8. PARKING AND PEDESTRIAN LINKAGE

Parking for the pedestrian campus at TAMU-CC was carefully organized in the Campus Master Plan 1991-2010. It was carefully integrated with pedestrian connections to the pedestrian core.

PARKING
Parking was located for easy access from Ocean Drive and was subsequently constructed by the University in accordance with the plan. It is a simple and clear organization of double cul de sac entrance drives into the campus from the major thoroughfare / bridge combination of Ocean Drive. Ocean Drive is on the north edge of the island. Coming onto the Island from the bridge, the first or west entrance is Island Boulevard; the second or east entrance is Sand Dollar Drive. Refer to section 7. TRANSPORTATION. The only departure from the original planning is one of quantity, not quality. A large additional surface lot has been built adjacent to Ocean Drive on both the east and west sides of the campus core.

It is assumed for the purposes of this report that the present parking ratio (ratio of enrollment to existing parking inventory) should and will remain constant for the time period of this study. Presently, that ratio (“PR”) is approximately 1.8.

Parking Ratio = 8,585 students / 4,792 +/- spaces = 1.8 +/- 

A parking ratio of 1.8 to 2.0 is typical for a commuter based campus.
EXISTING FACILITIES

**TYPE OF PARKING**

The present parking facilities are mostly large and efficient lots of asphalt paving. They are adjacent to the two main entrance drives and next to the academic core. In such locations the lots are the transition zones from the vehicle-oriented zones of the lots to the all-pedestrian zone of the campus core. The sharing of the same space in the lots by these two functions is noteworthy.

Parking spaces for the disabled have been thoughtfully aggregated and located at the most convenient locations. Refer to Illustration No. 8.1  MAP OF EXISTING PARKING FACILITIES.

### PARKING ON WEST SIDE OF ISLAND
**MAJOR FACILITIES / Island Boulevard**

- Natural Resources Center Lot 261 spaces
- Starfish Lot 500 spaces
- Seahorse Lot 432 spaces
- Sailboat Lot 272 spaces
- Jellyfish Lot 359 spaces

**MISCELLANEOUS FACILITIES / Island Boulevard**

235 spaces

**DISABLED RESERVE FACILITIES**

63 spaces

**TOTAL EXISTING PARKING ON WEST SIDE**

2,126 spaces

**MAJOR FACILITIES / Sand Dollar Drive**

- Sand Dollar Lot 611 spaces
- Tarpon Lot 212 spaces
- Curlew Lot 474 spaces
- Hammerhead Lot 308 spaces

**MISCELLANEOUS FACILITIES/ Sand Dollar Drive**

52 spaces

**DISABLED RESERVE FACILITIES**

89 spaces

**TOTAL EXISTING PARKING ON EAST SIDE**

1,746 spaces

**TOTAL NON-RESIDENTIAL PARKING ON ISLAND**

3,872 spaces

**RESIDENTIAL FACILITIES Sand Dollar Drive**

- West Miramar Lot 246 spaces
- East Miramar Lot / North 202 spaces
- East Miramar Lot / North Central 97 spaces
- Miramar Driveway Parking 88 spaces
- East Miramar Lot / South Central 183 spaces
- East Miramar Lot / South 104 spaces

**TOTAL PARKING ON ISLAND**

4,792 spaces

**OVERFLOW FACILITIES (FIRST TEN DAYS)**

- Grass area south of Student Center 200 spaces
FUTURE FACILITIES

NEEDED PARKING

INCREASE IN ENROLLMENT to 10,000 [Projection]

\[
\frac{10,000}{2} = 5,000 \text{ spaces} \quad \text{[Prediction with PR = 2]}
\]

\[
\frac{10,000}{1.8} = 5,560 \pm \text{ spaces} \quad \text{[Prediction with PR = 1.8]}
\]

Needed Additional Parking = 200-760\pm\text{ spaces} (say 500 spaces)

INCREASE OF 50 % IN ENROLLMENT

8,585 students \times 1.5 = 12,878; say 12,900 \pm \text{ students} \quad \text{[Projection]}

\[
\frac{12,900}{2} = 6,450 \text{ spaces} \quad \text{[Prediction with PR = 2]}
\]

\[
\frac{12,900}{1.8} = 7,170 \pm \text{ spaces} \quad \text{[Prediction with PR = 1.8]}
\]

4,792 spaces \times 1.5 = 7,190 \pm \text{ spaces} \quad \text{[Projection]}

Needed Additional Parking = 1,660 to 2,380 spaces (say 2,020 spaces)

INCREASE OF 100 % IN ENROLLMENT

8,585 students \times 2.0 = 17,170; say 17,200 \pm \text{ students} \quad \text{[Projection]}

\[
\frac{17,200}{2} = 8,600 \text{ spaces} \quad \text{[Prediction with PR = 2]}
\]

\[
\frac{17,200}{1.8} = 9,560 \pm \text{ spaces} \quad \text{[Prediction with PR = 1.8]}
\]

4,792 spaces \times 2.0 = 9,580 \text{ spaces} \quad \text{[Projection]}

Needed Additional Parking = 3,810 to 4,760 spaces (say 4,300 spaces)

TYPE AND LOCATION OF ADDITIONAL PARKING

It will take some time to implement a major parking plan for the anticipated growth in enrollment. To provide parking for the interim situation of an assumed increase in enrollment to 10,000 students, parking for approximately 500 additional cars must be provided. This is an area of new surface parking approximately the size of the existing Starfish Lot.

PARKING OPTION 1: NEW LOT(S) WITH 500 SPACES FOR ENROLLMENT OF 10,000

Assumptions:
1. The existing enrollment of 8,585 students is served by 4,792 spaces.
2. The Parking Ratio of approximately 2.0 (students per parking space) will be maintained. This ratio includes parking for faculty and staff, visitors, etc.
3. New building construction to support the increase in enrollment to 10,000 students will not require demolition of significant amounts of existing parking

Calculations:
- 4,792 spaces (existing) + 500 spaces (new) = 5,300 \pm \text{ spaces (needed) for an enrollment of 10,000 students}
- Provide new spaces in these facilities:
  - New Parking Lots [on the Island]
    - 500 spaces
In order to add 500 spaces two lots would probably have to be built—both on the east side of the campus. One lot (300 spaces) would be constructed on the south side of the existing Hammerhead Lot to the east of Sand Dollar Drive. The other lot (200 spaces) would require the relocation of the soccer field to an east/west orientation. The second lot would then be constructed adjacent to Curlew Drive on the south and between the Moody Field House and the Miramar Apartments.

Discounting the parking at the student housing, this plan would bring a closer balance in the total parking available on each side of the campus: 2,126 spaces on the west side and 2,246 compared to 2,126 and 1,746 respectively at present.

To significantly increase the amount of parking beyond the amount necessary for an enrollment of 10,000 one of two options must be utilized. The first option is to build parking garages on the island. Refer to Illustration No. 8.2 POTENTIAL PARKING GARAGE LOCATIONS. The second option is to plan a satellite parking facility (surface lot) on the mainland connected to the campus by shuttle buses. A hybrid option may be the most likely to occur over time.

**PARKING OPTION 2: ON-ISLAND FACILITIES FOR GROWTH OF 50 % IN ENROLLMENT (13,000 +/-)**

**Assumptions:**

1. The existing enrollment of 8,585 students is served by 4,792 spaces.
2. The parking ratio of approximately 1.8 to 2.0 (students per parking space) will be maintained. This ratio includes parking for faculty and staff, visitors, etc.
3. Approximately 900 spaces will be lost to building sites in the future.
4. Parking garages will be built on sites already occupied by surface parking.
5. The bridge capacity cannot handle more than a growth of 50 % in enrollment on the Island. Therefore, the maximum growth for the campus on-Island is approximately 12,500 to 13,000 students.
6. Parking garages will be a maximum of four stories in height and will have the capacities shown below.

**Calculations**

- 4,792 spaces (existing) – 900 spaces (lost) = 3,900 +/- spaces (remaining)
- 3,900 spaces (remaining) + 900 spaces (replacement) + 2,020 spaces (new) = 6,820 spaces (needed) for a 50% increase in enrollment
- 2,020 spaces (new) + 900 spaces (replacement) = 2,920 spaces (required)
- Provide replacement and new spaces in these facilities:
  - East Garage [on the Island] 1,000 spaces (net)
  - West Garage [on the Island] 1,000 spaces (net)
  - Parking Lots [on the mainland] 920 spaces

  **TOTAL** 2,920 spaces (net)
Illustration No. 8.2 POTENTIAL PARKING GARAGE LOCATIONS

Each garage could have its entrance and exit on a different side to distribute the traffic flow. These garages could be connected with pedestrian bridges from the third level to the proposed walkway system for the campus core. This would tend to make the upper levels as desirable as the lower levels.

There should be no vehicular traffic in the zone between the garages and the core other than service and security vehicles.

Other options are to construct usable space for student life and student service functions on the ground floor of the garages. This could provide a stream of revenue to help support financing of the garages.

Presently, there is probably enough capacity in the existing parking inventory for a garage to be built without temporary off-island parking. This potential (but very tight) existing capacity opportunity will disappear quickly with increasing enrollment. After it is gone an off-island satellite solution will be necessary.

**PARKING OPTION 3: SATELLITE FACILITIES ON MAINLAND FOR 50 % GROWTH IN ENROLLMENT**

**Assumptions**
1. The existing enrollment is 8,585 students served by 4,792 spaces.
2. The parking ratio of approximately 1.8 to 2.0 (students per parking space) will be maintained. This ratio includes parking for faculty and staff, visitors, etc.
3. Approximately 900 spaces will be lost to building sites in the future.
4. No parking garages will be built on the Island.
5. The bridge cannot handle more than a growth of 50 % on the Island.
Calculations

- 4,792 spaces (existing) – 900 spaces (lost) = 3,900 spaces (remaining)

- 3,900 spaces (remaining) + 900 spaces (replacement) + 2,020 spaces (new) = 6,820 spaces (needed) for a 50% increase in enrollment

- Provide replacement and new spaces in these facilities:

  New Parking Lot(s) [on the mainland] 2,920 spaces (net)

Refer to Illustration No. 8.3 OFF-ISLAND PARKING CONCEPT. No one will be happy about a satellite parking lot, especially if they have to use it. But the understanding of the need for it should be better understood by the inhabitants of the Island University than by most people due to their conscious or unconscious sense of the limits of an island.

![Illustration No. 8.3 OFF-ISLAND PARKING CONCEPT](image)

Illustration No. 8.3 OFF-ISLAND PARKING CONCEPT

Funding for acquisition of land is easier to come by than for construction of parking garages. Surface parking costs about 10 percent of what structured (garage) parking costs to build, making it far more easy to fund with parking fees.

In addition to providing ownership of the land (ideally), the satellite option avoids the visual impact of four story garages on the campus.

The quality of paving and lighting at a satellite facility should be the best. The shuttles could go into both of the two drives on the Island and drop off at the core, as well as stop at the transit stop on Ocean Drive.
The transit terminal at the satellite parking facility should be given careful design consideration. It could have a small coffee and snack shop, carrels or desk seating, and a loading canopy for the shuttle buses to pull under. It should be “branded” in its style as part of the University.

A negative characteristic of off-site (mainland) parking is the need for a fleet of shuttle buses (a significant number of shuttle buses) in order to handle the flow of students with the least amount of resistance from the ridership. The transit center should also provide parking for the shuttle bus fleet when it is not circulating. It is possible that the present circulator system provided by the transit company could be expanded to provide this service.

**PARKING OPTION 4: HYBRID FACILITIES FOR 50% GROWTH IN ENROLLMENT**

**Assumptions**
1. The existing enrollment is 8,585 students served by 4,792 spaces.
2. The parking ratio of approximately 1.8 to 2.0 (students per parking space) will be maintained. This ratio includes parking for faculty and staff, visitors, etc.
3. Approximately 900 spaces will be lost to building sites in the future.
4. Two parking lots will be built on the Island as enrollment grows to 10,000.
5. Two parking garages will be built on the Island.
6. The bridge cannot handle more than a growth of 50% on the Island.

**Calculations**
- 4,792 spaces (existing) – 900 spaces (lost) = 3,900 +/- spaces (remaining)
- 3,900 spaces (remaining) + 900 spaces (replacement) + 2,020 spaces (new) = 6,820 spaces (needed) for a 50% increase in enrollment
- Provide replacement and new spaces in these facilities:
  - Parking Lots [on the Island]: 500 spaces
  - East Garage [on the Island]: 1,000 spaces (net)
  - West Garage [on the Island]: 1,000 spaces (net)
  - Parking Lot [on the mainland]: 420 spaces

  **TOTAL**: 2,920 spaces (net)

**PARKING OPTIONS FOR 100% GROWTH IN ENROLLMENT**

The parking options for a doubling of enrollment are the same as for a fifty percent increase except that an additional 2,280 spaces must be constructed on the mainland.

**PEDESTRIAN LINKAGE**

**CORE / AXIS**

The dimensions and limits of the Island make it an ideal location for a pedestrian campus. Virtually the entire campus fits within the six minute walking radius with the most significant parts of it well within the 3 minute radius. Refer to Illustration No. 8.4 EXISTING PEDESTRIAN PATHWAYS. The concept of pedestrian linkage is simple and elegant. A pedestrian core extends form Corpus Christi Bay on one end to the Cayo del Oso on the other. This core intersects a major thoroughfare at one end. From this thoroughfare extend two entrance boulevards that parallel the pedestrian core on each side. Between these boulevards and the core are the parking lots which are linked to the core with sidewalks and pathways.
Illustration 8.4  EXISTING PEDESTRIAN PATHWAYS

JOGGING / NATURE TRAIL
A jogging / nature trail follows the entire Cayo del Oso edge of the campus. This riparian zone features many plants and animals of the natural environment, and is used as a literal laboratory by some of the ecology classes at the University. This trail could be enhanced with periodic cabanas or “chiki huts” along the way that would provide shade (possibly hammock hooks) for study, lunch, and social sites. Refer to Illustration No. 8.5  CHIKI-HUT TRAIL ENHANCEMENT. Perhaps one such site might be extended out into the Oso to provide a pier for small craft like windsurfing boards, kayaks, etc.

HANS SUTER BRIDGE
The idea of the ecology laboratory could be extended greatly by the construction of a pedestrian bridge from the Island to the Hans Suter Wildlife Area on the mainland. Refer to Illustration 8.6  POTENTIAL PEDESTRIAN BRIDGE. The entire edge of the Oso in all of its varieties of uses could then become the laboratory. This bridge could possibly carry the reclaimed water piping from the water treatment plant to the island. It could also have several “chiki huts” for bird watching, etc.

SECOND LEVEL CONNECTORS
An Island on the edge of the sea brings with it concern about storms. A system of second level connectors among the buildings of the campus began with the construction of the Faculty Center which is connected to the buildings at each end of its right angle axis. This system of connectors should be continued whenever and wherever possible, even connecting to future garages should they be developed. Refer to Illustration No. 8.7  POTENTIAL SECOND LEVEL CONNECTORS. These walkways could be enhanced with loggias and verandas built into facades of new buildings in the future. Major stairs connecting to the surface could be designed as significant gathering spots at there surface ends.
Illustration No. 8.5  CHIKI-HUT TRAIL ENHANCEMENT

Illustration 8.6  POTENTIAL PEDESTRIAN BRIDGE
SUMMARY
As with all campuses, parking is important at TAMU-CC. The two basic options for developing new parking for an increasing enrollment are the garage-on-campus option and the satellite-lot-on-mainland (with shuttle buses) options. Depending on the timing of either option, there may be a hybrid plan of action that would be helpful or necessary. For example: if garage construction is put off until the unused spaces in the new Hammerhead Lot are regularly utilized, then an initial satellite lot may be necessary for relocation of those spaces removed from service by the capture of the new garage site for construction.

The Island is ideal for a mostly pedestrian campus. Its original campus plan called for an elegant blending of the parking facilities with the pedestrian core / axis. The campus has benefited greatly from this original planning and its adherence to the concepts. With the necessity of off-island parking ahead, the commitment to a pedestrian campus will be enhanced.

Recommendations:
1. Begin planning for new parking lot(s) required to support an enrollment of 10,000.
2. Begin planning for acquisition of property on the mainland for a satellite parking operation.
3. Begin planning for a unique extension of the pedestrian linkage to the mainland opposite the Island.