

2. **On/Off Control System:** In this system, ventilation fans are stopped and started based on the input from CO sensor. Control system is programmed with appropriate set points that ensures that CO concentration in the enclosed parking area is maintained below 50 ppm.
3. **Variable Air Volume (VAV) System:** In this system, ventilation fans speeds vary based on the input from CO sensor. A control system is programmed with appropriate trigger values taking into account response times so that ventilation rates gets adjusted and CO concentration levels is maintained below 50 ppm during the entire occupancy period. Energy is conserved with the use of VAV systems.

For system 2 and 3, the CO monitoring system must be capable of activating both the exhaust fan(s) and the air intake device(s) such as outside air louvers/dampers and make up air units.

All the above ventilation systems shall be capable of providing a ventilation flow of 10 air changes per hour (ACH) for smoke clearance purposes in case of fire incident.

All parking floors shall be provided with outdoor fresh air and the outdoor fresh air intake locations shall be in accordance with *Regulation 401.03: Air Inlets and Exhaust*. Any occupied areas adjacent to the parking must be protected to ensure that the air quality is maintained. This requires that these areas be maintained at a pressure higher than that of the parking areas.

Dubai Municipality may conduct random inspections and monitoring of air quality in parking facilities of buildings.

While installing CO sensors following aspects need to be considered:

- A. The CO Monitoring system must be installed in all enclosed parking spaces.
- B. The number of CO sensors required are dependent on the size of the car park. Minimum of one CO sensor is required per 400 m² floor area or the radius of coverage needs to be 11.2m per CO sensor (as shown in fig 401.10(2)) of parking and monitoring must take place within the breathing zone.

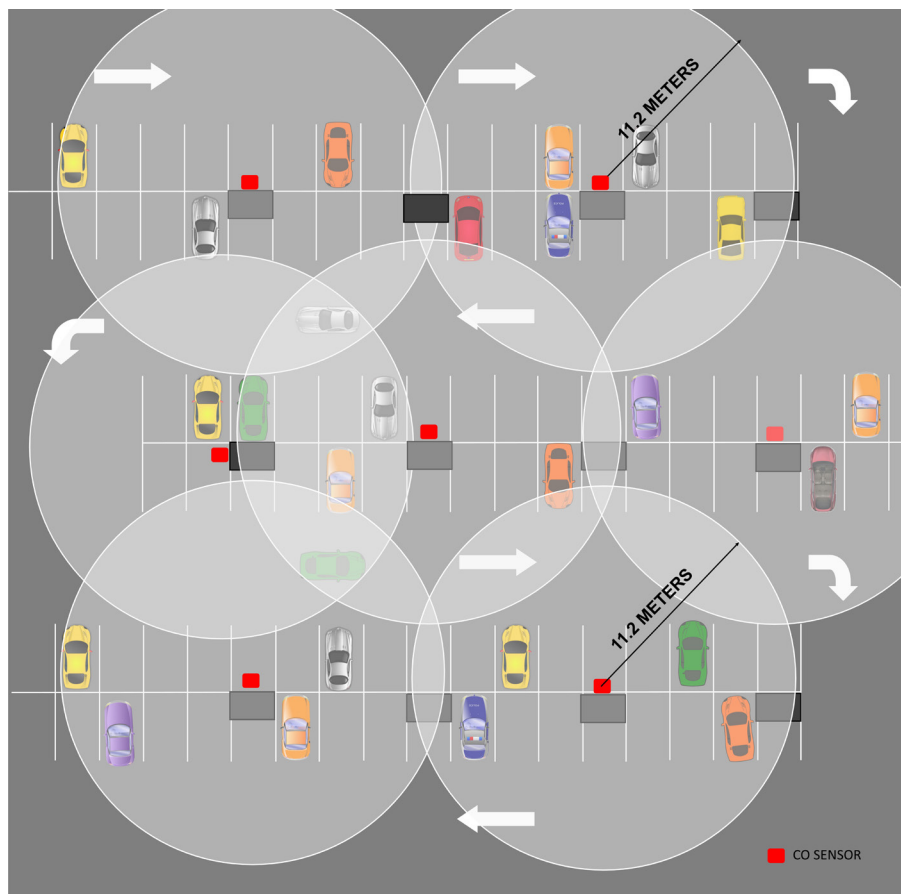


Fig 401.10(2): CO Sensor Location Layout