ASU at the Downtown Phoenix campus
Public Service in the Urban Core
ASU at the Downtown
Phoenix Campus
Public Service in the Urban Core

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

ASU At The Downtown Phoenix Campus: “Public Service In The Urban Core”

With plans for a downtown Phoenix campus supporting 15,000 students and 1,100 faculty members, ASU is a key stakeholder in the revitalization of the historic urban core of Phoenix, in partnership with the city, its neighborhoods, and businesses. The ASU district will combine academic, public, private, and residential facilities in a diverse and vibrant 24/7 living/learning destination that advances both knowledge and societal transformation, and encourages economic development.

ASU at the Downtown Phoenix campus promises to bring the rich diversity of a research university campus to downtown Phoenix, where ASU has already established a presence over the past decade. The unique cluster of colleges and schools on the downtown Phoenix campus will have in common a focus on the public mission of ASU. Through the campus ASU will serve the broad educational interests of business, government, nonprofit organizations, professionals, and individuals living and working in the area.

An elaborate multi-year conceptualization and master planning process will guide the development of the mixed-use academic/artistic/commercial/residential campus plan. The campus will be convenient to light rail service and other transportation systems and will connect with commercial, cultural, and entertainment venues. Adjacent to potential residential and community development, the campus will be a sub-district of downtown, lending critical mass to other educational and cultural institutions located downtown, including the Phoenix Biomedical Collaborative and the Translational Genomics Research Institute (TGen).

The City of Phoenix will be the university’s leading partner as ASU advances the campus. It is projected that public-private partnerships will help ASU build residence halls and other university living spaces, as well as advancing a range of facilities needs for the campus. The assignment for ASU, the city, and scores of other participants is to find the common denominators of a great urban campus.

Future Cluster of Colleges and Schools
- College of Public Programs
- College of Nursing
- Walter Cronkite School of Journalism and Mass Communication
- School of Global Health
- University College
- KAET-TV Channel 8 (Arizona PBS)

Existing Downtown Phoenix Districts
Existing Land Use

- Retail
- Residential
- Civic
- Business Large
- Business Small
- Industrial
- Parking Decks
- Parking Surface
- Plaza
- Park

Downtown Phoenix
Observations
Comprehensive Development Plan

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

Summary Of Observations, Planning Principles, And Concept Plan

The Comprehensive Development Plan (“master plan”) process for the university is presented in the introductory chapter of this report. The summary of observations, planning principles, and concept plan that follow refer to the Downtown Phoenix campus.

The observations phase of the process collected physical and programmatic information about Downtown Phoenix campus. Meetings were held with students, faculty, staff, administrators, and neighbors, as well as the City of Phoenix. This input was valuable in terms of understanding the issues facing the area and the campus in particular. Physical data was collected and summarized in the analysis diagrams included in this section.

Recently Completed Projects or Projects Under Construction

- Renovation of 411 N. Central Avenue
- Urban Design Studio in the Security Building (Phoenix Urban Research Laboratory)
- Park Place Building (500 N. 3rd Street)
- Approximately 15,000 SF of space for the College of Nursing in Buildings A and F at the Downtown Center

Currently Planned Projects

- Approximately 200,000 SF of space for the Walter Cronkite School of Journalism and Mass Communication and KAET in the Central Park East development
- College of Nursing at Park Place

Projects Currently in Feasibility Studies

- Central Civic Space
- Downtown Student Housing
- Potential Student Union in the historic Downtown U.S. Post Office

The current ASU site in Downtown Phoenix is not adequate for the proposed campus enrolling 15,000 students

The current ASU Downtown Phoenix campus comprises 10 acres and 141,171 GSF. In order to create a campus that would accommodate 15,000 students, the anticipated required square footage is approximately 3,000,000 GSF, requiring consideration of an alternative location.

The campus should be located to take maximum advantage of its urban setting

The campus should be located to take maximum advantage of its urban setting amidst the government offices, businesses, cultural amenities, sports centers, and entertainment venues located downtown. The programs proposed for the Downtown Phoenix campus, including journalism,
public television, criminal justice, urban
design, architecture, and health scienc-
es, could all benefit from potential inter-
action and collaboration with businesses,
industries, and government agencies
located in its proximity.

The campus should strive to be the
linchpin that ties together the resi-
dential, institutional, and commercial
interests of downtown Phoenix
Downtown Phoenix has a dense Central
Business District that is contained within
the parameters of twenty city blocks. Out-
side of this zone, development density is
very low, which makes the Central Busi-
ness District seem disconnected from
surrounding residential, commercial, and
institutional areas. The campus would
add academic, office, retail, housing,
and meeting spaces which would infill
the gaps in downtown development and
link the Central Business District with the
public library, residential neighborhoods,
sports venues, etc.

Options to centralize, cluster, or
disperse the various colleges and
schools of the campus within the
downtown core should be weighed
Given the nature of the academic pro-
grams proposed for the Downtown Phoe-
nix campus, not all of the programs need
to be adjacent to one another apart from
the general use classrooms located in
the academic core. However, because
Downtown Phoenix lacks a critical mass
density of development, dispersing the
university functions too far afield may
only exacerbate this weakness.

The proposed light rail should be adja-
cent to campus
The first phase of the light rail system
will connect the area around downtown
Phoenix with ASU at the Tempe cam-
pus and extend east to Mesa. In order
for light rail to be successful, intensive
development must be adjacent to each
stop so that it is perceived as a destina-
tion or can function as a park-and-ride
facility. With its central business district,
government offices, and sports and en-
tertainment venues, downtown Phoenix
is a natural destination. Situating the
downtown campus along light rail of-
fers students an easy connection to the
Tempe campus, and allows commuters to
ride mass transit, reducing the need for
parking downtown.

Not all of the elements of a traditional
campus need to be “on campus” or
developed by the university
Functions such as recreation, housing,
food service, retail, bookstore, and park-
ing could be developed by a public or
private entity and made available to ASU
faculty, staff, and students.
Comprehensive Development Plan

Planning for the Downtown Phoenix campus should recognize the significance and reinforce the optimal development of the districts and neighborhoods that comprise the historic urban core of the city.

Downtown Phoenix is comprised of several districts and neighborhoods defined primarily by their predominant use. Some areas are in transition from vacant or light industrial to mixed-use centers that build on the success of adjacent districts. The ASU plan can reinforce these districts by providing needed infill mixed-use development, employment centers, housing, and commercial development.

1. Central Business District
2. Sports and Culture District
3. Warehouse District
4. Central Avenue
5. Arts District
6. Government Mall
7. Roosevelt Arts District
8. Garfield District
9. Historic Roosevelt
10. Evans-Churchill

Downtown Phoenix has little civic-scaled space.

Downtown Phoenix has little civic-scaled space. Patriots Square Park is in the center of the business district. Margaret T. Hance Park ("Deck Park") was created as a bridge between downtown and the neighborhoods, but is under utilized and could be redesigned to better accommodate programmed events.

Prior to the 1960’s, Downtown Phoenix had extensive landscaping that made it hospitable year-round. It is possible to restore the landscaping of that period, and such an option may be considered. For example, open space such as linear malls, squares, parks, courtyards, and plazas, could provide a continuous outdoor network. Street trees could deliver shade, color, and texture. Paving, lights, signage, and furnishings could define districts adjacent to Patriots Square Park.

Phoenix has an opportunity to preserve key historic properties and districts.

With its long history and relatively recent development, Phoenix has an opportunity to preserve key historic properties through adaptive reuse that ties the past to the future. Each district can be reinforced with infill development to build on its scale and character while adding services to support pedestrian-oriented neighborhoods.

- Garfield District
- Historic Roosevelt District
- Individual properties and clusters

Several key historic buildings to consider as a part of the Downtown Phoenix campus plan include the Westward Ho and U.S. Post Office at Central Avenue, among others.
Housing Density Plan
- High Density (100+)
- Medium Density (60+)
- Single Family
- Medium Density/Loft Residential (40+)
- Low Density (Up to 30)

Retail Plan
- Night Life Entertainment
- Large Scale Retail
- Urban Retail
- Retail/Restaurants/Entertainment
- Neighborhood Retail/Arts
Transportation issues are critical to the Downtown Phoenix campus

Generally, the Phoenix road network is laid out in a one-mile grid of arterial roads, a one-half to one-quarter mile grid of collector roads, and a one-eighth to one-sixteenth mile grid of local streets. This street network creates one-mile by one-mile districts that are in turn broken down into smaller sub-districts, providing a network of streets easily accessible by automobiles but unfriendly to pedestrians. There is adequate traffic capacity downtown on both the arterial and collector road networks to support the proposed ASU campus. Due to the width of the streets in this area, the excess capacity in the local street network could be converted to on-street parking and space for the planting of street trees.

A number of above-grade parking structures exist in the vicinity of the Central Business District and the sports venues. While there is a current surplus of parking capacity downtown, the Convention Center expansion and hotel projects will consume it. Until that time, it may be possible for ASU to use a portion of this excess capacity while additional parking is developed as needed. Some of the surface parking lots within the Central Avenue Corridor north of Van Buren could become sites for new infill construction while others may be retained for short-term parking.

Light rail transit, important to the future of downtown, is under construction. Light rail will be successful if the perimeter stations have park-and-ride facilities. In addition, more intensive development around light rail stops with housing, retail, services, and institutions will encourage ridership and reduce dependence on automobiles and subsequent parking. To take advantage of the full potential of light rail transit, the university should be located within a reasonable five-minute walk of the downtown stops of the light rail network. The Copper Square Flash bus routes can be modified to serve the collective downtown community.

The campus will be adjacent to ongoing public and private development projects

Sports District. The America West Arena expansion and proposed retail development, including expansion of office and retail space, improved customer amenities in the sports complex, and outdoor civic space, which addresses Patriots Square Park.

Convention Center expansion and Symphony Hall improvements. The expansion of the Convention Center and improvements to Symphony Hall will attract more out-of-town visitors to reinforce the retail, hotel, restaurant, and cultural offerings.
Warehouse District housing and commercial projects. The Warehouse District is still in its infancy but has vast potential to become a unique live-work neighborhood if sufficient investment is made in infrastructure, renovations, and infill construction. Its proximity to the sports venues, Central Business District, and government center will make it attractive for start-up companies, restaurants, shops, services, and residential uses.

Downtown housing. Downtown housing initiatives such as Orpheum Lofts, Artisan Village, and Portland Place II will contribute to a vibrant 24/7 environment. Several renovation projects will provide new purpose for under utilized buildings. New construction will provide needed infill development. The new housing will generate the need for additional retail, grocery, restaurants, schools, and services.

Schools. A new bioscience-themed high school is slated to open in 2006, north of Fillmore between 5th and 7th streets. The Phoenix Preparatory Academy will embrace an emphasis on science to build on its adjacency to TGen. These schools are critical to stabilizing the area and attracting residential development.

Retail development. Seven retail centers are proposed in the downtown area, ranging from large destination retail to small neighborhood services.

Arts District. The Phoenix Public Library is planned to nearly double in size to respond to the public demand for this civic service.

Architectural design should reflect the setting and climate of a desert city
Since most of downtown Phoenix was developed after 1960, buildings were air-conditioned and either imported architectural styles from around the country or reflected the popular styles of the period. Instead of utilizing traditional approaches to building in a desert setting, employing elements such as deep overhangs and porches, as well as operable windows to keep a building cool and allow cross ventilation, designers relied on mechanical means to combat the desert environment. Recent structures have begun to address the extreme climate in Phoenix. For example, the Phoenix Public Library includes fabric shade structures, copper screens, and louvers that control the amount of sun striking the surface of the building, all of which reduce heat gain. Bank One Ballpark uses operable panels and a retractable roof to enhance airflow and natural light at the appropriate time of day. The America West Arena has a new shade structure that creates a civic-scaled entrance while reducing solar gain. The Heard Museum courtyards provide a shady private area with water that naturally cools the space. Arcades use shady areas to walk and reduce the scale of the building.
As one of the critical elements of desert survival, shade can produce a 20-degree temperature difference from direct sunlight as well as protection from ultraviolet rays. Shade can be as simple as a cover allowing vertical air flow into the complexity of misters and thermal chimneys. Shade structures can be as intimate as shadows from a tree to grand structures that provide relief to large areas.

Shade also should be a key element in building orientation and design. Horizontal shading can protect glass and the exterior skin of a building on the south side. Vertical shading can protect structures from low-angle sun on the east, west, and north façades. Large-scale shade structures set over buildings can significantly reduce energy needs by reflecting heat away from the structure before it is absorbed and contributes to the heat island effect.

The sun can also be used to generate power. As photovoltaic technologies become more affordable and reliable, solar-generated power becomes more feasible. Solar cells can also be part of shade structures and roofs.

The site of the campus has considerable development potential

The area between the Central Business District and the Arts District is underdeveloped, leaving a gap in the continuity of the city fabric. This area has the potential to become a home to ASU, retail and services, businesses and commercial office space, artist and designer space, housing, recreation, and cultural venues, while maintaining access to light rail, the Central Business District, and other centers.
A New American University

Downtown Phoenix
Planning Principles and Concept Plan
Comprehensive Development Plan

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

Planning Principles

Revitalization
- Create an urban campus that is integral to Downtown Phoenix
- Locate unique academic programs that build strong connections with downtown partners
- Develop a mix of uses within the downtown framework that fosters a vibrant academic and social environment

Urban Design
- ASU should serve as a catalyst for development
- The space of the street must be the design focus
- The inclusion of pre-existing buildings is desirable
- Proximity matters
- Inclusion of progressive landscape thinking

Civic Space
- Programmed use along the perimeter of civic spaces
- Essential shade is the number one amenity in this climate
- District identity through elements at all scales
- Creative strategies for banking vacant lots

Community
- Creation of a campus identity that is an attraction to students
- The initial form of the campus must be strong/comprehensive
- Include amenities required to form a complete experience
- Adjacency of programs and housing is critical
- Awareness of integration of social strata/users of public space

Architecture
- Mixed-use buildings in all cases
- Ground floor accessible and programmed with public uses
- Employ sound environmental design principles
- Louvers, awnings, courtyards, operable windows, etc.

Transportation
- Leverage the massive public investment in light rail
- Narrow streets whenever feasible

Parking
- Reduce the appearance of the automobile
- Avoid above ground structured parking whenever possible
Downtown Phoenix

A New American University

Concept Diagram
Circulation and Transportation

The Arizona State University (ASU) Downtown Phoenix campus, which currently houses the College of Extended Education, is located in downtown Phoenix, bounded by 5th Street, E. Monroe, 7th Street, and E. Van Buren. Because of its central location in the region, Downtown Phoenix can be readily accessed by car or transit. It is served by several freeways and a grid system of arterials and collector roads, and is accessible by transit from most parts of the region.

Regional Conditions and Plans

Existing Conditions

The four ASU campuses are situated within Maricopa County, an area of 9,223 square miles and containing 24 incorporated cities and towns, five Indian 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 freeways, 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 are:

- A total of 57.5 miles of light rail transit (LRT).
- A regional bus plan known as a "super grid." The super grid 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.

**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, and 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.

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

**City of Phoenix Conditions and Plans**

**City of Phoenix General Plan**

The City of Phoenix General Plan provides comprehensive direction for the physical growth of the City. The Circulation element of the Plan stresses reducing congestion, which is growing faster than population, by integrating land use and transportation planning, promoting alternatives to driving alone, and decreasing the number and length of trips. Maintaining a reasonable level of automobile mobility will require a shift of 15 to 25 percent of automobile trips to transit.
Improvements or additions to the highway system will be limited (particularly in and around Downtown Phoenix). A specific goal of the Plan is to encourage greater use of transit to reduce congestion, increase the person carrying capacity of the transportation system, provide better transportation options for those who choose to or cannot drive, improve air quality and reduce energy consumption. The planned Light Rail Transit (LRT) system that will open in 2008 will enhance accessibility to the Downtown (as well as the Tempe Campus). Extensive improvements to bus services also are planned.

**Streets**

The regional highway system provides a high level of accessibility to the Downtown. The Downtown is at the core of an extensive regional freeway system that feeds into a loop encircling the Downtown (I-10/I-17). Several major arterials also traverse the Downtown (as well as provide connections to and from the freeway loop).

A key feature of the Downtown, reflecting the region as a whole, is the grid street system. This type of street network has major circulation advantages for traffic, transit and pedestrians, as well as for land use. Observations show that the grid system allows traffic to move efficiently even with concurrent events at all major Downtown venues. Within the grid system exists a hierarchy:

- **Arterials** include 7th, 1st and Central Avenues, and 7th Street in the north-south direction, and Van Buren, Washington and Jefferson Streets in the east-west direction.  
  Grand Avenue, that enters the north western corner of the Downtown, also is designated as an arterial.

- **Collectors** include 5th and 3rd Avenues, and 3rd and 5th Streets in the north-south direction, and Filmore Street in the east-west direction.

Several of the streets have four or more traffic lanes, and some are one-way. One-way streets include 5th, 3rd, 1st and Central Avenues, and 3rd and 5th Streets in the north-south direction, and Washington and Jefferson Streets in the east-west direction. In association with the Civic Plaza convention center expansion, 3rd and 5th Streets will be converted from one-way to two-way between Monroe Street and Jefferson Street. 3rd Street adjacent to the Civic Plaza will be closed for some events. The possibility of converting both streets to two-way for their entire length (from Roosevelt Street to Lincoln Street) is being studied (both streets were two-way in the past). While
improving the pedestrian environment of these streets, this change will reduce the capacity of these streets, and may divert traffic to other streets (3rd Street has HOV lane connections to I-10 and is heavily used for event ingress). However, 2020 traffic projections prepared for the LRT project (see below) show that a two-way street system would be adequate.

The four streets that will carry the LRT (1st and Central Avenues in the north-south direction, and Washington and Jefferson Streets in the east-west direction), are all one-way streets that will lose lanes to accommodate the LRT. This loss in traffic capacity is expected to divert some traffic to nearby parallel routes.

Downtown Phoenix is home to several major event venues, most notably the Bank One Ballpark and the America West Arena. Joint stadium events alone can bring over 80,000 people Downtown. Events attracting over 40,000 visitors are now relatively common. For this reason a comprehensive traffic management system plan has been developed (documented in the Phoenix Event Parking and Traffic Information System, Final Report, Dave Evans and Associates, Inc., January 1999).

A traffic analysis prepared for the LRT project (Central Phoenix/East Valley Light Rail Transit Project, Pre-Final Transportation and Traffic Analysis Results Report, Regional Public Transportation Authority April 30, 2002) assessed existing and future conditions at several key Downtown intersections. The analysis found that currently very few intersections experience excessive delays, with most functioning at level of service (LOS) D or better (an intersection operating at LOS A through D is considered to be operating at an acceptable condition).

Transit
Downtown Phoenix is at the center of the region’s current and planned transit system, providing a very viable alternative to driving for students and employees as well as providing convenient connections to the other three ASU campuses, which will be critical for students and staff traveling during the day.

The regional plan increases local and express bus services to the Downtown. A major bus transit terminal, located on the corner of Central Avenue and Van Buren Street, which also is the location of one of the future LRT stations in the Downtown, is adjacent to the planned campus. The DASH bus, a free shuttle within the Downtown, helps distribute passengers from the transit terminal.
Through the Downtown, the LRT will run on-street along 1st Avenue and Central Avenue, and Washington and Jefferson Streets (running in the same direction as the traffic on each of these streets). Along 1st and Central Avenues, stations will be located adjacent to the existing Transit Station (at Van Buren Street) and near Washington Street, and near 3rd Street along Washington and Jefferson Streets.

Parking
Parking will be a major challenge as the Downtown campus grows. Currently there are 2,880 spaces projected to be available for Phase I parking (Fall 2006) within property controlled by the university. Approximately 150 additional on-street parking spaces are also available adjacent to the campus. New parking will be developed as part of the 2008 campus expansion by the private sector with the exact number and location not yet determined.

At the Downtown Center (Mercado site), there are approximately 10 spaces within the property for drop-off and delivery purposes. 400 off-site parking spaces are currently leased from the city in two garages to meet Center demand.

Recent parking studies indicate that there are an estimated 30,000 or more spaces in parking structures in the Downtown with over 50 percent available on non-event days. However, (a) events (and often concurrent events) are becoming more common, and (b) demand will increase over time as the Downtown grows. It should be noted that many of the parking structures are privately owned and currently not available for public use. In addition, many of the numerous surface lots will also disappear over time.

To address long-term parking demands, the university must develop cost-effective ways of providing either parking locations or other transit alternatives. The location of both light rail stations and the Phoenix Central Bus Transfer Station within the campus make transit a viable option as the student population and need for access to the campus grows. A parking task force has been formed to look at remote parking, transit park-and-ride lots, bus circulators, and other approaches to meeting future demand.

The cost of parking will be another significant challenge for the Downtown campus. Currently the cost for parking is higher in the Downtown than the Tempe campus. The cost to the university in 2004-2005 for leased parking was $40 per month per space ($480 per year)—
over double charged for a decal at the Tempe campus with the university subsidizing the difference to keep the cost to the user equivalent to Tempe campus fees. Privately owned parking lots are also at least twice the current university parking rate.

Transportation Principles

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

- Provide parking to accommodate essential needs
- Maximize effectiveness of the Phase I light rail transit through complementary parking policies
- Support long-range regional rail and bus rapid transit plans
- Promote and offer incentives for using alternative modes
- Continue free unlimited transit pass

Transportation Recommendations

The following improvements are recommended for the Downtown Phoenix campus:

Streets

- Improve the streetscaping on the city streets that run through or border the campus.
- Maximize the amount of street parking for short-term or metered use.
- Work with the city to study the feasibility of replacing the continuous center turn lane on 7th Street with a landscaped median, and consider a pedestrian overpass to the community on the east side
- 7th Street runs along the eastern edge of the campus and has seven lanes and carries between 35,000 and 45,000 vehicles through the Downtown.
- With a direct connection to I-10 north of downtown, traffic volumes are anticipated to increase over time as changes are made to other streets within the Downtown (such as 3rd and 5th Streets).
- 7th Street is also a major access route for Bank One Ballpark and America West Arena events.
- While traffic demands appear to necessitate retaining three lanes in each direction, it may be feasible to replace the continuous center turn lane with a landscaped median.
- Widening the narrow sidewalks and/or adding streetscaping along the street would require additional right-of-way.
- Work with the city to study the fea-
sibility of reducing the number of lanes on 1st Street and 2nd Street from four to two.

- Support the city in converting 3rd and 5th Streets from one-way to two-way between Monroe Street and Jefferson Street (and ideally from Roosevelt Street to Lincoln Street).

- Both streets were two-way in the past, and 2020 traffic projections prepared for the LRT project show that a two-way street system would be adequate.

**Transit**

- Maximize effectiveness of the planned light rail transit (LRT) through complementing parking policies, and shuttles where needed.

- Provide strong, identifiable, and inviting pedestrian connections to all future Downtown LRT stations.

- Modify and expand the DASH shuttle to connect the campus to all major activities and centers in the Downtown.

- Continue unlimited access pass for students to use all transit services in the region.

**Parking and Trip Reduction**

- Provide a total of 4,000 parking spaces for the campus.

- 1,000 spaces for 3,500 resident students (approximately 0.3 spaces per student, or two-thirds of the current rate of the Tempe campus).

- Some of this parking could be provided in secured remote storage lots on the outskirts of the Downtown.

- 1,700 spaces for the 11,500 commuting students (approximately 0.15 spaces per student, or two-thirds of the current rate of the Tempe campus).

- 1,300 spaces for employees.

- These rates take into consideration:
  - The ready accessibility of the Downtown by transit, including light rail.

- The availability of long and short-term public parking in the Downtown.

- The willingness of ASU to implement aggressive travel demand management strategies to encourage use of alternative modes.

- The likely cost of parking permits given the high cost of providing parking in the Downtown.

- Promote and offer incentives for using alternative modes (preferential parking for car and vanpools, occasional parking vouchers for transit users, cyclists, and car/vanpoolers, etc.).

**Service Routes**

- Given the fact that the Downtown Phoenix campus is in an urban area with a strong network of streets and alleys, service and emergency access can be accommodated from the existing road network.
Use and Capacity

Spatial organization of ASU at the Downtown Phoenix campus

ASU at Downtown Phoenix has an existing campus bounded by Van Buren Street, Monroe Street, 7th Street, and 5th Street. This site was a former retail and office complex that was purchased and reused by the university in November 1999. While this site has established a presence for the university in downtown Phoenix, it is inadequate to support 15,000 students. A new site is needed.

The new campus is centered on the Central Avenue corridor, which will contain light rail. The new campus is co-developed by the university and the City of Phoenix and is conceived to contain a mix of civic, retail, housing, and academic spaces. A new central park is proposed bounded by the downtown Phoenix U.S. Post Office on Filmore Street, the Central Transit Station on Van Buren Street, Central Avenue, and 1st Avenue which will connect the north and south bound light rail lines, provide retail and service space, and become a space for gathering and recreation.

The urban campus is conceived as a vertical mix of uses with retail and service uses at the ground floor on major streets with academic, office, and residential space above. Parking is provided in underground or mid-block parking structures in limited quantities to encourage light rail use. The compact campus boundaries will focus the academic and administrative space needs with some residential uses. Adjacent parcels could be developed by the private sector as recreational, residential, and other support functions.
At build-out, the campus will accommodate the following projected programs:

<table>
<thead>
<tr>
<th>Program</th>
<th>Student Headcount</th>
<th>Gross Square Footage</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Nursing</td>
<td>1,500</td>
<td>142,000</td>
</tr>
<tr>
<td>School of Health Mgmt. and Policy</td>
<td>500</td>
<td>30,000</td>
</tr>
<tr>
<td>College of Public Programs</td>
<td>2,800</td>
<td>190,000</td>
</tr>
<tr>
<td>Cronkite School of Journalism/KAET</td>
<td>2,000</td>
<td>82,000</td>
</tr>
<tr>
<td>University College</td>
<td>8,200</td>
<td>532,000</td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td>126,000</td>
</tr>
<tr>
<td>Student Commons and Health Center</td>
<td></td>
<td>140,000</td>
</tr>
<tr>
<td>Fitness and Recreation</td>
<td></td>
<td>120,000</td>
</tr>
<tr>
<td>Residence Life</td>
<td>3,500 - 4,000 beds</td>
<td>1,250,000</td>
</tr>
<tr>
<td>TOTAL PROJECTIONS</td>
<td>15,000 Students</td>
<td>2.7 – 3.0M GSF</td>
</tr>
</tbody>
</table>

The first building to be developed by the University is 911 Central Avenue which will contain retail and student services on the ground floor with academic and administrative space above. Additional parcels will be developed as mixed use to accommodate the growing campus programs and population.
Comprehensive Development Plan

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

On-campus housing summary
With a projected student population of 15,000 students, the university would seek housing for 4,000 students near the core. Some of this housing may be developed within the campus boundaries or on adjacent parcels by the private sector.

Student life needs
Initially, most students will be commuters and will need support spaces such as food service, lounge spaces, lockers, banking services, etc. As the student population becomes more residential, additional support functions will be needed such as recreation, meeting space, expanded retail/grocery food service, etc. Some of these functions may be provided within the campus boundaries or could be developed on adjacent parcels by the private sector.

Integration with the surrounding community
One of the goals of the master plan is to maintain a clear sense of identity for the campus while retaining an inviting presence as an institutional citizen. One should understand when one is on or off campus but feel welcome. The edges should be defined yet 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.

By locating the campus near the Central Business District, city hall, county offices, state capital, convention center, criminal justice center, sports venues, historic and cultural sites, the proposed University programs can build strong partnerships with businesses and governmental agencies. The campus is seen as an integral part of the downtown fabric. If feasible, the university would advocate reuse and renovation of historic structures.
Implementation
Comprehensive Development Plan

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

Phasing

The full manifestation of ASU at the Downtown Phoenix campus is likely to take more than 10 years to achieve. The length of time is influenced by a number of factors:

- Challenges in putting together the necessary land
- Need to generate funds for the construction from varied sources
- Realities of moving existing academic programs without significant disruption
- Speed at which new academic entities, such as University College and the School of Global Health can be formed

Until a specific campus location is determined and greater specificity is developed concerning the design of the new academic units, phasing plans will be imprecise. But it is possible to outline the early thinking at ASU concerning the timetable, as well as to identify some of the elements that will influence it.

The 2005/2006 academic year will be, for the most part, a time of planning, with work at ASU on program design and requirements as well as working with the City of Phoenix on campus location and funding.

The first substantial manifestations of a new ASU presence in Phoenix are likely to occur in the 2006/2007 and 2007/2008 academic years. Existing graduate programs and specialized undergraduate programs in the College of Public Programs and College of Nursing will be the first candidates for moves. Facilities that are well designed but probably not part of the final campus location will need to be renovated or built in the previous year to accommodate these programs. ASU will need to create a limited academic support infrastructure in addition to the classroom, office, and lab facilities. While the private sector may begin to provide some student-related housing, it is not likely that significant ASU-controlled housing would be built in this time frame.

Provided funding is identified in adequate levels and property has been acquired with enough lead time for construction, a much larger presence is likely to begin to emerge at the location or locations selected for the campus. The existing and new undergraduate programs will begin to accept students specifically for this campus, and the current graduate programs will move in more significant proportions. In order to give the campus the
critical mass and distinctiveness needed to attract students and to provide a high quality education, major elements of the academic support infrastructure will need to be in place by the end of this period. They include library facilities, computer labs, student health support, and student recreation facilities. In addition, to create a vibrant campus, housing and commercial/dining elements will need to be built in this period.

The next phase of growth (academic years 2008/2009 to 2010/2011) should see the full implementation of all of the academic programs that will make up the Downtown Phoenix campus. The undergraduate programs in the College of Nursing, the College of Public Programs, the Walter Cronkite School of Journalism and Mass Communication, and University College will have full four-year cohorts, and the graduate programs in all of the colleges and schools should be fully located in Phoenix. Some of the programs, particularly the new units, will not have reached their mature levels of enrollment, however. The support infrastructure will need to be complete and housing for undergraduates and graduate students should exist in significant amounts through ASU projects and private commercial developments.

The mature levels of enrollments in all of the schools will develop in the following three to four years. Some campus construction will proceed at a reduced level. One might expect housing growth to continue as more Downtown Phoenix campus students are attracted to live at the campus and, with the completion of the light rail system, more Tempe campus students are attracted by the vitality of Phoenix’s urban core as a place to live that is within easy distance of their classes.
Although a single and unified institution, ASU is “One University in Many Places”, spatially distributed across metropolitan Phoenix.
Arizona State University at the Downtown Phoenix Campus
Landscape Architecture Design Guidelines

ASU at the Downtown Phoenix Campus: Urban Sonoran Oasis

Introduction
As the ASU Downtown Phoenix campus grows in downtown Phoenix, the design of great streets and public spaces is all important. Located in an urban setting, this campus faces the extremes of desert heat, city traffic and large expanses of hardscape. The outdoor spaces are crucial to the character, coherence and comfort of the campus. The renovation of existing parking lots and overly-wide streets will be encouraged and transformed into pocket parks, plazas and narrow streets with ample space for shaded linear streetscapes for people. The streetscapes and outdoor spaces will be the glue that helps to create the unique campus and the larger downtown Phoenix identity.

While people from around the country are drawn to Arizona for mild winters, the intense heat and glare of the spring and summer are brutal. Every aspect of the design must consider ways to mitigate the climate which can be uncomfortably bright and warm. The Sonoran Desert climate dictates that designers create ample shade, reduce glare and heat reflection, and choose appropriate materials for seating and amenities.

These guidelines set forth the basic considerations that must accompany future development on the ASU Downtown Phoenix Campus. They have been created to facilitate design on the campus that is cohesive, safe, easily-navigable and comfortable for all users. Therefore, designers shall address the following general guidelines, which apply to all aspects of the campus:

- Build on the urban lush Sonoran theme for the campus streetscapes.
- Create inner courtyards and pocket parks with a lush, oasis plant palette.
- Provide plenty of shade for outdoor areas, in the form of trees, vegetation, and shade structures.
- Consider sun exposure and orientation when selecting materials to reduce reflected heat, glare and hot metal surfaces.
- Create whenever possible a variety of gathering spaces, gardens and parks, with special emphasis on the microclimates created by buildings and solar orientation.
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I. Knit into Surroundings

The ASU campus at downtown Phoenix is positioned to be at the heart of the urban core and its location encourages interaction between students and the greater business community. To facilitate these virtual fluid boundaries, the campus landscape must be designed to integrate to the larger downtown surroundings as well. Design decisions should consider the nearby educational and cultural institutions as well as local commercial areas. Pedestrian connections will connect the campus to existing downtown features and the future light rail system requires the integration of transit stops into the campus fabric. In addition to this, the valley location offers a unique opportunity to invite the desert into the campus by opening up views to the surrounding mountains.

- Consult the street tree plan for the campus in these guidelines which has been designed to coordinate with the larger city surroundings.
- Follow the example of the street and parking configuration of Monroe and Adams streets and Second Avenue for what can be done to renovate First, Second, Taylor, and Polk streets.
- Create pedestrian connections to existing urban amenities such as Patriots’ Park, the Phoenix Art Museum, the Burton Barr Library, Margaret T. Hance Park, and Arizona Center.
- Integrate transit stops to welcome pedestrians from these locations into the campus.
- Create open space corridors to celebrate mountain views.

This picture of Adams Street shows the successful design of a narrowed street with integrated trees and parking.

This tree planting plan for the downtown campus shows the triangulated double rows of Palo Brea punctuated by palm groves at key locations that define the campus.
II. Regional Vernacular

While all design decisions on campus should consider ways to mitigate the harsh aspects of the desert climate, the Sonoran desert is also a place to be celebrated. The unique plant life and endless views make Phoenix a metropolitan area like no other. The character of the campus should promote this.

- Highlight items unique to Phoenix such as desert materials and plants.
- Allow existing landmark buildings to create a sense of place and do not block views with unnecessary clutter.
- Develop outdoor spaces that are comfortable and can be used year round.
- Create sustainable design strategies that distinguish downtown Phoenix from other metropolitan areas.

This map shows the importance of the two north/south couplets and east/west streets as gateways into downtown Phoenix.

shade from desert-adapted trees  solar power
III. Human Comfort of Body and Spirit

The biggest factor that influences design in the Sonoran Desert is climate modification for human comfort. The principles of the guidelines are further enhanced by directly making reference to the urban Sonoran oasis concept – a place for respite and shelter from the extremes of our desert setting. The successful enjoyment of the campus will be directly related to providing human comfort of both body and spirit in outdoor environs.

Shade is precious and every opportunity to provide it is welcomed on all of the ASU campuses. The urban Sonoran oasis character must provide environmental respite through the creation of accessible shade. The provision of shade should be developed in as many ways as possible – using tree canopies, fabric awnings, building portales and entry coverings, shadows cast by building masses and brise-soleil, etc. to name a few.

Walkways should be developed with generous adjacent planting areas to provide tree establishment, longevity of growth, and vitality. Emphasis should be placed on integrating groves and linear gardens of canopy trees into streetscapes, courtyards, patios, seating areas and other gathering places. Particular emphasis is placed on providing shade at gathering areas and transitions from interior to exterior spaces. Building entries and seating areas should be the primary focus for providing shade when new campus developments are considered.

- Consider a variety of ways to incorporate shade, from trees and other vegetation to fabric awnings and entry coverings. Shade from trees is preferred over shade from structures.
- Include ample planting areas next to walkways and paved areas to allow for the growth of a minimum of double triangulated rows of trees.
- Use structural soil troughs to aid in oxygenation to roots.
- Incorporate a variety of spaces for large gatherings, small work groups and intimate seating.
- Pay particular attention to building entries as these are important areas that often require extra shade to make the transition from inside to outside easier on pedestrians. These entry zones should accommodate inviting gathering, sitting and eating places.
- Specify comfortable furniture with a variety of options, moveable and fixed.
- Plant trees in groves in plazas and in linear triangulated allées along walkways.
- Take advantage of microclimates created by buildings to create shaded gardens.
- Use water features to provide sensory enjoyment and cooling respite.
- Activate gathering spaces with food, entertainment and public art installations.
Providing shade and amenities for pedestrian comfort is crucial to the success of outdoor spaces developed on the urban ASU Downtown Phoenix Campus.

- maintain parallel parking
- tree shaded walkways
- pocket parks
- arbor shaded walkways
Investigate shade in many forms to create comfortable gathering places.

Deep shade from formal rows of trees makes this walkway in the hot, arid climate of the Middle East comfortable for pedestrians.
IV. Sustainable Measures

The ASU Downtown Phoenix campus is a unique learning environment that provides a virtual urban design laboratory within its boundaries. One of the wonderful opportunities available in this setting is the development of sustainable measures for cities and urban spaces.

In the arid climate of the Sonoran Desert, water is precious. The landscape development guidelines include working models for rain-water harvesting on the campus. These models should investigate both low-tech and innovative methods, such as stormwater reuse, gray-water recycling and collection of air conditioner condensate for water features and irrigation systems. These can be as simple as manipulating paved surfaces to direct runoff to planters or as involved as collaborating with a design team to plan for a condensate collection system on new building construction. In addition, designers can implement proven practices to encourage vigorous tree growth, such as usual structural soil and creating ample planter space. Techniques like these will encourage healthy trees with long life spans, helping improve air quality and environmental quality for pedestrians. As a university, we have a unique challenge to showcase best practices and be a model for sustainable design.
Therefore:

- Investigate techniques for water harvesting, such as collecting condensate from HVAC systems, reusing rainwater runoff and recycling gray-water.
- Consider roof gardens and “living” walls of vines.
- Specify low water use plants. Refer to the appendix of Plant Materials in these guidelines for a list of desert-adapted plants.
- Specify low maintenance plants. Allow room on planting plans for plants to reach their mature size without extensive pruning.
- Use irrigation techniques known to save water, such as installing drip irrigation systems and watering in the early morning.
- Practice/develop techniques for improved tree growth, with use of structural soil and tree planting trenches near hardscape elements.
- Focus runoff towards planting and tree beds.
- Investigate incorporating solar power in buildings and landscapes.
- Use furnishings that have recycled and post-consumer recyclable materials.
- Use permeable paving.
- Locate shade trees to block the sun and provide natural cooling for buildings.
- Specify long-lived trees.
- Incorporate ample shade in parking lots to shade cars thereby reducing VOC emissions.
- Use recycled and recyclable materials.
- Specify material from local sources.

**solar power**

**Low water use plants**

**porous paving in parking lots**

**wall made of recycled concrete sidewalks**
Designers are encouraged to find more graceful ways than the above solution to let storm water enter the landscape, as seen below.

Retention as urban wildlife habitat

Stormwater enters ground through bubbler box in reinforced concrete pipe
V. Strong Campus Identity

Because the campus is located in downtown Phoenix, it is important to create a strong campus identity that helps students and visitors navigate the grounds. The goal is to identify the campus boundaries without making visitors feel they are not welcome. This campus will be a destination not just for academic purposes, but for cultural, civic and commercial activities, so the design elements that unify the campus must also be inviting and welcoming. This incorporates everything from gateway markers at pedestrian and vehicular entries to specific plant choices that help define a mall. ASU Signature banners, markers and signs, as well as enhanced and identifiable plantings, will emphasize the edges. Consistency of design choices across the campus will unify the grounds through materials, paving patterns and site amenities. The existing urban character and history of the campus, that of urban Sonoran oasis, will be maintained.

- Place identity markers at key intersections.
- Plan gateways at campus pedestrian entry points.
- Design consistency in plant material on major campus streets.
- Create consistency in hardscape materials throughout the campus for unity.
- Incorporate the selected site furnishings and lighting to match the rest of the campus.

Specialty paving can also be used to alert visitors that they are on the ASU downtown campus.
VI. Campus Places
Open spaces on the campus take a variety of forms. In this section, the guidelines address these spaces individually and provide design examples and sketches.

In addition, there is a hierarchy of gateways, entry points, and malls that will influence design factors. Not only must the form of the open space be considered, designers must also take into account the way in which users will access the space and how they will travel through it.

Comfortable seating tucked into a shady nook

Café area with moveable furniture

Central plaza with a water fountain focal point

With shade and lush vegetation, streetscapes almost become garden paths.
A. Pedestrian Streetscapes and Plazas

The streetscapes of the downtown campus will become the “malls” typical of other campuses. As the major passageways of the campus, these pedestrian streetscapes shall be broad with ample shading and plenty of places to sit and rest.

At the major intersections and at entries to major campus buildings are enlarged paved and garden areas we identify as plazas and nodes. Plazas and nodes serve the dual purposes of facilitating traffic flow and directional change, and providing gathering spaces. They are natural places for social activities and are the logical choice for amenities like fountains and kiosks. Design considerations should include paving and lighting that allow for easy wayfinding, and site furnishings that create comfortable spaces for gathering, resting, reading, studying, and formally assembling. Attention to placement of site furnishings, shade and accessibility is essential for this space to function. Fountains that demonstrate judicious use of water are encouraged in these nodes for the psychological cooling that the connections with water provide.

Nodes can provide visual cues for wayfinding and campus identity. These landmark spaces should be developed with public art, fountains, shade structures and planting.

Certain species of trees will be added to the streetscape to create more consistency and identification to each mall. This is especially important on the downtown campus because the University sits among the broader fabric of the urban core. Lush streetscapes of Palo Brea trees (Parkinsonia praecox) with punctuations of palms soften the concrete corridors of the downtown area and continue throughout the campus. This helps integrate the campus, further blurring the lines between academic institution and business district. Other species have been chosen to designate courtyards and oasis gardens on campus. This ceremonial hierarchy contributes to their recognition for wayfinding and importance. Paving and signage will encourage universal access and ease of wayfinding. Amenities shall be matched and grouped together in the formation of “outdoor rooms” to delineate and organize the space without prohibiting movement. When designing pedestrian pathways and streetscape:

- Refer to the tree species map for designated tree varieties on streets.
- Gather benches, lighting, signage and other site amenities to make them easily accessible without disrupting pedestrian traffic flows.
- Provide shaded seating at regular intervals

Existing Palo Brea trees downtown
• Incorporate different types of seating, such as tables with chairs, permanent benches and moveable seating, to allow for many types of uses. See the Site Furniture section of these guidelines for materials and finishes.
• Address the conflicting needs of users wishing to pass through the site uninterrupted and the desires of those coming to the plaza as a gathering space.
• Integrate directional kiosks and water features appropriate to the significance of the particular plaza.
• Integrate water harvesting runnels as part of the hardscape fabric of nodes and streetscapes of the downtown campus.
• See the Pedestrian Paving section for patterns and materials.

As focal points of the campus, plazas and nodes should be well shaded and comfortable for gathering. They are also ideal places for public art installations, water features and cafes.

Considered a very successful urban plaza, Greenacre Park in New York City incorporates moveable furniture, greenery, a water feature and food, all the elements known to draw visitors and keep them happy.
This plaza in downtown Phoenix uses a mesquite grove to provide much needed shade.

Alternatives for traffic calming and safe pedestrian crossings enriched paving at pedestrian crosswalk pedestrian speed table

Alternatives for traffic calming and safe pedestrian crossings
B. Campus Edges/Streetscape

Located in the heart of downtown Phoenix the campus has many miles of urban street frontage. The presentation of the campus along these streetscapes is very important to its identity as a special place in the urban fabric, and it should be inviting and accessible. A formalization of plantings and hardscape on the campus edges delineates the boundaries.

On the downtown Phoenix campus more than any other location, the design of the campus edges and streetscapes is crucial to the comfort and safety of pedestrians. Because of the urban location, streets have a big presence in the campus. The hard surfaces like concrete walks and asphalt roads, typical of any urban area, make downtown one of the hottest parts of the city, with a heat that lingers long after the sun has set. Introducing vegetation and exploring alternative materials will help mitigate the extreme heat and allow for year-round enjoyment of the outdoor spaces on campus.

Double rows of trees are proposed creating formal allées to shade the pedestrian and bicycle paths and form a strong but pleasant edge of the campus. The edges of the campus should signal the boundaries, while at the same time, welcoming visitors to explore. Modification of the pedestrian walkways on these edges will be a critical step in enhancing the campus. This will need to be closely coordinated with the City of Phoenix. The goal for the edge modification is to create tree-shaded, detached sidewalks; seating opportunities; and pedestrian safety. All bike lanes will be smooth concrete that further helps to define the paths and visually narrows the appearance of the street.

The detached pedestrian walks are separated from the travel lanes by a continuous planting bed along the curb edge. The planting bed must be sufficient in width to provide a viable medium for robust tree growth and longevity. Use of structural soil in these harsh urban conditions is encouraged to facilitate aeration of tree roots. Low, colorful plantings will entice visitors without impairing visual access to traffic and lush shrubs emphasize the urban Sonoran oasis.

- Create formal double rows of trees in a triangulated pattern on streetscapes to provide a maximum amount of shade to pedestrians and bicyclists.
- Designate detached sidewalks and allow for wide planters between sidewalks and traffic lanes. Minimum 8’ wide planters should be incorporated to encourage large, healthy trees.
- Specify structural soil where possible to provide adequate soil volume for tree root growth. This will not only encourage larger trees, it will also increase their lifespans.
- Provide for colorful, lush plantings that will not interfere with traffic visibility.
- Incorporate the University’s signature banners and lighting to celebrate edges.

![Conceptual sketch of Polk Street showing textured paving at crosswalks, enriched paving at parallel parking integrated with trees, detached sidewalks and plenty of shade, all of which make pedestrians safer and more comfortable on campus.](image-url)
1st Street before:
- no shade
- lack of vegetation
- wide expanse of asphalt adds heat and glare

1st Street after:
- double rows of street trees create dense shade
- low, colorful vegetation
- concrete parking bays and planted islands narrow the asphalt street, slowing traffic and mitigating heat

Taylor & Central before:
- no shade
- no clear crosswalk

Pedestrian crossing at Taylor & Central after:
- shade trees interspersed with existing palms for denser shade and continuation of Central Avenue planting scheme
- textured pavers alert motorists to pedestrian crossing and form the entry to the Taylor Street pedestrian plaza
- a campus marker, benches and a kiosk celebrate the campus entry
Second Street
This section of 2nd Street shows the formal palms, shade trees and detached walk that define this thoroughfare. Planters at regular intervals delineate the parallel parking lane and screen parked cars, while also visually narrowing the street for traffic control. Palms mitigate large, blank buildings and parking garages.

Taylor - vehicular
A narrowed Taylor Street creates a pleasant atmosphere for pedestrians with ample shade, canal, colorful planting, outdoor seating, and parallel parking on one side.
The above sections show how the combination of design features described in these guidelines fits into the existing street conditions. Detached sidewalks, shade for pedestrians, campus identity markers, safer bike lanes, lush planting and traffic-calming medians improve the streetscape on the busy urban streets through the ASU Downtown Phoenix campus.
Central Avenue should be invigorated and made more pleasant for pedestrians by:

- adding more shade trees and other forms of shade
- creating lively attractions like outdoor cafés
- using textured paving to emphasize pedestrian crossings
- adding vegetation for color, interest and cooling effect
- including University banners and signage on renovated and new campus buildings for a strong campus identity and ease of navigation

This illustration shows a detached sidewalk and bike lanes in a different paving material to make the street safer for pedestrians and bicyclists.
C. Civic Spaces/Lawns/Parks

There is very little existing turf in the downtown area which makes these lawns a precious commodity. Turf areas provide students and visitors with a cool, green place to relax and gather with friends. Because of the proximity of the campus to the bustling downtown business district, lawn areas at ASU have the potential to serve as community parks and vibrant civic spaces. A green space will not only act as a quad where students can throw a frisbee between classes, it will invite the local residents to gather for concerts on weekends, activating the civic space and drawing the community together.

Like most other big cities, downtown Phoenix could benefit from more open space, but unlike other cities, Phoenix has the space for it. Phoenix is not as densely packed as other urban centers like New York or Chicago, so there is room for generous spaces of green that are so important to city dwellers and visitors.

Lawn areas shall be kept relatively open, allowing for visual enjoyment as well as recreational and gathering space. One larger expanse of green provides more flexibility and enjoyment than many smaller ones, with the added advantage of being easier to maintain.

Therefore, when considering lawn areas on the downtown campus:

- Balance tree planting in lawn to create maximum usable space for gatherings and recreation.
- Trees should be generally located around the perimeter.
- Provide benches and seatwalls at lawn edges to take advantage of shade for seating.
- Avoid breaking up lawn areas with paving and numerous walkways.
A kids’ play fountain and outdoor game tables would welcome users and activate the civic space by attracting students, older citizens and families from nearby neighborhoods.
Concept plan of the civic space between Central Avenue and 1st Avenue that includes an open lawn, outdoor café, ball courts, water features, condensate storm water irrigation ponds and shade amenities designed to attract students as well as local residents, drawing the downtown community closer.

North aerial view of the proposed civic space
D. Downtown Taylor Canal
Water features are ideal amenities to activate pedestrian spaces. They invite interaction, mask city noise, create cooling microclimates and add pleasant sights and sounds to outdoor gathering areas. In the desert however, water is such a precious commodity that it should be incorporated into well-thought-out designs and used in ways that best celebrate its benefits.

In downtown Phoenix, the past and the future could come together in a condensate canal that marries cutting-edge technology with the city’s agricultural past. From the earliest Hohokam irrigation ditches to the present day canals, the residents of the Valley have always understood the importance of getting the most from the little water that flows through the area. Conceptual plans for the downtown area include a canal water feature that is fed on the air conditioner condensate and storm water run-off from new and existing buildings. This canal will link the community in a way that hasn’t been done before, providing all the benefits of a water feature to the urban core, while showcasing a new technology that uses water in a sustainable way. Condensate from air conditioners that would otherwise be funneled to the sewer, will be collected and featured in a flowing urban canal. Several downtown buildings along Taylor will contribute to this canal and it will flow for several blocks before culminating at the central civic space in a bio-sponge feature and reflecting pool that will irrigate the park.

Taylor before:
• overly wide street
• narrow walkway
• unsightly electric lines
• not enough shade

Taylor after:
• double triangulated street trees
• wide 12’ minimum pedestrian walkway
• integrated ‘canal’ detailing into hardscape carries stormwater and condensate to civic space bio ponds
• integrate signature ASU lighting, banners and furniture
• narrow street to 24’ width
The Phoenix area has a long history with irrigation canals. The map above shows the ancient hand-dug irrigation canals that still cross the city.

Now used strictly for water transport, the city’s canals were once places for recreation, where desert dwellers could interact with a little bit of precious water.

Examples from around the world of simple, but elegant ephemeral runnels of water.
This sketch shows how water runnels would feed into the canal, which runs along the pedestrian plaza on Taylor Street.

Example of a simple canal in an urban setting in London
E. Vehicular Gateways

Campus gateways are very important to visitors and motorists as visual indicators that they are entering the campus precinct. These thresholds to the campus shall be emphasized with unique markers/luminaries as well as low, simple sign walls that mark the campus corners and vehicular entries. Formal rows of drought tolerant trees will mark the transition from city street to urban campus. Special paving will indicate the entry points and plant massing will speak of the Sonoran oasis.

- Place campus markers and simple sign walls at vehicular entry points.
- Create formal alleés with desert-adapted trees to provide shade and provide a formal recognition of the campus threshold.
- Incorporate mass plantings of colorful desert shrubs to have a big impact on visitors passing through in a vehicle.
- Begin banners at furthermost points to lead in to campus.

Art should be integrated in many ways on the campus and important campus places, such as major intersections, are perfect places for monumental sculpture that doubles as a gateway.

Sign walls, campus markers and banners signal the importance of campus gateways.
F. Pedestrian Portals
Because the ASU campus is surrounded by urban development on all sides, there is a need to demarcate the pedestrian gateways and form a strong campus identity. These pedestrian portals should be welcoming and identifiable. Plant material at entry locations should be low and colorful to entice visitors and emphasize the urban Sonoran oasis. Entry points must mark a clear entry into the campus, and create a shady respite for meeting and gathering. Elements of the pedestrian portal shall include sizable ASU signature column markers and/or banners. These areas must be well lit, and free from clutter to allow for visual access into the campus as well as pedestrian entry.

- Position ASU signature column markers or banners at major pedestrian portals to create strong gateways.
- Provide shaded seating with well-spaced benches under triangulated dense shade tree planting.
- Refer to the Plant Species list for colorful, desert adapted plant choices.
- Organize newspaper racks in a system similar to the one in the photograph below to eliminate clutter at these important entries.

Sketch of a downtown campus entry point, showing the enhanced paving, lush planting and identity banners.

Proposed organization system to eliminate clutter at pedestrian entry points.
G. Bike Lanes and Bike Storage

The major design considerations for bike lanes are safety and climate modification. Bike storage areas will be divided into several types, including large areas for storage of 60 to 100 bikes, and smaller stations that hold 10 to 15. They should be convenient to bike paths and located close to building entrances. They will be well-lit and designed with appropriate screening, such as planting or green fencing, that helps blend them into the surrounding landscape without compromising the safety of users when locking up their bikes.

- Use low plantings around bike storage areas to blend them into the surroundings without blocking visual access.
- Incorporate lighting to illuminate bike storage racks.
- Position bike storage racks as close as possible to building entries.

Low vegetation around this existing bike storage on the West campus screens the bikes to passersby but doesn’t compromise safety.

These modern bike racks sit lightly in the plaza with a clean look.

Bike rack from Escofet

Bike racks from Madrax
H. Courtyards/Building Entries/Pedestrian Nodes

These are the spaces between the street edges and the entries to campus buildings. They are crucial to the success of the existing and new architecture on campus because it is also in these spaces that students and professors potentially gather, meet and socialize more informally before and after classes. Building courtyards, entries and patios play a major role in blurring the line between indoors and outdoors. In the desert, they serve as important transitions between the blazing heat and the cool darkness of the interior. They are perfect places for unique and specimen plants and often provide opportunities to use plants that thrive in the microclimates created by the buildings. These spaces shall be shady either with the aid of shade structures or groves of trees. Comfortable seating and trash receptacles are other elements to be included. Paving patterns here should indicate the importance of the building’s entrance.

- Design planting plans that emphasize the building’s entrance.
- Consider using unique specimen plantings in appropriate entry locations.
- Augment the building’s shade with trees or vegetative screening as needed.
- Position trash and ash receptacles close to building entrances.
- Include ample seating in the form of benches and seat walls.
- Design paving that leads visitors to building entrances.

Because building entries are such important transitional spaces on campus, many alternatives should be considered to incorporate shaded seating, interesting planting, and appropriate lighting.

Inner courtyard gardens and pocket parks will make the urban campus a much more comfortable and inviting place.
I. Water Features

Water in the desert southwest is scarce and its use for psychological cooling is important, however it must be done with restraint. Water’s soothing effect is needed on campus and it is recommended that water be present at major gathering areas on campus – where the masses can enjoy it. Fountains are also encouraged in small gathering areas and cooling microclimates of courtyards and outdoor rooms. All fountains’ mechanical systems to include high quality pumps and filters and these systems shall be designed by fountain mechanical engineers.

The designer is encouraged to be more open as to what a water feature can be in the Sonoran Desert. The campuses of ASU have a special opportunity to provide a living-laboratory of using waste water such as storm water and condensate in the urban landscape. There are a variety of sustainable water feature systems that can be developed on campus in addition to the traditional methods of using potable water for fountains. These include harvesting and re-use of storm water run-off, HVAC condensate, gray-water recycling and other resources. These resources can then be used in fountains and water features that not only provide enhancements of visual quality, sound quality, and cooling but create demonstration gardens that scrub the water of impurities, augment the landscape irrigation systems, and potentially recharge the local water table.

- Locate fountains at important campus locations where they will have the biggest impact.
- Use water features in courtyards and outdoor rooms where appropriate to create cooling microclimates for protected gathering spaces.
- Incorporate sustainable practices into water feature design by considering rainwater harvesting and reuse, collection of air conditioner condensate and gray-water recycling.
- Consider small or subdued, brimming fountains to provide a cooling, soothing effect while minimizing evaporation.
- Use high quality pumps and filters.

*This brimming fountain provides psychological cooling in a courtyard café at the Heard Museum in Phoenix.*
This design showcases irrigation as a water feature.

An elegant, brimming fountain minimizes evaporation.

Small fountains can be effective in small places.

This is a rainwater harvesting garden at The Biodesign Institute at ASU.

Irrigation seep provides the cooling effect as an ephemeral water source at the Biodesign Institute at ASU.
Two successful urban parks in New York, Paley Park and Greenacre Park, use water to mask unwanted city sounds and create pleasant seating areas.

This artful fountain in San Antonio combines a poetic interpretation of the river with judicious use of water to create a beautiful focal piece.

VII. Design Specifics
A. Coherent Wayfinding

Wayfinding provides campus visitors, faculty, students and staff the opportunity to recognize their location and easily navigate the campus. This is most often accomplished with signage and environmental graphic systems, focal point elements, paving systems, landscape themes and other visual cues to aid in recall. These arrangements allow people on campus the ability to associate key elements and environmental treatments specifically to certain areas of the campus.

- Follow the University’s accepted styles for all signage and identity markers.
- Locate navigational aids at all major pedestrian nodes, key intersections and campus entries.
- Create unique focal points such as fountains and sculpture at street intersections.
- Design street plantings to create defined, identifiable, unique streetscapes.
- Use banners, consistent hardscape treatment and site amenities that identify the campus.
B. Pedestrian Paving

Cost effective, non-reflective paving materials must be matched with aesthetically pleasing accents to identify primary circulation systems as opposed to secondary & tertiary walkways. A variety of alternatives in both pattern and finish are available to explore. Special consideration has been made to define a consistent surface treatment for providing a detectable surface for the visually impaired.

It is anticipated that a wide variety of materials, colors and finishes will be proposed for campus development in the future. One of the most important aspects to consider is the reflective quality of the paving surfaces. Glare from highly reflective pavements is uncomfortable and distracting. Surface finishes for concrete pavements should be matte finishes such as sandblasted, acid etched, broom-finish, or exposed aggregate (1/4” - 3/8” aggregates). All of these methods will reduce the reflectivity of the material, regardless of color.

- Incorporate surface finishes to reduce the glare from reflective, smooth paving.
- Design patterns that do not conflict with the pavement edge warning.
- Choose light integral color paving over darker colors to reduce heat absorption.
- Use permeable paving where possible to encourage drainage and aquifer recharge.
These photos show several elegant paving treatments that enrich the urban experience.
C. Comfortable Site Furniture

Great care and thought must be taken when selecting site furniture (seating, benches, tables, trash receptacles, etc.) for environments in the desert southwest. The intense heat and powerful solar rays are brutal on materials and their longevity, and no one wants to sit on an overheated metal bench in the summer. In addition, users can be destructive to the materials and elements selected, (through skating, boarding, biking, and general abuse). Site furniture should be simple and blend in to the landscape, so the furniture that has been selected is light, airy and visually simple. Plazas and gathering spaces should have plenty of shaded tables with moveable chairs so that users can make themselves comfortable for eating, studying, or visiting with friends.

Light benches were chosen to give a clean, contemporary look to the campus.

1. Benches
Vendor:  LandscapeForms

Product Data

- Benches are available backed or backless surface mount style or freestanding (should include wear-resistant non-marring glides).
- All metal is polyester powdercoat, a hard yet flexible finish to resist rusting, chipping, peeling and fading.
- Benches should meet BIFMA performance and safety standards.
- Optional seat divider is a contoured cast aluminum component that fits across the seat from back to front – to provide personal space and discourage sleepers and skateboarders
- Benches shown here have a minimum of 69% recycled content and are 100% recyclable.
- Landscape Forms’ Panguard II® Powdercoat finish contains no heavy metals, is HAPS-free and has extremely low VOCs.
2. Tables & Café Seating
Vendor: Landscape Forms, Carousel

Product Data

• Metal grid seats stay cool in the sun; dry quickly after rain
• 3, 4, 5 or 6 seat styles offered, 3-seat and 5-seat are spaced to allow one open seat for wheelchair accessible.
• Surface mount or freestanding with glides
• Metal grid or perforated metal seats; backed or backless
• Table tops may be Marneaux, Catena (powdercoated metal or random finish stainless steel), Steelhead (solid or perforated top), Fiberglass
• Tables can be selected with optional umbrella hole, which cannot be added later, and the built-in umbrella holder and mounting bolts for umbrella pole.
• Metal parts finished with Panguard II® powdercoat available in standard colors (Catena with stainless steel table top is not powdercoated.)
• Carousel table with grid seats has a recycled material content of 90% or higher and is 100% recyclable.
• Landscape Forms Panguard II (R)Powdercoat finish contains no heavy metals, is HAPS-free and has extremely low VOCs
3. Trash, Recycling, and Ash Receptacles

Vendor: LandscapeForms Petoskey Litter Receptacles

Product Data
- Receptacles can be freestanding or surface mount.
- They have a heavy, stable cast iron base and are perforated at the bottom for ventilation.
- All metal is finished with polyester powdercoat, a hard yet flexible finish that resists rusting, chipping, peeling and fading.
- Petoskey Litter Receptacle has a recycled material content of 86% or greater. The post consumer content is 56% or greater and the post industrial content is 30% or greater. The Petoskey Ash Urn has a recycled content of 90% or greater. The post consumer content of the ash is 59% or greater and the post industrial content is 31% or greater. Both styles are 100% recyclable.
- Landscape Forms Panguard II® Powdercoat finish contains no heavy metals, is HAPS-free and has extremely low VOCs.

Custom ASU
Trash Receptacle
45 gal. polyvinyl liner can perforated metal cylinder with powder-coated trim & cover in ASU maroon.
4. Lighting

The selection of site lighting must address safety and follow a consistent and logical family of fixtures, materials and aesthetics.

Vendor: Architectural Area Lighting
Model: ‘Largent’ for pedestrian mall lighting and parking lots

With the rise of Dark Sky ordinances throughout the US, AAL has created several product lines that meet the International Dark Sky Seal of Approval for IES Full-Cutoff luminaries.

Low voltage landscape lighting is encouraged
These are several examples of lighting that provides a lively, modern look that’s perfect for a contemporary urban campus.
5. Additional Site Amenities
Other pieces chosen for the campus should be clean, modern and exciting. When exact models are not specified, keep to the character described in these guidelines.

bollards

signage/banners

bus stops

markers
seating elements

water features

comfortable furniture

information kiosks

historical interpretation

historic markers
D. Safety

_CPTED_
The ASU campuses should always exhibit and ensure a safe and comfortable environment for all throughout the 24 hour day. In order to promote this goal, it is recommended that all developments on campus follow the rules and guidelines set forth in the Crime Prevention Through Environmental Design (CPTED) guidelines. CPTED guidelines follow the principle that “The proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime, and an improvement of the quality of life.”

There are three relevant overlapping CPTED strategies:

**Natural Surveillance**
A design concept directed primarily at keeping intruders easily observable. Promoted by features that maximize visibility of people, parking areas and building entrances: doors and windows that look out on to streets and parking areas; pedestrian-friendly sidewalks and streets; adequate nighttime lighting.

**Territorial Reinforcement**
Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. Promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, pavement designs, gateway treatments, and ‘CPTED” fences.

**Natural Access Control**
A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. Gained by designing streets, sidewalks, building entrances and neighborhood gateways to clearly indicate public routes and discouraging access to private areas with structural elements.

Designers and planners may reference the International CPTED organization website at [http://www.cpted.net](http://www.cpted.net)
E. Universal Access

All new and renovated constructions are required by law to adhere to the standards set forth in the Americans with Disabilities Act (As published in the Title III regulations (28 CFR Part 36, revised July 1, 1994) issued by the Department of Justice. The ADA Standards for Accessible Design).

More stringent standards than those established by ADA will be required for all new and renovation projects on ASU campuses. The standards proposed are to ensure universal accessibility to all users of all areas of the campuses. The standards proposed are as follows:

- All points of development for active exterior use shall be universally accessible (e.g., lawns, quads, walks, ramps, courtyards, patios, recreation fields, malls, and entryways)
- Any sloped walkways shall not exceed 5% and may not maintain a continuous slope for more than 30’ (thirty linear feet) without providing a 60” x 60” min. landing interval. The landing area may not exceed 1% slope in any direction.
- No walkway, ramp, or inclined access shall have a cross slope exceeding 2% maximum.
- All slopes 4% or greater shall have a minimum 5 foot landing for every 30’ of run.
- All slopes 5% or greater (not to exceed 12%) are considered ramps and shall have handrails that follow the ADA requirements.
- Reduce use of overly coarse textured paving surfaces.
- Stairs shall have uniform and comfortable riser to tread relationship.
- All pedestrian street interfaces should incorporate tactile paving and audible cross walk signal.
F. Planting

The downtown setting of the Phoenix campus presents additional challenges to plants because of the radiated heat, reflected sunlight and extensive hard surfaces that make up the urban area. Plants’ lives are usually shortened because of the harsh conditions, but designers can take steps to encourage better plant development and health. The most important consideration is initial placement of trees to avoid underground utilities and overhead power lines. The presence of these will affect the way the tree is treated in the future when utility lines need repair or the tree grows too tall and requires pruning. In addition, designers should take care to choose the appropriate plant species that is proven to do well in a given setting. Characteristics like the invasiveness of the roots and the tolerance to reflected heat and light are a bigger concern in a downtown setting than other locations.

Designers must also address growing conditions to ensure good health for plants and trees. Street trees in urban settings live an average of 7 years, whereas under better conditions they can live for decades. With careful design considerations, that 7-year average can be increased. Trees need sufficient planter spaces to have a fighting chance at growing healthy and large, and these planters should have adequate surface exposure for soil oxygen. Enhanced soil provides good drainage, aeration and nutrients for plant health, and the use of structural soil creates additional growing space under sidewalks and hard surfaces. Finally, trees and plants must have effective irrigation that will reach the roots as the plants grow. Ongoing maintenance must be a part of the overall plan for tree health if they are to provide shade and comfort for years to come.

The plant palette for the “Urban Sonoran Oasis” theme of this campus differs from the other campuses. A variety of desert-adapted trees and plants should be used, but on this campus designs can also take advantage of low water use trees that are not native to the Sonoran Desert. See the plant lists in the appendix for the suggested plant palette.

- Avoid utilities in root zone areas and power lines overhead.
- Create planters as large as possible to promote healthy trees.
- Use structural soil to increase the volume of growing medium available to tree roots.
- Enhance soil conditions for drainage, aeration and nutrition.
- Incorporate effective irrigation.
- Select plant species that are proven to survive in the given conditions.
- Recognize maintenance cost and procedures for the plants’ lifetimes.
- Use permeable paving where possible to help mitigate the heat island effect and increase stormwater permeability.

*Structural soil turns the unusable soil under hardscape surfaces into additional planter space, giving tree roots more room to grow.*
Desert Willow: accents

Date Palm: punctuated groves at intersection plazas

‘Phoenix’ Mesquite

Blue Palo Verde: street trees

Palo Brea: street trees

Sweet Acacia: courtyard plantings

Jacaranda: oasis/ courtyard plantings
## ASU Desert Plant list

### Trees:
- Acacia smallii
- Acacia stenophylla
- Acacia willardiana
- Bauhinia lunarioides
- Bauhinia macranthera
- Celtis reticulata
- Chilopsis linearis ‘Lucretia Hamilton’
- Chitalpa tashkinensis hybrid
- Olneya tesota
- Parkinsonia ‘Desert Museum’
- Parkinsonia microphyllum
- Parkinsonia praecox
- Phoenix dactylifera
- Pithecellobium flexicaule
- Populus fremontii
- Prosopis alba
- Prosopis chilensis
- Prosopis velutina
- Sophora secundiflora
- Vitex angus-castus
- Washingtonia filifera

### Shrubs:
- Podranea ricasoliana
- Clematis drummondii
- Mascagnia liliceana
- Mascagnia macrophylla
- Hedysarum leucopus
- Hesperaloe parviflora
- Opuntia spp.
- Pedilanthus macaropus

### Accents:
- Agave spp.
- Aloe spp.
- Asclepias subulata
- Bulbine frutescens
- Cereus spp.
- Euphorbia antisyphilitica
- Euphorbia biglandulosa
- Dasyliion longissimum
- Dasyliion wheeleri
- Ferocactus wiliizenii
- Foquiera splendidus
- Hesperaloe parviflora
- Opuntia spp.
- Pedilanthus macrocarpus

### Vines:
- Antigonon leptopus
- Argemone mexicana
- Asclepias curassavica
- Asclepias incarnata
- Asclepias tuberosa
- Bahia diffusa
- Berberis aquifolium
- Berberis darwinii
- Berberis fremontii
- Berberis julianae
- Berberis repens
- Berberis thunbergii
- Berberis x stenopetala
- Berberis vulgaris
- Berberis x buckleyi
- Berberis x stenopetala
- Bougainvillea glabra
- Bougainvillea spectabilis
- Bougainvillea x superba
- Bougainvillea x rheedii
- Bougainvillea x variabilis
- Bradyscome grandis
- Bradyscome pinnata
- Bradyscome rosea
- Bradyscome x grandis
- Bradyscome x pinnata
- Bradyscome x rosea
- Cardwellia retusa
- Cardwellia rheedii
- Cardwellia variabilis
- Cardwellia x grandis
- Cardwellia x pinnata
- Cardwellia x rosea
- Cardwellia x stenopetala
- Cardwellia x thunbergii
- Cardwellia x vulgata
- Castilleja linarioides
- Castilleja miniata
- Castilleja parviflora
- Castilleja pumila
- Castilleja x grandis
- Castilleja x pinnata
- Castilleja x rosea
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- Castilleja x thunbergii
## ASU Ornamental Garden Oasis Plant List

### (Courtyards, Oasis plantings)

#### Trees:
- Bauhinia congesta  
  Orchid Tree
- Bauhinia blakeana  
  Hong Kong Orchid
- Bauhinia purpurea  
  Purple Orchid
- Butia capitata  
  Pindo Palm
- Callistemon citrinus  
  Bottlebrush
- Callistemon viminalis  
  Weeping Bottlebrush
- Cercis canadensis  
  Redbud
- Citrus spp.  
  Citrus
- Chorisia speciosa  
  Kapok Tree
- Cupressus arizonica  
  Arizona Cypress
- Dalbergia sissoo  
  Indian Rosewood
- Ficus carica  
  Edible Fig
- Ficus nitida  
  Ficus sp.
- Ficus rubiginosa  
  Rustleaf Fig
- Fraxinus spp.  
  Ash Tree
- Jacaranda mimosifolia  
  Jacaranda
- Lagerstroemia indica  
  Crape Myrtle
- Laurus nobilis  
  Sweet Bay
- Olea europaea ‘Swan Hill’  
  Swan Hill Olive
- Phoenix canariensis  
  Canary Island Date Palm
- Phoenix dactylifera  
  Date Palm
- Pinus halepensis  
  Aleppo Pine
- Pistacia chinensis  
  Pistache Tree
- Pithoccellobium flexicaule  
  Texas Ebony
- Pyrus calleryana ‘Bradfordii’  
  Bradford Pear
- Quercus virginiana  
  Live Oak
- Sapinum sebiferum  
  Chinese Tallow
- Sophora japonica  
  Texas Mountain Laurel
- Tipuana Tipu  
  Tipu
- Ulmus parviflora  
  Evergreen Elm
- Vitex agnus castus  
  Chaste Tree
- Washingtonia filifera  
  California Fan Palm
- Washingtonia robusta  
  Mexican Fan Palm

#### Shrubs:
- Alysonyne hegelii ‘Monle’  
  Blue Hibiscus
- Asparagus densiflorus ‘Myers’  
  Foxtail Fern
- Aspidistra elatior  
  Cast Iron Plant
- Aucuba japonica  
  Aucuba
- Bambusa spp.  
  Bamboo species
- Callistemon citrinus ‘Little John’  
  Dwarf Bottlebrush
- Carissa sp.  
  Natal Plum
- Cercis mexicana  
  Mexican Redbud
- Clivia miniata  
  Flame Kaffir Lily
- Cocculus spp.  
  Rubber fig
- Cycas revoluta  
  Sago Palm
- Dodonea viscosa ‘Purpurea’  
  Purple Hop Bush
- Dodonea viscosa  
  Green Hop Bush
- Euonymous spp.  
  Japanese Aralia
- Fatsia japonica  
  Gaura
- Gaura lindheimeri ‘Siskiyou Pink’  
  Gaura
- Hibiscus rosa-sinensis  
  Hibiscus

#### Shrubs (cont’d.):
- Ilex vomitoria  
  Dwarf Yaupon Holly
- Jasminum nitida  
  Angel Wing Jasmine
- Jasminum sambac  
  Arabian Jasmine
- Jasminum sambac ‘Grand Duke’  
  Double Flowering Arabian Jasmine
- Justicia brandegeana  
  Shrimp Plant
- Justicia spicigera  
  Mexican Honeysuckle
- Lavandula spp.  
  Lavender
- Ligustrum japonicum  
  Japanese Waxleaf Privet
- Myrtus communis  
  Myrtle
- Myrtus communis ‘compacta’  
  Dwarf Myrtle
- Nandina domestica  
  Nandina
- Nerium oleander  
  Oleander
- Osmanthus fragrans  
  Sweet Osmanthus
- Pennisetum setaceum ‘rubrum’  
  Purple Fountain Grass
- Perovskia atriplicifolia  
  Russian Sage
- Photinia fraseri  
  Photinia
- Pittosporum tobira  
  Pittosporum
- Plumbago auriculata  
  Plumbago
- Podocarpus gracilis  
  Yew
- Punica granatum  
  Pomegranate
- Rosmarinus officinalis  
  Rosemary
- Raphiolepis spp.  
  Indian Laurel
- Russelia equisetiformis  
  Russelia
- Salvia spp.  
  Salvia
- Strelitzia reginae  
  Tropical Bird of Paradise
- Tecomaria capensis  
  Cape Honeysuckle
- Xylosma congestum  
  Xylosma

#### Perennials:
- Canna x generalis  
  Garden Canna
- Hemerocallis hybrids  
  Daylilies
- Echinacea purpurea  
  Coneflower
- Hymenoxys acaulis  
  Angelita Daisy
- Phlomis lanata  
  Jerusalem Sage
- Ratibida columnifera  
  Mexican Hat

#### Vines:
- Antigonon leptopus  
  Queens Wreath
- Bougainvillea spp.  
  Bougainvillea
- Campsis radicans  
  Trumpet Vine
- Feijoa sellowiana  
  Pineapple Guava
- Ficus pumilas  
  Creeping Fig
- Hardenbergia violaceae  
  Wine Lilac
- Hedera helix  
  English Ivy
- Macfadyena unguis-cati  
  Catclaw
- Parthenocissus quinquefolia  
  Boston Ivy
- Podranea ricasoliana  
  Pink Trumpet Vine
- Pyracantha spp.  
  Pyracantha
- Rosa banksiae  
  Lady Banks Rose
- Vigna caracalla  
  Snail Vine
## Groundcovers
- *Setcreasea pallida*  
- *Lantana camara ‘New Gold’*  
- *Lantana montevidensis*  
- *Lantana camara ‘Radiation’*  
- *Portulacaria afra*  
- *Ruellia brittoniana ‘Katie’*  
- *Weidelia trilobata*  
- *Vinca major*  
- *Zephyranthes candida*  

## Accents
- *Aloe spp.*  
- *Agave spp.*  
- *Chamaerops humilis*  
- *Cycas spp.*  
- *Equisetum hyemale*  
- *Philodendron x xanadu*  
- *Phoenix roebellini*  
- *Yucca aloifolia*  
- *Yucca recurvifolia*
The Comprehensive Development Plan Process: ASU at The Downtown Phoenix Campus

Please refer to the Arizona State University Comprehensive Development Plan ("master plan") process outlined in the introductory chapter of this report. The Downtown Phoenix campus plan was developed through a series of workshops, forums, and presentations in which ideas and approaches were discussed and debated. One of the challenges unique to planning for the Downtown campus was site selection. To explore possibilities ASU engaged four local architectural firms along with the ASG design team: Architekton; Will Bruder Architects, Ltd.; DeBartolo Architects Ltd.; and SmithGroup. In the spring of 2004, the five teams along with Ten Eyck Landscape Architects developed five different approaches to siting ASU’s Downtown campus.
Architektion:
Weaving the Campus and City

Unlike traditional university campuses that are internalized and experienced only by the academic population, the ASU Capitol Campus weaves a wonderful tapestry of academic, private, public, residential uses and spaces creating a superimposition of campus and city allowing the city population to move through the campus while allowing the campus to truly engage the city. The critical mass of the Capitol Campus is bound by Van Buren to the south, the Deck Park to the north, 1st Street to the east and 2nd Avenue to the west. Strategically, the campus buildings catalytically seed and bridge the under utilized zone between the cultural district north of Deck Park and the downtown business/sports/entertainment district south of Van Buren. The Campus will take advantage of the proposed light rail stations and proposed retail zones at both ends along with the variety of non- and under utilized properties along the Central/1st Avenue corridor.

The planning concept weaves a series of programmatic, infrastructural and environmental layers that create a distinct responsive texture that respectfully negotiates and connects most of the existing buildings within the campus district. The diverse inventory of existing buildings is critical to bridge the new campus with the existing city. The richness of the possible juxtapositions of new and old with appropriate urban landscape and public/semi-public spaces will begin to create a unique urban campus district.

The Downtown Phoenix campus distributes the four colleges, with distinct identity, primarily along the east side of Central Avenue and the west side of 1st Avenue. The colleges are composed of inter-related programs, including student housing, parking, faculty offices, classrooms and inner courtyard(s). The colleges collectively address the quads and auxiliary program spaces between Central and 1st Avenue. Building bridges, under road passages, narrow streets with parallel parking and plazas all work in concert to create a dynamic bridge north-south between downtown and the cultural district and weave businesses and neighborhoods on the east and west sides of the Central/1st Avenue corridor.
Will Bruder Architects, Ltd.

This proposal for ASU at the Downtown Phoenix campus master plan is intended to bond city and campus, generating an iconic civic place tailored to its desert setting. The scheme concentrates development on Central and 1st Avenues, forming a grand civic boulevard and campus quadrangle on the light rail transit line. The plaza is conceived as a tilted-plane oasis with a shady mesquite bosque and flowing water channels. This scale transition from north to south stretches from the Roosevelt split to downtown: from a lowered civic performance space, ‘tower of light and shadow’ observation beacon and visitor’s center; to street level at the Westward Ho and Post Office (redeveloped as student center); to an elevated sky plaza with city vistas to mountainscape beyond.

Economic viability is promoted by inclusion of parking (80% above grade), faced by commercial and academic program, with ‘crossover’ civic/campus elements such as the proposed performance venue and galleries. Most structures are intended to be vertically mixed use. Well formed urban street edges yield to transparent commercial first levels forming shaded arcades. This ‘soft tissue’ yields two diagonal cross-cuts, connecting paths, nodes, schools, and neighborhoods, enhancing economic and social activation of place. This provision for freedom of movement at street level is coupled with strong vertical circulation including broad stairs, inclined planes, and ‘cool basin’ light wells.

Phasing is envisioned to progress from north to south, creating a portal to campus and downtown. The proposal includes adaptive reuse and new construction, and allows for future growth that integrates outward to city fabric. Build out will meet full academic and support program, and include 3500-4000 student beds. The scheme locates university programs to foster lateral relationships: Nursing and Health Management to southeast (potential TGEN connection); Journalism/KAET to south (AZ Republic, media connections); public college to west/southwest (government agency proximity); University College in northern quadrant (public parks, libraries, and museums).

Campus planning precepts can foster district identity, as defined through appropriate climatic response to orientation, solar, and wind conditions. This will generate a layered quality of façades, with sifted light and shade, where one can discern compass direction by character of streetscape.

This suggests a cohesive, sustainable place; a dynamic fusion of urban university and civic landscape.
DeBartolo Architects Ltd: SHADE

The foundation of our proposal is a new layer of urban infrastructure that would reinvent the City of Phoenix skyline: a “shade” of photovoltaics that would provide the people of the city with a 15 acre “shaded park” in the heart of Phoenix. The efficient cable tensigritiy structure lofting 100’ above the ground on slender tapered columns would provide shade critical for shaping a new world class public space. The grand structure would generate physical and emotional energy from the same life-sustaining sun that provides much of the year-round attraction as well as the excessive heat to Arizona.

The proposed SHADE covers three city blocks including all perimeter streets with a total size of 560’ x 1200’ (672,000 SF). The crystalline silicone array will yield 11,000,000 kWh per year ($850,000/yr). Utilizing the most advanced photovoltaic technology (the process of converting sunlight into electricity via solar cells), this new landmark will create an innovative way for Phoenix to showcase “responsible” shade – absorbing the sun’s energy from the sky and providing shaded public space.

Strategically positioned between Filmore and Van Buren over Central Avenue, the SHADE would connect to the light rail transportation, incorporate rich native landscape, redefine the pedestrian experience, provide night lighting and security as well as create a civic heart for the university and the city.

The proposal promotes flexibility in the development of a “centralized” campus where the location of each college is blended into efficient and dense structures at the margins of the public space – creating a synergetic environment – where colleges benefit by their functional overlap. The commercial / academic / residential floor plate provides a total of 54,000 SF of usable space per floor. The program demand at each phase in the development of the downtown campus will drive the growth diagram and be modified as needs change. Parking is conceived in the core of each building - with a 37,500 SF footprint, the central ramp access would park 70 cars per floor (exceeding the 1/1000 ratio). The rooftop of the parking area would provide a garden for the residential units above. The proposed dense and centralized campus promotes efficient land utilization as well as a logical growth pattern responding to President Crow’s proposed timetable.

Design team
Jack DeBartolo Jr. FAIA
Jack DeBartolo 3 AIA
Christoph Kaiser
Aaron Taylor
Technical advisor: NREL, Nancy Carlisle
Structural advisor: rudow + berry inc.
SmithGroup:
One University in Many Places

This urban strategy represents a physical manifestation of President Michael Crow’s vision for ASU at the Downtown Phoenix campus, an aggressive and fluid entity that becomes:

- “A force and not only a place”
- College- and school-centric
- Socially, economically, intellectually, and physically embedded

Such a transformation will require bold and extraordinary shifts in contemporary paradigms. This concept demands highly specific insertion that, at once, is programmatically strategic, inhabits forgotten spaces (like the Westward Ho, and the First Baptist Church), “stretches” the city, and creates memory and legibility.

Fifteen thousand ASU students will soon inhabit Downtown Phoenix. The relationship between student, university, and city becomes most fertile when the three coexist and overlap. The ASU Downtown campus will comprise a “cluster array” with three legible districts that are embedded in their respective professional environments. These multiple insertions give the university “maximum edge” giving way to greater overall impact. Furthermore, the resultant energy that is created between these districts will impact further infill and development for downtown Phoenix. Each of the campus clusters will integrate vertical and mixed-use facilities with campus lawns, shaded gardens, tree-lined malls, and arcaded streetscapes.

Home to the new University College and 8,200 students, the “Northern Gateway” blends the formal campus with the existing urban condition, renovating and expanding the Westward Ho as its campus anchor and landmark. Bridging across Central and 1st Avenues, the Northern Gateway and light rail thread together a rich series of civic and student spaces and new academic facilities, including the library, student commons and health center, and a fitness and recreation center.

Nestled within and around the surrounding neighborhoods will be residential housing for up to 2,600 students.

Celebrating urban culture and media, the “Civic Armature” cluster seeks to embed itself in the urban environment by immediately inhabiting the First Baptist Church. A considerable “forgotten space,” the renovation and expansion of this historic landmark will serve as the seminal component of the Civic Armature cluster. This cluster will house 2,800 students in the College of Public Programs, 2,000 students from the Walter Cronkite School of Journalism and Mass Communications and KAET, with integrated residential space for 1,400 students.

The Phoenix Bioscience Center will be home to the College of Nursing and the School of Health Management and Policy. With the construction of TGen/IGC and future Arizona Biomedical Collaborative facilities, these programs will prosper from a pioneering relationship with science and healthcare that is on the cutting edge.
This strategy explored the possibility of locating the university near the Phoenix Central Library, the Roosevelt Arts District, and a planned transit stop to take advantage of overlapping initiatives in the area. In addition to the institutional overlap, this area had more available land to develop student/market rate housing, retail services, and recreational opportunities.

The proposed plan was developed with Central Avenue as the main spine with the mixed-use campus core located south of Roosevelt Avenue. The campus plan was developed around landscaped streets with arcaded buildings wrapped around courtyards which would provide a shaded and cool year-round environment. Market rate office, housing, retail, and recreational venues would be mixed with the academic and public uses.

**Ayers/Saint/Gross:**
**Art, Knowledge, and Home**

**Design team:**
Adam Gross, FAIA
Kevin King, AIA
Katie Poindexter
John Coplen
History of ASU at the Downtown Phoenix Campus

The history of the metropolitan Phoenix region can be traced thousands of years into the past, when the ancient Hohokam native peoples centered their civilization on the Salt River and dug canals that fed agricultural fields. At one point, Phoenix was known as the City of Gardens since many original canals were taken over and extended to provide water for agricultural uses and landscaping along streets. Before the advent of air-conditioning, buildings and the landscape were designed to provide shade.

In the nineteenth century, the valley was developed as a series of dense, compact centers. The environment was mostly rural and agricultural with a few hundred thousand inhabitants by the end of World War II. In response to the increasing population, streets were widened, which removed the small irrigation canals and the street trees downtown. And while the highway loop system provided easy access to downtown, it divided and diminished neighborhoods.

Phoenix developed a dense high-rise urban core similar to most large American cities, without differentiation for place or environment. Development outside the central core diluted the critical mass needed for a vibrant mixed-use city center, and competition from other centers in the valley drew demand away from downtown, leaving a relatively small commercial core. Now the region that originally was a rural agricultural-based series of villages in the desert is a sprawling polycentric metropolis.
ASU’s downtown Phoenix campus chronology:

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>Downtown Phoenix business leaders urged ASU President Russell Nelson to create a university presence in central Phoenix</td>
</tr>
<tr>
<td>1986</td>
<td>ASU Downtown Center opened on the former Phoenix Union High School campus</td>
</tr>
<tr>
<td>1987</td>
<td>Interactive Instructional Television receiver installed at ASU Downtown Center</td>
</tr>
<tr>
<td>1988</td>
<td>Prisk Report recommended that the College of Extended Education be established</td>
</tr>
<tr>
<td>1990</td>
<td>Arizona Board of Regents approved the establishment of the College of Extended Education/ASU Downtown Center moved to the Mercado, 5th Street and Monroe, July 27, 1990</td>
</tr>
<tr>
<td>1993</td>
<td>Bette DeGraw appointed dean of CEE, June 1, 1993/Developers of the Mercado defaulted on a loan to the lender, a consortium of union pension funds</td>
</tr>
<tr>
<td>1995</td>
<td>College of Extended Education established administrative site at the Downtown Center/Evening Degree Completion Program launched</td>
</tr>
<tr>
<td>1996</td>
<td>Winter Session initiated/ASU offered its first Web-delivered course</td>
</tr>
<tr>
<td>1997</td>
<td>ASUonline.asu.edu, a student interface for Web delivered instruction, launched</td>
</tr>
<tr>
<td>1998</td>
<td>Bachelor of Interdisciplinary Studies with Motorola and Intel launched</td>
</tr>
<tr>
<td>1999</td>
<td>Evening M.B.A. program initiated at Downtown Center</td>
</tr>
<tr>
<td>2000</td>
<td>B.I.S/B.A.S. in Mesa launched/ M.P.A. in Mesa launched/Court Interpreter program launched/First Downtown Center evening M.B.A. class graduated/ASU purchased Mercado property</td>
</tr>
<tr>
<td>2001</td>
<td>B.I.S. and M.P.A. programs at the City of Tempe location launched</td>
</tr>
<tr>
<td>2002</td>
<td>College assumes managerial responsibility for the downtown property/Renovations increase classroom space</td>
</tr>
<tr>
<td>2005</td>
<td>ASU occupies 58,000 square feet of the 120,000 square feet of the downtown property/ASU offers traditional and interdisciplinary undergraduate upper-division and graduate credit classes/ASU hosts professional and continuing education courses, free noontime lectures and community forums, serves as a meeting site for conferences and seminars</td>
</tr>
</tbody>
</table>

ASU Partnerships
- Joint Urban Design Program
- Urban Data Center
- Advanced Public Executive Program
- Office of Youth Preparation
- Arizona Prevention Resource Center

Community Presence
- Phoenix Community Alliance
- Downtown Phoenix Partnership
- Arizona Supreme Court Judicial Education Center
- Pinnacle West Learning Center
- Copper Square Ambassadors
- Center for the Future of Arizona

Source: http://www.asu.edu/xed/images/history/pdf
Plan

Desert City Models
The arrangement of sun, shade, and water tempers the extreme weather and allows for an integration of indoor and outdoor living environments in traditional desert cities. They are compact, with interconnected narrow streets and courtyards linked with arcades and shade structures. Open spaces are a combination of shady and sunny environments to address cooler winters and hot dry summers. Building height is carefully modulated to provide sun in the winter and shade when desired. Building massing typically is thin to allow for air flow and daylight. Buildings form courtyards and streets which contain greenery and small scale fountains.

Campus Precedents
The best urban campuses are embedded in their communities, and the communities are embedded in the campuses. They range from dispersed models (Savannah College of Art and Design) to compact campuses (George Washington University) to vertical campuses (Baruch College). Each model has advantages and disadvantages and all are products of their unique environments.

Dispersed campuses frequently reflect the accommodation of space requirements within an established city or neighborhood, which results in the reuse of buildings. Many times this investment by the institution spurs revitalization of districts and stabilization of neighborhoods. However, if the campus becomes too dispersed, it is difficult to create an institutional sense of identity or critical mass. As a result, dispersed campuses tend to develop a core around a specific place, as New York University does with Greenwich Village. Outside this core, specialized or professional schools can be somewhat autonomous.

Compact campuses develop around the district where most of the institution’s functions are. These campuses may not have distinct edges and are, therefore,
loosely defined as a member of the larger community with a strong center. These campuses function in many ways as traditional campuses with a strong pedestrian emphasis, integrated living and learning, adjacent recreation and entertainment. Compact campuses need a critical mass of relatively adjacent property.

Vertical campuses are a result of extremely high land costs. Building above and below grade maximizes the quantity of square footage. These campuses frequently combine mixed uses vertically, blending recreation, parking, administrative space, academic space, student services, and residential life. These structures require careful programming and design for efficient transportation within the facility. Professional schools, research, and offices often work well in this building type.

Dispersed

University of Pennsylvania, New York, New York
Savannah College Art and Design, Savannah, Georgia

**Vertical**
Northwestern University, Downtown Chicago, Chicago, Illinois
Baruch College, New York, New York

**Compact**
George Washington University, Washington, DC
University of Maryland Baltimore, Baltimore, Maryland
University of California, Los Angeles (UCLA), Los Angeles, California
University of Pennsylvania, Philadelphia, PA

These campuses are superimposed on downtown Phoenix to illustrate the impact of the different planning models.
ARIZONA STATE UNIVERSITY
CAPITAL CENTER CAMPUS
SPACE NEEDS ANALYSIS

In support of
Comprehensive Facilities Master Planning

August 2004
Prepared by
PAULIEN & ASSOCIATES, INC.
Denver, CO

John R. Bengston, Vice President and Principal
Frank Markley, Ph.D., Associate

In cooperation with
Ayers/Saint/Gross Architects
Baltimore, MD

Adam Gross, Principal
Kevin King, Senior Associate
Chris Rice, Associate

Acknowledgements to
ARIZONA STATE UNIVERSITY

Central Administration
Michael Crow, President
Milton Glick, Executive Vice President and Provost
Steve Nielsen, Director of Campus Physical Planning
Rich Stanley, Senior Vice President and University Planner

Capital Center Campus
Bette DeGraw, Dean for the College of Extended Education
Cathie Fox, Director
# Space Needs Analysis

In support of
Comprehensive Facilities Master Planning
for
Arizona State University

Prepared by
Paulien & Associates, Inc.

July 2004

## Executive Summary

- Purpose
- Uniqueness of the Capital Center Campus
- Key Space Determinants
- Space Needs Planning
- Conclusion

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  - Faculty and Staff Assumptions (15,000 Headcount Students)
  - Research Assumptions (15,000 Student Headcount Level)
  - Facilities Assumptions
- Existing Facilities at the Capital Center Campus

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- Process
- Guideline Assumptions and Application

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- Teaching Laboratory Analysis
- Open Laboratory Analysis
- Research Laboratory Analysis
- Office Space Analysis
- Fitness and Recreation Space Analysis
- Athletic Space Needs
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- Physical Plant Analysis
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- Student Union Space Analysis
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- Health Care Facilities
- Other Space
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SPACE NEEDS ANALYSIS

In support of
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EXECUTIVE SUMMARY

PURPOSE
Arizona State University is striving to re-conceptualize itself as a comprehensive metropolitan research university that offers the combination of academic excellence and a firm commitment to its social, economic, cultural, and environmental setting. To that end, the institution has embarked on a comprehensive planning process that includes physical planning at each of its four campus locations. The space needs analysis, contracted to Paulien & Associates, Inc. of Denver, Colorado, is part of the overall campus planning effort. The space master plan looks from the inside out and translates the academic mission of each campus into space, using several enrollment scenarios. The Capital Center Campus is the focus of this report.

UNIQUENESS OF THE CAPITAL CENTER CAMPUS
Unlike the other ASU campuses which have established programs, student life, library, and recreation facilities, the existing Downtown campus is only a small fraction of what is envisioned for the future of the campus. The relocation and creation of several new schools and colleges and the creation of a state-of-the-art Digital Commons/Information Center (not a traditional library) dramatically exceeds the current amount of assignable space. As a result, the amount of existing space and the space generated by the guideline analysis at the base year are not portrayed in this document. The consultant also assumed that the existing downtown location site would not be a part of the new campus in the future. The three structures north of East Van Buren Street and the adjacent Arizona Biomedical Collaborative were not part of this analysis.

KEY SPACE DETERMINANTS
As part of the comprehensive realignment of enrollments between the four campuses, three iterations of space needs were used to project enrollment and program growth. Initially, enrollment horizons included 7,000, 14,000 and 18,000 headcount students. In March 2004, the consultant was provided with additional information to generate a space needs analysis with 15,000 student headcount, by proposed school and college, as the target enrollment goal. The time period for reaching these enrollment levels was not a factor in this analysis. This report provides detailed examination for each of the enrollment horizon levels but focuses on the 15,000 student enrollment level since it provides the greatest amount of detail. Space needs for Horizons A through C are located in Appendix A of this report. Built into the enrollment numbers is the assumption of not only increasing the student population from its current level but adding additional degrees and programs, a process that is already beginning at the ASU-Capital Center Campus.
SPACE NEEDS PLANNING

The Arizona Board of Regents (ABOR) as well as other national guidelines appropriate to the envisioned ASU-Capital Center Campus mission and pedagogy was used to quantify space needs. Horizon enrollments A through C and the 15,000 student headcount enrollment were generated in relation to existing spaces, mostly in programs currently located on the Tempe Campus (i.e., Nursing, Public Programs) using Fall 2002 as the baseline. The guidelines were applied using key space determinants of the target enrollment mix, faculty and staff assumptions. Research space was generated using the number of tenured/tenure track faculty as well as the proposed level of research expenditures.

The space needs analysis was performed by classifying space categories into three areas: Academic Space that includes classrooms, laboratories, academic offices, fitness and recreation, other academic space; Academic Support Space that includes administrative offices, assembly and exhibit, information Center, and physical plant space; and Auxiliary Space that includes categories such as student union and health care facilities. Residence life space is reported separately. The guideline ASF was calculated for each of the following proposed schools and colleges:

- The College of Nursing;
- Public College, which includes the School of Public Affairs, the School of Community Development and Service, the School of Social Work, and the Morrison Institute for Public Policy;
- KEAT (Channel 8) Public Broadcasting television station;
- The Walter Cronkite School of Journalism and Mass Communication with facilities contiguous with KAET;
- The School of Health Management and Policy; and
- The University College, which will include the School of Interdisciplinary Studies, the Community College Alliance, and the Extended Education programs. The latter will sponsor or offer courses in education, business and communications.

In the Academic Space classification categories at the 15,000 student enrollment level, the guideline generated 636,095 ASF. The largest needs for space were in the areas of Academic Offices & Service and Classroom & Service categories. University College, with the largest proposed student base and number of programs, accounted for approximately 40% of the academic space. The Fitness & Recreation space is assumed to be a shared campus resource among each of the schools and colleges.

### ASU-Capital Center Campus Space Needs Analysis

<table>
<thead>
<tr>
<th>Space Category</th>
<th>Nursing</th>
<th>Global Health</th>
<th>Public College</th>
<th>Journalism</th>
<th>University College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom &amp; Service</td>
<td>7,350</td>
<td>1,643</td>
<td>26,180</td>
<td>14,300</td>
<td>73,639</td>
<td>139,090</td>
</tr>
<tr>
<td>Teaching Laboratories &amp; Service</td>
<td>19,657</td>
<td>1,800</td>
<td>11,121</td>
<td>6,500</td>
<td>55,895</td>
<td>95,557</td>
</tr>
<tr>
<td>Open Laboratories &amp; Service</td>
<td>1,734</td>
<td>570</td>
<td>4,046</td>
<td>2,210</td>
<td>11,849</td>
<td>20,409</td>
</tr>
<tr>
<td>Research Laboratories &amp; Service</td>
<td>20,287</td>
<td>5,959</td>
<td>22,044</td>
<td>750</td>
<td>17,425</td>
<td>66,465</td>
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<tr>
<td>Academic Offices &amp; Service</td>
<td>33,290</td>
<td>7,290</td>
<td>37,165</td>
<td>16,560</td>
<td>72,985</td>
<td>189,162</td>
</tr>
<tr>
<td>Fitness &amp; Recreation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>85,000</td>
</tr>
<tr>
<td>Other Academic Space</td>
<td>3,060</td>
<td>684</td>
<td>7,140</td>
<td>3,900</td>
<td>20,910</td>
<td>40,412</td>
</tr>
<tr>
<td><strong>Academic Space Subtotal</strong></td>
<td>85,378</td>
<td>17,946</td>
<td>107,696</td>
<td>44,220</td>
<td>252,703</td>
<td>636,095</td>
</tr>
</tbody>
</table>

ASF = Assignable Square Feet
Within the academic support space category, ASU-Capital Center Campus space needs analysis generated a need for approximately 314,000 ASF. Each space type under the Academic Support Space classification shows the affect of enrollment and staff projections for each college. The largest amount of space in this category is in the Digital Commons/Information Center category, where it was estimated that the campus would need a Digital Commons/Information Center to house a collection of approximately 364,000 volumes. Similar to the fitness/recreation space, the Digital Commons/Information Center was considered a campuswide resource and was not designated to any one school or college.

### ASU-Capital Center Campus Space Needs Analysis

<table>
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<th>Journalism</th>
<th>University College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Office &amp; Service</td>
<td>5,100</td>
<td>1,625</td>
<td>11,900</td>
<td>6,500</td>
<td>34,850</td>
<td>59,975</td>
</tr>
<tr>
<td>Digital Commons/Information Center</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>106,317</td>
</tr>
<tr>
<td>Assembly &amp; Exhibit</td>
<td>3,000</td>
<td>0</td>
<td>3,000</td>
<td>1,500</td>
<td>56,920</td>
<td>64,420</td>
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<tr>
<td>Physical Plant</td>
<td>5,731</td>
<td>1,213</td>
<td>7,641</td>
<td>3,289</td>
<td>21,505</td>
<td>59,425</td>
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<tr>
<td>Other Administrative Space</td>
<td>2,040</td>
<td>650</td>
<td>4,760</td>
<td>2,600</td>
<td>13,940</td>
<td>24,045</td>
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<tr>
<td><strong>Academic Support Space Subtotal</strong></td>
<td><strong>15,871</strong></td>
<td><strong>3,488</strong></td>
<td><strong>27,301</strong></td>
<td><strong>13,889</strong></td>
<td><strong>127,215</strong></td>
<td><strong>314,182</strong></td>
</tr>
</tbody>
</table>

ASF = Assignable Square Feet

The Assembly and Exhibit category generated a sizable need, as there is no existing theater facility on the campus. Physical Plant and Other Administrative Space categories are reactions to the overall space quantities in other areas and will need to be considered as new construction occurs. As a note of perspective, the current ASU-Capital Center Campus was operating with a total of 55 ASF of space in the academic support space category, based on the Fall 2002 facilities inventory.

The guidelines applied to Student Union and Health Care Facilities space at the master plan level in the Auxiliary Space Category produced a sizable need of 99,559 ASF for the Capital Center Campus. At the current time, this downtown campus does not have a student union or health care facility. In addition, KEAT Channel 8 PBS television station was provided with 30,000 ASF of space. At the time of this report, the station occupies 27,237 ASF of space in Stauffer Communication buildings A and B on the Tempe campus and the Community Services Building. Since the consultant is not familiar with the space needs of the station, a more detailed space needs analysis at the program level should be completed prior to relocation.
The large amount of student union space will be needed in conjunction with long-term enrollment growth, especially as the campus shifts to more of a residential student population. In addition, the campus size will require the addition of health care facilities in the near future.

The space need in the Residence Life category is based on the master planning goals of adding a total of 3,675 beds and new dining facilities to the campus at the 15,000 student headcount goal.

A total of 2,035,336 assignable square feet of academic, academic support, auxiliary, and residence life space on campus will be needed as enrollments approach the 15,000 student headcount level. As a base of comparison, the ASU-Capital Center Campus will need more than 20 times as much space as currently exists at the Mercado campus location.

The guidelines applied in this space master plan model would suggest that, in total, approximately two million square feet of assignable space will be required to accurately meet the proposed academic mission and 15,000 student enrollment goals of this emerging campus. Sub-classifications of outside organization space (52,785 ASF) presently held by ASU-Capital Center Campus and the space occupied by ASU programs at the Mercado site are not factored into this analysis.

**CONCLUSION**

ASU-Capital Center Campus is focused on creating inter-disciplinary undergraduate, professional education, and research programs as well as high-quality, life-long learning options. The vision for an expanded campus in downtown Phoenix is based on the *One University In Many Places – Transitional Design to Twenty-First Century Excellence* White Paper, as published from the Office of the President. Such widespread changes will require that the space master plan be a dynamic document, closely aligned with the academic mission and aspirations of ASU and the numerous downtown business and government partners. This plan expresses the commitment of ASU to provide the facilities needed to enhance the comprehensive educational needs of its students and to support the social, economic, and cultural responsibilities within the Phoenix metropolitan region. The space master plan provides ASU with a vision for a new campus that will assist in achieving the gold standard of the New American University.
INTRODUCTION

Paulien & Associates, Inc. was contracted as part of the comprehensive master plan team, to examine the space needs at Arizona State University at each of their four campus locations. These locations included the Tempe campus (formerly known as the Main Campus), ASU-West campus, the Polytechnic Campus (formerly called the East Campus), and the Capital Center Campus in downtown Phoenix. This report focuses solely on ASU’s Capital Center Campus, looking both programmatically and conceptually as the campus begins to develop. The other campuses are included under separate report titles and dates. This study is being conducted as part of a comprehensive campus facility master planning effort headed by Ayers/Saint/Gross Architects from Baltimore. The major responsibility of Paulien & Associates, Inc. was to:

- apply appropriate space guidelines to determine future space needs; and
- relate projected space needs into future facilities for each of the schools and colleges preparing to relocate to the campus.

Originally, space guidelines were generated for three planning horizons. Horizons A through C included enrollments of 7,000, 14,000 and 18,000 headcount students respectively. The final analysis, with the most accurate planning assumptions, generated space for a campus of 15,000 headcount students. The study was conducted using Fall 2002 as the base year.

Paulien & Associates was provided with facilities, enrollment, course, staffing, and research data by the Arizona State University. Initial meetings were held with the Dean of Extended Education and the Director of the ASU-Capital Center and Property Administration. The initial meetings were conducted on the Capital Center Campus to become familiar with the unique needs of the few academic and administrative units in that location. In addition, visits were made to various spaces on the campus to gain familiarity with the facilities. The consultant worked extensively with the Director of Campus Physical Planning and the Senior Vice President and University Planner, both at the Tempe campus, as the study progressed.

At the time of this study, the ASU-Capital Center Campus was home to the College of Extended Education, the Advanced Public Executive Program, the ASU Office of Youth Preparation, and several partners. Located in downtown Phoenix, the College provides a wide array of undergraduate, graduate, professional, and certificate programs. The programs are focused on providing working adults with flexible schedules and delivery technologies through a large network of off-campus sites. The campus maintains a close relationship with schools and colleges on the Tempe campus, delivering courses at other campuses thorough distance technology. Recently, new programs and locations have been envisioned for ASU-Capital Center Campus that will allow enrollments to increase steadily over the planning period.

The ASU-Capital Center Campus consists of five buildings (designated A-F) between 5th Street and 7th Street in downtown Phoenix, within the Cooper Square district. The site is also adjacent to the Arizona Biomedical Collaborative. The downtown location includes primarily classrooms, teaching laboratories, and offices for various administrative functions. It is anticipated that campus growth will require additional land and significantly larger facilities in the downtown Phoenix area and the present site will be sold or used for other purposes.

Under the leadership of President Michael Crow, ASU-Capital Center Campus is anticipating an exciting future. In November 2002, President Crow outlined a new model for ASU in the 21st Century. His inaugural address, entitled A New American University: The New Gold Standard, set the stage for an expanded campus in downtown Phoenix. In April 2004, additional information was made available in a White Paper entitled One University in Many Places, Transitional Design to
Twenty-First Century Excellence. The object of the paper is the re-conceptualization of ASU based on the University Design Team Report. The Report includes the projected number of students and various academic programs that could be located to the Capital Center Campus over the planning period.

Programs designated for the Capital Center Campus in downtown Phoenix at the time of this study included:

- The College of Nursing;
- A redesigned Public College (formally the College of Public Programs). The new College will include the School of Public Affairs, the School of Community Development and Service, the School of Social Work, and the Morrison Institute for Public Policy;
- The KEAT (Channel 8) Public Broadcasting Service (PBS) television station;
- The Walter Cronkite School of Journalism and Mass Communication;
- The School of Health Management and Policy;
- The University College, which will include the School of Interdisciplinary Studies, the Community College Alliance, and the Extended Education programs. The latter will sponsor or offer courses in education, business and communications; and
- Several colleges and schools on the Tempe campus will expand their programs to the Capital Center Campus. These include the College of Architecture and Environmental Design, and the Herberger College of Fine Arts.

Since this campus was in the conceptualization phase, detailed enrollment, staffing and research expenditure data at the school and college level was not available for Horizons A through C. As a result, the consultant maintained a campuswide approach to the space needs analysis for these enrollment horizons. As the vision for the downtown campus solidified, enrollment assumptions were provided to the consultant for each school and college, with a total student population of 15,000 students. These assumptions form the basis of this report.

There are three sections in this report along with the Executive Summary. Section 1 describes enrollment, staffing, research expenditure, and facilities assumptions. Section 2 is an analysis of each space type that includes a description of the space type as well as a description of the guideline(s) applied for that space type, and Section 3 is an analysis of peer institutions comparable to ASU-Capital Center Campus concepts.
FUTURE ASSUMPTIONS

ENROLLMENT ASSUMPTIONS (15,000 HEADCOUNT STUDENTS)
The initial enrollment assumptions are illustrated in Appendix A of this report. These included headcount enrollments of 7,000, 14,000 and 18,000 students. In March 2004, it was decided by ASU administration to add another enrollment scenario. This included a phased approach with more detailed planning for each of the new programs scheduled for the ASU-Capital Center Campus. The existing College of Extended Education student data was incorporated under the University College. All other programs are to be relocated from the Tempe campus. FTE and student headcounts for Fall 2002, were based on actual enrollments at their current campus locations. The Global Health program included the School of Health Administration and Policy, currently with the W.P. Carey School of Business on the Tempe campus.

Program Assumptions for 15,000 Student Headcount

<table>
<thead>
<tr>
<th>Programs</th>
<th>Fall 2002 FTE</th>
<th>Fall 2002 Student HC</th>
<th>FTE/HC Ratio</th>
<th>Proposed FTE/HC Ratio</th>
<th>15,000 Student Level HC</th>
<th>15,000 Student Level FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public College</td>
<td>1,246</td>
<td>1,476</td>
<td>0.84</td>
<td>0.85</td>
<td>2,800</td>
<td>2,380</td>
</tr>
<tr>
<td>Journalism</td>
<td>570</td>
<td>1,645</td>
<td>0.35</td>
<td>0.65</td>
<td>2,000</td>
<td>1,300</td>
</tr>
<tr>
<td>University College</td>
<td>4,258</td>
<td>4,651</td>
<td>0.92</td>
<td>0.85</td>
<td>8,200</td>
<td>6,970</td>
</tr>
<tr>
<td>Nursing</td>
<td>590</td>
<td>940</td>
<td>0.63</td>
<td>0.68</td>
<td>1,500</td>
<td>1,020</td>
</tr>
<tr>
<td>Global Health</td>
<td>34</td>
<td>2</td>
<td>17.00</td>
<td>0.65</td>
<td>500</td>
<td>325</td>
</tr>
<tr>
<td>Total</td>
<td>6,698</td>
<td>8,714</td>
<td>0.74</td>
<td></td>
<td>15,000</td>
<td>11,995</td>
</tr>
</tbody>
</table>

FACULTY AND STAFF ASSUMPTIONS (15,000 HEADCOUNT STUDENTS)
To obtain accurate staffing assumptions at the 15,000 student headcount level, a review of current staffing patterns was completed. Ratios of staffing FTE to projected student FTE were used to estimate the number of faculty and staff needed at the 15,000 student level for each of the programs proposed for the Capital Center Campus. Staff for the KAET PBS station is not included in the data. However, space for staff offices is factored into the space needs analysis. The following table outlines the analysis.
### Program Staffing Assumptions for 15,000 Student Headcount

<table>
<thead>
<tr>
<th>Staffing Category</th>
<th>2002 Staff</th>
<th>2002 Staff</th>
<th>Ratio Student FTE/Staff</th>
<th>Proposed Staffing FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HC</td>
<td>FTE</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Public College</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>6</td>
<td>6.0</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>T/TT Faculty</td>
<td>57</td>
<td>53.8</td>
<td>33.1</td>
<td>72</td>
</tr>
<tr>
<td>Faculty (Part Time)</td>
<td>11</td>
<td>2.0</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Professional/Tech/Clerical</td>
<td>81</td>
<td>76.0</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>Research Assoc/Asst</td>
<td>15</td>
<td>5.0</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Graduate Assistant</td>
<td>3</td>
<td>0.99</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Student Worker</td>
<td>9</td>
<td>2.25</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Total for Public College</strong></td>
<td>182</td>
<td>146.0</td>
<td></td>
<td>199</td>
</tr>
<tr>
<td><strong>Journalism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>T/TT Faculty</td>
<td>19</td>
<td>19.0</td>
<td>33.3</td>
<td>39</td>
</tr>
<tr>
<td>Faculty (Part Time)</td>
<td>0</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Professional/Tech/Clerical</td>
<td>14</td>
<td>13.0</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Research Assoc/Asst</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Student Worker</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total for Journalism</strong></td>
<td>34</td>
<td>33.0</td>
<td></td>
<td>95</td>
</tr>
<tr>
<td><strong>University College/Extended Ed.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>2</td>
<td>2.0</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>T/TT Faculty</td>
<td>11</td>
<td>11.0</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Non -Tenured Faculty</td>
<td>2</td>
<td>0.8</td>
<td>34.9</td>
<td>200</td>
</tr>
<tr>
<td>Professional/Clerical</td>
<td>7</td>
<td>6.75</td>
<td></td>
<td>240</td>
</tr>
<tr>
<td>Graduate Assistant</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Student Worker</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>Total for University College/Ext. Ed.</strong></td>
<td>22</td>
<td>20.6</td>
<td></td>
<td>452</td>
</tr>
<tr>
<td><strong>College of Nursing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>3</td>
<td>3.0</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>T/TT Faculty</td>
<td>33</td>
<td>33.0</td>
<td>37.8</td>
<td>63</td>
</tr>
<tr>
<td>Faculty (Part Time)</td>
<td>41</td>
<td>20.0</td>
<td></td>
<td>38</td>
</tr>
<tr>
<td>Professional/Tech/Clerical</td>
<td>74</td>
<td>57.6</td>
<td></td>
<td>110</td>
</tr>
<tr>
<td>Research Assoc/Asst</td>
<td>1</td>
<td>0.33</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Student Workers</td>
<td>5</td>
<td>1.25</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total for College of Nursing</strong></td>
<td>157</td>
<td>115.14</td>
<td></td>
<td>220</td>
</tr>
<tr>
<td><strong>Global Health Administration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative</td>
<td>1</td>
<td>1.0</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>T/TT Faculty</td>
<td>6</td>
<td>6.0</td>
<td>95.0</td>
<td>12</td>
</tr>
<tr>
<td>Professional/Clerical</td>
<td>6</td>
<td>5.26</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>Research Assoc/Asst</td>
<td>9</td>
<td>3.0</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Student</td>
<td>3</td>
<td>0.75</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td><strong>Total for Global Health</strong></td>
<td>25</td>
<td>16.0</td>
<td></td>
<td>60</td>
</tr>
<tr>
<td><strong>Grand Totals</strong></td>
<td>420</td>
<td>330.7</td>
<td></td>
<td>1026</td>
</tr>
</tbody>
</table>
RESEARCH ASSUMPTIONS (15,000 STUDENT HEADCOUNT LEVEL)

Unlike the methodology in Horizons A through C, the level of research expenditures was projected over the planning period for each proposed program at the 15,000 student headcount level. The 2002 R&D expenditures were generated based on each programs current location. At the time of this report, the University College faculty were anticipated to be full time but non-tenured faculty with a focus on teaching rather than research.

Research & Development Expenditure Assumptions

<table>
<thead>
<tr>
<th>Program</th>
<th>2002 R&amp;D Exp.</th>
<th>Proposed R&amp;D Expenditures</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public College</td>
<td>$2,675,922</td>
<td>$5,351,844</td>
<td>Double R&amp;D</td>
</tr>
<tr>
<td>Journalism</td>
<td>$3,827</td>
<td>$75,000</td>
<td>Paulien Estimate</td>
</tr>
<tr>
<td>KAET- TV</td>
<td>$1,594,657</td>
<td>$3,189,314</td>
<td>Double R&amp;D</td>
</tr>
<tr>
<td>University College</td>
<td>$-</td>
<td>-</td>
<td>All Teaching Faculty</td>
</tr>
<tr>
<td>Nursing</td>
<td>$2,471,633</td>
<td>$4,944,000</td>
<td>Double R&amp;D</td>
</tr>
<tr>
<td>Global Health</td>
<td>$483,975</td>
<td>$1,451,925</td>
<td>Triple R&amp;D</td>
</tr>
<tr>
<td>Extended Education</td>
<td>$2,345</td>
<td>$4,690</td>
<td>Double R&amp;D</td>
</tr>
<tr>
<td>Total</td>
<td>$7,232,359</td>
<td>$15,016,773</td>
<td></td>
</tr>
</tbody>
</table>

FACILITIES ASSUMPTIONS

Existing Facilities at the Capital Center Campus
The existing space at the campus was calculated using the Fall 2002 facilities inventory made available to the consultant from the ASU Department of Facilities Planning. The facilities inventory for building C was incomplete for Fall 2002. As a result, data from Fall 2003 was substituted in the report. The facilities inventory includes six buildings with the following gross square feet (GSF):

<table>
<thead>
<tr>
<th>Building</th>
<th>Size in GSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building A</td>
<td>29,274</td>
</tr>
<tr>
<td>Building B</td>
<td>23,408</td>
</tr>
<tr>
<td>Building C</td>
<td>61,516</td>
</tr>
<tr>
<td>Building D</td>
<td>8,306</td>
</tr>
<tr>
<td>Building E</td>
<td>6,350</td>
</tr>
<tr>
<td>Building F</td>
<td>12,317</td>
</tr>
<tr>
<td>Total GSF</td>
<td>138,471</td>
</tr>
</tbody>
</table>

There is presently 95,992 ASF of space in these six buildings, of which 52,785 ASF of space is being occupied by outside agencies and partners.

During the planning horizon, the University will need to construct or acquire additional sites and buildings. The University is reviewing several options for acquiring more space for the growth of the Capital Center Campus, however, these studies are still in the planning stages and the land amounts and square footages associated with these plans are not included in this report. This report assumes that the current Mercado site will not be a part of the new downtown campus. The three structures north of East Van Buren Street and the adjacent AZ Bio Collaborative were not part of this analysis.
SPACE NEEDS ANALYSIS

PROCESS

Originally, Arizona State University provided the consultants with background information including room-by-room facilities inventory, Fall 2002 course data, and staffing information for Fall 2002.

The facilities inventory provided building, square footage, room use, and departmental information on a room–by–room basis. The course data contains the course number and description, enrollment, start and stop times, meeting location, and program on a section–by–section basis. The staffing data contains the headcount and full-time equivalent (FTE) by EEO categories on a departmental basis. This data provides a snapshot of the activities for the Fall 2002 semester which is used as the master planning base year.

In conducting the space needs analysis, the consultant’s worked closely with Ayers/Saint/Gross, Architects (ASG) and other members of the Facilities Master Planning Team, located on the Tempe campus. On-site work sessions and interviews were conducted the week of December 8, 2003 with the Dean of the College of Extended Education and the Director of Property Administration to become familiar with the unique needs of the campus. These work sessions included discussions of space deficiencies as well as verification of existing course, staffing and enrollment data.

During the consultant’s time on site, a brief tour was provided to the various buildings, grounds and spaces to gain familiarity and assess the overall reliability of the facilities inventory. In addition, the consultant walked several blocks surrounding the campus to ascertain how the campus was integrated into the downtown Phoenix area.

As information was obtained from the University Design Team, the Provost’s Office, the Office of Institutional Research, and other sources, several iterations of space needs analysis at various target enrollment assumptions were completed. The space needs outcomes at each of these iterations were shared with ASG and the rest of the campus master planning team to inform the physical planning process as it developed through the spring of 2004. These initial iterations can be found in Appendix A of this study. This space needs analysis report is the outcome of the final iteration and assumptions available at the time of the completion of the data analysis. The latest version of the enrollment assumptions, at 15,000 student headcount, is presented herewith.

GUIDELINE ASSUMPTIONS AND APPLICATION

The consultants used the Arizona Board of Regents Guidelines which were prepared in 1997, revised in 1999, and implemented in 2000 as the primary source of guideline formulas for determining the University’s space needs. The operating assumption was to provide Arizona State University – Capital Center Campus with a reasonable amount of space to conduct its current and projected activities.

For some space categories, alternative guideline models were used as deemed appropriate by the consultants and Arizona State University planners. One source is The Council of Educational Facility Planners, International (CEFPI), a leader in this field for over 50 years. CEFPI published "Space Planning Guidelines For Institutions of Higher Education" in 1985. The CEFPI Space Planning Guidelines are the basis for the ABOR Guidelines. The sections below specify which guideline system was applied for each space category and provides an explanation of the guideline application.
SPACE NEEDS ANALYSIS – SUMMARY FINDINGS

The enrollment projections are the foundation for all projected classroom and laboratory space needs and any other space needs based upon total number of student headcount or FTE’s. The space needs analysis found ASU-Capital Center Campus, to have an overall need (without residential) of 1,079,836 ASF at the 15,000 student enrollment level. The 95,992 ASF of space in existing facilities is not included in the analysis.

At the time of this analysis, ASU was securing additional facilities north of East Van Buren Street. At this time, these facilities are not included in the space needs analysis.

ENROLLMENT OF 15,000 STUDENTS

At this enrollment and staffing level, ASU-Capital Center Campus shows a campuswide need for 2,035,336 ASF. This number is approximately 25 times greater the amount of space currently contained within the six downtown buildings. Without the Residence Life category, the guideline generated 1,079,836 ASF of space.

- Excluding residential, the Academic Space category generated the largest amount of space with a total need of 636,095 ASF. The areas with the largest needs include Offices & Service and Classroom & Service categories. While there are no major competitive athletics programs envisioned for the campus, 85,000 ASF of indoor space was allocated for a comprehensive, centrally located, physical education facility including a gym, racquetball courts, track area, weight rooms, aerobic/exercise rooms, locker rooms, swimming pool, and equipment storage.

- Academic Support Space categories generated 314,182 ASF of campuswide need at the 15,000 student headcount enrollment level. The largest needs were generated in the Digital Commons/Information Center and Assembly & Exhibit categories with total allocations of 106,317 ASF and 64,420 ASF respectively. The Digital Commons/Information Center could be one central area, smaller departmental libraries, or a combination of both. The Digital Commons/Information Center ASF data would need to be revised if additional partnerships were developed with the Phoenix Library System or other higher education entities. Space within the Physical Plant category was distributed among the schools and colleges. In reality, space for a general facility for receiving, mail services, shops (i.e., carpentry, electrical) central storage, and equipment repair could be centralized. With this model, only small quantities of central storage and maintenance areas would be contained within each building.

- Auxiliary space showed a need for 129,559 ASF, predominately in the Student Union category. The ASF under the Student Union category includes food service and dining facilities, which is usually centrally located. A food court with multiple vendors, open to the public is one option. The food services (dining halls) that support the residential population is not included in this category. The KAET PBS television station was included in the auxiliary space category.

- Given proposed housing goals based on the percentage of students living on campus, the analysis generated a total residence life need of 955,500 ASF of various types of living units and dining halls.

The consultant assumed that each school and college would stand on its own, possibly contained in separate buildings or locations. As a result, the consultant generated space using assumptions that
classrooms, teaching and open laboratories and other academic spaces would not be centrally scheduled or shared among the different programs. The overall result is that the guideline overgenerates space in selected categories.

At the school and college level, University College, with a need for 379,918 ASF will require the largest amount of space. The largest space needs include Classroom & Service and Academic Office & Service categories. Other observations include:

- The relocation of the College of Nursing with increased enrollments and research expenditures generated a need for 101,249 ASF. The guideline effectively doubled the amount of space the College currently occupies at the Nursing building on the Tempe campus and the Community Services Building.
- The space needs for the Public College included the greatest amount of research space (22,044 ASF) of all downtown programs. This is due mainly to anticipated research expenditures in the School of Social Work and the Morrison Institute of Public Policy.
- The 58,109 ASF of space generated in the Cronkite School of Journalism and Mass Communication does not include space for the KAET public television station. At the time of this analysis, the consultant did not have sufficient information to adequately apply a guideline for this type of unique facility. The station currently occupies approximately 27,000 ASF on the Tempe Campus. A 30,000 ASF facility was included at the master planning level but will need to be refined as the planning progresses.

In total, the space needs analysis generated at total of 2,035,336 ASF of space among the 16 categories. This total does take into consideration the space occupied by ASU and outside organizations at the Mercado site.
### Summary Table

#### ASU- Capital Center Campus Space Needs Analysis (15,000 Student Headcount)

<table>
<thead>
<tr>
<th>SPACE CATEGORY</th>
<th>Nursing</th>
<th>Global Health</th>
<th>Public College</th>
<th>Journalism</th>
<th>University College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Space</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom &amp; Service</td>
<td>7,350</td>
<td>1,643</td>
<td>26,180</td>
<td>14,300</td>
<td>73,639</td>
<td>139,090</td>
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<tr>
<td>Teaching Laboratories &amp; Service</td>
<td>19,657</td>
<td>1,800</td>
<td>11,121</td>
<td>6,500</td>
<td>55,895</td>
<td>95,557</td>
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<tr>
<td>Open Laboratories &amp; Service</td>
<td>1,734</td>
<td>570</td>
<td>4,046</td>
<td>2,210</td>
<td>11,849</td>
<td>20,409</td>
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<tr>
<td>Research Laboratories &amp; Service</td>
<td>20,287</td>
<td>5,959</td>
<td>22,044</td>
<td>750</td>
<td>17,425</td>
<td>66,465</td>
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<tr>
<td>Academic Offices &amp; Service</td>
<td>33,290</td>
<td>7,290</td>
<td>37,165</td>
<td>16,560</td>
<td>72,985</td>
<td>189,162</td>
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<tr>
<td>Fitness &amp; Recreation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>85,000</td>
</tr>
<tr>
<td>Other Academic Space</td>
<td>3,060</td>
<td>684</td>
<td>7,140</td>
<td>3,900</td>
<td>0</td>
<td>40,412</td>
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<tr>
<td><strong>Academic Space Subtotal</strong></td>
<td>85,378</td>
<td>17,946</td>
<td>107,696</td>
<td>44,220</td>
<td>252,703</td>
<td>636,095</td>
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<tr>
<td><strong>Academic Support Space</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Office &amp; Service</td>
<td>5,100</td>
<td>1,625</td>
<td>11,900</td>
<td>6,500</td>
<td>34,850</td>
<td>59,975</td>
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<tr>
<td>Information Center</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>106,317</td>
</tr>
<tr>
<td>Assembly &amp; Exhibit</td>
<td>3,000</td>
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<td>3,000</td>
<td>1,500</td>
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<tr>
<td>Physical Plant</td>
<td>5,731</td>
<td>1,213</td>
<td>7,641</td>
<td>3,289</td>
<td>21,505</td>
<td>59,425</td>
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<tr>
<td>Other Administrative Space</td>
<td>2,040</td>
<td>650</td>
<td>4,760</td>
<td>2,600</td>
<td>13,940</td>
<td>24,045</td>
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<tr>
<td>**Academic Support Space Subtotal</td>
<td>15,871</td>
<td>3,488</td>
<td>27,301</td>
<td>13,889</td>
<td>127,215</td>
<td>314,182</td>
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<tr>
<td><strong>Auxiliary Space</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Union</td>
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<td></td>
<td></td>
<td></td>
<td>95,960</td>
<td>95,960</td>
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<tr>
<td>Health Care Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,599</td>
<td>3,599</td>
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<tr>
<td>KAET PBS Television Station</td>
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<td>30,000</td>
<td>30,000</td>
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<td><strong>Auxiliary Space Subtotal</strong></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>129,559</td>
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<tr>
<td><strong>COMPONENT SUBTOTAL</strong></td>
<td>101,249</td>
<td>21,434</td>
<td>134,997</td>
<td>58,109</td>
<td>379,918</td>
<td>1,079,836</td>
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<tr>
<td><strong>Residence Life Space</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence Life</td>
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<td>955,500</td>
<td>955,500</td>
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<tr>
<td><strong>Residence Life Subtotal</strong></td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>955,500</td>
</tr>
<tr>
<td><strong>COMPONENT TOTAL</strong></td>
<td>101,249</td>
<td>21,434</td>
<td>134,997</td>
<td>58,109</td>
<td>379,918</td>
<td>2,035,336</td>
</tr>
</tbody>
</table>
CLASSROOM ANALYSIS

Classrooms are defined as any room generally used for scheduled instruction requiring no special equipment and referred to as a "general purpose" classroom, seminar room, or lecture hall. Classroom service space directly supports one or more classrooms as an extension of the classroom activities by providing media space, preparation areas, or storage. The classroom station size includes the classroom service area space; however, additional service space can be justified on a program or classroom basis. Given the liberal arts focus, the consultant assumed that a large majority of instruction occurs in traditional classrooms with a lecture format.

The ABOR Guidelines specify a classroom utilization goal of 35 hours of use per week at 65% student station occupancy for lecture courses. The guidelines call for 19 ASF as the average classroom station size. Classroom space requirements were determined by a formula that takes the target utilization of 35 hours per week, multiplies it by the average student occupancy target of 65%, and divides the result into the 19 ASF per student station. This calculation produces a guideline of .84 ASF per weekly student contact hour for classrooms. Similarly, the ABOR Guidelines for lecture rooms call for 17 ASF per station, 32 hours per week, and an occupancy rate of 63%, producing a guideline of .84 ASF/WSCH. Because the guideline calculation is the same, classrooms and lecture halls have been treated as one category for this analysis. Assignable square feet per weekly student contact hour (ASF/WSCH) is calculated as follows:

For seminar and computer instructional rooms similar calculations were made using the guidelines. For seminar rooms, the guidelines used were 22 ASF per student station, 35 hours per week, and 67% student station occupancy which results in a guideline of .94 ASF per weekly student contact hour. For computer instructional rooms, the guidelines used were 32 ASF per student station, 32 hours per week, and 75% student station occupancy which results in a guideline of 1.33 ASF per weekly student contact hour.

The total number of weekly student contact hours for a lecture course section is obtained by multiplying the enrollment of the course section by the number of meeting hours in one week. For example: a history course with 30 students enrolled which meets three times a week for one hour produces 90 weekly student contact hours (WSCH) [30 students x 3 weekly contact hours = 90]. Multiplying 90 weekly student contact hours by the classroom guideline of .84 ASF/WSCH generates 75.6 ASF of classroom space.

The consultant assumed that a smaller amount of instruction will occur in classrooms with a lecture format for programs that are health or technical in nature. The large majority of classrooms will be housed within the Public College and University College. Graduate programs are anticipated to be more laboratory intensive.

The classroom guideline application for the ASU–Capital Center Campus generated a need for 139,090 ASF of classroom and service space. The enrollment projection growth percentages were applied to existing course data to determine projected classroom calculations at the 15,000 student headcount level. The space needs for each of the programs anticipated at the Capital Center campus are illustrated in the summary findings section of this report.
TEACHING LABORATORY ANALYSIS

Teaching Laboratories, referred to in the ABOR Guidelines as Classroom Laboratories, are defined as rooms used primarily by regularly scheduled classes that require special purpose equipment to serve the needs of particular disciplines for group instruction, participation, observation, experimentation, or practice. Station sizes in teaching laboratories vary by discipline. Space requirements are calculated with a formula which is similar to that used to determine classroom space requirements, except that the ASF per student station varies by discipline.

The CEFPI space per student station guideline has approximately 50 different subject areas for which it provides teaching laboratory modules. In all cases, these are expressed as a range and the ABOR Guidelines use the middle of the range. The guideline space per station in each discipline includes service space for laboratories and takes into account the need for enough space for new paradigms in teaching methodology requiring collaborative learning environments such as mediated laboratories.

ABOR Guidelines indicate a standard of 85% student station occupancy. The weekly room hour standard varies by discipline. Disciplines are categorized into three groups:

- Group A • Social Sciences, Business and Education – 25 hours per week
- Group B • Physical Sciences and Biological Sciences – 22.5 hours per week
- Group C • Engineering, Architecture, Health Sciences, and Agriculture – 12.5 hours per week

In addition to using the standard method of calculating teaching laboratory space needs using weekly student contact hours, the consultants used the existing amount of teaching laboratory space from programs currently located on the Tempe campus as the guideline at the base year and increased the guideline proportionate to the colleges’ enrollment growth to generate a guideline space need for the target year.

It was assumed that teaching labs will be used heavily in the College of Nursing and the undergraduate sciences portion of University College. For this analysis, portions of the KEAT television station were considered teaching laboratories and included under the Cronkite School of Journalism and Mass Communication. Teaching labs include instructional spaces that house special equipment to serve the needs of particular disciplines such as nursing, biology, physics, chemistry and art.

At the 15,000 student headcount level, the campus will need a total of approximately 95,557 ASF of teaching laboratories & service. The analysis does not take into account any partnerships that are established with the Maricopa Community College System.

OPEN LABORATORY ANALYSIS

The category of open laboratory space consists of rooms that are open for student use and are not used on a regularly scheduled basis. These rooms provide equipment to serve the needs of particular disciplines for group instruction in informally or irregularly scheduled classes. Alternatively, these rooms are used for individual student experimentation, observation, or practice in a particular field of study. The size of these laboratories is based on equipment size and/or on the station size and student count desired and should be determined on an individual basis. Types of rooms included in this category are computer laboratories, language laboratories, music practice rooms, and tutoring and testing facilities.

Open laboratories are not specifically addressed by either the ABOR Guidelines or the CEFPI guidelines. In recent benchmarking and consulting work with several statewide systems, the
The consultants found between five and 10 ASF per student FTE allocated for space in this category. The consultants note that there were no open labs at the Downtown campus during the Fall 2002 semester. Consistent with other ASU campus findings, the consultant expected that this category would be at the low end of what the consultants expect to find at institutions similar to Arizona State University.

The consultants believe that a reasonable guideline for the University open laboratory space is 1.7 ASF per student FTE. This is a number lower than the benchmarking ASF, but closer to the amount of space that ASU-Capital Center Campus needs based on proposed programs.

At the 15,000 student headcount level, the open laboratory category generated a need for 20,409 ASF of space. The greatest demand for open laboratories and service will be in the University College, where the guideline generated 11,849 ASF of space.

RESEARCH LABORATORY ANALYSIS

The consultants calculated the need for research space using ABOR Guidelines, which are based on CEFPI standards, using a square feet allocation for the number of headcount faculty and graduate faculty.

The research guideline used for this analysis was based on the Higher Education Facilities Planning and Management Manuals, as published by the Western Interstate Commission for Higher Education (WICHE). This guideline uses the number of tenure/tenure track faculty and graduate students involved in research as the indicator of research space. Research spaces vary significantly among academic programs and disciplines. A range of 200 to 1,300 ASF was applied per tenure/tenure track faculty member. A range of 20 to 200 ASF was used for each graduate student. The ASF guideline for faculty includes up to four graduate students working with each faculty member. The criteria are listed below.

<table>
<thead>
<tr>
<th>WICHE Research Planning Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Program</strong></td>
</tr>
<tr>
<td><strong>Group 1</strong></td>
</tr>
<tr>
<td>Agriculture and Natural Resources, Engineering, Biological Sciences, Physical Sciences</td>
</tr>
<tr>
<td><strong>Group 2</strong></td>
</tr>
<tr>
<td>Architecture, Fine Arts, Psychology, Communications</td>
</tr>
<tr>
<td><strong>Group 3</strong></td>
</tr>
</tbody>
</table>

Due to the nature of proposed programs, it was assumed there would not be a heavy emphasis on contained research wet labs, specialized research equipment, or animal quarters. The Capital Center campus will focus mainly on providing faculty with research offices, interview rooms, survey rooms and computer analysis areas for the large majority of research spaces. It is anticipated that
University College faculty will engage in very limited research activity. More specialized research needs for research intensive programs will be provided at the Tempe campus.

With respect to research productivity, the consultants assumed that a greater percentage of all tenured/tenure track faculty and a slightly smaller number of all graduate students would be engaged in some type of research endeavor in the other schools scheduled to be in the downtown Phoenix area.

The guideline resulted in a calculation of 66,465 ASF of research laboratories and service space. The consultants assumed that this method will generate the research space required to support an increase in research expenditures in the future. However, since the guideline is calculated based upon research personnel rather than research productivity, a dramatic increase in research expenditures may necessitate the need for additional space. It must be also noted that this category does not include offices for non-faculty researchers, Institute and center directors and support staff. A portion of the office space in the Academic and Administrative Offices & Service categories must be devoted to the research function.

An alternative guideline method of calculating research space needs is based on sponsored research expenditures. The guideline applies 500 ASF per $100,000 of expenditure for the first $50,000,000; 400 ASF per $100,000 for the second $50,000,000; and 300 ASF per $100,000 for sponsored research expenditures over $100,000,000. This formula is calculated on a campuswide basis. With proposed expenditures of $15,016,773 ASF, the calculation produced a need for 75,080 ASF of research and service space. The consultant believes that this method overstates the need for research lab space as some of the research will be performed in offices.

**OFFICE SPACE ANALYSIS**

Office space guidelines in the *ABOR Guidelines* are based on CEFPI standards. The CEFPI guideline determines office space needs based on major categories of staff and application of space amounts for office service and conference space needs. ASU provided staffing information for major categories of staff by college. The consultants then applied the *ABOR Guidelines* to each major category. The amount of office space allotted to each position is specified in the *ABOR Guidelines* based on the status and duties of the employee. Headcounts were used in the analysis for the number of employees except positions that were less than half-time faculty and part-time students. In this instance total FTE was substituted.

Some modifications were made to the application of the *ABOR Guidelines* based upon CEFPI guidelines. CEFPI identifies certain units to receive an additional amount of office space per headcount for extra office space or studio space. The mid-point of the suggested range for extra office or studio space was selected (60 ASF per headcount) since *ABOR Guidelines* use the mid-point of the guideline range for regular office space. These units are: Architecture, Art, Law, and Music. However, most are not applicable to the Capital Center Campus.

CEFPI also recommends that supplemental conference space be allotted to each department. Conference space was allocated to faculty, professional/technical, and clerical/secretarial positions on the campus. Faculty and professional/technical position received 25 ASF per employee, while clerical staff received 15 ASF per employee. This allocation of conference space may overestimate conference room needs for large departments or underestimate needs for colleges that have few departments. However, at the campuswide level, the numbers should adequately reflect conference space needs.
## ABOR Office Guidelines as Applied to the Office Analysis

<table>
<thead>
<tr>
<th>Employee Type</th>
<th>Office ASF</th>
<th>ASF</th>
<th>Service ASF</th>
<th>Total ASF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator Executive</td>
<td>160</td>
<td>50</td>
<td>30</td>
<td>240</td>
</tr>
<tr>
<td>Administrator Other</td>
<td>160</td>
<td>50</td>
<td>30</td>
<td>240</td>
</tr>
<tr>
<td>Faculty Administrator</td>
<td>160</td>
<td>50</td>
<td>30</td>
<td>240</td>
</tr>
<tr>
<td>Faculty Instructional</td>
<td>125</td>
<td>25</td>
<td>30</td>
<td>180</td>
</tr>
<tr>
<td>Faculty Instructional (requiring studio space)</td>
<td>185</td>
<td>25</td>
<td>30</td>
<td>240</td>
</tr>
<tr>
<td>Professional</td>
<td>130</td>
<td>25</td>
<td>30</td>
<td>185</td>
</tr>
<tr>
<td>Staff - Professional</td>
<td>130</td>
<td>25</td>
<td>30</td>
<td>185</td>
</tr>
<tr>
<td>Staff - Technical</td>
<td>130</td>
<td>15</td>
<td>30</td>
<td>175</td>
</tr>
<tr>
<td>Staff - Clerical</td>
<td>105</td>
<td>15</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>GTA (Teaching)</td>
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<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>GRA (Research)</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Student Worker</td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>Employees Not Requiring an Office</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Library Personnel (office space included in Library Gdn)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Crafts &amp; Trades</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The ABOR Guidelines specify 125 ASF for faculty offices and 130 ASF for professional staff offices. Using the 125 ASF per office to calculate guideline space needs and comparing the calculation to the average of 143 ASF per office of existing permanent office space may under-represent the amount of space needed for offices. It is necessary to balance the ABOR Guidelines against the reality of the average size of existing permanent offices when interpreting the results of this analysis for use in detailed program planning in new construction or renovation.

At the 15,000 student level, the guideline generated a need for 189,162 ASF of space. This category also includes offices for non-teaching researchers and graduate research associates. Office space for center and institute directors and other administrative staff is under the Administrative Offices & Service category.

### Fitness and Recreation Space Analysis

There are currently no fitness centers or recreation spaces at the downtown campus. This category includes indoor space for recreation/fitness activities.

The consultants used the CEFPI guidelines to generate physical education and recreation space. There are other guidelines and formulas that could be used that would generate more space for ASU-Capital Center Campus. However, the consultants chose to use the CEFPI standard as that is the basis for most of the other categories of space in the ABOR Guidelines.

The CEFPI formula for physical education and recreation space uses a core of 20,000 ASF for the first 1,000 headcount students. An additional five ASF per headcount is added to the base 20,000 ASF for the students over the first 1,000. If the headcount enrollment is over 2,000 then the student FTE is substituted for the student headcount. Student FTE was used for this analysis.

At the enrollment target, the guideline generated a need for 85,000 ASF in physical education and recreation space. This category includes indoor space for recreation/physical education activities. The consultants assumed a comprehensive physical education facility including a gym, racquetball courts, track area, weight rooms, aerobic/exercise rooms, locker rooms, swimming pool, and equipment storage.
ATHLETIC SPACE NEEDS
There are no major competitive athletics programs envisioned for the campus. The space needs for Athletics will largely be met through programs at ASU’s Tempe Campus. As a result, the guideline application was not applied.

OTHER ACADEMIC SPACE ANALYSIS
The space classified as other academic space includes all other space assigned to an academic unit that has not been included in the other classification of classrooms, teaching laboratories, open laboratories, research laboratories, or offices. This space category consists of a variety of space types. Due to the diversity of these spaces and the different ways various campuses might classify these spaces, these spaces are not specifically addressed by the CEFPI or ABOR Guidelines. In recent benchmarking studies the consultants conducted, this space category tends to exhibit a wide range of between one and 18 ASF per student FTE.

The types of space typically included in this space category include:
- study rooms
- media production space
- learning center spaces
- vending areas
- shops
- storage
- lounges
- computer rooms
- food facilities
- meeting rooms

Other academic space at the ASU-Capital Center Campus averaged 1.25 ASF per student FTE. The consultant believes that a reasonable guideline to apply in this category is 3 ASF per student FTE. While this factor more than adequately reflects the current campuswide use of space in this category, it allows for the variety of spaces found within a university setting.

At the 15,000 student headcount level, the guideline generated a total of 40,412 ASF.

DIGITAL COMMONS/INFORMATION CENTER ANALYSIS
The ASU-Capital Center Campus will rely heavily on the Tempe Campus Library for resources. ASU-Capital Center Campus does not see a need to replicate volumes of the Tempe Campus, but will focus on a selected collections related to unique programs offered at the downtown location. There will be an emphasis on providing most serials electronically. The facility is expected to incorporate wireless technology and the latest in digital media, making every student reader station network and Internet accessible.

Since the downtown campus does not currently have a Digital Commons/Information Center or resource center, the consultant was unable to project volume growth based on existing collections. To determine the number of volumes need for a campus with 15,000 students with the number of proposed programs, the consultant used the Association of College and Research Libraries Board and the American Library Association (ALA) Standards Committee, Formula A: Collections, publication, dated February 1995. This included:
- 85,000 volumes as the basic library,
- 1000 volumes for each faculty FTE,
- 15 volumes for each undergraduate FTE,
3,450 volumes for each undergraduate major,
- 6000 volumes for each master’s degree (with no higher degree awarded),
- 3000 volumes for each master’s degree with a higher degree,
- 6000 per six year program, and,
- 25,000 per doctoral program.

The consultants assumed that a large portion of the Digital Commons/Information Center would be liberal arts and health related volumes. The volume collection was calculated at 363,900 volumes. This number was used in the analysis.

Most of the guideline systems for Digital Commons/Information Center and library space utilize one set of factors for collections, another for readers, and a third for service space. This approach was used by the consultants. The Digital Commons/Information Center analysis is based on collections data reported by Arizona State University to the Association of Research Libraries (ARL) and shared with the consultants.

The ABOR Guidelines for library collections assume that .07 ASF per volume is used for collection space. This .07 ASF is 30% lower than standard CEFPI guidelines.

Until recently, the reader space calculations have generally been based on seating for 25% of the student body. The Association of College and Research Libraries (ACRL) suggests that if a college or university has more than 50% of its students in residential housing, it should have one reader station for every four full-time equivalent students. If less than 50% were on site, it would be calculated at one for every five students or 20%. Because many students now do research electronically from non-library locations, this percentage of students has begun to lower. ABOR Guidelines use the CEFPI reader guideline percentage which specifies a 15% factor to undergraduate headcount, a 20% factor to graduate headcount, and 10% to the total full-time equivalent faculty.

In determining the guidelines for reader station sizes, the consultants believe the 25 square feet per reader station recommended by CEFPI is not adequate because of the increased use of electronic carrels. The consultants applied 25 ASF per reader station for regular study stations, but 35 ASF per station for electronic study stations. For the proposed Capital Center Campus Digital Commons/Information Center, 50% of the stations were considered as electronic seats for this analysis.

CEFPI suggests 25% of the total collection and reader station space for service and staff space. ACRL, in their most recent guidelines, changed this category to 12.5%. The consultants used this number for the analysis given the estimated size of the print and electronic collections.
## Guideline Application

### VOLUME GENERATION

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<tr>
<th>Item</th>
<th>Current Items</th>
<th>Conversion Factor</th>
<th>Fall 2000 Volumes</th>
<th>Volume Growth</th>
<th>Proposed Volumes</th>
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<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Manuscripts &amp; Archives</td>
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<td>1.00</td>
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<td>0%</td>
<td>0</td>
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<tr>
<td>Unbound Serials (Display)</td>
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<td>0%</td>
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</tr>
<tr>
<td>Microforms</td>
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</tr>
<tr>
<td>Audio/Visual Materials</td>
<td>0</td>
<td>5.00</td>
<td>0</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

**TOTAL VOLUMES**: 363,900

### COLLECTION SPACE

<table>
<thead>
<tr>
<th>No. of Volumes</th>
<th>0 - 150,000</th>
<th>150,001 - 300,000</th>
<th>300,001 - 600,000</th>
<th>600,001 - 2,000,000</th>
<th>2,000,001 and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASF per Volume</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Fall 2002 Collection Space: 0

Proposed Collection Space: 10,500

**TOTAL COLLECTION SPACE**: 25,473

### STUDY SPACE

<table>
<thead>
<tr>
<th>Percent of FTE</th>
<th>Fall 2002 Headcount</th>
<th>Fall 2002 Stations</th>
<th>15,000 Headcount</th>
<th>Proposed Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>15%</td>
<td>0</td>
<td>0</td>
<td>7,198</td>
</tr>
<tr>
<td>Graduate</td>
<td>25%</td>
<td>0</td>
<td>0</td>
<td>4,797</td>
</tr>
<tr>
<td>Faculty (FTE)</td>
<td>5%</td>
<td>0</td>
<td>0</td>
<td>430</td>
</tr>
</tbody>
</table>

**Total Study Stations**: 2,300

**TOTAL STUDY SPACE**: 69,031

**TOTAL COLLECTION & STUDY SPACE**: 94,504

- **Service Space**: (0.125 of Total Collection and Study Space) 11,813
- **Lounge Space**: (Not Applied) 0

**TOTAL DEDICATED LIBRARY SPACE**: 106,317

At the 15,000 student headcount level, the guideline generated a need for 106,317 ASF of space.

### ASSEMBLY & EXHIBIT SPACE ANALYSIS

Assembly and exhibit space is defined as any room designed and equipped for the assembly of large numbers of people. This includes theaters, auditoriums, concert halls, arenas, and chapels. Exhibit spaces are used for exhibition of materials, works of art, or artifacts intended for general use by students and the public. The CEFPI guideline has a core allowance of 22,450 ASF for institutions.
with a minimum of 5,000 student FTE and an active fine arts program. It then allows for an additional six ASF per student FTE over the 5,000 FTE minimum. CEFPI also adds 5,000 ASF for institutions with an active music program. The consultants applied two of the three allowances (the core allowance and the six ASF per FTE over 5,000, in the guideline application. Currently there is no space dedicated assembly and exhibit space on campus.

Application of the CEFPI guidelines at the 15,000 student headcount level generated 64,420 ASF, enough for a 500 seat theatre with stage and wings, control rooms, costume and storage, scene shops, lighting design and sound effects rooms, rehearsal room, make-up rooms, and green room. This would allow for experimental theatre type spaces in support of undergraduate liberal arts programs and the ability to stage events from the other campuses. This facility was placed within the University College but could be centrally located on the campus.

In addition, a 5 ASF/FTE guideline was applied that allows for exhibition space within the theatre or designated places around campus. As an example, the 3,000 ASF for the College of Nursing would be for a nursing museum or display area. The space beyond these requirements is for additional needs of each school or college, and is comprised of mostly exhibition and gallery space located thought-out the campus.

**PHYSICAL PLANT ANALYSIS**

Most guidelines suggest a percentage of 7% to 8% of all square footage on campus, minus existing physical plant and residence life space, be used to drive master plan needs in this category. In most cases, these percentages generate a space need that is greater than the amount of physical plant space typically found at an institution. From previous studies, the consultants have found that the average percentage used to drive physical plant space needs is approximately 4% to 7%. One of the reasons a lower percentage is adequate for master planning purposes is the fact that many physical plant departments are increasing the outsourcing of many typical shop functions and are using just-in-time purchasing methods to decrease warehousing needs.

For this analysis, the consultants applied six percent of all square footage on campus, with the exception of existing physical plant, parking, and residence life space, to calculate the space needs in this category. A range was used to reflect enrollment growth over the planning period and the maintenance load of new and existing buildings.

The guideline generated 59,425 ASF. Currently, there is no integrated physical plant space on the campus that combines shops, storage and mail services. The consultant recommends constructing a facility that will accommodate this type of space as the campus grows. In addition, some central storage and maintenance areas should be designed into each building.

**OTHER ADMINISTRATIVE SPACE ANALYSIS**

As with other academic space, other administrative space consists of a variety of space types. Again, no guideline has been developed by CEFPI or the ABOR Guidelines to deal with such a diverse set of space types. In recent benchmarking studies, the consultants found other administrative space to have a range of less than one ASF per student FTE and as great as 46 ASF per student FTE. The types of space that need to be factored into the space needs for the campus in this space category include:

- media production
- central telecommunications spaces
- central storage
- clinics
- merchandising
public safety or police stations
meetings rooms

Other administrative space averaged less than one ASF per student FTE at ASU-Capital Center Campus, and it not indicative of what the campus will need in the future. The consultant believes that a reasonable guideline for this space category is two ASF per student FTE. This guideline is at the low end of the benchmark range but reflects the current campuswide economics of space for this category as enrollments grow.

For the Other Administrative Space category, the analysis at the target enrollment level generated a need for 24,045 ASF.

**STUDENT UNION SPACE ANALYSIS**

CEFPI recommends a formula of nine ASF per student headcount and the Association of College Unions International (ACUI) recommends a formula of 10 ASF per student for each graduate and undergraduate student for generating student union space. These guidelines for space application provide space for the various functions and the room use code designations that are typically found in a comprehensive student union including: food service, bookstore, lounge, meeting space, student government/club space, and other student service type space categories. The guideline applied by the consultants was eight ASF per student for student union space at ASU-Capital Center Campus. The guideline was reduced to reflect the student population and the plethora of businesses and restaurants in the area.

The Downtown campus has a small Café space with food service but no formal Student Union. As the student population grows to the 15,000 student headcount level, a 95,960 ASF formal student union facility will be needed.

**RESIDENCE LIFE**

At the time of this report, the ASU-Capital Center Campus has no residence life component. However, the vision of the campus is to have a vibrant community of students where student, faculty and staff are housed in the downtown area close to campus.

Across the nation, there are changes in student demands for housing. These changes result in more housing space per student in most recently constructed facilities. A guideline widely used in higher education residence life planning is 275 ASF per bed. A 275 ASF per bed guideline provides sufficient space for a variety of housing types ranging from traditional double–loaded corridor layouts to suite and apartment–style housing. Due to the downtown location of the housing and the proposed student mix, this analysis uses 260 ASF per bed as the guideline to address housing needs and space for dining halls.

The numbers of beds for the enrollment was obtained from planning data as calculated by ASG, as part or the master planning process. Based on these housing goals, the residence life guideline application shows a need for 955,500 ASF at the target enrollment year.

**HEALTH CARE FACILITIES**

Health care facilities are not specifically addressed by the CEFPI guidelines. In recent benchmarking and consulting work with several statewide systems, the consultants found amounts of space in this category ranging from 0.3 ASF per student FTE to four ASF per student FTE. The University envisions its own health care facilities for students as the campus grows.

The average space per student FTE for this category at ASU-Capital Center Campus in nonexistent. The consultants believe that a reasonable guideline for ASU-Capital Center Campus is 0.3 ASF per student FTE. This factor takes into account student demographics, residential population, and the
mix of academic programs. While this factor is at the low end of the benchmark range, it is a number that reflects adequate use and allocation of space in this category.

The guideline application shows a need for a 3,599 ASF facility at the target enrollment goal. However, it is common to build or occupy a facility that will allow for future growth. It should be noted that health care facilities are defined as clinics established for the use of students.

**Other Space**
Spaces in the facilities inventory database coded as parking garages, inactive/conversion spaces, temporary buildings, and space leased to outside organizations are not included in this analysis. The existing and projected amounts of space in these categories have been noted at the bottom of the Space Needs Analysis table for ASU-Capital Center Campus is not included in the total space calculations. At the time of this analysis, 52,785 ASF of ASU-owned space was being occupied by outside organizations was not used to reduce the amount of space needs at target enrollments.

**Limitations of Analysis**
The consultants analyzed campus data provided by the Arizona State University for staffing, courses, and facilities information. The data provides a "snapshot in time" of staff, course enrollments, and facilities. As with other complex higher education institutions that the consultants have studied, many changes are occurring simultaneously on a continuous basis. Of necessity, all these analyses are "snapshots in time," but nevertheless, are consistently used as valuable tools for institutional planning.

The Space Needs Analysis is a quantitative analysis only. All permanent existing space is counted regardless of its quality. Because several rooms in the facilities inventory have multiple functions (i.e., one room containing a reception space, clerical workstation, storage, and filing), it is impossible to accurately distribute the existing space among the appropriate room use and functional categories. However, the proposed area calculations are distributed among the room use and functional categories. Therefore, the relationship between existing space and proposed guideline space for individual categories should be considered as rough comparisons. The only true comparison is between a unit's total existing space and proposed guideline space.

Space needs analysis for the purpose of master planning is a process that estimates space amounts likely to be needed by various units of an institution at current and projected enrollment, staffing, and activity levels. Reliability of the findings of any space needs study depends on several factors including the quality of the data, the appropriateness of the space standards used, and the validity of the projections. Data used in this study was updated and refined to a high level of accuracy and currency. Space standards that reflect national trends and specific ABOR Guidelines were applied. Future projections of enrollment and research levels were carefully reviewed. The consultants, therefore, believe that the findings and recommendations of this study may be considered reliable and may be used with confidence by ASU for its campus master planning effort.

The study was conducted at both the campus as well as the school and college level and was intended for use in initial planning of future facilities expansion. The scope of the study at the campus level did not identify every individual school or college requirement and did not include detail normally developed in room–by–room program planning of specific facilities. This study was not intended to replace program plan level analysis. Further, this study only analyzed space needs and did not evaluate the quality of existing space or the suitability of the space.

Unless otherwise noted, all findings are in ASF. ASF is defined as the area measured within the interior walls of a room that can be assigned to a program. It does not include circulation, mechanical or building service spaces. Converting assignable space to gross square foot usually
adds about 30% to 40% to the assignable space.

**PEER ANALYSIS**

During the work sessions, several institutions were named that the architects thought were good peer institutions for benchmarking purposes. The goal of this analysis was to use institutions with a downtown focus as a check against the consultants ASF recommendations based on target year enrollment. These institutions included:

- The University of Chicago
- George Washington University
- Columbia University, and
- The Auraria Campus (University of Colorado-Denver, Metropolitan State College, and the Community College of Denver)

On average, peer institutions contained 194 ASF per student FTE, excluding residential. Without residence life, the Capital Center campus, at 11,995 FTE generated 90 ASF/FTE. Since three of the four campuses are stand alone universities and serve as the main campus for the institution, direct comparisons to the proposed downtown campus were not feasible.
APPENDIX A

ENROLLMENT ASSUMPTIONS (HORIZONS A THROUGH C)

Enrollment and staffing data for this report were provided from several source documents. These include ASU’s Pathway to 2020, Enrollment Planning for the New American University, ASU Enrollment and Employee Projections, 2002-2020, as provided by the University Office of Institutional Analysis, dated November 24, 2003, and the Arizona State University Fact Book 2002-03.

In analyzing the growth of the campus, the overall assumption of growth in enrollment was headcounts of 7,000, 14,000 and 18,000 students. There was no base year enrollment for several reasons. First, enrollments in the College of Extended Education are based on multiple site locations. Both credit hour and FTE production are not indicative of activity at the downtown campus. Second, none of the new programs detailed in the Introduction of this report exist at the base year.

Since final recommendations from the University Design Team were not available during the assembly of these enrollment assumptions, the enrollment assumptions do not assume specific time periods, thus allowing the flexibility in reaching enrollment goals. Full-time equivalent student was analyzed by assumptions of future FTE/Headcount ratios as noted in the following table.

### ASU-Capital Center Campus Comprehensive Master Plan Assumptions

<table>
<thead>
<tr>
<th>ENROLLMENT</th>
<th>Horizon A</th>
<th>Horizon B</th>
<th>Horizon C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headcount Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Student Headcount</td>
<td>7,000</td>
<td>14,000</td>
<td>18,000</td>
</tr>
<tr>
<td>% on Campus</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Total Student HC On Campus</td>
<td>7,000</td>
<td>14,000</td>
<td>18,000</td>
</tr>
<tr>
<td>Undergraduate HC %</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Total Undergraduate Headcount On Campus</td>
<td>4,200</td>
<td>8,400</td>
<td>10,800</td>
</tr>
<tr>
<td>FTE Analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE/HC Ratio</td>
<td>0.75</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>Total Student FTE</td>
<td>5,250</td>
<td>10,500</td>
<td>13,500</td>
</tr>
<tr>
<td>% on Campus</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Total Student FTE On Campus</td>
<td>5,250</td>
<td>10,500</td>
<td>13,500</td>
</tr>
<tr>
<td>Undergraduate FTE %</td>
<td>0.60</td>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>Total Undergraduate FTE On Campus</td>
<td>3,150</td>
<td>6,300</td>
<td>8,100</td>
</tr>
</tbody>
</table>

The ratio of undergraduate students to graduate students was assumed to remain steady at 0.60 over the three planning periods while the FTE/HC ratio was set at 0.75.

FACULTY AND STAFF ASSUMPTIONS (HORIZONS A THROUGH C)

For this study, the faculty and staff assumptions were provided by the University Office of Institutional Analysis. For programs anticipated on the Capital Center Campus, faculty to student ratios were used to estimate staffing positions. Student workers, Graduate Teaching Assistants and Graduate Research Assistants were estimated by the consultant based on historic trends on the Tempe campus. From staffing data provided by the ASU Office of Human Resources, each graduate...
student worker accounted for 0.25 FTE while each GRA and TA accounted for 0.33 FTE. The data are presented in the table.

Since faculty and staff support extended education programs, the total FTE was used in the analysis of staffing assumptions. Tenured/tenure track (T/TT) faculty and part-time faculty are reported separately in this analysis. For Horizon B, personnel include 525 faculty FTE, 788 staff FTE, and 122 student worker/TA/GRA FTE.

**ASU-DTC Comprehensive Master Plan Assumptions**

<table>
<thead>
<tr>
<th>STAFFING</th>
<th>Horizon A</th>
<th>Horizon B</th>
<th>Horizon C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Faculty</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Student FTE</td>
<td>5,250</td>
<td>10,500</td>
<td>13,500</td>
</tr>
<tr>
<td>T/TT &amp; Fac. Assoc. Ratio student FTE/Fac. FTE</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Total Faculty FTE</td>
<td>263</td>
<td>525</td>
<td>675</td>
</tr>
<tr>
<td>T/TT Faculty Ratio 25:1</td>
<td>188</td>
<td>375</td>
<td>482</td>
</tr>
<tr>
<td>PT Faculty FTE</td>
<td>75</td>
<td>150</td>
<td>193</td>
</tr>
<tr>
<td>Ratio: Fac. FTE to Fac HC</td>
<td>0.7</td>
<td>0.7</td>
<td>0.7</td>
</tr>
<tr>
<td>Total Faculty Headcount</td>
<td>341</td>
<td>683</td>
<td>878</td>
</tr>
<tr>
<td><strong>Contractual Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio of staff per Faculty</td>
<td>1.4</td>
<td>1.5</td>
<td>1.6</td>
</tr>
<tr>
<td>Total Staff FTE</td>
<td>368</td>
<td>788</td>
<td>1,080</td>
</tr>
<tr>
<td>Ratio Staff FTE to Staff Headcount</td>
<td>0.85</td>
<td>0.85</td>
<td>0.85</td>
</tr>
<tr>
<td>Total Staff Headcount</td>
<td>432</td>
<td>926</td>
<td>1,271</td>
</tr>
<tr>
<td><strong>Combined Faculty &amp; Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total T/TT Faculty &amp; Staff FTE</td>
<td>555</td>
<td>1163</td>
<td>1562</td>
</tr>
<tr>
<td>Total T/TT Faculty &amp; Staff Headcount</td>
<td>620</td>
<td>1301</td>
<td>1753</td>
</tr>
<tr>
<td><strong>Student Workers (TA's &amp; GRA's)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ratio Student Worker to Fac. &amp; Staff (FTE)</td>
<td>0.3</td>
<td>0.35</td>
<td>0.4</td>
</tr>
<tr>
<td>Student Workers, TA's &amp; GRA's</td>
<td>167</td>
<td>407</td>
<td>625</td>
</tr>
<tr>
<td>Ratio FTE/HC</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Student Worker FTE*</td>
<td>50</td>
<td>122</td>
<td>187</td>
</tr>
</tbody>
</table>

*Assumption of four student worker positions per FTE & three TA/GRA positions per FTE.
T/TT = Tenured/Tenure Track faculty
RESEARCH ASSUMPTIONS (HORIZONS A THROUGH C)

The consultant requested that the University make assumptions of anticipated levels of research expenditures over the three horizons. Since the planning horizons were not attached to specific years, the projection of research expenditures was not feasible. Actual expenditures for fiscal year 2002 for ASU-Capital Center Campus were negligible at $4,607. To estimate the amount of research space needed at each of the planning horizons for future programs, the consultant used projected tenured/tenure track faculty and the number of graduate research assistants to develop the space needs analysis for this category. This methodology is further defined under the research space needs guideline in the Space Needs Analysis section of the report.

HORIZON A THROUGH C SUMMARIES

Since enrollments are unlikely to grow from current levels to Horizon C levels over a short period of time, there was a need to provide additional enrollment intervals. Horizons A, at 7,000 headcount students and Horizon B, with 14,000 headcount students provides a way to look at the overall phasing implementation of the master plan. Spaces such as libraries, student unions, and physical education facilities are normally constructed based on the future student capacity, in this case enrollment Horizon C. These facilities allow for future growth of the student population. However, spaces that include classrooms, laboratories, offices, and physical plant are constructed as needed, often adding facilities at selected target enrollment levels. The space needs analysis for Horizon A through C is presented in the following table.

Capital Center Campus
Space Allocation Model

<table>
<thead>
<tr>
<th>Target Enrollment A</th>
<th>Target Enrollment B</th>
<th>Target Enrollment C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student HC = 7,000</td>
<td>Student HC = 14,000</td>
<td>Student HC = 18,000</td>
</tr>
<tr>
<td>Student FTE = 5,250</td>
<td>Student FTE = 10,500</td>
<td>Student FTE = 13,500</td>
</tr>
<tr>
<td>Staffing FTE = 630</td>
<td>Staffing FTE = 1313</td>
<td>Staffing FTE = 1755</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPACE CATEGORY</th>
<th>Existing ASF</th>
<th>Guideline ASF</th>
<th>Surplus/ (Deficit)</th>
<th>Existing ASF</th>
<th>Guideline ASF</th>
<th>Surplus/ (Deficit)</th>
<th>Existing ASF</th>
<th>Guideline ASF</th>
<th>Surplus/ (Deficit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom &amp; Service</td>
<td>15,978</td>
<td>65,326</td>
<td>(49,348)</td>
<td>15,978</td>
<td>130,652</td>
<td>(114,674)</td>
<td>15,978</td>
<td>167,981</td>
<td>(152,003)</td>
</tr>
<tr>
<td>Teaching Laboratories &amp; Service</td>
<td>584</td>
<td>86,787</td>
<td>(89,203)</td>
<td>584</td>
<td>173,673</td>
<td>(172,990)</td>
<td>584</td>
<td>223,165</td>
<td>(222,581)</td>
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<tr>
<td>Open Laboratories &amp; Service</td>
<td>8</td>
<td>9,295</td>
<td>(8,925)</td>
<td>0</td>
<td>17,850</td>
<td>(17,850)</td>
<td>0</td>
<td>22,950</td>
<td>(22,950)</td>
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<tr>
<td>Research Laboratories &amp; Service</td>
<td>0</td>
<td>43,270</td>
<td>(43,270)</td>
<td>0</td>
<td>86,541</td>
<td>(86,541)</td>
<td>0</td>
<td>111,267</td>
<td>(111,267)</td>
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<tr>
<td>Offices &amp; Service</td>
<td>21,872</td>
<td>160,691</td>
<td>(138,819)</td>
<td>21,872</td>
<td>338,645</td>
<td>(316,773)</td>
<td>21,872</td>
<td>457,728</td>
<td>(435,856)</td>
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<tr>
<td>Physical Education &amp; Recreation</td>
<td>0</td>
<td>50,000</td>
<td>(50,000)</td>
<td>0</td>
<td>85,000</td>
<td>(85,000)</td>
<td>0</td>
<td>105,000</td>
<td>(105,000)</td>
</tr>
<tr>
<td>Other Academic Space</td>
<td>4,718</td>
<td>15,750</td>
<td>(11,032)</td>
<td>4,718</td>
<td>31,500</td>
<td>(26,782)</td>
<td>4,718</td>
<td>40,500</td>
<td>(35,782)</td>
</tr>
<tr>
<td>Academic Space Subtotal</td>
<td>43,152</td>
<td>430,748</td>
<td>(387,596)</td>
<td>43,152</td>
<td>863,761</td>
<td>(820,609)</td>
<td>43,152</td>
<td>1,128,591</td>
<td>(1,085,439)</td>
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<tr>
<td>Academic Support Space</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Administrative Offices &amp; Service</td>
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</tr>
<tr>
<td>Library</td>
<td>0</td>
<td>50,565</td>
<td>(50,565)</td>
<td>0</td>
<td>96,867</td>
<td>(96,867)</td>
<td>0</td>
<td>124,254</td>
<td>(124,254)</td>
</tr>
<tr>
<td>Athletics</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assembly &amp; Exhibit</td>
<td>0</td>
<td>23,950</td>
<td>(23,950)</td>
<td>0</td>
<td>55,450</td>
<td>(55,450)</td>
<td>0</td>
<td>73,450</td>
<td>(73,450)</td>
</tr>
<tr>
<td>Physical Plant</td>
<td>0</td>
<td>34,400</td>
<td>(34,400)</td>
<td>0</td>
<td>69,197</td>
<td>(69,197)</td>
<td>0</td>
<td>90,162</td>
<td>(90,162)</td>
</tr>
<tr>
<td>Other Administrative Space</td>
<td>55</td>
<td>10,500</td>
<td>(10,445)</td>
<td>55</td>
<td>21,000</td>
<td>(20,945)</td>
<td>55</td>
<td>27,000</td>
<td>(26,945)</td>
</tr>
<tr>
<td>Academic Support Space Subtotal</td>
<td>55</td>
<td>119,416</td>
<td>(119,361)</td>
<td>55</td>
<td>242,514</td>
<td>(242,459)</td>
<td>55</td>
<td>314,866</td>
<td>(314,811)</td>
</tr>
<tr>
<td>Auxiliary Space</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Union</td>
<td>0</td>
<td>56,000</td>
<td>(56,000)</td>
<td>0</td>
<td>112,000</td>
<td>(112,000)</td>
<td>0</td>
<td>144,000</td>
<td>(144,000)</td>
</tr>
<tr>
<td>Health Care Facilities</td>
<td>0</td>
<td>1,575</td>
<td>(1,575)</td>
<td>0</td>
<td>4,200</td>
<td>(4,200)</td>
<td>0</td>
<td>5,400</td>
<td>(5,400)</td>
</tr>
<tr>
<td>Auxiliary Space Subtotal</td>
<td>0</td>
<td>57,575</td>
<td>(57,575)</td>
<td>0</td>
<td>116,200</td>
<td>(116,200)</td>
<td>0</td>
<td>149,400</td>
<td>(149,400)</td>
</tr>
<tr>
<td>Institutional Total w/ Residence Life</td>
<td>43,207</td>
<td>607,739</td>
<td>(564,532)</td>
<td>43,207</td>
<td>1,222,475</td>
<td>(1,179,268)</td>
<td>43,207</td>
<td>1,592,857</td>
<td>(1,549,600)</td>
</tr>
<tr>
<td>Residence Life</td>
<td>0</td>
<td>477,880</td>
<td>(477,880)</td>
<td>0</td>
<td>955,500</td>
<td>(955,500)</td>
<td>0</td>
<td>1,228,500</td>
<td>(1,228,500)</td>
</tr>
<tr>
<td>Institutional Total w/ Residence Life</td>
<td>43,207</td>
<td>1,085,619</td>
<td>(1,042,412)</td>
<td>43,207</td>
<td>2,177,975</td>
<td>(2,134,768)</td>
<td>43,207</td>
<td>2,821,357</td>
<td>(2,778,150)</td>
</tr>
<tr>
<td>Outside Organizations</td>
<td>52,785</td>
<td>52,785</td>
<td></td>
<td>52,785</td>
<td>52,785</td>
<td></td>
<td>52,785</td>
<td>52,785</td>
<td></td>
</tr>
</tbody>
</table>

At Enrollment Horizon A (7,000 headcount students), the guideline produced a need for 607,739 ASF of academic, academic support, and auxiliary space. When residence life is added to the analysis, the guideline generated a total need for 1,085,619 ASF.
Enrollment Horizon B (14,000 students) enrollment and staffing assumptions generated a guideline total of 2,177,975 ASF of space, including 955,500 ASF of residential life space. In total, Horizon B would require a campus about twenty-five times the size of current facilities.

At Target Enrollment C (18,000 headcount students), application of the space needs guidelines generated a need for 1,592,857 ASF, not including residence life space. When residence life is added to the analysis, a total need of 2,821,357 ASF was generated.

It must be noted that the existing space at the ASU-Downtown Center and the outside organization space are listed in the Existing Space ASF. The consultant later learned that the Mercado site would not be part of the new Capital Center Campus. As a result, the guidelines ASF would reflect the actual space need for the campus, thus eliminating the need for the Surplus/Deficit columns.
ADDENDUM A

TO THE

SPACE NEEDS ANALYSIS

In support of
Comprehensive Facilities Master Planning
for
Arizona State University – Capital Center Campus

Prepared by
Paulien & Associates, Inc.

August 2004

PURPOSE

In July 2004, Paulien & Associates, Inc. published the space needs analysis for the ASU Capital Center Campus. The enrollment horizon in that report included 15,000 headcount students. During work sessions with members of the master planning team and the executive administration of ASU, it was decided that enrollments at the 15,000 student headcount level should be compared to adjusted or “best practices” guidelines. The scope of this addendum includes comparing projected space needs, using Arizona Board of Regents’ (ABOR) guidelines as published in the Paulien & Associates, Inc. report entitled Arizona State University Capital Center Campus, Space Needs Analysis, to adjusted guidelines which in some cases may deviate from ABOR guidelines.

SPACE NEEDS PLANNING

In the original study, the ABOR as well as other national guidelines appropriate for the proposed school and colleges scheduled to relocate to the downtown campus was used to quantify space needs. This addendum contains one additional analysis at the 15,000 student headcount level using adjusted guidelines, which provides a comparison to ABOR guidelines.

ENROLLMENT, FACULTY AND STAFF ASSUMPTIONS

Enrollment and staffing data for this report were provided from several source documents. These include ASU’s Pathway to 2020, Enrollment Planning for the New American University, and ASU Enrollment and Employee Projections, 2002-2020, as provided by the University Office of Institutional Analysis, dated November 24, 2003. The ratios used to develop the space needs analysis for this addendum are the same assumptions as described in greater detail in the consultant’s July 2004 report.
**CIVIL UTILITIES**

**Potable Water**

*Existing:* Potable water service is presently provided to the campus by existing City of Phoenix water mains. Service within the campus is provided by an ASU-owned system. The capacity and condition of the existing potable water system and the adequacy of supply has not been evaluated.

*Future:* It is anticipated that the campus will continue to utilize potable water supplied by the existing City of Phoenix water main system and delivered by the ASU on-campus distribution system. The adequacy of the City-owned main system to support campus growth should be evaluated to identify any deficiencies in the potable water supply. The campus distribution system will consist of service lines to serve new construction. If required, the campus system can be looped into the City system to increase campus fire flow rates.

**Stormwater Management**

*Existing:* This system has not been evaluated.

*Future:* The adequacy of the off-campus sewer system to convey increasing campus sewer flows will have to be evaluated to assure capacity. The on-campus sanitary sewer system will be minimal, consisting of building connection sewers, and additional sewer lines as required to serve interior portions of campus.

**Sanitary Sewer**

*Existing:* The area surrounding the Downtown campus is presently served by the municipal sanitary sewer system. There are no known deficiencies in the system, although the system has not been evaluated.

*Future:* The adequacy of the off-campus sewer system to convey increasing campus sewer flows will have to be evaluated to assure capacity. The on-campus sanitary sewer system will be minimal, consisting of building connection sewers, and additional sewer lines as required to serve interior portions of campus.

**Emergency Power**

*Existing:* The present essential electrical system has not been evaluated.

*Future:* The essential electrical system will have to be evaluated to determine how to expand or modify the present distribution system.

**Telecommunications**

*Existing:* There is a communication distribution system; however, the system has not been evaluated.

*Future:* The communication distribution system will have to be evaluated.

**MECHANICAL UTILITIES**

**Chilled Water**

*Existing:* For the downtown campus, chilled water can be obtained from NorthWinds Phoenix. This existing district cooling plant serves downtown Phoenix. If the load increases, NorthWinds will construct a new plant north and east of their existing facility to serve the downtown campus.

**Heating System**

*Existing:* There is no central District heating system available in downtown Phoenix. It is assumed individual buildings will be provided with natural gas fired hot water boilers.

**ELECTRICAL UTILITIES**

**Normal Power**

*Existing:* The present campus area is served by the Salt River Project (SRP). This system has not been evaluated.

*Future:* The power distribution system will have to be evaluated to determine how to expand or modify the present distribution system.
Observation Phase
Downtown Neighborhood Meetings
November 19, 2003, 1:30–2:30 p.m.
November 20, 2003, 9:00–10:00 a.m.

Internal ASU
Deans, Academic Chairs, and Directors, November 19, 2003 2:30–3:30 p.m.
Deans, Academic Chairs, and Directors, November 20, 2003 10:00–11:00 a.m.
Faculty, Staff and Students, November 20, 2003 10:00–11:00 a.m.
Advisory and Special Interest Groups, November 20, 2003 11:00 a.m.–12:00 noon
Observations Wrap Up Meeting, January 27, 2004, 10:00–11:30 a.m.

Workshops/Meetings/Presentations
City of Phoenix Transportation, November 18, 2003 8:00–9:00 a.m.
Planning Meeting with City of Phoenix, February 26, 2004, 10:00 a.m.–12:00 noon
City of Phoenix Principles and Guidelines, February 26, 2004, 12:00–3:00 p.m.
Phoenix Futures/ASU Coordination, March 8, 2004, 3:00–4:00 p.m., March 22, 2004, 9:00–10:00 a.m.
Central City Village Planning Committee, March 8, 2004, 6:00–8:00 p.m.
Downtown Precinct/Public Workshop, March 23, 2004, 1:00–4:00 p.m.
Workshop with Architects and Phoenix Futures Design Team, March 23, 2004, 4:00–6:00 p.m.
Garfield Neighborhood Association Meeting, March 23, 2004, 6:00–8:00 p.m.
Downtown Precinct/Public Workshop, March 24, 2004, 7:00–9:00 p.m.
Follow Up Presentation to Downtown Senior Staff, March 24, 2004, 12:30–1:30 p.m.
Phoenix City Council Policy Public Meeting, April 27, 2004, 5:15–7:30 p.m.
Downtown Open House, April 27, 2004, 7:30–9:30 p.m.
Light Rail Presentation City of Phoenix, April 28, 2004, 3:30 p.m.
Downtown Precinct Follow Up, April 29, 2004, 1:00–3:00 p.m.
Downtown Business Community/ASU Mixer, May 3, 2004, 5:00–6:30 p.m.
Financing Implementation Meeting for Downtown Phoenix, May 5, 2004, 10:00–11:00 a.m.
Presentation of ASU Concepts to Phoenix Staff, May 12, 2004, 4:30–6:30 p.m.
City of Phoenix Historic Preservation Commission, May 17, 2004, 4:30–6:30 p.m.
Eastlake Park Community, May 25, 2004, 6:00–7:30 p.m.
Phoenix Internal City Departments, May 26, 2004, 3:00–7:00 p.m.
Presentation to Ad Hoc Central City Planning, May 27, 2004, 10:00–11:30 a.m.
Downtown Community Meeting, May 27, 2004, 7:00–9:00 p.m.
Downtown Precinct Workshop, May 29, 2004, 1:00–3:00 p.m.
Internal City of Phoenix Departments, June 9, 2004, 4:30–6:30 p.m.
Downtown Property, June 11, 2004, 9:30–10:30 a.m.
Phoenix Housing Subcommittee, June 16, 2004, 9:30–11:00 a.m.
Central Stations Options, June 17, 2004, 8:30–9:30 a.m.
Roosevelt Neighborhood Steering Committee, June 17, 2004, 5:30–6:30 p.m.
Garfield Revitalization Committee, June 22, 2004, 5:30–6:30 p.m.
Phoenix Internal City Departments, June 23, 2004, 4:30–6:30 p.m.
Master Plan Workshops, June 28–July 1, 2004
City of Phoenix Historic Preservation Commission, July 1, 2004, 6:00–7:00 p.m.
Downtown Planning/Site/Retail/Phoenix Futures/District #4, July 2, 2004, 8:00–11:30 a.m.
Catalytix Panel Discussion on Downtown Planning, July 21, 2004, 9:00 a.m.–2:00 p.m.
Roosevelt Neighborhood Presentation, July 21, 2004, 6:30–8:00 p.m.
Downtown Planning Meeting, August 10, 2004, 11:00 a.m.–12:00 noon
Downtown Phoenix Campus Land Acquisition, August 17, 2004, 2:00–3:30 p.m.
Land Use Charrette, August 20, 2004, 8:00 a.m.–1:00 p.m.
Light Rail, August 23, 2004, 1:30–3:00 p.m.
Downtown Phoenix Campus Financing, August 30, 2004, 12:00–2:00 p.m.
Downtown Maps, September 14, 2004, 7:30–8:30 a.m.
Phoenix City Council Work Study Session, September 21, 2004, 2:00–4:00 p.m.
Sterling Partners, September 22, 2004, 12:30–2:00 p.m.
City of Phoenix Transit 2000, September 23, 2004, 8:30–9:30 a.m.
Phoenix Public Town Hall, September 23, 2004, 6:00–9:00 p.m.
City of Phoenix Historic Preservation Commission, September 27, 2004, 4:30–6:30 p.m.
Planning Commission Downtown Subcommittee, September 29, 2004, 4:00–6:00 p.m.
Downtown Neighborhood Leadership, September 30, 2004, 6:30–8:30 p.m.
Downtown Plan Work Session, October 5, 2004, 10:00 a.m.–2:00 p.m.
Downtown Precinct/Public Workshop I, October 6, 2004, 9:00 a.m.–12:00 noon
City of Phoenix/Maricopa Community College District Downtown Planning, October 7, 2004, 3:00–4:00 p.m.
Downtown Precinct/Public Workshop II, October 8, 2004, 9:00–11:00 a.m.
Central City Village Planning Committee, October 11, 2004, 6:00–8:00 p.m.
Ad Hoc Central City Planning Subcommittee, October 12, 2004, 10:00 a.m.–12:00 noon
City of Phoenix Planning Commission, October 13, 2004, 4:00–6:00 p.m.
Downtown Neighborhood Leadership Public Workshop, October 13, 2004, 6:30–8:30 p.m.
Phoenix Parks and Recreation, October 15, 2004, 10:00–11:00 a.m.
GSA Study on Post Office, October 15, 2004, 11:30 a.m.–1:00 p.m.
Downtown Historic Preservation Commission, October 18, 2004, 4:30–6:30 p.m.
Roosevelt NIA, October 21, 2004, 5:30–6:30 p.m.
Downtown Neighborhood Leadership, October 21, 2004, 6:30–8:30 p.m.
Downtown Property, October 22, 2004, 10:30–11:00 a.m.
Downtown Sports and International Subcommittee, October 27, 2004, 10:00 a.m.–12:00 noon
Phoenix Parks and Recreation Board, October 28, 2004, 5:30–7:00 p.m.
Downtown Development Teleconference, November 1, 2004, 9:00–10:00 a.m.
Tour and Inspection of 411 N Central, November 2, 2004, 9:30–10:30 a.m.
Wells Fargo Downtown Office, November 3, 2004, 10:00–11:00 a.m.
NGP Capital, November 4, 2004, 9:00–10:00 a.m.
Snell and Wilmer, November 4, 2004, 10:30 a.m.–12:30 p.m.
Walking Tour of Downtown, November 5, 2004, 8:00–10:00 a.m.
Planning Commission, November 10, 2004, 4:00–6:00 p.m.
Downtown Property, November 15, 2004, 1:00–2:00 p.m.
Phoenix Business Partnership, November 16, 2004, 7:30–8:30 a.m.
Final Map Revision, November 17, 2004, 1:00–2:00 p.m.
Tour of Ramada Inn, November 18, 2004, 3:30–5:30 p.m.
Housing and Neighborhood Commission, November 17, 2004, 4:30–6:30 p.m.
Downtown Planning Options, November 22, 2004, 5:30–7:30 p.m.
Final Review Downtown Maps, November 30, 2004, 4:15–6:00 p.m.
Downtown Property, December 2, 2004, 1:00–2:30 p.m.
Sterling Property, December 6, 2004, 3:00–4:00 p.m.
Phoenix Council Meeting, December 8, 2004, 2:00–4:00 p.m.
Valley Forward, December 10, 2004, 11:30 a.m.–1:30 p.m.
Maricopa County Association of Governments, December 13, 2004, 1:00–2:00 p.m.
Downtown Phoenix Campus Community Committee, December 15, 2004, 5:30–7:00 p.m.
Threshold Partnership December 17, 2004, 3:00–4:00 p.m.
Valley Forward, January 4, 2005, 11:30 a.m.–1:30 p.m.
SDMU/Sally Ramage, January 6, 2005, 2:30–3:00 p.m.
Planning for Grand Civic Space, January 11, 2004, 10:00–11:00 a.m.
Sterling Block, January 13, 2005, 8:00–9:00 a.m.
ASU/CITY Early Start Meeting, January 14, 2005, 10:00–11:00 a.m.
Brief Regent Bulla, January 19, 2005, 9:30–10:00 a.m.
Councilman Tom Simplot, January 20, 2005, 7:30–9:00 a.m.
Downtown Funding, January 20, 2005, 2:00–3:00 p.m.
Transit Oriented Development Symposium, January 24, 2005, 7:30–9:30 a.m.
Downtown Real Estate, January 24, 2005, 1:00–1:30 p.m.
411 Cost Estimates, January 27, 2005, 9:00–10:00 a.m.
Eliot Pollack/Economic Impact Studies, January 27, 2005, 2:00–3:00 p.m.
ASU/Downtown Development/City Attorney, February 7, 2005, 9:00–10:00 a.m.
Ramada Property/Snell and Wilmer, February 10, 2005, 10:00–11:00 a.m.
Post Office Property, February 15, 2005, 10:00 a.m.–12:00 p.m.
Phoenix IGA, February 16, 2005, 12:30–2:30 p.m.
Ramada Property Developer Concept, February 23, 2005, 7:30–9:00 a.m.
Phoenix IGA Negotiation, February 23, 2005, 3:30–5:00 p.m.
ASU Downtown Redevelopment Plan/City of Phoenix, March 4, 2005, 2:00–3:00 p.m.
Post Office Site, March 7, 2005, 9:30–10:30 a.m.
Tour of Valley Youth Theater, March 7, 2005, 10:45 a.m.–12:45 p.m.
Tour of AMC Theater, March 7, 2005, 1:30–2:30 p.m.
Post Office Site, March 9, 2005, 1:00–2:00 p.m.
Downtown/ASU Initial Developmental Pre-Submittal, March 10, 2005, 8:30–10:00 a.m.
Downtown Campus Programming and Concepts, March 10, 2005, 10:30–11:30 a.m.
Downtown Securities Building Needs w/Steve Connor, March 10, 2005, 12:30–2:00 p.m.
Downtown Introductory Meeting, March 10, 2005, 2:00–4:00 p.m.
Phoenix IGA, March 21, 2005, 12:00–1:30 p.m.
City of Phoenix/ASU and the U.S. Postal Service, March 22, 2005, 2:30–3:30 p.m.
Phoenix Presentation on Downtown Plan, March 25, 2005, 11:30 a.m.–5:00 p.m.
ASU IT/Downtown Campus Discussion, March 28, 2005, 4:00–5:00 p.m.
MAG Building Lease Working Group, March 29, 2005, 10:00–11:00 a.m.
Student Housing/LRT, March 29, 2005, 3:00–4:00 p.m.
Downtown Draft Concept Plan, March 29, 2005, 4:00–5:00 p.m.
Downtown Campus Planning Session, April 1, 2005, 2:00–5:00 p.m.
MAG Meeting, April 4, 2005, 11:30 a.m.–1:30 p.m.
Downtown Working Group with COP, April 5, 2005, 5:00–6:00 p.m.
Cost Estimates for Street Improvements, Downtown Campus, April 6, 2005, 9:00–10:00 a.m.
Downtown MP with Rich Stanley, April 6, 2005, 4:00–5:00 p.m.
US Post Office/Congressional Funding Opportunities, April 7, 2005, 1:00–2:00 p.m.
Downtown Working Group, April 11, 2005, 10:45 a.m.–12:00 p.m.
Downtown Student Housing, April 11, 2005, 3:00–4:00 p.m.
Although a single and unified institution, ASU is “One University in Many Places,” spatially distributed across metropolitan Phoenix.

Short list for Downtown ASU Development, April 12, 2005, 1:30–3:30 p.m.
Planners Stakeholders Group Meeting, April 19, 2005, 1:30–2:30 p.m.
Downtown Working Group, April 20, 2005, 3:00–4:30 p.m.
Post Office Acquisition, April 20, 2005, 4:30–5:30 p.m.
Downtown Working Group, April 25, 2005, 11:00 a.m.–12:00 p.m.
ASU Downtown Phase 2/Review, April 25, 2005, 2:00–4:00 p.m.
Phoenix Education Subcommittee Meeting on IGA, April 25, 2005, 2:00–3:00 p.m.
Interviews for Downtown/ASU Development, April 26, 2005, 8:00 a.m.–5:00 p.m.
ABOR Presentation, April 29, 2005, 9:30 a.m.

Recurring Meetings
Downtown Task Force Meetings
April 6–27, 2004, weekly on Tuesdays, 7:00–8:00 a.m.
May 11, 2004, 4:30–5:30 p.m.
May 27, 2004, 8:00–9:00 a.m.
July 20, 2004, 8:00–9:00 a.m.
August 3–November 30, 2004, weekly on Tuesdays, 8:00–9:00 a.m.

Downtown Task Force with President Crow
January 27, 2004, 1:00–2:00 p.m.
April 29, 2004, 7:00–8:00 a.m.
May 12, 2004, 7:00–8:00 a.m.
May 27, 2004, 9:00–10:00 a.m.
June 11, 2004, 12:00 – 1:00 p.m.
June 22, 2004, 8:00–9:00 a.m.
August 2, 2004, 10:00–11:00 a.m.
August 17, 2004, 4:00–5:00 p.m.
August 31, 2004, 9:30–10:30 a.m.
September 13, 2004, 3:00–4:00 p.m.
October 21, 2004, 10:00–11:00 a.m.
November 12, 2004, 3:00–4:00 p.m.
December 9, 2004, 9:30–10:30 a.m.
February 9, 2005, 10:45 a.m.–12:00 p.m.
March 2, 2005, 3:30–4:30 p.m.
April 11, 2005, 4:30–5:30 p.m.

Downtown Plan Steering Committee (4:00 p.m.–6:00 p.m.)

Pre-Ad Hoc Central City Planning Subcommittee (10:00 a.m.–12:00 noon)

Ad Hoc Central City Planning Subcommittee (10:00 a.m.–12:00 noon)
ASU/Phoenix Implementation Team

Downtown Strategic Planning
February 16, 2005, March 22, 2005, April 5, 2005, April 19, 2005

FURTHER READING RELEVANT TO ASU AT THE DOWNTOWN PHOENIX CAMPUS

Benefits of Urban Campuses
Leveraging Colleges and Universities for Urban Economic Revitalization
http://www.peleast.org/RR_Spring2003/1leveraging.pdf

Columbia Lauded for Contributions to Upper Manhattan Community in CEOs for Cities
Report
http://www.columbia.edu/cu/news/02/05/ceos_for_cities_report.html

Leveraging Colleges and Universities for Urban Revitalization: An Action Guide, CEOs
for Cities and ICIC (April 2002)

University-Based Partnerships in Economic Development

Universities as Developers
http://www.lincolninst.edu/pubs/pub-detail.asp?id=231

Downtown Phoenix
Making Sense of Place: Phoenix: The Urban Desert
http://www.makingsenseofplace.org/

The Greater Phoenix 2100 Project
http://www.gp2100.org

ASU Center for the Study of Rapidly Urbanizing Regions
http://ces.asu.edu/csrur

City of Phoenix Economic Development
http://phoenix.gov/ECONDEV/