UNIVERSITY OF NEVADA, LAS VEGAS

CAMPUS MASTER PLAN STUDY

Preliminary Report

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Purpose</td>
<td>1</td>
</tr>
<tr>
<td>II. Program Analysis</td>
<td>4</td>
</tr>
<tr>
<td>A. Summary of Goals and Objectives</td>
<td>4</td>
</tr>
<tr>
<td>B. Enrollment Projections</td>
<td>5</td>
</tr>
<tr>
<td>C. Space Standards</td>
<td>10</td>
</tr>
<tr>
<td>III. Existing Physical Conditions</td>
<td>16</td>
</tr>
<tr>
<td>A. Size and Configuration</td>
<td>16</td>
</tr>
<tr>
<td>B. Land Use</td>
<td>16</td>
</tr>
<tr>
<td>C. Density</td>
<td>16</td>
</tr>
<tr>
<td>D. Climatic Conditions</td>
<td>17</td>
</tr>
<tr>
<td>E. Positive and Negative Characteristics</td>
<td>17</td>
</tr>
<tr>
<td>F. Parking and Circulation</td>
<td>18</td>
</tr>
<tr>
<td>G. Utilities</td>
<td>20</td>
</tr>
<tr>
<td>H. Proposed Basketball Pavilion</td>
<td>21</td>
</tr>
<tr>
<td>I. Surrounding Community</td>
<td>21</td>
</tr>
<tr>
<td>IV. Conclusions of Parameters</td>
<td>23</td>
</tr>
<tr>
<td>V. Developable Areas</td>
<td>25</td>
</tr>
<tr>
<td>VI. Land Use Policy</td>
<td>26</td>
</tr>
</tbody>
</table>
I. Purpose of Preliminary Report

At this stage of the planning study, the program data has been collected and reviewed by the consultants. The data required to analyze various physical aspects of the campus has also been collected with a few exceptions. Data on physical conditions included campus site size, configuration, topography, and land use; physical character of the campus including the buildings, site plan layout, and landscape; utility systems, off-site and on-site vehicular traffic patterns; parking characteristics and the relationship between the campus and its surrounding community. This data is being documented on base maps and analyzed. This report is a summary of the facts collected and the conclusions reached based on the correlation of programmatic and physical data.

In addition to a program of projected physical development, two maps have been developed which graphically summarize the conclusions of the analysis. They are the proposed Developable Areas Map and the Land Use Policy Map. The Developable Areas Map defines where new construction could take place and the Land Use Policy Map defines where various campus uses should be constructed. These two maps will be the basis of the planning design studies which are to be developed in the next phase of the planning project.

A number of general planning parameters or guidelines have been defined. They are parameters which might apply to any campus planning effort. At the end of the discussion on existing conditions, a set of planning guidelines specific to the Las Vegas Campus are defined. These parameters are presented for comment by University staff. Based on these parameters, planning design studies will be developed. It is therefore important at this time to have the approval or modifying comments from the University groups on the analysis and parameters defined to date. The general parameters are:
1. A reasonable campus capacity of building area will be determined based on guidelines developed from the physical analysis, assuming no new land will be acquired for academic use.

2. A balanced pattern of growth shall be described so building area expansion is coordinated with parking and utility expansion.

3. The impact on the surrounding community of continued physical growth will be assessed and potential growth directions amended as required to minimize any negative impact.

4. The positive and negative physical characteristics of each campus will be identified and will be recognized, enhanced and improved in the planning proposals.

5. The walking distance limitation between classes will be recognized in determining the size and configuration of land for academic structures. A distance of 1800 feet is a reasonable walk in the 10 minute period between classes.

6. Buildable area sites will be defined. A range of feasible uses and building capacity for each buildable area will be defined.

7. Recognizing the limited amount of land and the requirement for efficient buildings, the planning studies will be based on building masses which have three to five floors. Only exceptions will occur in established areas where building massing should relate to neighboring buildings.
8. All types of pedestrian and vehicular circulative will be coordinated so they function efficiently and without conflict.

9. Additional parking will be located according to a criteria which includes proper proximity to buildings being served and which minimizes impact on local community streets.

10. The size of construction funds for individual projects will be recognized in sizing the projected individual construction projects.
II. PROGRAM ANALYSIS

A. Summary of Goals and Objectives

Important in any campus planning effort is the academic program being offered or expected to be offered. This plus projected student enrollments provide the two basic factors in a University's planning and budgeting process.

It is only fitting, therefore, that a summary of the goals and objectives, which includes these two basic factors, be a part of the Long Range Master Plan documents. The information presented herein on this subject is largely that furnished by the University of Nevada, Las Vegas.

Las Vegas Campus

1. The fundamental nature and character of the campus will not change radically in the next decade or so. It will continue to be a public, low cost, commuter college.

2. There is a real possibility of two or more community colleges being established in the valley (Greater Las Vegas Area) that may be expected to shift UNLV's emphasis to upper-division and graduate work.

3. The growth of the campus in terms of both students and programs can reasonably be expected to keep abreast of growth of the Greater Las Vegas Area. (See Section ahead for comments regarding projected growth).

4. Continuing education programs can be expected to grow at an extraordinary rate.

5. There will continue to be large numbers of working students with substantially full-time jobs.
6. Growth in enrollments will bring new disciplines in the undergraduate programs, additional master's degree programs, a few doctoral programs, had in the near future a few new professional schools or colleges.

7. It is expected that the Desert Research Institute and UNR's medical school will both require space on campus to accommodate their programs.

8. The campus will continue to have a high degree of involvement in community affairs and of service to the general community.

3. Enrollment Projections

Little information is available upon which to provide either ten-year or long range enrollment projections. The published "1977-81 Capital Improvement Program Request" contains substantial data on projected enrollments for UNR and UNLV by discipline thru 1980-81. The planning consultant has neither the information nor the resource either to validate or to question these projections.

There are no projections for UNLV beyond 1980-81. There are, however, numerous public and private forecasts of population growth for Clark County, the geographic area in which UNLV is located. As would be expected, these demographic studies produce a wide variation in results. Based on the studies furnished the planning consultant, the population of Clark County can be expected to increase from the 1975 actual of 398,584 to as much as 906,900 by 2000 A.D., and increase of 127.5%. This is the highest figure in the various predictions with others being nearer the 890,000 level.

One of the studies contains a caveat worthy of note: "Because population prediction is not an exact science, the forecasts which have been
made, show wide variations and most of them have proven, within a few years, to be in error."

To attempt to translate these population projections for Clark County into long range enrollment projections for UNLV would without doubt prove to be even more in error. There are so many variables and factors involved in such a translation that the results could only be misleading and prove to be a most unreliable base for planning purposes.

The planning consultant submits that these long range projections are not of major importance in developing a long range physical plan for reasons contained in the paragraphs that follow. As a matter of interest and reference only, however, a series of graphs were developed to show the actual growth of UNR and UNLV and the projected growth to 1985 in relation to all US institutions, actual and projected. These graphs are included as exhibits 1 and 2.

"Campus Capacity" rather than "Enrollment Projections"

In general, the on-going planning process on a university campus begins with projected student enrollments and continues by working these projected enrollments thru a framework of academic disciplines, student-faculty ratios, factors for administrative support, application of approved space standards and a variety of other planning tools developed for use by colleges and universities and recognized by state agencies and legislatures in the appropriation of funds. The basic process is the same whether for operating budgets or capital needs.

Year-to-year projections and the end-result data are reasonably reliable. Each year that these projections are extended into the future, the less reliable the results. Because of the many factors that affect student enrollment in colleges and universities,

some quite unpredictable as the period 1965-77 has demonstrated, a long range projection
of even 10 years is viewed by many as an exercise in futility. To attempt to refine
total enrollment by breakdown into graduate and undergraduate and then among disci-
plines, established or yet to be established, beyond a 5-year period is equally as
questionable.

Because the lead time for a major campus building from initial program develop-
ment to completion of construction and occupancies is approximately five years, the
basis for a campus long range master plan needs to be something more than enrollment
projections. This is not to completely discount the need for projections, covered
in a separate section, but rather to focus on what experience has shown to be a more
fundamental approach: i.e. within fairly well defined campus boundaries, what student
enrollment can reasonably be accommodated and still preserve a desirable quality of
total physical environment in balance with an efficient and economical campus operation.
Whether the actual enrollment reaches this capacity in ten, twenty, or even fifty years
is not all that important, so long as there are check points along the way to make
sure that the inevitable year-to-year crises or special-interest pressures do not
warp the long range objectives; also that at these check points there is sufficient
analyses done to review what has happened to that date and then to again test the
validity of the long range master plan. In other words, whatever master plan might
be adopted at this time, the need for periodic updating should be recognized. A
good plan is a dynamic one, with certain "fixes" but with some flexibility to adopt
to change. After all, what is 25 years in the life of a great university! The over-
riding concern should be: "How do we grow?"

The changes in higher education during the past 25 years (since 1953) and their
influences on the physical planning of our campuses have been beyond anyone's expec-
tations.
Proceeding on the basis of "campus capacity" rather than "projected enrollments", it is recognized that the future date when the capacity will be reached is dependent upon a number of factors. These factors should not control the year-to-year policy decision within the institutions or by the Board of Regents. However, they need to be understood since they greatly influence the rate at which unused capacity is consumed.

To illustrate: Different academic disciplines are directly related to different space needs. A curriculum heavy in the social sciences and humanities whether undergraduate or graduate requires an average of some 35 assignable square feet (asf) per student for instructional purposes. On the other hand, a curriculum in mines and engineering requires 115 asf per undergraduate student and 230 asf per graduate student. Other disciplines (except agriculture and health sciences) fit between these extremes. These extremes represent a range as great as 8:1 in terms of building space needs depending upon decisions made over the years, by whomever, as to academic offerings and whether at undergraduate level only or also at graduate level. Space requirements for faculty in different disciplines follows a similar pattern. (See Exhibit 3.)

C. Space Standards

The space standards used by the UN System in developing its 1977-81 Capital Improvement Program are those used by many colleges and universities and recognized by several funding agencies. Since these standards are so well defined and illustrated in UN System's "1977-81 Capital Improvement Program Report", no further elaboration is needed as a part of this master plan report. Certain comparisons and comments regarding limits of applicability of standards are included with the belief that by understanding what the standards do and do not represent will be helpful in formulating overall policy in the years to come. The use of the standards is an important part
Exhibit #3

SPACE ALLOWANCES FOR CLASSROOMS AND
CLASS LABORATORIES

Assignee Sq. ft./Station

Social Sciences and Humanities
Visual & Performing Arts
Physical & Biological Sciences
Engineering and Mines

* big user of central library
of the planning process and directly affect the rate of use of the unused capacity of a campus.

First of all, space standards are not a precise measurement of needs; rather, they have been empirically developed by taking actual space being used for various academic programs to serve actual numbers of students in these different programs. Over the years the base has been broadened by including more and more universities in the inventory; also by refining the programs, units of measure and data gathering techniques the standards have become more realistic. Even so, their application must be with some judgement and flexibility and not as a precise, all-inclusive multiplier in a formula that provides hard and fast answers to space needs. They serve as a good yardstick to be applied with a good sprinkling of common sense.

Second, the standards developed thus far do not include all disciplines by any means. Considerable space on any campus has multi-use and many of the new interdisciplinary programs require a mixed use of existing standards.

Third, the standards in common use today cover only the so-called "instruction and research" (I&R) space, which is something less than 40% of total campus space, depending upon whether it is a commuter or residential campus, the extent of inter-collegiate and intramural activities and a host of other factors. The I&R space, however, is the measure of needed facilities to support the primary purpose of the university -- teaching and research. The rest of campus space whether for administration, student unions, sports or whatever are "add-ons". Thus the importance that becomes attached to the I&R space and the standards by which it is measured.

Exhibit 4 indicates the space actually in use at UNR and UNR on the basis of assignable square feet per FTE for the typical categories that comprise the total
# CAMPUS COMPARISONS
(1976-1977 DATA)

<table>
<thead>
<tr>
<th>SPACE CATEGORY</th>
<th>UNR (6066)*</th>
<th>UNLV (5326)*</th>
<th>UCD (16,316)*</th>
<th>UCI (8707)*</th>
<th>UCSB (14,279)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>classrooms</td>
<td></td>
<td>79</td>
<td>56</td>
<td>65</td>
<td>51</td>
</tr>
<tr>
<td>class laboratories</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>academic staff &amp; grad. stu. res. &amp; office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>organized research</td>
<td></td>
<td>4</td>
<td>-</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>library</td>
<td></td>
<td>26</td>
<td>10</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>administration &amp; services</td>
<td></td>
<td>10</td>
<td>7</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>student services (excluding RH's, IC, athletics &amp; health sciences)</td>
<td></td>
<td>8</td>
<td>10</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>total</td>
<td>127</td>
<td>83</td>
<td>123</td>
<td>91</td>
<td>98</td>
</tr>
</tbody>
</table>

* total FTE students
campus space. Four campuses of the University of California System are also shown for comparative purposes. The UC System and the UN System use substantially the same basic space standards. The major differences in the overall campus averages between UNR and UNLV occur in the I&R and library categories. The priority listing in the approved 1977-81 Capital Improvement Program recognizes these disparities and the proposed buildings, if funded, will in large measure bring the two campuses into better balance.

The campus average of assignable square feet per FTE can be expected to continue to be higher at UNR than at UNLV due to the emphasis in the academic program of disciplines that require more space per FTE, i.e. Mines, Engineering, Agriculture and Health Sciences.

Based on the goals and objectives presented by the two institutions, the overall average ASF per FTE will continue to be higher at UNR. It should be noted that none of the averages shown includes residence halls, intercollegiate athletics or health services.

Taking into consideration the present academic programs and the estimates of future changes as expressed in the Goals and Objectives, the Campus average (ASF/FTE) could increase to 120-130 in the next decade. The rate of change will depend upon the rate at which the mix of students change toward more upper division and graduate work, a shift toward disciplines that are large space users and the addition of entirely new programs, especially at the doctoral level and in the professional schools. Again, these are factors that determine the rate at which unused campus capacity becomes committed and the need to examine periodically and in some detail just how the campus is developing. Again the theme question: "How do we grow?"
To provide a guide for planning for future space needs a chart which has been prepared which relates FTE projected enrollment growth (See Exhibit #2) with the space standards above. Since planning studies use gross square foot areas, the assignable square foot average has been adjusted to a gross square foot average of 140 sq/FTE for the Las Vegas Campus. Later in the report when developable areas are discussed, contingency factors will be used to allow for any increase in space standards. The years indicated serve as check points.

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Space Requirements</th>
<th>Exhibit #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE</td>
<td>5,326</td>
<td>6,911(1)</td>
</tr>
<tr>
<td>Gross Floor Area</td>
<td>710,000 s.f.(4)</td>
<td>967,540</td>
</tr>
<tr>
<td>Additional Area Required</td>
<td>74,000 s.f.</td>
<td>367,700</td>
</tr>
</tbody>
</table>

1) 1977-81 Capital Improvements Program Request
2) Projected Growth from Exhibit #2
3) Based on existing campus capacity to absorb new building volume.
4) Existing gross floor area.
III. **EXISTING PHYSICAL CONDITIONS**

A. **Size and Configuration**

The existing site has 335 acres of land. There is no further land acquisition planned. There is a large amount of undeveloped land within the existing site boundaries. The site configuration is almost square in plan. Undeveloped land exists around and within the constructed building area. The site size and configuration are not obstacles to campus expansion.

B. **Land Use**

The campus has grown from Maryland Parkway, the eastern boundary. The academic core area is concentric in shape containing buildings spaced quite far apart. Academic services are well located approximately in the center of the academic core. Parking is located around all sides of the academic area, which is good in principle. However, the distribution of parking spaces does not relate to requirements of nearby buildings. This should change as new buildings are constructed in the spaces between buildings. The physical education playfields are conveniently laid out next to the academic core with available unused land on two sides for expansion. The general arrangement of the existing land use is good. There are many unused, large sized parcels for possible future uses including a pavilion, residential and professional schools.

The student union is not properly located. It should be located close to the center of campus activity.

C. **Density**

The significant issue related to land use is the very low density of development on the campus to date. Buildings are located far apart so walking distance between classes can be a problem. The buildings constructed to date with the exception of Dungan Humanities are two and three stories high. Therefore, density is very low.
It is probably this low because so much land appears to be available. However, higher utilization of land will be required in the future if the probable student growth is to be accommodated in a functional, efficient and visually attractive environment.

Buildings on this campus could average five stories. This is an efficient, number of floors with faculty offices located above one or two floors of academic teaching spaces. These buildings would also be planned closer together to create smaller scaled defined exterior spaces. Accepting these two ideas would create a higher density which would provide alot of potential building area within a properly sized academic core area.

D.  Climatic Conditions

The sun and the wind conditions can cause very uncomfortable environmental conditions. Shaded walks and exterior spaces for sitting should be created. The existing buildings are not formed to create shaded areas. Closer groupings of buildings could create shaded spaces and could also create buffers from the wind. Most walks and exterior spaces at present do not have large enough trees properly spaced and located near enough to the paved area to provide shade.

E.  Positive and Negative Physical Characteristics

This is a very young campus. There is an apparent overall plan for development as buildings are loosely grouped along the two major malls. However, no visual "Image" of all or part of the campus is perceived. The landscape has not had a chance to grow and mature. However, there is no apparent overall landscape concept which would unite the campus exterior spaces. Most landscaping is related to individual buildings, is small scaled and does not blend with the scale of the building or relate to other landscaped areas.
The lack of "Image" quality is also the result of placing the individual buildings so far apart. Each building is seen as an independent element rather than as part of a greater composition of buildings and spaces. Many of the individual buildings are well designed. However, there is no overall or guiding architectural style. This could be tolerated if the scale of the landscape were strong enough visually to neutralize the variety of building forms and color by establishing its own visual order. Unfortunately, the landscape planting is tentative in concept.

There are many positive opportunities to guide the physical growth. The land use plan is basically correct. Circulation systems are rational. There are some areas where exterior spaces are well landscaped and can be incorporated into a larger landscape concept. Parking areas are kept a distance away from buildings. Finally there are many excellent buildable areas located within the functional academic core which if properly developed can create a series of humanly scaled exterior spaces. This close grouping of building masses will begin to create the visual "Image" which is lacking.

F. Parking and Circulation

There is access to the campus from four sites. However, most traffic generated by the campus uses Maryland Parkway because the majority of parking is served by this road. The intersection of University Road and Maryland Parkway is congested at midday with 20 minute queue time occurring at noon, one and two o'clock. The numerous small campus lots along Maryland each have their own access. This also increases congestion along Maryland. The amount of curb cuts must be minimized. More access and egress points must be developed to serve the growing parking lots on the interior of the campus.
Vehicular circulation within the campus is properly separated from pedestrian circulation. The closing of Harmon Avenue and University Road to thru traffic should be studied.

Parking at the campus is not properly distributed. Lots off Cottage Grove are under utilized and lots off Harmon and University Road are completely utilized. There are 2,896 marked spaces plus approximately 430 spaces on unpaved areas. About 8,500 permits were issued last year. There were .53 marked spaced/FTE last year. This is a high percentage when compared to the parking ratio of other campuses in the West. (See Exhibit #6)

<table>
<thead>
<tr>
<th>Year</th>
<th>Campus</th>
<th>FTE</th>
<th>Spaces</th>
<th>Spaces per FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>UNR</td>
<td>6,068</td>
<td>3,263</td>
<td>.54</td>
</tr>
<tr>
<td>1976-77</td>
<td>UNLV</td>
<td>5,326</td>
<td>2,896</td>
<td>.53</td>
</tr>
<tr>
<td>1973</td>
<td>UC Santa Cruz</td>
<td>4,798</td>
<td>2,910</td>
<td>.61</td>
</tr>
<tr>
<td>1975</td>
<td>Mills College</td>
<td>985</td>
<td>554</td>
<td>.56</td>
</tr>
<tr>
<td>1967</td>
<td>St. Mary's</td>
<td>906</td>
<td>580</td>
<td>.64</td>
</tr>
<tr>
<td>1967</td>
<td>CSU Hayward</td>
<td>4,318</td>
<td>1,880</td>
<td>.44</td>
</tr>
<tr>
<td>1966</td>
<td>UC Santa Barbara</td>
<td>7,580</td>
<td>3,700</td>
<td>.49</td>
</tr>
<tr>
<td>1967</td>
<td>Napa College</td>
<td>1,294</td>
<td>650</td>
<td>.50</td>
</tr>
<tr>
<td>1967</td>
<td>San Mateo</td>
<td>6,812</td>
<td>4,279</td>
<td>.63</td>
</tr>
<tr>
<td>1967</td>
<td>Contra Costa</td>
<td>2,800</td>
<td>215</td>
<td>.29</td>
</tr>
<tr>
<td>1966</td>
<td>Foothill College</td>
<td>7,120</td>
<td>4,185</td>
<td>.59</td>
</tr>
</tbody>
</table>

Parking should be distributed in areas which are close to heavily used academic building to get better utilization.
G. Utilities

Commercial power is purchased from Nevada Power Company at two substations located on campus. Power is distributed at 4160 volts radially from the substations to nearby buildings. The two substations are connected together with a high-voltage intertie thereby providing alternate power sources at each substation. One overhead power company line remains on campus which serves three building located on the south side of Harmon Avenue. Total capacity of the two substations is 10,000 KVA and present maximum demand is 6650 KVA leaving 3350 KVA available for expansion at the present time.

Telephone service enters the campus from Maryland Parkway into the central exchange. From the exchange lines are carried by a University owned underground duct system. A second communication duct carries audio-visual circuits to all classroom buildings from the A-V Center in the Humanities building.

Gas is purchased from Southwest Gas Company at three service points along Maryland Parkway and one on Harmon Avenue. The Harmon service is now the largest. Company lines serve most buildings direct but other buildings are served by University owned low pressure lines.

A single heating and chilling plant serves the McDermott Physical Education Complex. Ham Concert Hall is provided with hot and chilled water from the Bayley Theatre mechanical room. Wright Hall is provided chilled water from the Library mechanical room. All other buildings have boilers and chillers located in the buildings that they serve.

The storm drain system consists of branch lines feeding into a main line which then dumps into a main city line located in Maryland Parkway. The system appears to be adequate.
The sanitary sewer system consists of three feeder lines which all dump into a city main located in Maryland Parkway. It appears that sewers would not be a limitation in placement of new buildings.

Water is purchased from Las Vegas Valley Water District in a 10" line feeding from a main in Maryland Parkway. A network of 6", 8" and 10" lines serve the campus. A well is used for irrigation in the older section of the campus.

H. Proposed Basketball Pavilion

An 18,000 seat pavilion has been proposed for the campus. This facility will be a large building of between 300 and 400 feet in diameter. The parking requirement could be between 6,000 and 7,000 cars. Thus, a site area of at least 60 acres is required if no parking from existing lots were used.

There is more than enough undeveloped land on the south side of the campus for this facility. The parking required will also be available for student use during the academic day.

I. Surrounding Community

The neighboring blocks along Flamingo Road and Maryland Parkway are developing strip commercial developments. This will increase traffic congestion on these two streets.

The campus will have to create better access from Tropicana Avenue and Swenson Streets to the parking lots. This will relieve Maryland Parkway and give the campus accessibility from four sides.
Las Vegas has a fast expanding metropolitan area. The density of development is also increasing. In twenty years the surrounding area will be much more dense. Campus development will also become more dense. Land is too valuable.

Zoning and land use policy is hard to analyse because of frequent changes. However, more urbanized residential and commercial community is growing around this campus.
IV. Conclusions of Parameters

A. The present site area is adequate for expansion of all land use requirements for student enrollment of up to 25,000 FTE. The configuration of the site will not impede the most efficient method of expansion of the campus.

B. Land use patterns as they exist are proper. Residential development for students can be developed at Swenson and Flamingo and/or along Tropicana at the south. There is much available area within the academic core for additional academic buildings.

C. The building density on this campus is very low and will be increased in a manner which creates clusters of buildings and a series of humanly scaled exterior spaces. While some buildings can be higher than five stories, this height consideration will relate to the airport's landing pattern as well as urban design.

D. There is adequate land on the south part of campus for a Basketball Pavilion. Its required parking should be located so it can also be used for student parking during the academic day.

E. The student union would be more appropriately located at the hub of student pedestrian circulation on campus. It should be near the center of the academic core. The existing campus lacks an identifiable "Image" quality. This can be achieved by a more compact grouping of buildings sited so they define more human scale exterior spaces. A comprehensive landscape concept with planting scaled to harmonize, not be dominated by buildings will create a positive visual "Image".

F. Parking spaces are not adequately distributed in relation to buildings generating parking need in relation to accessibility to surrounding streets. Access to
streets should be simplified. Access from Tropicana and eventually Swenson Street should be developed to receive Maryland Parkway congestion. On site vehicular circulation will continue to be peripheral to the pedestrian.

G. Parking will be expanded in the future at the rate of .50 spaces/FTE. The parking requirement would be:

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE</th>
<th>Spaces Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>5300</td>
<td>2870 spaces exist</td>
</tr>
<tr>
<td>1981</td>
<td>6911</td>
<td>3732 spaces needed</td>
</tr>
<tr>
<td>1987</td>
<td>9500</td>
<td>4750 spaces needed</td>
</tr>
<tr>
<td>2000</td>
<td>16000</td>
<td>8000 spaces needed</td>
</tr>
<tr>
<td>Ultimate</td>
<td>25000</td>
<td>12500 spaces needed</td>
</tr>
</tbody>
</table>

H. Utility improvements will be coordinated with stages of growth. Centralization of major facilities will be a criteria.

I. The E.P.A. leased land will remain.
V. Developable Areas

As a result of the physical analysis the consultants have identified a number of land parcels which are available for development. The sites are located between existing buildings within the academic core as well as around the periphery of the existing academic cluster. The parcels are also located so they would hold buildings which would create the exterior spaces discussed earlier. An average height of five stories without basement was used in calculations. Approximately 2,600,000 sq. ft. of additional building floor area could be constructed within the academic core. In addition, there is room for professional schools outside this core. Using existing space standards this additional area plus existing area will serve a 25,000 FTE student body. If land area outside the academic core is used for other purposes and the space standards (ASF/FTE) increases because of educational program expansion, the FTE capacity will be less than 25,000 FTE. The land available for surface parking will provide the 12,500 spaces required for an ultimate capacity of 25,000 FTE.
VI. Land Use Policy

The existing campus distribution of land uses is good. The proposed land use essentially expands and defines the perimeters of each use. Potential new uses including student housing have land use areas indicated between Swensen and Flamingo and on land located along Tropicana at the south part of the campus. Some professional schools might also be located outside the academic core in the southern areas. Parking requirements are land consuming. The parking at ultimate size is indicated. However, a large amount of it is quite far from the academic core. This situation will be studied in more detail. This parking area works well in relation to the Basketball Pavillion. The Pavillion is located where it can function independently from the academic campus.