

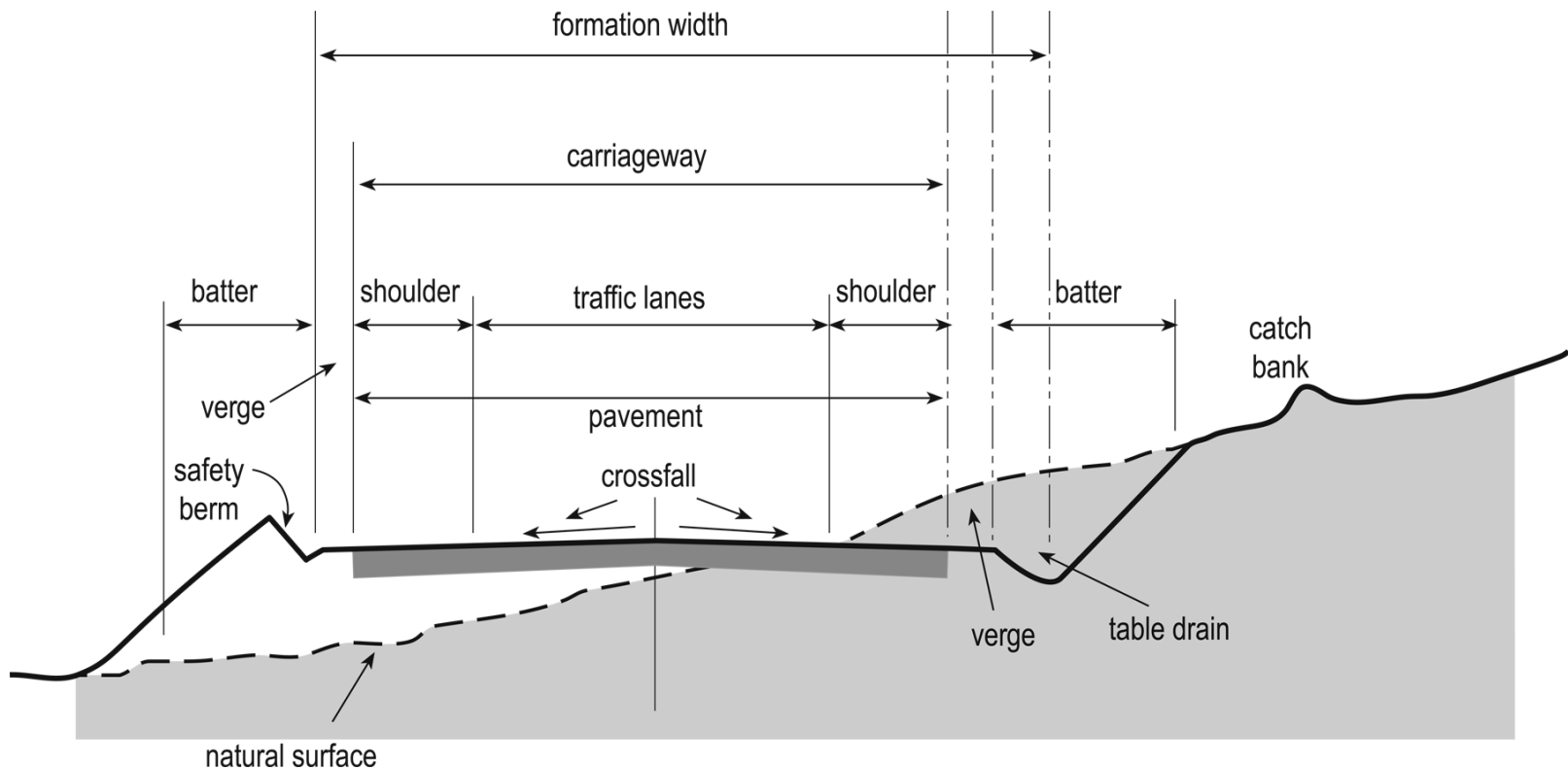
Mine haul road design and road safety

What can be done to design and build mine haul roads to a good and safe standard that recognises the need to apply national road building standards and practices



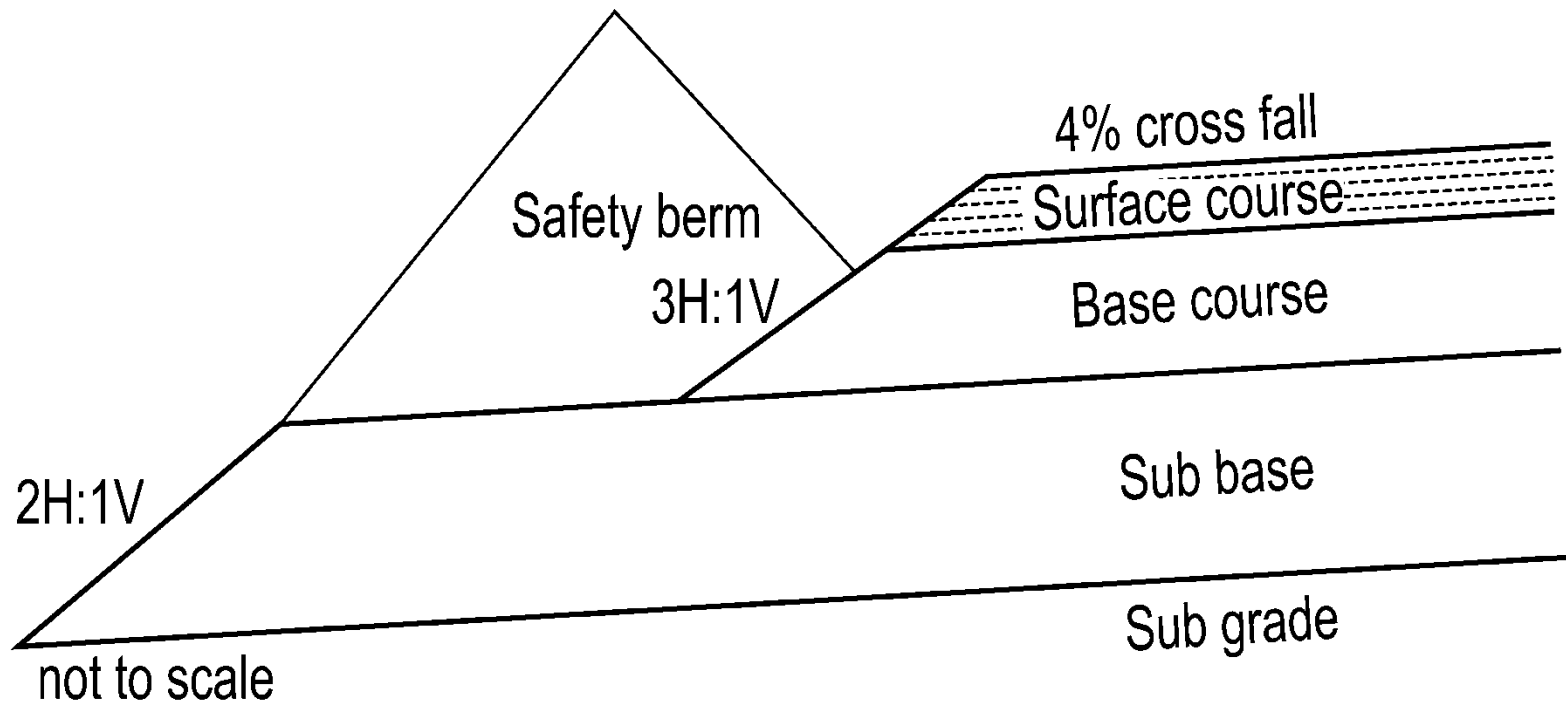
Mine haul road design and road safety

Recognise what a good road should look like



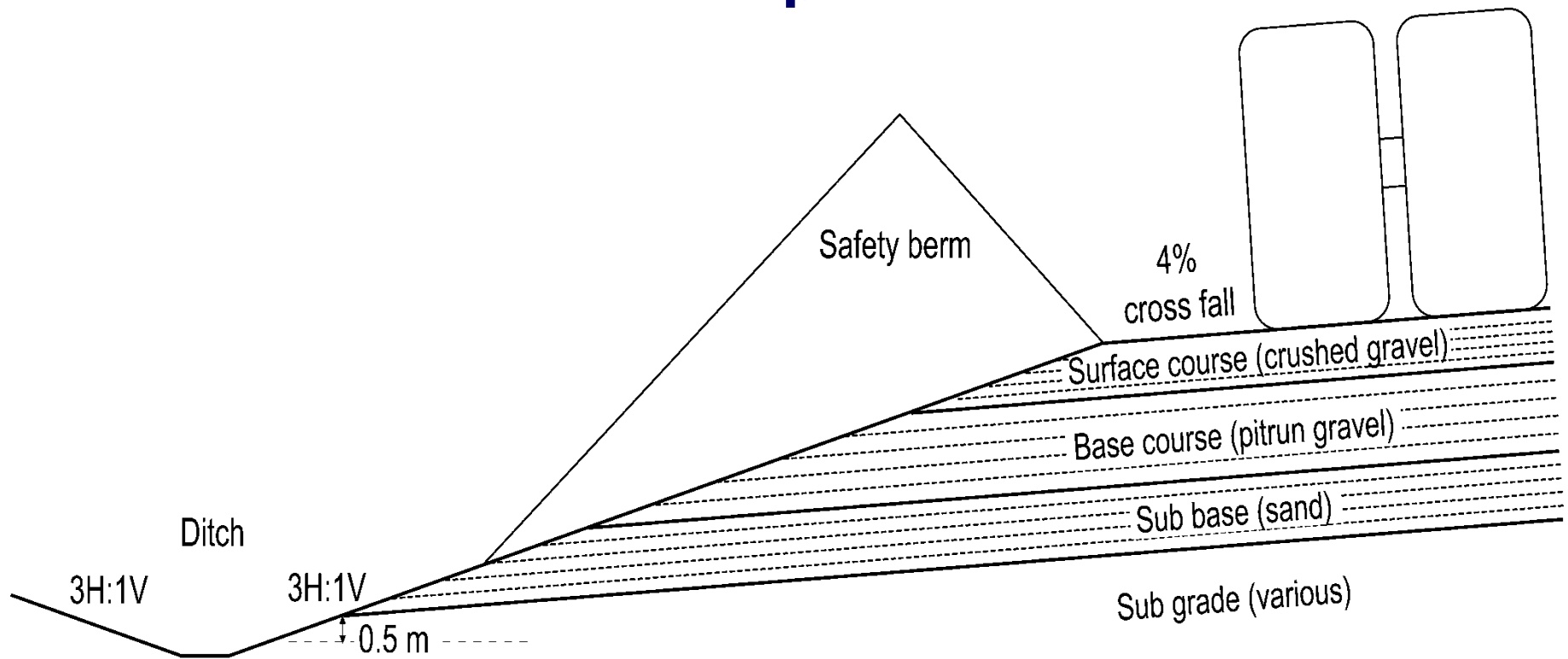
Mine haul road design and road safety

Understand the profile of the road



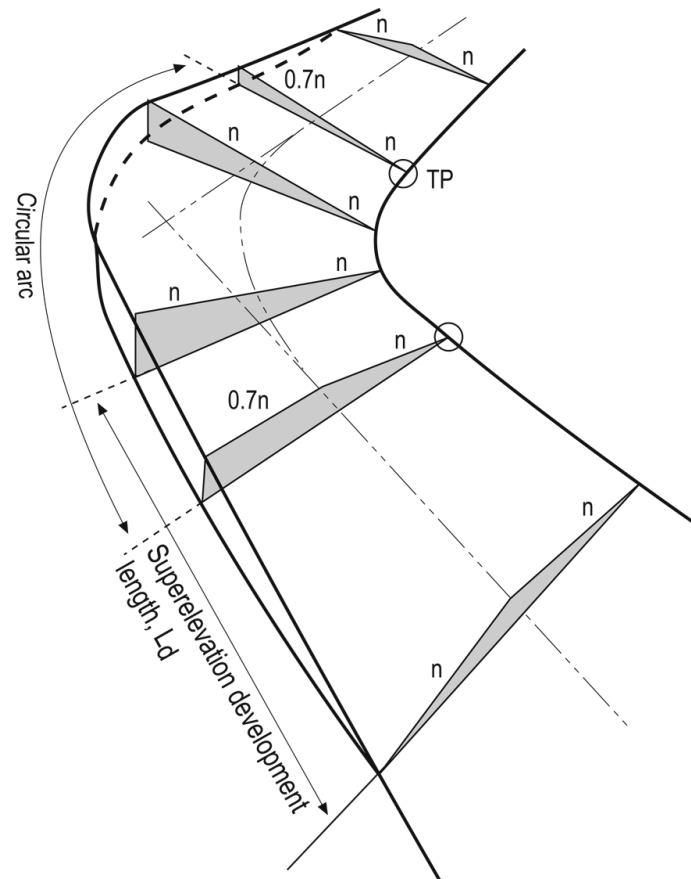
Mine haul road design and road safety

Provide drainage for water to run off road and disperse



Mine haul road design and road safety

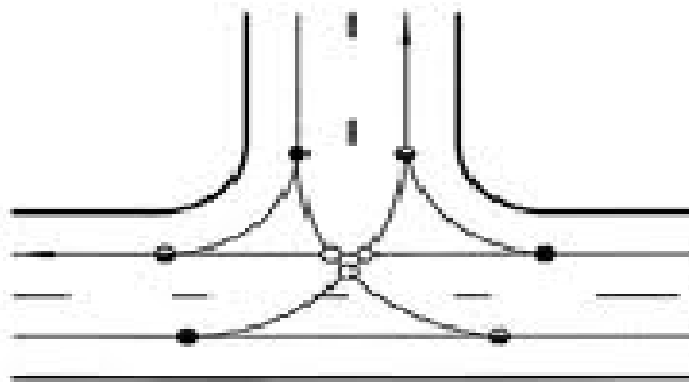
Superelevation on curves as required



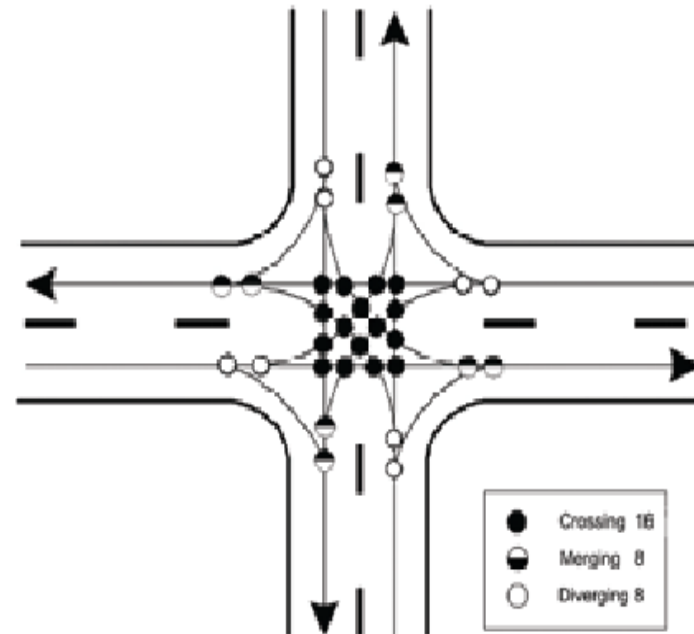
TP – Tangent point

Mine haul road design and road safety

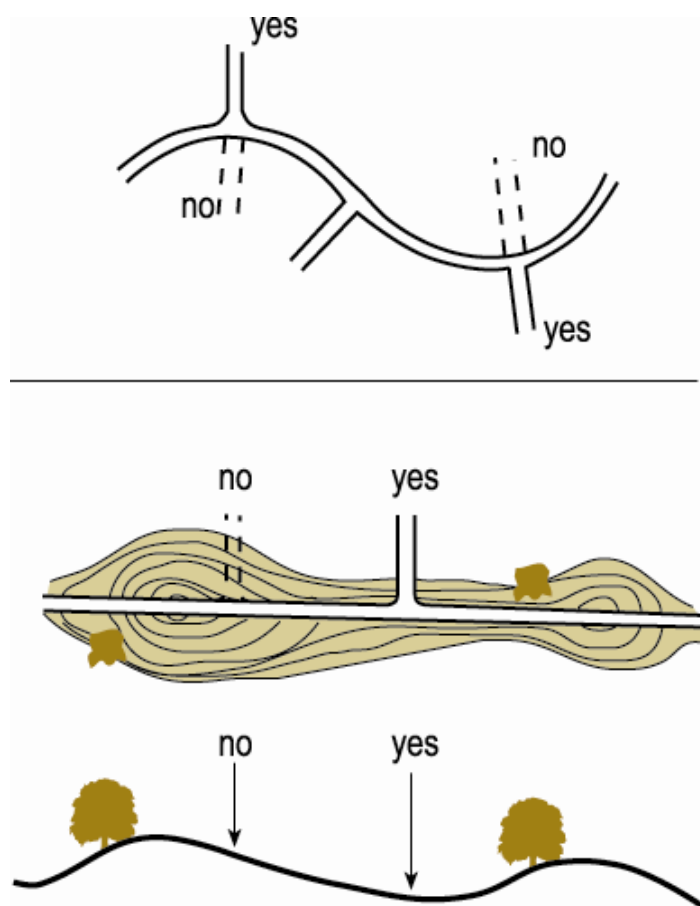
Consider intersection design looking at number of conflict points



- Diverging
- Merging
- Crossing



Location of intersections, not on curves or crests



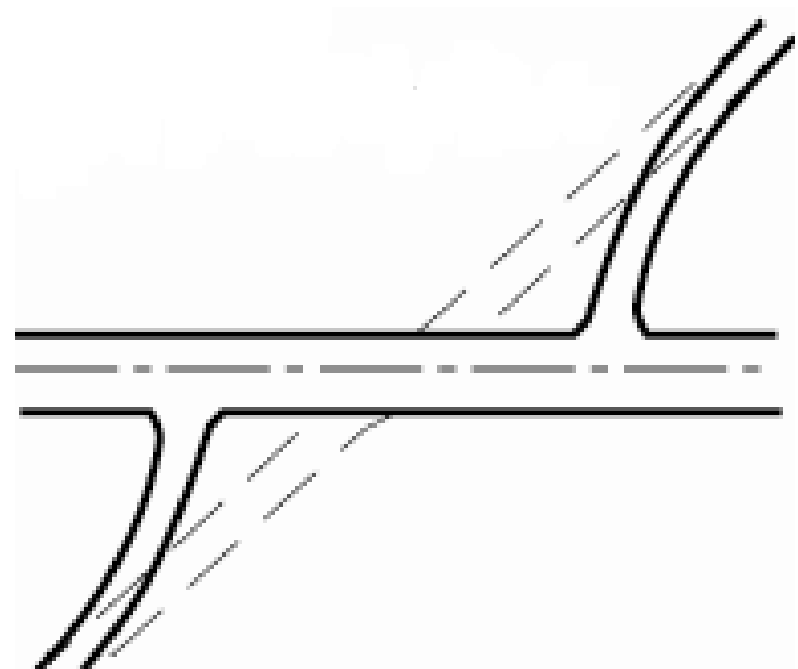
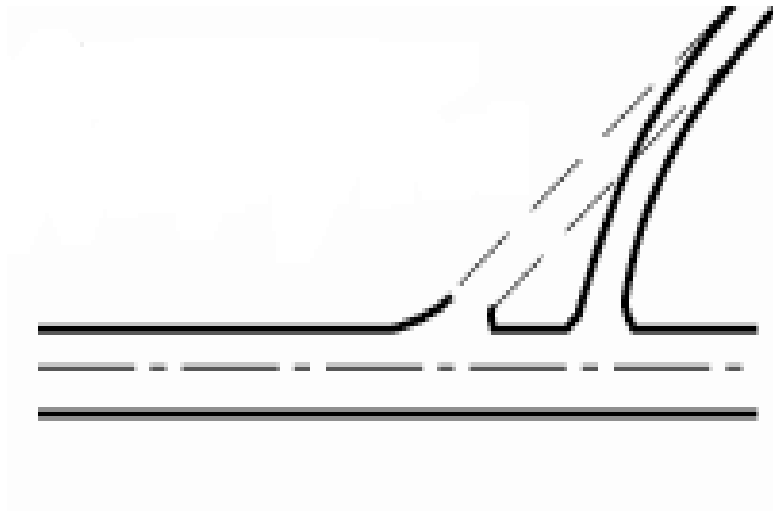
Mine haul road design and road safety

Avoid Y intersections



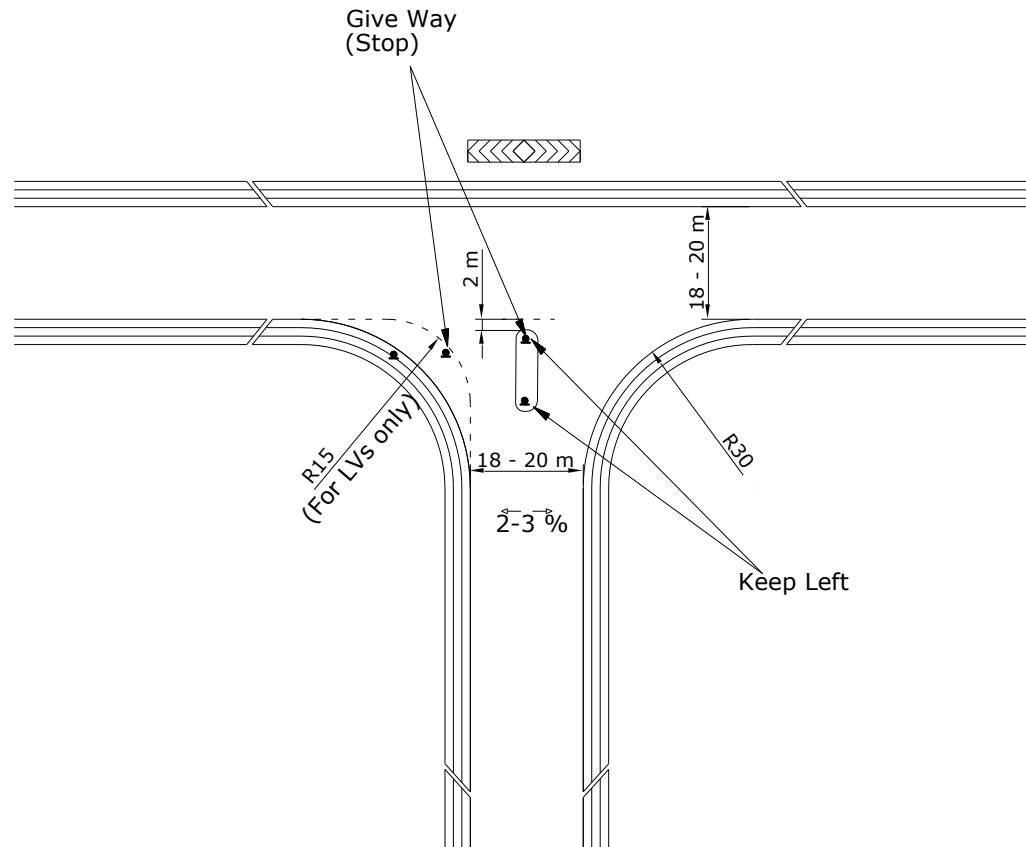
Mine haul road design and road safety

Re-align Y intersections to simple T or staggered T intersections



Mine haul road design and road safety

T intersection at 90 degrees to through road



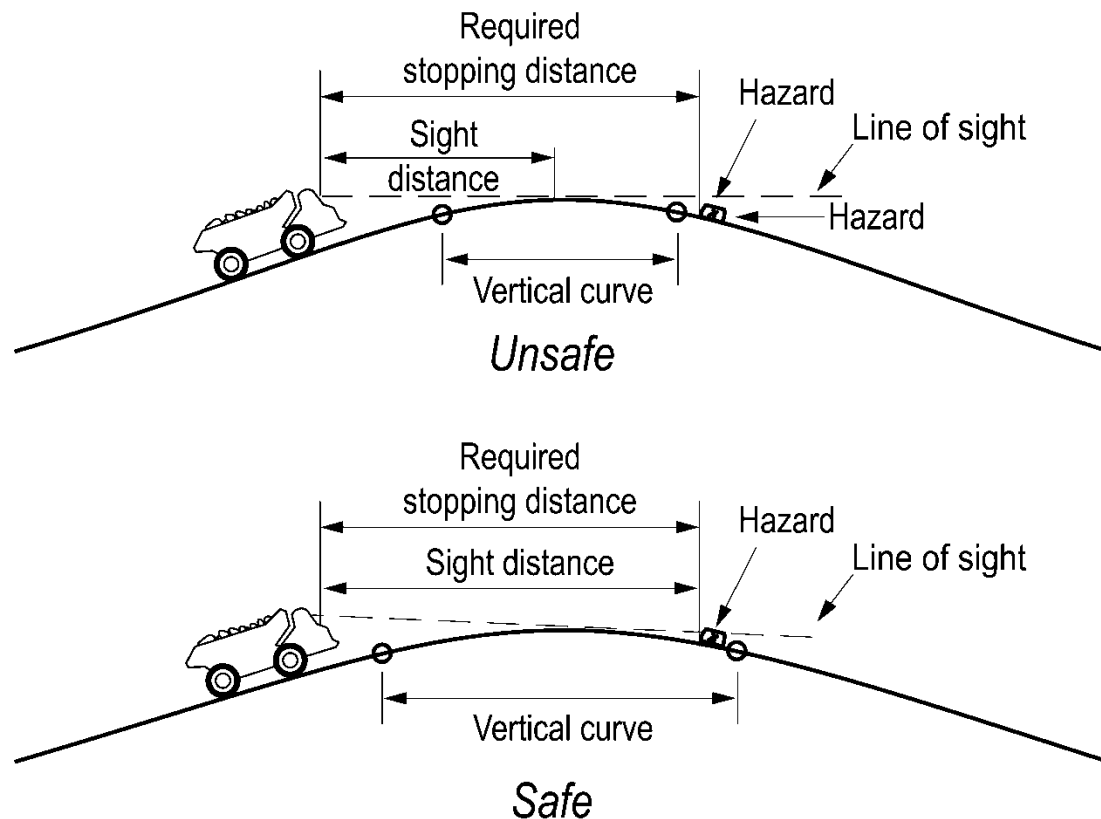
Mine haul road design and road safety

Rationalise the number of intersection roads



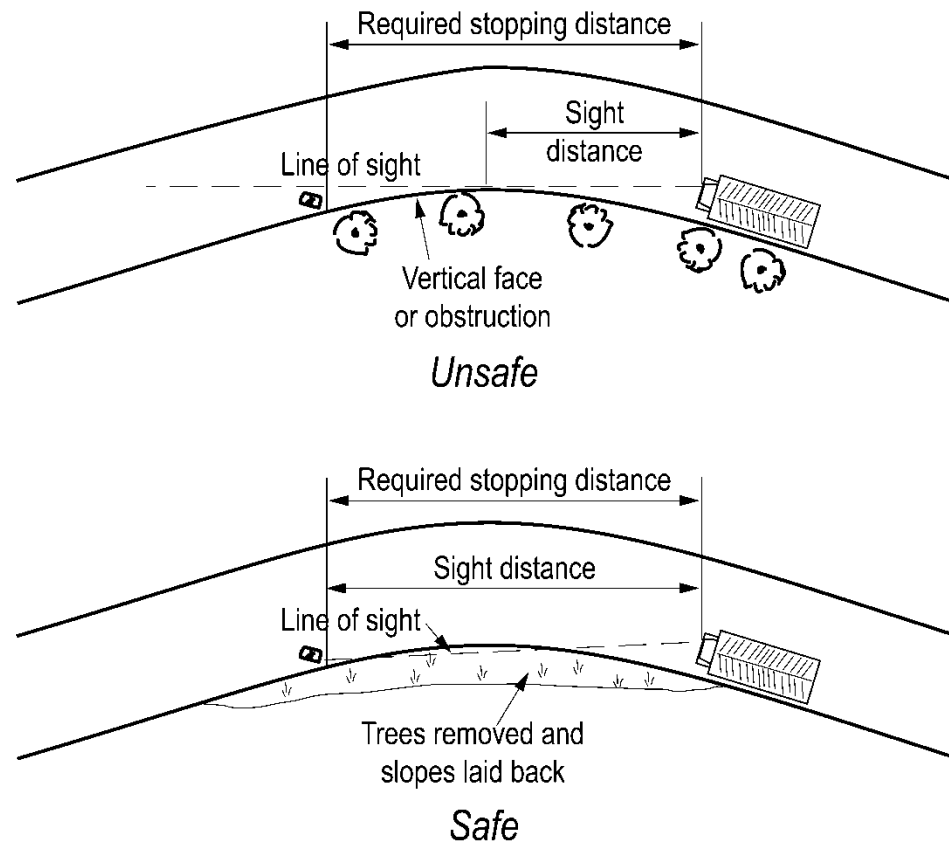
Mine haul road design and road safety

Adequate forward sight distance on crests



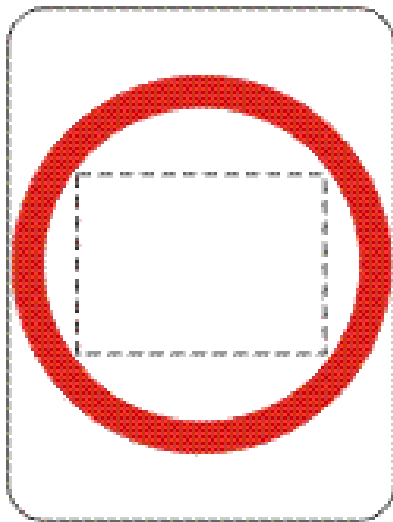
Mine haul road design and road safety

Sight distance on forward curves



Mine haul road design and road safety

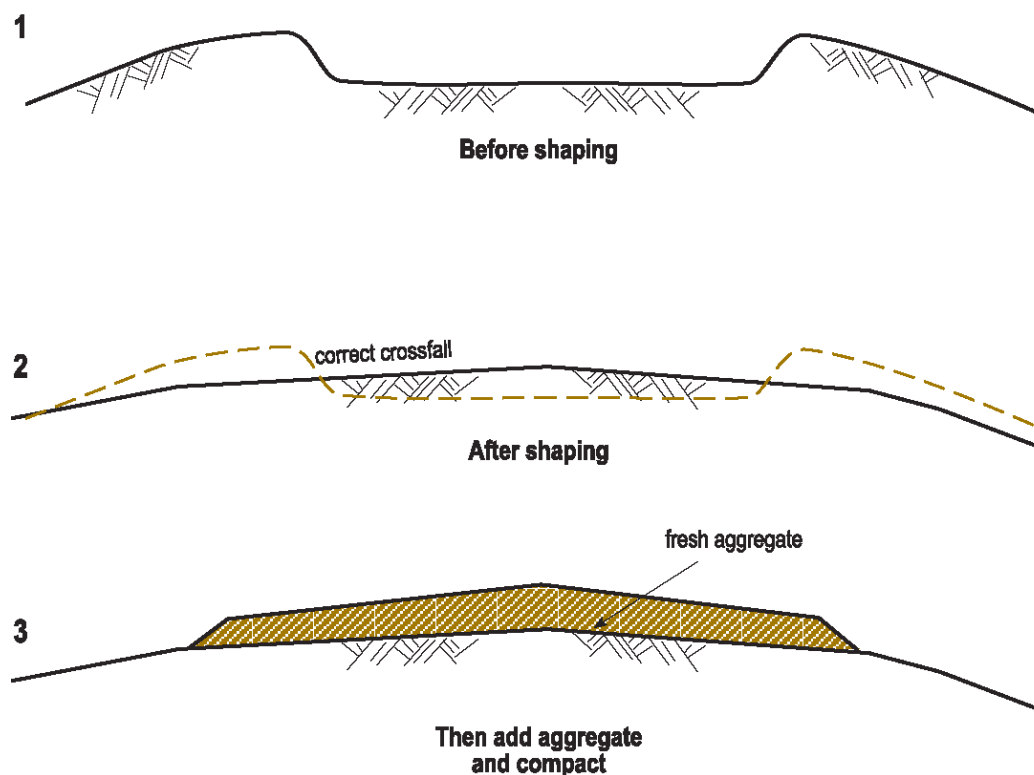
Post speed limits along haul roads, be consistent



Mine haul road design and road safety

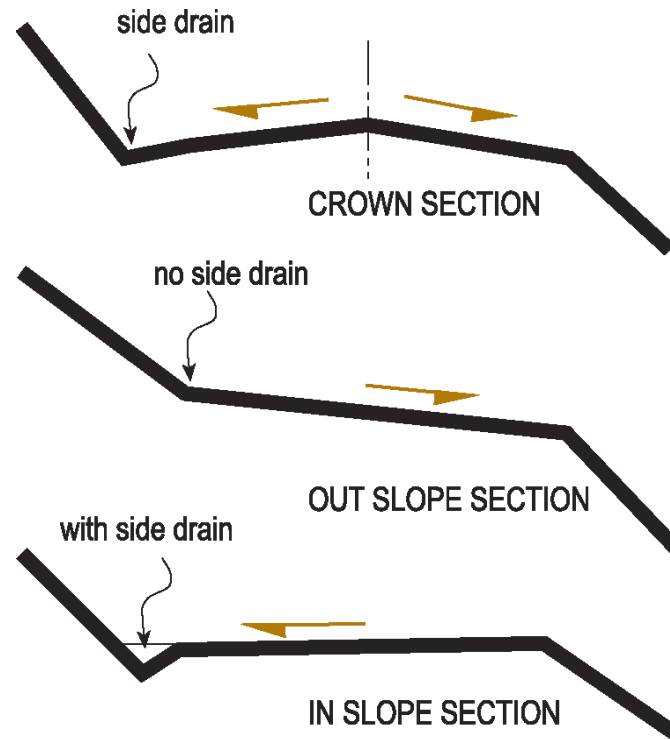
Good maintenance makes safer roads

Regravelling and shaping
Before regravelling, first get the basic shape correct



Mine haul road design and road safety

When grading road understand where water is to go to get off the road



NOTE: Direction of road surface runoff: 

Mine haul road design and road safety

Provide clear and consistent signage along haul roads **poor** signage



Mine haul road design and road safety

Provide clear and consistent signage along haul roads
roads **good** signage



Mine haul road design and road safety

Install guide posts at regular intervals to provide delineation of haul road, must be able to see a minimum of two pairs along the road at any



Mine haul road design and road safety

What can you do to improve your haul roads?

- Train design personnel in elements of traffic engineering
- Design haul roads that are fit for purpose, simple intersection design
- Build separate HV and LV roads
- Conduct road safety audits regularly
- Provide adequate sight distance through curves and crests
- Post realistic speed limits
- Use Australian Standard signs
- Provide good delineation

Mine haul road design and road safety

Conclusions;

- Build and maintain mine haul roads to a consistent standard to reduce the risk of incidents
- Simple application of road design elements and consistent road signs and delineation will make this a reality.
- It is now becoming widely recognised in mining that the roads are an important asset to the mine and without them the business is not as profitable or efficient.
- Following the guidance given above will lead to a simpler and safer mine road network for all road users. This in turn will lead to fewer incidents, increased efficiency, and profitability of the mine operation.