

Crowd Control and Safety considerations

Depending on the size of your event, you may need to make arrangements for crowd control. This could include stewards, safety barriers and a public address system, signage and information.

Safety in numbers

You will need to work out how many people your event can handle safely. The numbers may depend on the type of activities you are offering. Some attractions may draw lots of visitors. You may have to count the number of visitors attending to prevent overcrowding.

Stewards

Larger events may need stewards to deal with Crowd Control, Guide Vehicles and Traffic Control, Clear emergency exits, Guide emergency Vehicles. Keep a look out for hazards and sort out any problems with anti-social behavior. If you are holding an all-day event, you will need a Rota so that you have stewards available at all times.

You should fully brief your stewards on all aspects of the event, including crowd control and emergency arrangements, and give them written instructions, Site Plan and Checklists. Your stewards must be properly trained in their roles and responsibilities.

Make sure visitors can easily identify your stewards. Stewards may also need protective clothing such as hats, boots, gloves or coats and torches for evening events.

Ensure your stewards are able to communicate with each other, their supervisor, the person responsible for health and safety and the event manager.

Entry to the Event

You will need to consider how the crowds will enter the event, what is the anticipated arrival rate how this will affect the queuing situation. Have you calculated the arrival rate against the service rate / entry rate?

Example::If your entry / service point will allow 10 people per min (one person every 6 seconds) through a booking in system to buy tickets for other attractions within the event or to pick up Event information, and you have two services desks / entry points, you are expecting 750 people to arrive within the first half an hour of event opening time it will take 37.5 minutes to get the people through your entry booking system. Therefore you are going to have a queue going on for 40 minutes of frustrated and potentially angry people at your event.

In the above example you could consider pre booking arrangement for extra attractions (fast track systems), or increase the number of service desks, have a service desk for extra attractions inside the event boundary so that those who wanted to visit or pay to see the extra attractions can do so, and those who don't would not have to queue.

Crowd Circulation

How will people move freely around the event, map out movement of people flow directions pinch points bottle necks, pathways queuing access and egress points. Consider those with disability or mobility difficulties.

Consider how people will get from one attraction to another, what is the maximum capacity number for each area and how will the numbers and density be monitored and controlled.

Location of welfare facilities such as Toilets, Lost child / First aid points,

Very important to consider crowd circulation both in a normal and in an emergency situation.

Look at signage information to help circulation and movement of crowds

Egress from the event

What are the arrangements to ensure people safely leave your event again both in a normal and an emergency situation? The calculation for flow rate of people is maximum of 82 people per meter per minute. When the flow rate is compromised due to excessive numbers of people or a restricted egress then crowd will back up and the flow rate will slow down causing the crowd to compact together. When crowds compact to more than 6 people per square meter, injuries such as crushing, asphyxiation trips and falls, and shockwave effects (*shockwave is when one person falls or stumbles and then like a domino cascade those in front also fall creating a wave of pressure to the point where it hits solid force, and those against that solid force could face serious injuries*)

Example: 5000 people at a concert in the park leaving at the end of the show, the main exit point is 20 meters wide, but the exit to the car park is via 3 meter wide bridge over a river. Under normal walking conditions the bridge will allow 246 people per min (82 people x 3 metre = 246) divide 5000 people by 246 = 20 minutes to evacuate the site over the bridge. Almost instantaneously the restricted egress will create crowds to back up and compact around the entrance to the bridge causing crush and fall injuries

The example does not consider those with mobility issues, wheel chairs or prams, it also does not consider emergency evacuation situations and panic etc.

When designing your egress route both for normal and emergency situation, bear in mind the exit rate i.e. the number of people leaving. The width of the exit, in the example above on face value the exit point of 20 meter wide is more than adequate ensuring total evacuation in 3 minutes the 3 meters restricted bridge can make egress hazardous.

Consider how the crowd density is monitored and position of stewards on exit route to help the flow and control of people leaving.