The Standard

Seoul and gujarat show dark side of overcrowding

Wednesday, November 23, 2022

Last month saw two major incidents that resulted in over 100 fatalities each.

Most of us understand the capacity limitations of moving machinery, such as road vehicles, trains, lifts and similar facilities, but not many would recognize that static transport infrastructure also have limits, and when unduly exceeded, can result in serious incidents.

A recent stampede in Seoul was the result of excessive pedestrian traffic in a narrow alley, and the situation was made worse by people at the top of the street pushing the crowd downhill.

The alley normally provides quick access from the entertainment area to the metro station, but when pedestrian numbers significantly exceeded its capacity, entry controls should have been instituted.

Without crowd controls, such incidents could become inevitable.

A failed cable bridge in Gujarat, Pakistan, caused fatalities for similar reasons.

An excessive number of people set foot on the bridge and some thrill seekers started stepping on the bridge in unison to excite excessive vibration in resonance, until the cables snapped and some of them ended up dropping into the river below.

Again, the pedestrian traffic should have been controlled to ensure there was no excessive loading.

In designing railway stations, architects and engineers are careful in calculating the maximum number of passengers allowed into stations and onto platforms.

Should the number exceed that capacity, the station turnstiles would stop operating and the entrance gates closed.

Access roads to stations are also planned to ensure enough holding capacity on streets to prevent overcrowding.

That is why convention centers, stadiums and other facilities that may see large numbers of people gathering and leaving in a short time, are never built immediately adjacent to railway stations. This is to ensure there is a long enough path to spread out crowds, and controls are carefully managed to eliminate any risks of overloading at any particular point from the gathering place to the station.

There should also be more than one route or access path from that facility to a station or road transport interchange to relieve traffic loads in case of overcrowding.

People attending events in these venues may feel they should not need to walk those 10 minutes to reach a nearest station, but they may not know this is deliberately designed for their safety.

Much more difficult to plan would be districts of entertainment and nearest railway stations or transport interchanges.

These districts are usually not planned but developed through the years as result of commercial evolution, gradually becoming crowded on weekends and festivals. Lan Kwai Fong and South Hollywood Road are typical examples.

We did suffer a serious fatal incident on New Year's Eve some 20 years ago, when crowds congregated, and drinks were spilled on the street.

Unfortunately, the hilly terrain made it susceptible to crowds pushing from the uphill end, causing a serious incident.

Fortunately, our police are experienced in crowd control, and having learned from that incident, now exercise stringent management of traffic flow, including single direction access, with areas condoned off to allow quick emergency vehicle and personnel access.

We must observe keep safe distances, avoid staying in crowded streets and leave an area when we see its capacity limits being exceeded. Protecting oneself is the best method of preserving personal safety.

Veteran engineer Edmund Leung Kwong-ho casts an expert eye over features of modern life