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Mitigation Enabling Energy Transition in the MEDiterranean region

GREEN PARKING CAPACITY – GS6

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Training on GRASS*Med* – meetMED II

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OUTLINE

- ✓Why Consider Parking Capacity?
- ✓What are Parking Types ?
- ✓How to Conserve the Parking Capacity?
- ✓How to Comply with GRASS*Med*?

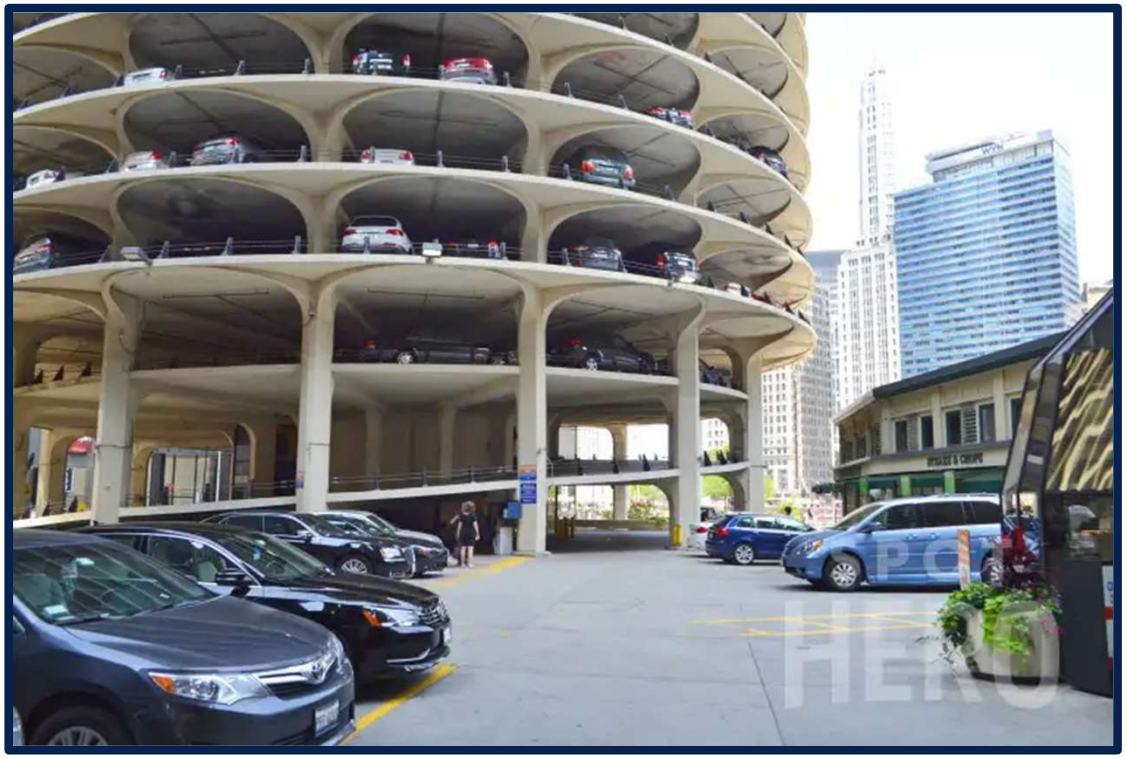
Why Consider Parking Capacity?

Total Number of Parking Spaces Available Within a Defined Area

Parking structures account for one of the **largest land uses** in cities and towns. Unfortunately, these structures are primarily inefficient and unsustainable.

Why Consider Parking Capacity?

Total Number of Parking Spaces Available Within a Defined Area



Urban developers and designers are under pressure to develop **smaller, high density, and energy efficient** parking structures that are functional and aesthetically appealing.

What are the Types of Parking Lots?

Planning of parking total capacity depends on the availability of the space, size, configuration and contours of a site.

There are various types of parking:

a. On-grade Parking (includes on street and off-street parking)
b. Above-grade Parking
c. Below grade Parking – Underground parking
d. Composite Parking
e. Parallel Parking
f. Angled Parking
g. Multi-Level Parking

What are the Types of Parking Lots?

a. On grade Parking.

This is the most and least expensive parking, totally dependent on the availability of space and its configuration. Low costs of land always support the on-grade parking. *Off-Street* parking is the most common and accepted method of satisfying facility parking needs. Nowadays, it is primordial when sitting off street parking areas, the designer should consider criteria of **Green Parking**.

On-Street permit only parallel parking. Break up long lines of vehicles with occasional planting island projections if appropriate.

Off-Street grade parking

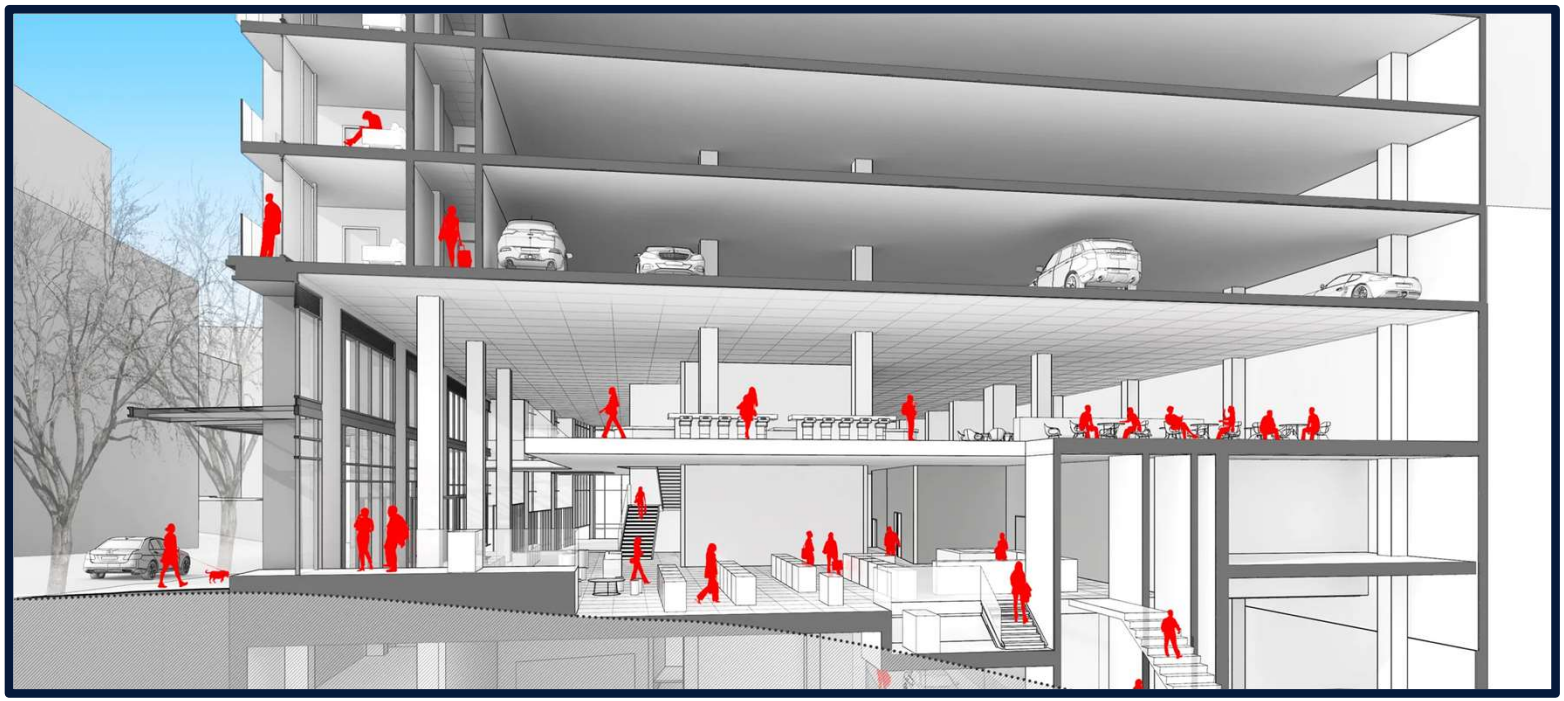
On- Street grade parking

What are the Types of Parking Lots?

b. Above grade Parking.

This is a free-Standing parking deck of two or more levels.

This type provides maximum efficiency in terms of area, structure and circulation. This is the least expensive after on grade parking.



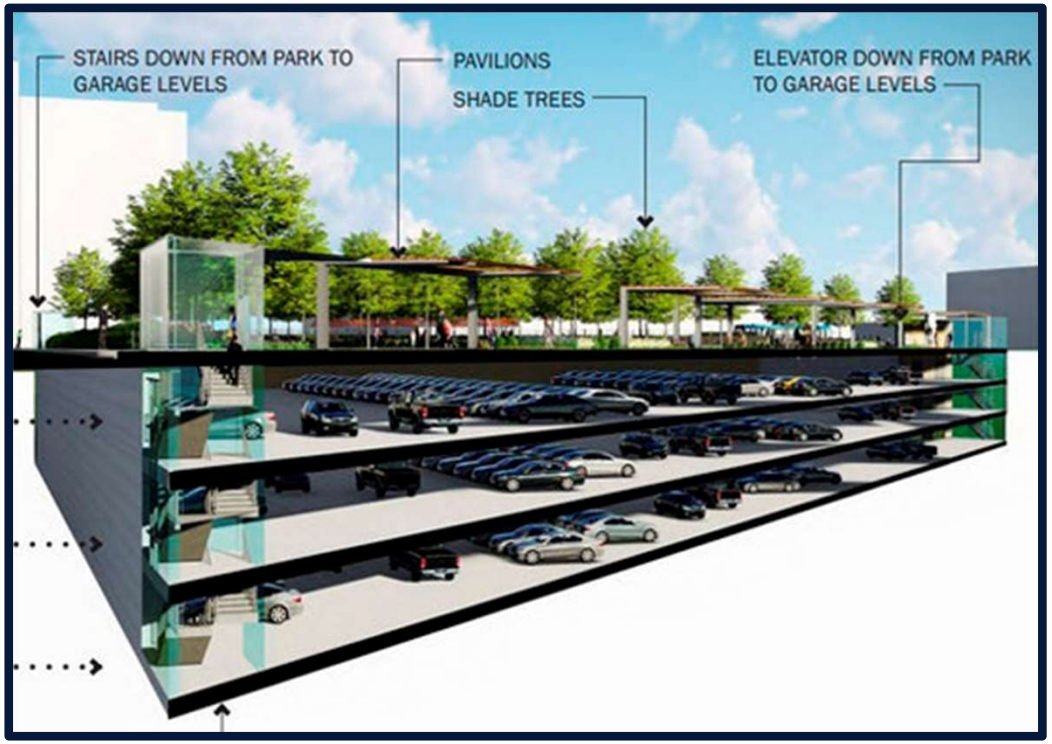
What are the Types of Parking Lots?

c. Below grade Parking.

This is commonly known as underground parking.

This is more expensive because of structure and mechanical systems required to construct it.

Best method of protecting a dry flood proofed garage from flood waters is to design garage entry to above Base Flood Elevation (BFD).



What are the Types of Parking Lots?

d. Composite Parking.

This type of parking basically integrates above and below grade parking types with the building above the structure.

It requires special ventilation and sprinkler systems and more elaborate façade.

What are the Types of Parking Lots?

e. Parallel Parking.

The vehicles are parked along the length of the road.

This type of parkings consumes the maximum curb length and therefore only a minimum number of vehicles can be parked for a given curbed length.

Here there is no backward movement involved while parking or unparking the vehicle. Hence, it is most safest parking from the accident perspective.

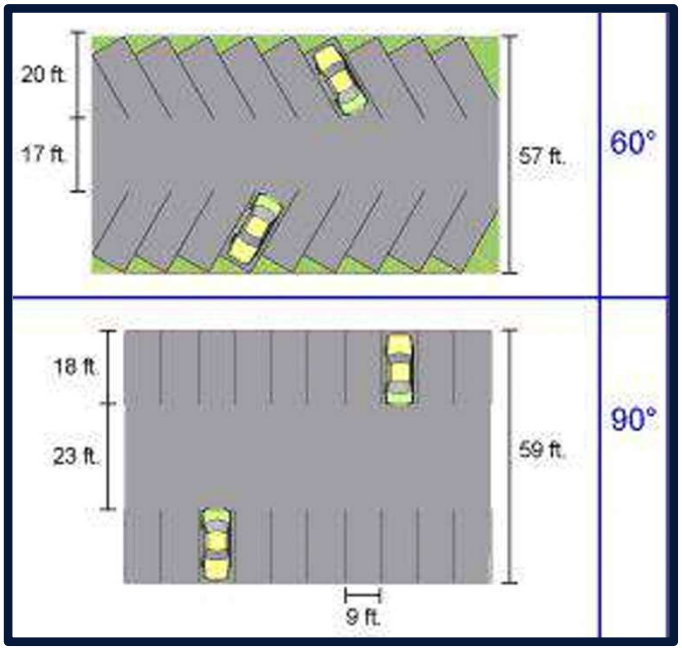
What are the Types of Parking Lots?

f. Angled Parking.

The vehicles are parked at certain angle with respect to the road alignment. In this case, more vehicles can be parked compared to parallel parking. Also there is better maneuverability. Delay caused to the track is also minimum in this type of parking.

As the angle of parking increases, a greater number of vehicles can be parked.

Right angle parking or 90 parking – The vehicles are parked perpendicular to the direction of the road. Although it consumes maximum width kerbed length required is very little. In this type of parking, the vehicles need complex maneuvering and this may cause severe accidents. This arrangement causes obstruction to the road track particularly if the road width is less. However, it can accommodate maximum number of vehicles for a given kerbed length.



What are the Types of Parking Lots?

g. Multiple-Level Parking.

It is a building (or part there hereof) which is designed specifically to be for automobile parking and where there are a number of floors or levels on which parking takes place.

How to Conserve the Parking Capacity ?

Sustainable Parking systems Save Space Compared to Traditional Parking Lots

** Efficient Space Usage **

The proper utilization of **multi-stories parking** creates space-saving.

Such measure is a prominent feature of these parking lots.

How to Conserve the Parking Capacity ?

Sustainable Parking systems Save Space Compared to Traditional Parking Lots

** Efficient Space Usage **

Integrating **areas for buses** and/or vanpools which reduces the parking demand and therefore the parking space.

How to Conserve the Parking Capacity ?

Sustainable Parking systems Save Space Compared to Traditional Parking Lots

** Efficient Space Usage **

Tandem parking is becoming more common to keep costs down and to save space.

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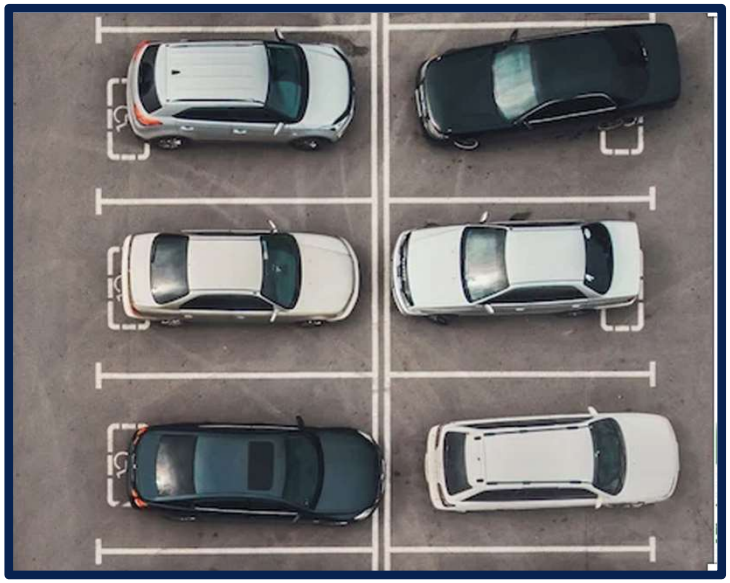
** Efficient Space Usage **



Space is maximized by **reducing empty spaces**, using less space per vehicle.

How to Conserve the Parking Capacity ?

Sustainable Parking systems Save Space Compared to Traditional Parking Lots

** Efficient Space Usage **

Underground Parking of buildings.

A variety of layouts are possible to fit to the space.
Flexible layout allows excellent space efficiency.

It is recommended for commercial and office buildings use.

How To Comply With GRASS*Med*?

Maximum Scoring for Residential Buildings	**4**
Maximum Scoring for Commercial Buildings	**24**
COMMERCIAL BUILDING	Scoring Points
Percent of Area of Vanpools and/or Buses	
5%-10%	Prerequisite
10.1%-15%	5
15.1%-20%	10
20.1%-25%	15
25.1%	20
Multi-Storey Parking	2
Reduced Empty Spaces	2
RESIDENTIAL BUILDING	Scoring Points
Multi-Storey Parking	2
Reduced Empty Spaces	2

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Mitigation Enabling Energy Transition in the MEDiterranean region
Together We Switch to Clean Energy

For any inquires or comments,
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