

Convex Mirrors

Convex mirrors are typically used in situations where sight distance may be poor or obstructed. They help to give drivers a view of vehicles/pedestrians that need to be given way to. Their use is now widely accepted in low-speed vehicle and pedestrian conflict areas such as industrial driveways, truck loading bays and parking areas. They are used in the public road environment, mostly at private property accesses and occasionally at road intersections where sight distance is severely restricted.

Convex mirrors **should NOT be considered as the first option** when sight distance is obstructed. Other more effective treatments should be explored thoroughly before a mirror is installed.



Road safety assessment

Before a convex mirror is installed, a Road Safety Audit should be conducted to consider the design issues regarding convex mirrors, and a safety assessment to determine the benefits of implementation when compared to other solutions.

Where convex mirrors are proposed to facilitate entry/exit between private property and the road network, the following treatments should be prioritised:

- Relocation of the driveway/access point
- Turning bans
- Trimming of vegetation and removal of soil
- Removal of fencing
- Provision of acceleration and deceleration areas on the road shoulder.

Where alternative traffic management or engineering measures are able to address the shortcoming and are available within a reasonable timeframe, convex mirrors should not be installed.

Convex mirrors should not be used at pedestrian crossings. Consider relocating the crossing point or slowing vehicle speeds (traffic calming) to lessen the risk.

Convex mirrors should only be used as an interim measure until appropriate traffic management or engineering works can be implemented.

Convex Mirrors

Pros:

- Great at night for vehicle visibility where there is very little light surrounding the mirror
- Can be a simple and cheap solution if there is no other way to viably improve the sight distance

Installation:

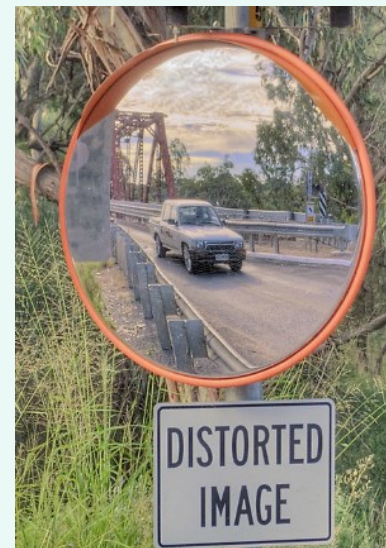
A convex mirror should be securely mounted high enough off the ground to deter vandalism, with appropriate signs included. It should also have a visor to help keep dust of the mirror surface, and a brightly coloured band fitted around the edge to assist with its identification by drivers. The convex mirror should also be tested for eye height from a variety of vehicles ensuring that the mirror gives the best view of the vehicles that must be given way to.

Signage:

The P1-V141 DISTORTED IMAGE sign should be installed below the mirror. If the location of the convex mirror is not apparent, the P1-V140 CONVEX MIRROR AHEAD advance sign may also be required, in addition to signs warning of the poor sight distance or other condition justifying the presence of the convex mirror.

Cons:

- May impair driver gap acceptance performance as it presents an additional direction to check when giving way (e.g. “look left, look right, look at the mirror”)
- Image is severely distorted, which could cause confusion. The driver’s own vehicle may or may not be visible in the mirror (depending on the approach angle), which could also be confusing.
- Vehicles will appear to be travelling slower and further away than reality
- Due to poor contrast, dark colours can be hard to see during dawn/dusk and low light conditions
- Durability of mirrors may not match that of surrounding road furniture, and they may require additional maintenance
- Could cause legal issues if installed in inappropriate situations or appropriate steps aren’t followed.



References

- [1] VicRoads/Department of Transport and Planning Victoria, Additional Network Standards and Guidelines Part 2.10: Installation of convex mirrors on public roads, Edition 1, October 2015.
 [2] DPTI South Australia, Traffic Management Operational Instructions – Convex Traffic Mirrors, 2010
 [3] TMR Queensland, Traffic and Road Use Management Manual – Convex Mirrors, 2012