corner of University Drive and College Avenue

In the near future, planned projects will displace large areas of existing surface parking.

Travel Demand Management (TDM)

ASU has had a Travel Demand Management (TDM) program since 1991. Currently eight percent of parking revenues are allocated to alternative transportation programs. Elements of the program include:

- The FLASH service
- Shuttle service to other campuses
- Compressed work weeks
- Telecommuting (a 1999 survey found that 6 percent of ASU staff telecommute)
- Rideshare matching

- Preferred parking for carpools (there were 97 registered carpools in 2000)
- Emergency ride home program
- Bicycle and pedestrian safety program
- Bicycle repair and safety co-ops
- Education programs

Every year the university must conduct an Annual Trip Reduction Survey. Required by state law, the purpose of the survey is to enable Maricopa County to gather travel data regarding travel patterns and trends. The survey data also is used by the ASU Trip Reduction Program to assess alternative transportation modes for commuters. The 2002 survey revealed a 3.95 percent reduction in single occupant vehicle use for the Tempe campus (the other campuses also experienced reduction rates, though lower than the Tempe campus).

TRANSPORTATION PRINCIPLES

The following principles were developed to guide transportation recommendations for the campus:

Improved accessibility to campus by all modes

- Maximize effectiveness of the Phase I light rail transit through complementing parking policies, and high quality shuttle bus and pedestrian connections at stations
- Support long-range regional rail and bus rapid transit plans
- Work with the City of Tempe to fine-tune bus service to better serve ASU commuters living in Tempe
- Work with the City of Tempe to modify major roads and/or add bicycle lanes/paths to improve safety for cyclists
- Promote incentives for using alternative modes
- Continue free unlimited transit pass



Enhanced on-campus circulation

- Improve efficiency of FLASH services
- Provide faster FLASH service from remote parking
- Examine realigning Packard and Fifth to improve FLASH route
- Extend shuttle routes as campus expands
- Identify opportunities to provide cyclist routes separate from pedestrian paths on campus

A safer pedestrian campus

- Reduce Rural Road from seven to four lanes when a north-south LRT line is implemented on Rural Road
- Reduce Apache Boulevard from seven to four lanes by working with city to obtain funding
- Modify University Drive to create a more pedestrian-friendly and attractive street (e.g., median, add parking, remove lanes)
- Add pedestrian crossing on Apache Boulevard between Rural Road and McAllister Avenue
- Narrow and improve attractiveness of campus streets (e.g., McAllister, Lemon)
- Reduce conflicts between pedestrians and other users of malls (cyclists, service vehicles, etc.)
- Develop bicycle policies to reduce potential bicycle/pedestrian conflicts on multi-use paths
- Remove core surface parking lots

Minimized future parking needs and impacts

- Provide adequate, convenient parking for visitors
- Locate any new parking on periphery of campus to minimize impacts on pedestrians, and serve with high quality shuttle
- Reduce parking needs for employees and commuting students by promoting alternative modes
- Prohibit commuting students living

within certain distance of campus and on a transit route from parking on campus (provide free transit pass)

- Explore feasibility of park-and-ride facilities for commuters

Move resident student parking to secure remote facilities

- Consider prohibiting freshmen on-campus residents from bringing a car to the campus
- Avoid exporting parking problems to neighborhoods
- Price parking to reflect true cost
- Remove core surface parking lots

TRANSPORTATION RECOMMENDATIONS

The following transportation improvements are recommended for the Tempe campus:

Streets

1. Extend the planted median on University Drive east to Rural Road, add streetscaping, and add a pedestrian-activated signalized crossing between the pedestrian overpass and Stadium Drive.
2. Reduce Rural Road from seven to four lanes at the time that a north-south LRT line is implemented on Rural Road, and add bike lanes
3. Reduce Apache Boulevard from seven to four lanes with a landscaped median and bike lanes by working with city to obtain funding
4. Narrow McAllister Avenue and Lemon Street to 10-foot lanes with 5-foot bike lanes, with left-turn lanes only where needed, and improve the landscaping.

5. Close Orange Street to general traffic, and move service vehicles from Orange Street to service alleys to the north and south of Orange Street.

Transit

1. Provide fast, frequent north-south spine bus service from Rio Salado Parkway to Apache Boulevard along Packard Drive/McAllister Avenue to connect housing, the Rural Road light rail transit (LRT) station, major parking facilities, and the center of the campus (in addition to retaining the existing FLASH routes)
2. Transform Orange Street into a transit/pedestrian/bicycle mall. The north-south McAllister Avenue transit spine should include a spur into the campus core along Orange Street.
3. Provide strong, identifiable, and inviting pedestrian connections to the College Avenue and Rural Road LRT stations.
4. Work with the city to refine Tempe Transit to provide service from the LRT stations to all parts of the campus.
5. Support efforts to expand the Phase I LRT system, particularly implementing a north-south line along Scottsdale/Rural Roads.
6. Work with the city to introduce a north-south Neighborhood FLASH similar to the east-west Neighborhood FLASH, to serve student concentrations north and south of the campus.



Student, Faculty, and Staff Distribution in Metropolitan Phoenix

Proposed Campus Transit Routes

Bicycle and Pedestrian Circulation

1. Implement the street modifications as shown above.
2. Support the planned bicycle improvements included in the Tempe General Plan 2030, particularly along the major arterial roads.
3. Implement the campus bike paths/routes as shown in the figure above.
4. Enforce the existing policy that cyclists must give way to pedestrians on the malls.
5. Enforce restrictions on when vendor vehicles are allowed on the malls.
6. Provide frequent, protected pedestrian and bicycle crossings on the multi-lane roads surrounding the campus by installing pedestrian-activated traffic or pedestrian signals at the following locations:

- Mill Avenue and 11th Street.
 - Apache Boulevard, mid-block between McAllister Avenue and Rural Road
 - Rural Road, at the planned LRT crossing.
 - University Drive, midway between McAllister Avenue and the pedestrian overpass.
 - Ensure that the planned Gateway project on Mill Avenue adds a pedestrian-activated signalized crossing at 9th Street.
7. Install textured pavement at all pedestrians crossings on all roads on and bordering the campus.

Parking and Trip Reduction Strategies

1. Limit the addition of new parking on campus through a variety of travel demand management (TDM) measures and parking restrictions. Based on current ratios, a total of 22,250 spaces would be required by

2020. Accounting for the construction of Parking Structure #7A and the ASU Foundation structure, and the projected losses of surface parking over time, the net need for additional parking is projected to be 9,350 spaces. Given that the bulk of future parking must be located in parking structures because of land constraints and the desire to improve the aesthetics of the campus, the cost of structured parking, and the desire to minimize traffic on and around the campus, this need should be addressed by the strategies listed below.

2. Locate all new or replacement parking in structures on the periphery of the campus to preserve land for future buildings, improve the pedestrian environment, create open space, and improve the overall appearance of the campus:



- Construct a 500-space parking structure in south campus housing complex (south of Apache).
 - Construct a 1,500-space parking structure north of parking structure #7A.
3. Through an unlimited transit access program and working with the region to promote use of LRT and other transit services as they are improved over time, reduce the parking demand by at least 3,500 spaces (approximately 2,500 ASU people are projected to use LRT at the College and Rural stations on a typical weekday with only Phase I of the LRT system, without any of the planned expansions).
 4. Restrict freshman parking and provide secured off-campus storage lots for a portion of resident students. This is common on many campuses,

and could reduce the parking demand by at least 1,500 spaces. There are several approaches to restricting resident freshman from parking on the campus (in all scenarios, students would be strongly discouraged from bringing a car to the campus):

- Allow students to have a car, with the university providing secured storage lot(s) with shuttle access. Decals must be purchased to use the lot(s).
 - Allow students to have car, requiring that they must make private arrangements to park.
 - Prohibit freshman from bringing a car to the campus.
5. Provide 2,000 spaces in park-and-ride lots on existing bus routes on the major approaches to the campus to intercept parking demand from reaching the campus core.

6. In conjunction with expanded Neighborhood FLASH service, restrict students living off-campus but within one mile of campus from obtaining a parking permit.
7. Continue incentives for using alternative commute modes (preferential parking for car and vanpools, occasional parking vouchers for transit users, cyclists, and car/vanpoolers, etc.).
8. Explore opportunities for park-and-ride facilities to reduce parking needs on campus, including the Diablo Stadium, university-owned property on Scottsdale Road north of the campus, and Rio Salado Parkway east of Highway 101.



Existing University Drive

Proposed University Drive



Transportation

- Collector Streets
- Service Drives
- Local Streets
- Loading Docks

Fire Access Routes

- Primary
- Secondary
- Tertiary

Service Routes

Service must be maintained to specific areas of the campus and separated from the flow of pedestrians. There are various levels of service needed across campus, each with specific requirements:

- Daily and occasional deliveries
- Service and maintenance access
- Trash service
- Emergency vehicle access
- Move-in and move-out

Daily and occasional deliveries such as mail, overnight packages, and library deliveries are to be handled according to designated procedures. The plan allows for vehicular access within the core of campus, providing access to the

theaters, museums, the libraries, central plant, stadiums, food service, and the Memorial Union on dedicated service roads with restricted access. Overnight delivery vehicles may use these roads with permission from the university.

Service and maintenance vehicles such as trucks and vans will be limited to the service drives during weekdays. Such vehicles may use the malls during the evening and weekend hours. Small electric vehicles may use the malls and park in designated areas during weekday hours when classes are in session.

Trash will be collected and consolidated in two locations accessible from the service drives.

Emergency vehicle access is allowed on the service roads and most malls. Please refer to the transportation guidelines and the design guidelines for further information regarding emergency vehicle access requirements.

On-campus residents generally move in and out at the beginning and end of the academic year. The service drives, parking lots, and malls will be available during these periods for limited vehicle access.



REGIONAL INITIATIVES

Light Rail

The first phase of light rail will develop a rapid connection between downtown Phoenix and the Tempe campus as well as points beyond. For light rail to be a success, parking and transit policies must work in concert with the light rail.

- On-campus parking must be reduced and incentives developed to encourage use of mass transit.
- Partnerships in remote park-and-ride lots should be established to reduce the need to develop additional parking on campus.

Future phases of light rail will extend it further to the northwest and southeast linking Gilbert, Mesa, and Glendale into the system. A line is proposed on Rural/Scottsdale Road that will link Scottsdale, Tempe, and Chandler along the campus

perimeter. The impact on the university can be significant in terms of connecting faculty, staff, and commuters to the campus and the community.

Transit oriented development is encouraged both on campus and along the transit corridors.

The on-campus bus system needs to be reliable with a reasonable headway to insure its use by the community.

Bus Routes

The buses will run on city streets, internal campus streets, and restricted bus ways such as Orange Mall. The planned routes are developed along desired lines from the perimeter to the core of campus. Major destinations include: the Memorial Union, large parking lots/structures, Mill Avenue, adjacent and on-campus housing clusters, Gammage Auditorium/Arts

District, light rail stops, recreation centers, and the ASU Foundation Building/Old Main area.

Plans call for the bus system to be developed jointly by the university and the City of Tempe.

Bicycles are a convenient mode of transportation in the Tempe area. Numerous bicycle routes have been developed and are under development around the campus. The bicycle routes should extend into the campus.

Bicycle Routes

The campus malls form a north-south east-west continuous grid on campus. Unlike streets where intersections are controlled, pedestrian intersections merge into one another. Bicycles tend to travel parallel to the flow of traffic but rely on intersections to control traffic





flow. To minimize pedestrian and bicycle conflicts, the feasibility of separating bicycle traffic from the pedestrian flow (either within the street framework with bike paths, or in a separate bicycle-only trail system) should be considered. Bicycles may be dismounted and walked on the malls, but should not be ridden on the malls.

Bicycle parking should be placed in sufficient quantity adjacent to the major bicycle paths at key destinations as well as distributed across campus in smaller clusters near building entrances or parking areas.



Proposed Light Rail Station



ROAD MODIFICATIONS: Rural Road, University Drive, Mill Avenue, Apache Boulevard

Rural Road

- Accommodate future light rail in the center median of the street
- Reduce from six lanes plus turn lanes to four lanes plus turn lanes with bicycle lanes as per the City of Tempe
- Create a planting strip adjacent to the curb for street trees
- Add new sidewalks and shade trees

University Drive

- Maintain four lanes plus turn lanes with bicycle lanes as per the City of Tempe
- Extend the landscaped median from Mill Avenue to Rural Road
- Create a planting strip adjacent to the curb for street trees
- Add new sidewalks and shade trees

Mill Avenue

- Reduce the number of lanes from six to four lanes plus turn lanes and bicycle lanes with a landscaped median and parallel parking on each side from Apache Boulevard to University Drive, as per the City of Tempe
- Provide a right turn only lane onto University Drive from north bound Mill Avenue
- Create a planting strip adjacent to the curb for street trees
- Add new sidewalks and shade trees

Apache Boulevard

- Reduce Apache Boulevard from six lanes to four lanes plus turn lanes with bike lanes with parallel parking on each side and a landscaped median from Mill Avenue to Rural Road as per the City of Tempe
- Create a planting strip adjacent to the curb for street trees and new sidewalks and shade trees

ALTERNATIVE MEANS OF TRAVEL

As the university expands, surface lots must be sacrificed to accommodate new facilities while physical growth increases parking demand. It costs \$3,000+ to build a surface parking space; \$11,000+ per space to build a parking structure above ground level; and \$25,000+ per space to build parking below ground. The current subsidized parking fees cannot support new parking facilities. The existing road network and capacity limits the amount of new parking. As a consequence ASU must invest in alternative means of travel or increase the costs to park on campus.

To create a park-once transit-accessible campus, the following strategies could be employed:

- Offer park-and-ride incentives in conjunction with light rail or bus systems;
- Encourage bicycle usage with the



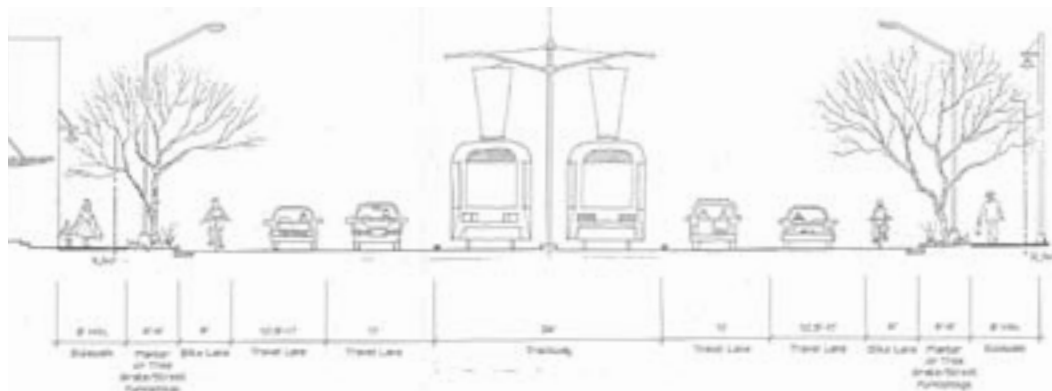
University Drive



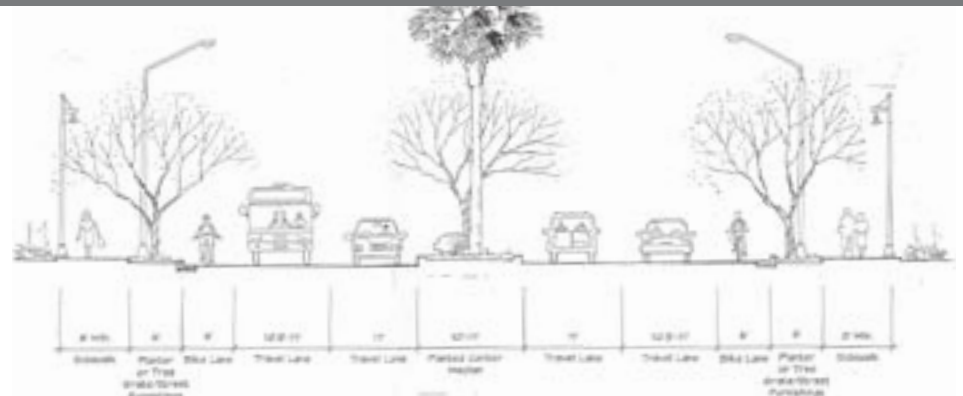
Apache Boulevard



Rural Road



Rural Road Section



Apache Road Section



Residence Hall Distribution

development of clear and safe bicycle paths, bicycle storage facilities, bike racks on transit buses, and locker/shower facilities for bike commuters;

- Expand ridesharing programs;
- Offer telecommuting programs;
- Build adjacent or on-campus housing for students, faculty, and staff;
- Offer remote resident parking to reduce congestion within the campus core.

To reduce the inclination to get into one's car to find dining, entertainment, or basic services, the campus and surrounding commercial areas should cater to consumer needs with convenient transit connections.

Parking Data

2004 Data

- ❖ Reduced rate or free transit pass incentives for faculty, staff, and students (regional and local)
- ❖ Total existing spaces: 20,726
- ❖ Surface parking: 13,194 (almost 6,000 in perimeter Lot 59, including 1,500 temporary spaces)
- ❖ Structured spaces: 7,532
- ❖ Parking structures recently completed:
 - 7A on Lot 59N: 1,500
 - ASU Foundation: 1,200
 - (net 1,000 for ASU use)

Proposed Data

- ❖ 15,000 parking spaces
- ❖ More on-campus student housing
- ❖ Light rail
- ❖ U-Pass program
- ❖ Park-and-ride
- ❖ Rideshare programs
- ❖ Improved shuttle system
- ❖ Bike routes



Existing Parking Distribution

■ Surface Parking ■ Structured Parking

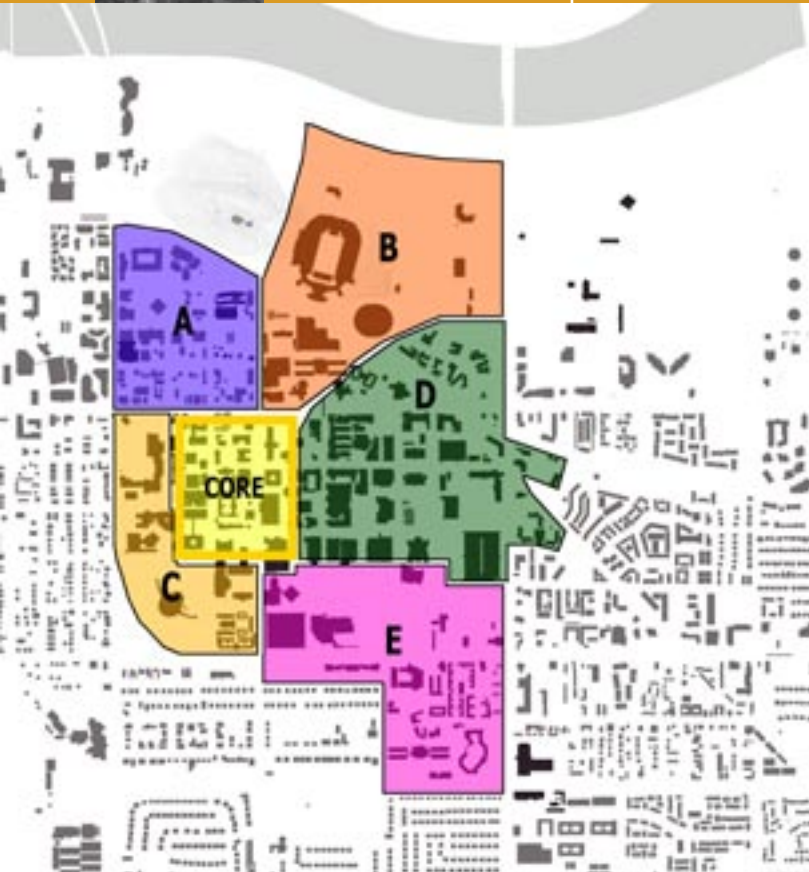


Proposed Structured and Surface Parking



Comprehensive Development Plan

Although a single and unified institution, ASU is "One University in Many Places", spatially distributed across metropolitan Phoenix.



Campus Districts

- Tepe District
- Sun Devil District
- Sun Set District
- Artspace District
- Science Learning

Deferred Maintenance

- Good Condition
- Fair Condition
- Moderate Renovations
- Major Renovations
- Considered Demolition



Existing Campus Uses

- Academic
- Library
- Residential Life
- Public Venue
- Administrative
- Facilities Support
- Athletics/Rec.
- Parking Garage

Proposed Campus Uses



DEFERRED MAINTENANCE

The university strives to maintain its facilities to the best of its ability and available funding. However, a number of facilities were built with limited flexibility, are operationally obsolete or not of the highest quality, and do not utilize available land optimally. Over time, the functions associated with these facilities will transition to other space on campus, allowing for the removal of the obsolete buildings. This will allow the university to develop the campus in a comprehensive and compact manner, meeting programmatic needs and maintaining critical adjacencies. Refer to the adjacent matrix for information on facility renewal, demolition, and/or replacement in each phase.

USE AND CAPACITY

Spatial organization of ASU at the Tempe campus

The Tempe campus framework is generally well organized, with a compact academic core, a cluster of science and engineering facilities, athletics to the north, recreation to the south, and housing distributed within the core and at the campus perimeter. This spatial organization should be built upon as part of the campus framework.

The campus is organized into districts defined by use. Each of these districts includes a mix of uses intended to create a vibrant 24/7 environment while maintaining needed programmatic adjacencies. While each district is defined by a specific theme, there is a high level of flexibility of use within each district giving the university the ability to locate appropriate uses.

- The Academic Core is centered on Hayden Library with access to general classroom and lab buildings;
- The Arts District is bounded by the Arts and Business Gateway on the north and extends south along Mill Avenue to the Tempe Center;
- The Sunset District is in the south east corner of the campus and includes the Sandra Day O'Connor College of Law, McAllister Academic Village, and other south-campus housing areas;
- The Science Learning District is in the northeast corner of the campus bounded by University Drive and Rural Road and includes the science, engineering, and research components of the university;
- The Sun Devil District includes the arena, stadium, practice facilities, and parking facilities in the northern section of the campus;



- The Karsten Green District includes the golf course;
- The Tempe District includes the ASU-related space in downtown Tempe;
- The Rio Salado District is a mixed-use public-private partnership development located along the southern edge of Tempe Town Lake.

Integration with the surrounding community

One of the goals of the master plan is to develop a clear sense of identity for the campus while retaining an inviting presence. Because ASU is a socially embedded institution, visitors should feel welcome, yet be aware of being "on campus."

Although perimeters are to be defined, the boundaries of campus will remain porous. Visitor parking and gateways should be clearly marked and convenient to destinations. The campus should be an extension of the community with free access to the campus grounds where appropriate and safe.

Where the university is adjacent to existing neighborhoods, it should be sensitive to the scale of the buildings and locate facilities in such a way to minimize their impact on the viability of the neighboring properties.

Historic Preservation

ASU has been a major force in the development of the Tempe area. From its humble beginnings as a normal school in 1885 through the present, the university has become progressively more imbedded in the city and metropolitan region. Although now distributed on four campuses across the metropolitan region, the university will maintain its largest enrollment and concentration of colleges and schools on the historic Tempe campus.

Honoring historically significant buildings and spaces on the Tempe campus is one of the tenets of the campus plan. Currently there are eight structures listed on the National Register of Historic Places:

- Old Main
- University Club
- Virginia G. Piper Writers House
- Moeur Hall
- Mathews Hall
- Anthropology
- Gammage Auditorium
- Harrington-Birchett House

In addition to these structures, the following buildings are each potentially eligible to be designated historic structures, and will need to be reviewed as per the guidelines of the State Historic Preservation Office:

- Mathews Center (original section only)
- West Hall
- Dixie Gammage Hall
- Agriculture
- Irish Halls A-C
- Physical Education West (1927 original portion)
- Center for Family Studies
- Lyceum Theater (1927 original portion)

The master plan retains the buildings listed on the National Register of Historic Places and the nine structures listed above that are potentially eligible to be designated historic. Additional structures will become potentially eligible for historic preservation due to age. As a next step, ASU should survey appropriate ASU structures for eligibility for the National Register of Historic Places following federal guidelines.

