Risk Minimisation

Special Considerations & Specifications

for

Speed Events conducted on a closed Public Street &/or Road

Purpose of this Document:

There is a growing desire for short course "Lap Dash" timed events to be held as part of a festival or local celebration at small to mid-sized towns in rural areas. RACERS has been approached to become a supplier of Permits for these events and this document addresses the unique requirements that these events entail in excess of RACERS existing requirements.

All of the information contained in this document is to be read in conjunction with the description of the requirements for the general conduct of non-race events published by RACERS as updated from time to time on the website. If there appears to be any conflict in the words between the documents, the least risk and most practical interpretation, in other words "commonsense", is to be used. Organisers agree to implement these rules.

As the roads used for these events are normally open to the public it requires special permission for the roads to be closed for the purpose of conducting an event. Road closure(s) usually require the permission of a number of local and state authorities. It is the sole responsibility of the promoters to get these permissions. It is NOT a condition of the Permit issued by RACERS that promoters of these events get these permissions nor is it a responsibility of RACERS to assist with those requests for permission nor does RACERS take any responsibility for the promoter's failing to obtain the required permits.

The balance of this document describes the measures that must be undertaken to protect:

- the General Public & Spectators
- the Participants
- the Observers
- the Public Assets

Description of Spectator safety requirements

The only safe motorsport event for spectators is the one they do not attend! There are many unpredictable situations that can occur in motorsport that can pose a danger to every attendee at an event. The highest priority is always for the protection of the innocent and ignorant as they may not be aware of the dangerous situations they can place themselves in.

The promoters of events at temporary venues must always try to predict:

- Where members of the public are likely to stand
- Where members of the public are likely to wander into

These predictions should be documented in a Targeted Risk Assessment which forms part of the documentation of the Event and details the actions taken to keep the public out of potentially harmful areas.

It should always be assumed the public are far more likely to be interested in the activities than their own safety when attending events. Promoters should therefore try to educate and shepherd the public into safer conduct and protected areas whilst they are attending an event.

Obviously the public will still find ways to confound the promoter but it is possible to predict the likely outcomes in what are recognised as the most dangerous situations which we have detailed below. The following is NOT a complete list but does provide a groundwork for the protection of the public from the more obvious dangers involved in kinetic energy from cars travelling at high speed.

TRACKSIDE SPECTATOR PROTECTION REQUIREMENTS:

The primary objective of the safety furniture configurations detailed below is to ensure members of the general public have the highest practical degree of protection in the event of a crash. The secondary objective is to minimise crash related personal injury to participants by extending the period of time between contact and stationary by extending the length of the run-off available for the retardation of the vehicle.

<u>Head-on & Maximum Speed:</u>

There must be no spectators in an area where it can reasonably be expected the vehicle will exceed 150 km/h and the trajectory of impact is likely to be more than 45° against the wall from the straight-ahead run-off direction unless all of the following apply:

- linked concrete barriers with at least 3.5 t mass per barrier. Where arrestment barriers or retardation traps cannot be installed the minimum barrier mass is 5t .
- a 1200 mm high chain wire fence or suitable barrier placed 3 m behind the concrete barriers
- a diagonally braced 4 mm x 90 mm welded mesh debris fencing 2 m behind the concrete barriers with a height at least 2 m above the level that the spectators are standing on.
- at least two arrestment barriers placed 2 and 5 metres from the linked concrete barriers with a minimum length matching the length of concrete barriers they are protecting. Where space is available, deflection barriers positioned to ensure that the trajectory of impact against a wall will be less than 35° from the straight-ahead run-off direction is the preferred installation.

The objective of this safety configuration is to ensure that head-on, or near head-on, impacts with the concrete wall will occur at speeds of less than 100 km/H and, where possible, impact angles against the wall will be less than 30°.

<u>Medium angle and/or Medium Speed</u>

Where the speed can reasonably be expected to be below 100 km/h; or the angle of impact against a wall is likely to be less than 45°, spectators will be permitted in those areas provided they are located behind:

- linked concrete barriers with at least 3.5 t mass per barrier
- a 1200 mm high chain wire fence which is situated 2 m behind the concrete barriers
- 4 mm x 90 mm weld mesh debris fencing finishing at least 2 m above the spectator's ground level
- there is at least one arrestment and/or deflection barrier(s) which are of adequate length and the positioned where they can reasonably be expected to alter the trajectory of impact by 15° and/or the speed by 40%

The objective of this safety furniture configuration is to extend the run-off after contact with the barriers to ensure that the total amount of kinetic energy is dissipated over the longest period of time by extending the length of the run-off available for the retardation of the vehicle.

Acute angle and/or Lower Speed

Where the speed can reasonably be expected to be below 80 km/h or the trajectory of impact angle is likely to be less than 15° against the wall or barrier in the direction of travel the following will be required:

- Linked concrete barriers with at least 2.5 t mass per barrier
- a 1200 mm high chain wire fence situated 2 m behind the concrete barriers
- 4 mm x 90 mm weld mesh debris fencing finishing at least 2 m above the spectators ground level

NOTE: Use of properly pinned and linked "Ironman" barrier is considered the equivalent of 3.5t concrete barriers

GENERAL ADMISSION AREAS:

The general public must not be permitted to enter any potentially high speed traffic areas.

This is to be achieved by some combination of the following:
- paddock marshals
- temporary pedestrian fencing
- permanent pedestrian fencing
- where it is necessary for the public to cross a stream of competitor traffic it must be at clearly marked crossing points that are manned by appropriate personnel and/or security guards
- all no-go zones are to be clearly signposted to exclude the general public

MARSHALLING/PIT/PADDOCK AREAS:

The general public is not to be permitted into these areas unless:

- they are accompanied by a crew member for the team they are visiting
- they have a specific purpose, e.g. consulting, to perform
- all activities for the day have ceased
- no children are permitted into these areas unless the above conditions are met and:
    - they are over the age of 12
    - they are restrained by their parents if they are less than 12
    - they are carried by their parents if they are less than six

These areas are NOT public access areas and must be policed to a high level of vigilance. Any member of the public found in these areas is to be ejected immediately by the security staff.

Description of Participant safety requirements

START LINE:

For one at a time starts for Street Sprints and Lap Dash events and the like, the vehicle must launch at an angle no greater than 15° from the trajectory to the apex of the first corner if that corner is less than 150 metres from the start line.

For street based events the minimum starting separation between vehicles is 200m. When the track is longer than 750 meters and speeds of up to 150 KpH are anticipated 250m is the minimum separation. Where speeds above 150 km/h are anticipated a minimum separation between vehicles shall be at least 300m or three cars per kilometre of track length.

THE FINISH LINE:

The minimum width of the finish line must be 6m or at least twice the width of the widest car competing in the event. The centre of the finish line must be directly in line with the exit trajectory from the final corner which must be no less than 150 m from the exit of the final corner. Where a chute is used to separate finishing cars from starting cars the exit from the chute must be at least 50% wider than the widest car competing and provide full protection for the starting vehicle.

There should be a clear space run-off after the finish line measuring at least 1.5 m for each 1 km/h that the fastest car is expected to achieve at the finish line. The minimum amount of run-off after the finish line is 1 m for each 1 km/h and in which case it must have a triple depth arrestment barrier from that minimum distance before finishing with at least two linked 3.5 t concrete barriers.

OBSTACLES:

Curbs: concrete barriers may not be placed in gutters in front of curbs. On Straights, barriers are to be placed on top of curbs and no more than 100 mm from the front face of the curb. On curved curbs the barriers are to be angled around the curb to minimise the distance from the face of the curb to the face of the barrier.

Trees and poles: A deflection barrier is to be placed as close as practical to 5 m from the obstacle which is backed up by an arrestment barrier approximately halfway between the obstacle and the deflection barrier. Where available, as a final line of defence a single 4 m concrete block weighing at least 3.5 t should be centrally placed 1 m from the obstacle tangential to the anticipated trajectory of the vehicle.

Apparel and Equipment requirements:

HANS Devices:
In every vehicle fitted with a full harness, and capable of reaching more than 150 km/h during its run, the use of a HANS device is mandatory.

In all other respects the requirements are identical to those published under the RACERS list of requirements published for Open Sprint events of a similar nature held on regular racetracks.

Chicanes:

Where speeds are likely to be highly injurious due to the topography of the track and/or its safety furniture, chicanes should be deployed to generate safer trajectories and/or to diminish the speed and therefore the likely extent of injury to a level that is generally accepted within motorsport.

Chicanes must be constructed and designed in such a way that the exit from the chicane ensures the vehicle leaves the chicane on the safest possible trajectory for the next corner or next chicane. Where there is sufficient runoff and penalties can reasonably be applied, chicanes are best constructed by the use of low profile (>40mm high) speed humps that are bolted to the road.

Suitable systems and equipment are available from Saferoads Australia (www.saferoads.com.au).

For small events the chicane may consist of standard traffic cones on the proviso that they are at least 750 mm high. Care must be taken to ensure that cones cannot end up in a spectator area. Officials must not enter a hot track to reset the cones. Any vehicle contacting cones should pull over in the nearest safe place to check for damage and remove any cones that may have become jammed into or under the car.

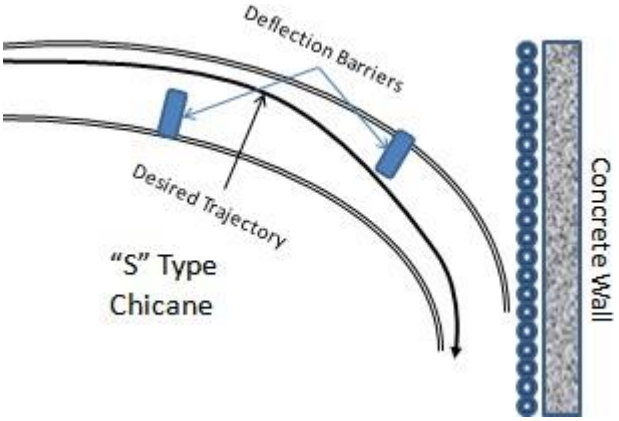
Two types of chicanes are permitted:

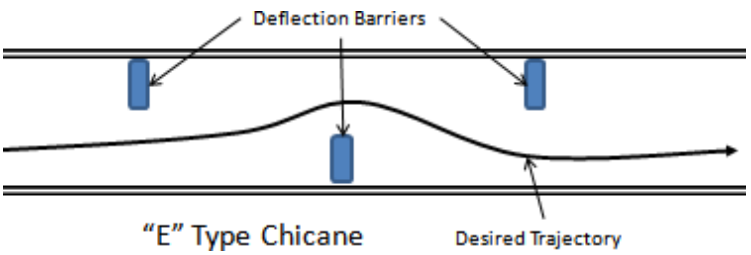
S type; these types are used where the desire to reduce speed is not as important as the desire to change the trajectory of the competing vehicle. These types of chicanes would normally be deployed on the approach to a slow corner. Multiple S chicanes at an appropriate spacing may be configured to get the best effect.

E type; these types are used with the desire is to reduce speed but for the vehicle to continue in a more or less straight line. These types of chicanes would normally be deployed in the middle of a long straight.

The actual dimensions of the chicane are dependent upon the amount of deflection or retardation that is required and need to be designed at the track by experienced PAXs.

Please see the sketches below:





Description of Observer's safety requirements

Safety Observers should be placed such that they have a clear view of the preceding safety observers station and the safety observers station immediately following their position.

Observers with radios and possibly with red flags and yellow flags positioned around the circuit must be located behind either 1 x 5 t concrete barrier or 2 x 3 t concrete barriers that are at least 1 m in height, in positions which could reasonably be expected to have impact angles of less than 30°. Observers are required to stand at least 1 m behind these barriers and ensure that they have the ability to quickly depart the area and/or duck below the barrier height.

There should be at least two fire extinguishers at each observation point.

The preferred method of signalling for this type of event is large and bright red lights directly in the PAX's line of sight.

Wherever possible a traffic light signalling system shall be used to advise participants to:

A. IMMEDIATELY slow down to 40KpH and return to the pit lane/paddock area via the Finish line. This requirement is shown by the assertion of a FIXED RED LIGHT.
B. IMMEDIATELY STOP and wait in position on the race track so that emergency vehicles can enter the track IMMEDIATELY and pass participating vehicles on the way to a crash site from any of the emergency track access points around the track. This requirement is shown by the assertion of a FLASHING RED LIGHT.

These lights would normally be activated by the observers via a handheld switch on the instructions of the Event Manager where there is time; otherwise the Observer may assert the condition and be held accountable afterwards.

There is no need for special racing flags (e.g. Red/Yellow oil flags) as, due to the lack of distance involved in this type of event, every condition needs to be dealt with immediately.

Protection of public assets

It is essential that to prolong the availability of the street sprint events that public property be treated with respect and preserved as much as possible. The event organisers must be able to show to the owners and custodians of these public assets that, at all times, they have implemented strategies to reduce or eliminate the potential for damage to the public assets.

This includes such things as NOT:

- over loading road surfaces
- using equipment that is likely to damage Road or curb and channel.
- blocking drains, breaking covers on utility pits and suchlike
- permitting stationary burnouts or blowouts during burnout events
- permitting the general public to sit on, or climb on, fencing in the area
- allowing the lighting of fires at campsites except in properly constructed fireplaces

The above are just examples of the consideration required by the promoters if an event is to continue to be supported by the people who are held responsible for the quality of the public assets and its drain on the public purse.

The culture of RACERS expectations is contained in the statement:

"On every occasion and in every circumstance the overtaking car is ALWAYS in the

wrong." The reader will note that there is absolute clarity; no equivocation or doubt, in

the above rule.
Individual PAXs make the decision to overtake and therefore must bear the full responsibility for that decision & its outcomes. This rule actually leads to better racing with more care and skill being exhibited by the PAXs and the almost total elimination of unsporting behaviour.

Complaints of blocking etc. are dealt with in the Code of Conduct as unsportsmanlike behaviour which generally means the offending (blocking) PAX will be sent rear of grid if the complaint is upheld. This completely removes the excuse typified as "just giving them a tap to move over" as the offending PAX will not need to over-taken again. The offending PAX will lose their points from the race and the blocked PAX automatically moves up the place that he was fighting for.

Where there is flagrant and consistent unsporting behaviour, the Driving Standards Officer and Traffic Manager can make this announcement whilst a race is in progress and order the blocking PAX to move over or face a drive through penalty. Obviously this is not expected to occur in short races but may be necessary during endurance races.

Before leaping to conclusions about the above read and understand how the CoC works in the real world.