

Australian Standard™

**Road and traffic engineering—
Glossary of terms**



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Australian Standard™

Road and traffic engineering— Glossary of terms

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PREFACE

This Standard was prepared by Standards Australia Committees CE-004, Transport Planning and Operation, and CE-010, Terms Used in Road Engineering, to supersede the suite of Standards AS 1348, *Road and traffic engineering—Glossary of terms* (Part 1: *Road design and construction*, Part 2: *Traffic management*, Part 3: *Transport operation*, and Part 4: *Transport planning*).

The objective of this Standard is to provide an alphabetical list of terms used in road and traffic engineering.

Terms associated with road engineering are illustrated in Appendix A.

The meaning of the terms in this Standard are specific to Road and Traffic Engineering. Other meanings in common usage can apply.

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STANDARDS AUSTRALIA

Australian Standard
Road and traffic engineering—
Glossary of terms

Term	Definition
A	
train	A combination comprising a prime mover, a semitrailer, and a trailer (other than a semitrailer).
AADT	<i>See</i> annual average daily traffic
abrasion attrition	The wearing away of a solid surface by mechanical action.
abrasion test	A test of the resistance to abrasion offered by a material under specified conditions. (<i>See also</i> Los Angeles (abrasion) value)
abrasive blast cleaning	A method of cleaning or etching a surface by means of a hard granular material directed from a nozzle at high velocity.
absorption	The entry of fluid into a solid by virtue of the porosity of the latter.
absorption (bituminous binder)	The penetration of binder into an aggregate or base.
absorption capacity (traffic engineering)	The maximum rate at which a traffic stream can absorb additional vehicles.
abutment	An end support of a bridge or similar structure.
accelerated loading facility (ALF)	A mobile loading frame that can apply power-driven rolling wheel loads to sections of pavement in a manner that simulates the characteristics of traffic, which is used to study the response of the pavement to this loading.
acceleration lane	A speed-change lane used for increasing speed.
accelerator	A chemical additive that increases the rate of attainment of strength of a Portland cement concrete mix.
access	The driveway by which vehicles and/or pedestrians enter and/or leave property adjacent to a road.
access control	1 To prevent vehicles and people crossing property lines by means of barriers or regulations. 2 Arranging matters so that vehicles and people have access at predetermined locations.
access time	<i>See</i> travel time
access way	A private road or local street serving very low traffic volumes, whose design need not be dominated by traffic considerations. (<i>See also</i> driveway)

Term	Definition
accessibility index	Value obtained as a function of an accessibility measure constrained to a specified range of values.
accessibility measure	A measure of the ease with which activities can be reached from a location using a particular transport system. NOTE: The appropriate form of measure will depend on its intended use. In particular, activities that 'can be reached' might be taken as all-supplied activities or only those actually chosen, that is revealed choices. For example, the sum of the number of activities that can be reached from a location, weighted according to the impedance of travelling between the location and each activity.
accident site	An area that includes the site of an incident and the approach and departure distances of at least 100 m.
accommodation ramp approach ramp	A short sloping road leading to works, wharves, etc.
acid number	The quantity of alkali, expressed in milligrams, of potassium hydroxide, which is required to neutralize all acidic constituents present in 2 g of sample.
acid sulphate soils	Acidic soil layers that have been formed as a result of exposure of pyrite (iron sulphide) in soil to oxygen; when water passes through such soils, acidic water is produced.
acidic aggregate	Aggregate having a silica content of more than 65% and showing free quartz crystals.
acidic soil	A soil having a pH value less than 7.0. (<i>See also</i> alkaline soil)
active (earth) pressure	The residual lateral pressure exerted by soil or similar material after its internal strength is fully mobilized in self support.
active adhesion	The capacity of a binder to form a bond with an aggregate either in the presence or absence of water.
ACV	<i>See</i> aggregate crushing value
added filler	Mineral matter, suitable for use in asphalt, at least 75% of which is finer than 75 µm and all of which is finer than 600 µm, which is added to the combined aggregate of an asphalt mix NOTE: Typical materials used as added filler are hydrated lime, flyash, cement, cement works flue dust, ground limestone and rock dust other than that which occurs as a natural component of the combined aggregate.
additive	A substance added in small amounts for the purpose of aiding in the manufacture or handling of a product, or modifying the end properties.
add-mix	Asphalt, or graded aggregate, added and mixed with heated reclaimed asphalt pavement (RAP) during hot in-place recycling.
adhesion	The action by means of which a fluid or plastic substance (e.g. bituminous binder) sticks to the surface of a solid body (e.g. aggregate).
adhesion agent anti-stripping agent	A substance used for the purpose of improving the adhesion between a bituminous binder and aggregate. NOTE: The term generally refers to adhesion in the presence of water.

Term	Definition
adjustable suspension	Suspension capable of providing adjustment of the trim height of a vehicle by virtue of special design features built into the suspension system other than the trim height differences that may be caused by load variations.
admixture	A product added in small quantities to modify the normal properties of a mixture.
admixture (concrete)	A material, other than coarse or fine aggregate, cement or water, added in small quantities during the manufacture of concrete, to modify one or more of its properties.
adsorption	The attachment of a substance to the surface of a solid by virtue of forces arising from molecular attraction.
adsorption (bituminous binder)	The attachment of a bituminous binder to the surface of an aggregate or soil by molecular forces.
ADT	<i>See</i> average daily traffic
ADT count	The number of vehicle/axle counts measured at a specific count station for a nominated period.
ADT station	A traffic-measuring device installed at a specific location.
advance direction sign	A sign placed on an approach to, and in advance of, an intersection, junction or interchange, indicating the direction of routes and destinations beyond the intersection, junction or interchange.
advance warning signs	A range of signs used to alert traffic of a hazard on, or adjacent to, the road ahead.
advance warning vehicle	A vehicle used at the tail of mobile works to provide advance warning of the works to following traffic, to divert traffic around the work area and to enable the driver to alert workers ahead of any impending danger; also referred to as a tail vehicle
advisory speed	The recommended maximum speed at which a section of roadway should be negotiated for comfort and safety.
aerial photographic run	A series of sequential overlapping aerial photographs along a given line.
afflux	The rise in water level on the upstream side of a constriction in a stream or channel relative to the water level on the downstream side.
age hardened	A decrease in the penetration and/or increase in viscosity of bituminous binder caused by loss of volatiles and oxidation of the binder due to exposure to weather over a period of time. (<i>See also</i> oxidized binder)
aggregate	A material composed of discrete mineral particles of specified size or size distribution, produced from sand, gravel, rock or metallurgical slag, using one or more of the following processes: selective extraction, screening, blasting, or crushing.
aggregate breakdown	The disintegration of an aggregate under environmental and/or trafficking conditions.

Term	Definition
aggregate crushing test	A test of the resistance offered by an aggregate, as distinct from a single particle, to crushing under specified conditions.
aggregate crushing value (ACV)	An indication of the resistance to crushing of an aggregate.
aggregate mixing bitumen emulsion	A bitumen emulsion normally used for making cold mix that is to be stockpiled.
aggregate mixing grade emulsion	A bitumen emulsion, suitable for mixing with aggregate, normally used for making cold mix that is to be stockpiled.
aggregate model	<i>See</i> model
aggregate particles (sealing)	<i>See</i> aggregate, chips
aggregate retention	Long-term cohesion and retention of aggregate after adhesion is established.
aggregate spread rate	The rate of application of sealing aggregate, expressed in square metres per cubic metre (m^2/m^3), of aggregate applied to the loose bulk density in the truck.
aggregate trailer mass	GTM (gross trailer mass) plus the mass imposed onto the drawing vehicle when the combination vehicle is resting on a horizontal surface.
agitator (concrete)	An item of plant or equipment that maintains the plastic concrete in the mixed state. NOTE: Consistent with common usage, this term is also used (for convenience) in lieu of 'mobile batch mixer'.
AGO	<i>See</i> automotive gas oil
AGO diesel fuel	<i>See</i> flux oil
agricultural pipe drain	<i>See</i> subsoil drain
AHD	<i>See</i> Australian height datum
AHDD	<i>See</i> Australian height datum derived
air voids	<i>See</i> voids
air-entraining agent	An admixture that causes minute bubbles of air to be incorporated in a mixture to improve its workability and/or frost resistance.
air-entraining agent (concrete)	An admixture that causes minute bubbles of air to be incorporated in a concrete mix thereby improving its workability and frost resistance.
airlift axle	<i>See</i> retractable axle
airstrip	An area reserved for the landing and taking-off of aircraft.
airstrip unserviceable marker	A white cross placed on the ground next to wind-sock, to advise pilots that the airstrip is unserviceable.
ALD	<i>See</i> average least dimension
ALF	<i>See</i> accelerated loading facility
alighting	The act of leaving a public transport vehicle (other than a ferry).
alignment	The horizontal or vertical geometric form of the centre-line of the carriageway. (<i>See also</i> property line)

Term	Definition
alignment coordination	A road design technique that considers the relationship of the horizontal and vertical alignments and its influence on safety and the three-dimensional aspect of the finished carriageway.
alkali-aggregate reactivity (reaction)	A chemical reaction in concrete between alkalis from Portland cement or other sources and certain constituents of some aggregates. NOTE: Under certain conditions, deleterious expansion of the concrete may occur.
alkaline soil	A soil having a pH value greater than 7.0. (<i>See also</i> acidic soil)
alligator cracking	<i>See</i> crocodile cracking
all-or-nothing assignment	Process of allocating the total number of trips between two zones to the path or route with the minimum travel impedance.
all-red interval	A period of time for the clearance of traffic within the controlled area, during which red aspects and no others are illuminated.
all-red period	<i>See</i> all-red interval
ambient noise level	The normal or existing level of environmental noise at a given location, which is a composite of noise from all sources near and far.
amenity	That element in the layout and operation of town and country, which makes for a comfortable and pleasant life rather than a mere existence. It relates also to the preservation of such characteristics of a neighbourhood, which make it pleasing in appearance to both the passerby as well as to the residents and those across the road.
ana branch	A branch of a stream, which leaves and later re-enters the stream.
analysis area	An area or any group of zones that are combined for the purpose of making an analysis
anchor block	<i>See</i> end block
anchor bolt holding-down bolt	A bolt anchored in masonry, concrete or rock with its threaded section projecting to secure structural members.
anchor plate	A plate at the unthreaded end of the anchor bolt.
anchor slab (concrete)	A base slab that lies over an anchor.
anchorage	A device used to anchor prestressing tendons to the structural member accepting prestress. (<i>See also</i> dead man)
angle of repose	The angle with the horizontal, which the sloping face of a bank of loose material assumes.
angle of skew	The angular departure of a particular alignment from a reference alignment, usually measured in terms of the smaller angle.
anionic bitumen emulsion	A type of bitumen emulsion in which the suspended particles are negatively charged. (<i>See also</i> bitumen emulsion)
anisotropic	Having properties that vary in different directions.
annual average daily traffic (AADT)	The total yearly two way traffic volume divided by 365, expressed as vehicles per day.

Term	Definition
anti-lock brake system	Portion of a service brake system that automatically controls the degree of rotational wheel slip relative to the road at one or more road wheels of the vehicle during braking.
antistrip	The coating of an aggregate with a substitute to improve the subsequent adhesion of bituminous material thereto. (See also precoating)
anti-stripping agent	<i>See</i> adhesion agent
apparent particle density	<i>See</i> density <i>and</i> bulk particle density
application rate	The amount of material (usually binder) applied to a given area of road surface; binder application rate is expressed as litres per square metre, usually at 15° C, while aggregate application rate is expressed as square metres per cubic metre.
approach angle	Smallest angle, from the side view of a vehicle, formed by the level surface on which the vehicle is standing and a line tangent to the radius arc of the static-loaded front tyre and touching the underside of the vehicle forward of the front tyre.
approach nose	The end of an island, median or separator, or area between diverging carriageways, that faces approaching traffic.
approach ramp	<i>See</i> accommodation ramp
approach section(s) (concrete)	Pavement located within 15 m of bridge(s) (or other structures) where the concrete base is discontinuous, or within a specified distance (generally 15 m) of contract limits.
approach speed	The speed of traffic approaching the work site measured in km/h. It is usually estimated from a measurement of the 85th percentile speed or from the speed limit applying to the road. The symbol 'V' is used together with an appropriate factor to indicate the distance in metres between associated signs and for tapers on the standard traffic control plans (TCPs).
APRG	AUSTROADS Pavement Reference Group.
apron	1 A layer of concrete, stone, timber or other durable material placed at the entrance or outlet of a hydraulic structure (such as a culvert) in the bed of a channel or watercourse, to protect the structure against scour. 2 Parking area for aircraft.
aquaplaning	A condition occurring on a wet road when the tyres of a moving vehicle lose contact with the road surface and ride on a film of water.
arch bridge	A bridge, the deck of which is supported by a curved structural member in compression which transfers the loads to the abutments or piers.
area traffic control	A system providing coordinated control of traffic signals over an urban area by means of a master controller.
armourcoat	The incorporation of a crushed rock or a small size aggregate into the top of a soft base to tighten up and strengthen the surface.

Term	Definition
around (traffic control)	A work area with traffic on the same carriageway as the work area, to the side of, and not directly over the area being worked on.
ARRB TR	Australian Road Research Board—Transport Research.
arrestor bed	An area of land adjacent to the road, filled with a particulate material to decelerate and stop out-of-control vehicles; generally located on long steep descending gradients. (<i>See also</i> emergency escape ramp)
arris	The sharp edge of material, generally concrete, created by the junction of two planes.
arrival rate	The rate at which vehicles arrive at a facility, e.g. traffic signal, parking station, toll gate.
arrow aspect	A traffic signal aspect in the form of an arrow.
arterial feature	<i>See</i> recall feature
arterial road (rural)	A general term for a main road carrying mostly long-distance traffic, as distinct from local traffic.
arterial road (urban)	A general term for a main traffic route, but specifically referring to certain streets so designated in a local authority's district scheme.
bus	<i>See</i> bus
articulated vehicle	Combination of prime mover and semitrailer.
artificial gravel	<i>See</i> fine crushed rock
aspect signal indication	That portion of the optical system on a traffic signal head (e.g. red circle, green arrow) illuminated or displayed at any one time.
aspect	<i>See</i> aspect signal indication
asphalt	A mixture of bituminous binder and aggregate with or without mineral filler produced hot in a mixing plant, which is delivered, spread and compacted while hot.
asphalt base course	One or more layers of asphalt constituting a structural element of a pavement immediately below the asphalt intermediate course or wearing course where there is no asphalt intermediate course.
asphalt cement (an overseas term)	An American term for bitumen.
asphalt intermediate course	That part of the pavement which rests on the asphalt base course and is immediately below the wearing course; often referred to as 'binder course'.
asphalt pavement	A pavement, the predominate structural strength of which is provided by asphalt layers.
asphaltenes	Constituents of bitumen soluble in carbon disulphide, but insoluble in aromatic-free low-boiling petroleum spirit, such as n-heptane.

Term	Definition
asphaltic concrete	A dense, continuously graded mixture of coarse and fine aggregates, mineral filler and bitumen produced hot in a mixing plant, which is delivered, spread and compacted while hot. (<i>See also</i> dense graded asphalt)
ASS	<i>See</i> acid sulphate soils
assignment	
traffic assignment	Process of allocating trips onto existing or planned routes available on the road or public transport network. (Assignment may be based on one or more factors known to influence route selection, e.g. travel time, distance, cost.)
diversion assignment	Process of allocating the total number of trips between two zones to two or more possible routes on the basis of measurable parameters.
equilibrium assignment	Process of allocating the total number of trips between two zones to minimum impedance paths or routes, which reflects a state of balance between travel impedance and flow as determined by the assignment.
incremental assignment	Process in which trips are allocated to minimum impedance paths in a number of steps with an increment of total trips in each step. Travel impedance is adjusted between each step to reflect the expected flow.
iterative assignment	Process in which all trips are allocated to minimum impedance paths, the travel impedance is adjusted to reflect the flow, and the allocation is repeated.
multipath assignment	Any assignment process in which a trip can be proportioned to more than one path.
probabilistic assignment stochastic assignment	Multipath assignment method, which assigns trips to one or more 'reasonable' paths through the network on the basis of their relative probability of use.
at-grade crossing level crossing	Crossing at the same level, such as a railway crossing that is at the same level as a road, or a normal road intersection.
atterberg limit(s)	A set of arbitrarily defined boundary conditions in soils related to water content. The limits are as follows: (a) liquid limit: the moisture content at which a soil passes from the liquid state to the plastic state, as determined by a specific test procedure. (b) plastic limit: the moisture content at which a soil passes from the plastic state to the semi-solid state, as determined by a specific test procedure. (c) shrinkage limit: the moisture content from which a soil will continue to dry out without further change in volume (rarely determined).
attraction	<i>See</i> trip production and attraction
attrition	<i>See</i> abrasion
Australian design rule (ADR)	An Australian Design Rule for motor vehicle safety and emissions as endorsed by the Australian Transport Advisory Council.

Term	Definition
Australian height datum (AHD)	A level datum, uniform throughout Australia, based on an origin determined from observations of mean sea level at tide gauge stations, located at more than 30 points along the Australian coastline.
Australian height datum derived (AHDD)	The level datum based on a direct connection to the Australian height datum.
AUSTROADS	National Association of Road Transport and Traffic Authorities in Australasia. Previously known as NAASRA.
AUSTROADS classification	An hierarchical description of the road network.
author	The person responsible for the composition of a document.
automated guideway transit	All transportation systems in which unmanned vehicles run on fixed guideways along an exclusive right of way.
automatic leveller	A system to automatically control the longitudinal and transverse profile of the material being spread by a paving machine, grader or milling machine.
automatic traffic count	A traffic count obtained by machines or through the application of technology, rather than by manual recording. (<i>See also</i> recording traffic counter)
automatic vehicle identification (AVI)	Addition of markings or other devices to a vehicle to allow the vehicle to be uniquely identified by automatic scanning equipment.
automotive gas oil (AGO)	A petroleum distillate used to flux bituminous materials; usually known as diesel. (<i>See also</i> flux oil)
automotive tamper	A portable engine drive compactor. (<i>See also</i> tamper)
auto-restricted zone	Area where motor vehicles cannot enter or can enter only for specific purposes. NOTE: A pedestrian mall is an example of an auto-restricted zone.
auxiliary lane	A portion of the carriageway adjoining through traffic lanes, used for speed change or for other purposes supplementary to through traffic movement.
average daily traffic (ADT)	The total traffic volume during a stated period, divided by the number of days in that period (normally over a seven day week, i.e. includes weekend traffic).
average deceleration	Number determined by dividing the square of the initial vehicle speed by twice the stopping distance expressed in compatible units.
average design speed	The weighted average of the design speeds within a road section, in which each subsection within the section is considered to have an individual design speed.
average least dimension (ALD)	The average height of the aggregate particles when they are spread as a single layer with their least dimensions vertical.

Term	Definition
average overall travel speed	The summation of the distances travelled by all vehicles or a specified class of vehicle over a given section of road during a specified period of time, divided by the summation of overall travel times for those vehicles. NOTE: This may be applied to any single vehicle, group of vehicles or all vehicles.
average speed	<i>See</i> running speed
average spot speed time mean speed	The arithmetic mean of the speeds of all traffic, or components thereof, at a specified point, during a specified period of time.
average traffic density	The arithmetic mean of the traffic densities measured over a specified period of time.
average weekday traffic (AWT)	The total traffic volume for all of the weekdays (Monday to Friday) less public holidays, Saturdays and Sundays in a stated period, divided by the number of such days in that period.
axle group	A set of closely spaced axles acting as a unit.
close coupled axle group	- Two axles with centres not more than 1.0 m apart, which are to be regarded as equivalent to a single axle. - Three axles with centres not more than 2.0 m apart, which are to be regarded as equivalent to a tandem axle group. - Four or more axles with centres not more than 3.2 m apart, which are to be regarded as equivalent to a triaxle group.
quadaxle group	Means a group of 4 axles, in which the horizontal distance between the centre-lines of the outermost axles is more than 3.2 m, but not more than 4.9 m.
single axle	Means an axle not forming part of an axle group.
tandem axle group	A group of at least two axles, in which the horizontal distance between the centre-lines of the outermost axles is at least 1.0 m, but not more than 2.0 m.
tri-axle group	A group of at least three axles, in which the horizontal distance between the centre-lines of the outermost axles is more than 2.0 m, but not more than 3.2 m.
twin steer axle group	A group of two axles — - with single types; - fitted to a motor vehicle; - connected to the same steering mechanism; and - the horizontal distance between the centre-lines of which is at least 1.0 m, but not more than 2.0 m.
widespread tandem axle group	Combination of two non-steerable axles whose centres are located outside two transverse vertical parallel planes 2.0 m apart.
axle group load	The load applied to a pavement by an axle group.
axle load	That portion of the total vehicle load transmitted to the road through a single axle.

Term	Definition
axle mass	1 In automotive usage, the total mass axle load transmitted to the road by all the tyres fitted to an axle group. 2 In rail usage, the portion of mass transmitted to the rails by each individual wheel set.
Azimuth bearing datum	A defined direction to which the bearings of lines may be referred. (<i>See also</i> bearing (1) <i>and</i> magnetic bearing)
B	
backactor	A tractor-based excavator with a hydraulic digging arm mounted at the rear of the machine; also known as a backhoe.
backboard	<i>See</i> target board
backfill	Fill placed in an excavation.
backfill	To refill an excavation.
backscatter mode (nuclear meter)	The deflection of radiation or particles by scattering through angles greater than 90° with reference to the original direction of travel.
backwater	That part of a stream, the water level of which is kept above normal due to some controlling influence downstream.
baghouse	An arrangement of fabric bag filters assembled in an airtight unit designed to remove dust during a manufacturing process.
bagwork	Protective work consisting of dry concrete mixture confined in hessian or similar bags placed and tamped against banks to prevent scour.
bailey bridge	A temporary bridge of lattice steel designed for rapid assembly from prefabricated standard parts.
balanced earthworks	Earthworks in which the quantity of material excavated along the road just required.
balanced transport system	<i>See</i> equitable transport system
ballast	1 Broken stone of about 100 mm nominal size used generally as a foundation course. 2 The material surrounding railway sleepers. 3 The material added to a roller to increase its mass.
balling	The result of a cationic emulsion adhering to the finest particles in a mix with dirty aggregate, so that balls of bitumen and fines occur and the larger stones remaining uncoated.
bank	1 An embankment or fill. 2 A fill in the line of a road.
bank locomotive banker locomotive	Locomotive placed at the rear of a train to assist the train to negotiate a steep gradient.
barrel	That portion of a culvert between the end walls.
barrier	An obstruction placed to prevent access to a particular area.

Term	Definition
barrier kerb	A kerb high enough to prevent or discourage driving off the carriageway. (<i>See also</i> semi-barrier kerb)
barrier line	A pair of longitudinal lines marked on the carriageway to prohibit overtaking movements in one or both directions.
barrier rail	A permanent barrier to prevent vehicles leaving the road; also known as vehicle barrier.
bascule bridge	A bridge in which a span or part of a span is raised by rotation to allow ships to pass.
base basecourse road base	One or more layers of material usually constituting the uppermost structural element of a pavement and on which the surfacing may be placed, which may be composed of fine crushed rock, natural gravel, broken stone, stabilized material, asphalt or Portland cement concrete.
base case	System that would exist without the introduction of the changes proposed in the project being analysed
base course	<i>See</i> base
base line	A line in the field, the length of which is accurately measured and from which, by triangulation or otherwise, the position of other points may be determined, or on which a survey may be based.
base traffic	<i>See</i> traffic
base year	The reference year with which both past and future land use, economic factors and traffic situations are compared
basic aggregate	Aggregate having a silica content less than 52%.
basic capacity	<i>See</i> capacity
basic desired speed	The speed adopted by a driver or drivers when not influenced by the presence of other drivers or restrictive road alignment features
basic lanes	Those lanes forming the minimum number of lanes designated and maintained over a significant length of route, irrespective of changes in traffic volume and the requirements of lane balance.
baskets	<i>See</i> protection works
batch	The quantity of materials mixed at the same time.
batch plant	<i>See</i> mixing plant
batching (concrete)	The process of combining the concrete ingredients in fixed proportions by mass or by volume, including charging and mixing.
batching plant	Mechanical equipment for measuring, by mass or volume, the quantities of various ingredients to make up each complete charge to a mixer.
batter	1 The uniform side slope of walls, banks, cuttings etc. 2 The amount of such slope or rake, usually expressed as a ratio of horizontal to vertical, distinct from grade. 3 To form a uniform side slope to a wall, bank, or cutting.
batter peg	A peg placed to define a batter point.

Term	Definition
batter point	In a cross-section of a road, the point at which the batter, if extended, would intersect the natural surface.
batter rake	1 The uniform side slope of walls, banks, cuttings, etc. 2 The degree of such slope, usually expressed as a ratio of x horizontal to 1 vertical in distinction from grade.
batter stake	A stake placed to define by its top, or by markings on it, the level of the batter at any particular point.
BCA	<i>See</i> economic analysis
BCF	<i>See</i> braking force coefficient
BCR	<i>See</i> benefit cost ratio
b-double	An articulated vehicle hauling two semitrailers with the rear semitrailer superimposed onto the front semitrailer of the articulated vehicle, which is achieved by the use of a fifth wheel permanently located towards the rear of the front semitrailer.
beaching slope paving	A protective layer of stones or other durable material placed against a slope to protect it against wave action or other water erosion. (<i>See also</i> revetment)
bearing	1 The horizontal angular direction of a survey line with reference to a known direction. (<i>See also</i> azimuth <i>and</i> magnetic bearing) 2 A device for transmitting horizontal and vertical forces of a bridge superstructure to the supporting structure.
bearing capacity	The load per unit area, which a supporting medium can carry without failure or unacceptably large settlement.
bearing datum	<i>See</i> azimuth
bearing pile	<i>See</i> end-bearing pile
bed type	The nature of the solid material under a stream, river or culvert, e.g. sand, gravel, clay, silt.
bedding (bed)	A layer of suitable material placed on a foundation to provide uniform support for a structure, culvert or pipeline.
bedding plane	The plane of separation between successive layers of stratified rocks.
bedrock	A general term meaning rock of considerable thickness and extent underlying relatively soft or variable surface strata.
behavioural costs	Costs that influence behaviour (especially travel), which may be real or perceived costs and which, when identified, would be used in travel behavioural models.
behavioural model	<i>See</i> model
belling out under-reaming	Widening out the bottom of a borehole.

Term	Definition
bench (benching)	1 A ledge constructed in a batter or natural slope. 2 A ledge cut or formed in the batter of a cutting or bank, to provide greater security against slips. 3 The toe, ledge or other feature of a bench mark used as a reference level point.
bench mark (benchmark)	A defined mark of a permanent or temporary nature, the level and position of which, relative to some datum, has been determined or assumed, and to which the level of other points may be related.
benched foundation stepped foundation	A foundation on an inclined bearing stratum cut in steps, to provide horizontal bearing and sliding resistance.
benefit/cost ratio (BCR)	A ratio that compares the benefits, accruing to road users and the wider community from constructing a project, with the cost of that project.
benefit-cost analysis	<i>See</i> economic analysis
benign alternative	Means of reducing traffic congestion without large capital expenditures NOTE: Staggered work hours and flexible work hours are two examples of benign alternatives.
Benkelman beam	An instrument for measuring the deflection of the surface of a pavement caused by the passage of a dual-tyred single-axle carrying a standard axle load.
bent	A plane frame having at least two legs, which is usually placed at right-angles to the length of the structure it supports such as a bridge superstructure.
berm	1 A ledge formed at the bottom of an earth slope or at some level intermediate between the bottom and the top. 2 A grassed area between the kerb and footpath or between the footpath and property boundary. 3 A mound on the outer edge of a road above a fill batter, to protect the batter from erosion,
BF	<i>See</i> blast furnace
BFS	<i>See</i> blast furnace slag
bias ply tyre	<i>See</i> diagonal ply tyre
bind	1 To hold or stick together aggregate in a mass. 2 To fill the interstices between small stones or coarse gravels with finer material, to provide mechanical and physical bonding.
binder	A material used for the purpose of holding solid particles together as a coherent mass.
binder (sealing)	A bituminous material used for waterproofing the surface and holding an aggregate layer to the base.
binder allowance	An allowance used to modify the basic binder application rate to account for existing surface texture, absorption by base and/or aggregate, and for embedment.

Term	Definition
binder application rate	The rate of application of a bituminous binder expressed in litres per square metre (L/m ²) at a given temperature, and including, where applicable, the polymer additive. In specifications, the binder application rate is usually expressed in L/m ² at 15°C.
binder hardener (bitumen)	A product, usually gilsonite, added to bitumen to increase its viscosity.
binder hardener (sealing)	A product, usually containing gilsonite and a volatile aromatic solvent, used for the treatment of flushed or bleeding bituminous surfacings.
binder (stabilization, recycling)	A material used for the purpose of binding particles together as a coherent mass.
binder (asphalt or slurry surfacing)	A bituminous material used for the purpose of holding aggregate particles together as a coherent mass.
bitumen	A very viscous liquid or a solid, consisting essentially of hydrocarbons and their derivatives, which is soluble in carbon disulphide, substantially non-volatile and softens gradually when heated, black or brown in colour and possesses waterproofing and adhesive properties, and obtained from native asphalt or by refinery processes from petroleum. (<i>See also</i> residual bitumen)
bitumen cutter	<i>See</i> cutter, cutter oil
bitumen flux	<i>See</i> flux, flux oil
bitumen emulsion emulsion	A liquid product in which a substantial amount of bitumen (with which some oil may be mixed) is suspended in a finely divided condition in water by means of emulsifying and stabilizing agents. (<i>See also</i> aggregate mixing bitumen emulsion, anionic bitumen emulsion, anionic bitumen emulsion, rapid-setting bitumen emulsion slow-setting bitumen emulsion <i>and</i> breaking of emulsion)
bitumen rubber sprayed seal rubberized bitumen seal	A sprayed seal where the binder consists of bitumen modified by the incorporation of rubber, either natural or synthetic, which helps resist fatigue of the seal. (<i>See also</i> rubberized bitumen seal)
bituminous	Having physical properties similar to those of bitumen or tar, or containing substances having such properties.
bituminous concrete	<i>See</i> asphaltic concrete
bituminous emulsion	<i>See</i> bitumen emulsion
bituminous hot mix	A general term for dense graded or asphalt mixes, laid hot.
bituminous macadam	1 Penetration—coarse aggregate bound in situ by bituminous material applied by grouting. 2 Premixed (plant mix)—coarse aggregate and bituminous material combined by mixing before being placed. 3 Mixed-in-place (road mix)—coarse aggregate and bituminous material combined by mixing in situ. NOTE: A form of construction presently not commonly employed in Australia.

Term	Definition
bituminous pavement	A pavement in which a bituminous material has been used as a binder.
bituminous slurry	A mixture of emulsified bituminous binder (with or without a polymer modifier), mineral aggregate, mineral filler, additives and water properly proportioned to form a slurry, which is spread evenly on the road surface.
bituminous slurry surfacing	<i>See</i> slurry surfacing
blast furnace	A method for extracting iron.
blast furnace slag (BFS)	The non-metallic product, consisting essentially of silicates and alumino-silicates of lime, developed simultaneously with iron in a blast furnace; also referred to as blast furnace rock slag.
blasting	The use of explosive for excavating rock, demolition and other purposes.
blasting mat	A heavy woven mat used to minimize fly rock from blasting operations.
blaze	A mark made on a tree by removing a portion of the bark to indicate the line.
bleeding	1 The presence of excess binder on the pavement surface, resulting from the upward migration of the binder, due to a combination of traffic action, warm temperatures and other factors. (<i>See also</i> fatty surface) 2 The escape of water from freshly placed concrete to the surface or the escape of mortar through small gaps in the containing formwork.
bleeding (seals)	A surface condition in which an excess of free binder completely covers the aggregate, that is there is no surface texture.
blind	To spread a thin layer of suitable, usually fine, material, to absorb excess binder or to assist in remedying a slippery or loose condition, or to fill excess surface voids.
blinding preliminary concrete	A layer of lean mass concrete placed on soil to provide a clean bed for reinforced concrete work.
blistering plastering	The breaking of large rock without pre-drilling, by means of an explosive charge placed on the surface of the rock.
block copolymer	This refers to the physical structure of some polymers such as SBS, which have a rigid (styrene) end block or segment of monomer units attached to an elastic (butadiene) segment or chain of monomer units.
block cracking	A particular pattern of cracking, which appears as a series of connected rectangles. (<i>See also</i> cracking)
blow	<i>See</i> boil
blowholes	The small holes in cured concrete resulting from entrapped air bubbles.
blown bitumen	A harder grade of bitumen produced from a softer grade by controlled oxidation, normally by 'air blowing' at an elevated temperature.

Term	Definition
boarding	Act of entering a public transport vehicle.
bogie	Assembly of parts consisting of wheels, axles and brake gear with necessary springs and structural members that support the main body of a rail vehicle at each end and which is free to swivel independently in the horizontal plane.
bogie exchange	A system that allows the bogies of a rail vehicle to be changed so that the vehicle can travel over lines of different gauges.
boil blow	A sudden upward rush of sand or silt and water in the bottom of an excavation due to water pressure outside.
bond	1 The property of mechanical interlock between particles arising from their shape and disposition relative to each other. 2 The arrangement of units in masonry, brickwork, etc., such that the vertical joints are discontinuous. 3 The adhesion between adjacent faces of blocks, units or courses. 4 The adhesion between different materials in composite construction, e.g. reinforced concrete, prestressed concrete. 5 To place materials with their surfaces in intimate contact, e.g. to bed stones in mortar.
bond length	<i>See</i> development length
boning	The operation of setting out levels by sighting over boning rods whereby, from two given points, other points at the same level, or on the same gradient, may be established.
boning rods	Tee squares or rods, either of uniform height or adjustable, used for boning.
bony	An open-textured surface of an unsealed road or shoulder caused by lack of fines; also used to describe concrete that has segregated during mixing and placement.
booked hiring	Pre-booked hiring for which a service charge is applicable.
border	The area between the carriageway and the property line.
borehole drill hole	A hole produced in the ground by drilling or driving.
bored pile	A pile formed by casting concrete into a hole bored in the ground.
borrow	Material for filling obtained by excavating at some point other than cuttings required for construction of the road.
borrow pit	An excavation outside the formation limits for obtaining filling.
BOS (Basic oxygen steel)	A method for manufacturing steel.
boulder	A rounded or sub-angular stone or piece of rock of large size, usually larger than 300 mm.
bound material	Granular material to which a binder of lime, cement, bitumen, or similar additive, is added to produce structural stiffness.

Term	Definition
bound pavements	Pavements composed of materials incorporating sufficient amounts of chemical agent(s) to produce significant structural stiffness and improve the loadbearing capacity
boundary	<i>See</i> property line
boundary line	The boundary between a road reserve and the adjacent land. (<i>See also</i> property line)
boundary marker	Defines the total cleared area of an airstrip or landing area.
bowstring girder	A beam consisting of an arched top chord and a straight bottom chord connected by web members.
box	<i>See</i> boxing
box culvert	A culvert of rectangular cross-section.
box cutting	That portion of the road where both sides are in cut; also known as a block cut.
box drain	A small drainage structure of rectangular cross-section.
box girder	A hollow girder usually made up of rectangular or trapezoidal steel or concrete sections.
box pile	A steel pile made from two sheet piles or other steel sections welded together to make a hollow section.
boxing	The space formed between shoulders above the level of the subgrade when shoulders are constructed ahead of pavement and in which the pavement is laid.
bracing	A stiffening member in a structure, usually diagonal and usually required to resist lateral loads.
brake power assist unit	Device installed in a hydraulic brake system, which reduces the operator effort required to actuate the system and, if inoperative, will not prevent the operator from braking the vehicle by a continued application of muscular force on the service brake control.
brake reactive suspension	Suspension in which there is a transfer of vertical loading from one axle to another axle in the same axle group due to the application of the brakes.
brake system trailer	Systems and devices attached to the trailer whose primary function is to translate energy or information (or both) supplied by the towing vehicle into a force that restrains trailer movement.
brakes	Friction elements that are forced together by the influence of the remainder of the brake system so as to apply a restraining torque to the vehicle wheels. (<i>See also</i> control line, control signal and control system)
braking distance	The distance a vehicle travels in the time between the application of the brakes and when it stops.

Term	Definition
braking force coefficient (BFC)	The ratio of the braking force to the vertical reaction on a locked wheel friction testing device. (The actual values obtained will depend upon the type of equipment and the way in which it is used.)
breakaway angle	Supplement of the largest angle, in the side view of vehicle, that can be formed by two lines tangent to the front and rear static-loaded tyre radius arcs and intersecting at a point on the underside of the vehicle.
breaking of emulsion	The separation of a bitumen emulsion into free bitumen and water. This process is accompanied by a colour change from brown to black. (<i>See also</i> bitumen emulsion)
breaking of joints staggering	Arrangements of blocks or units of a series so that the joints of adjacent rows are not continuous across the rows.
bridge	A structure designed to carry a road or path over an obstacle by spanning it.
bridge block	A precast block to provide a bridge over a dish channel.
bridge loading class	Categories of loading that a bridge can support.
bridge marker	A diagonal patterned rectangle to indicate the sides of a bridge.
bridged rotary interchange	An interchange between a freeway or expressway and a surface road or roads in that the ramp terminals connect to a roundabout that is grade-separated from the freeway or expressway. (<i>See</i> Figure A1, Appendix A)
bridgeworks	All works associated with the construction of a bridge.
brief	Identifies the client's requirements for a specific proposal of work.
British portable skid resistance tester	A portable, dynamic pendulum device that measures the energy absorbed by a rubber pad as its edge slides over a test surface. The tester is used in the field and in the laboratory. It is useful for confined areas such as road markings and footpaths.
brittle binder	A binder that is fragile and prone to fracture.
broken stone	Natural rock, gravel, or pebbles broken into suitable size for use.
brooming	The use of a broom for — (a) distributing aggregate uniformly over the surface of a pavement; (b) removing loose material from a pavement surface; or (c) roughening the surface of concrete. (<i>See also</i> drag (3))
bubble-up tank	The exit from a stormwater pipe to a channel.
buckling	Localized upward movement of a slab occurring usually at a transverse joint or crack or at a weak spot of the pavement.
building line	The line in abutting property, generally parallel to the property line, in front of which no building or part of a building may be erected.
bulk density	Mass per unit volume including voids in a material. (<i>See also</i> density)

Term	Definition
bulk density of aggregate	<i>See</i> bulk particle density
bulk loading	To place in or on a vehicle a large volume of goods, without package, as cargo for transit.
bulk particle density	1 Mass of a saturated surface-dry particle of aggregate in air divided by its volume including all voids, both permeable and inaccessible to water. 2 Mass of a dry particle of aggregate in air divided by its volume including all voids, both permeable and inaccessible to water.
bulk density of aggregate	<i>See</i> density
bulking	The increase in volume of a material resulting from disturbance or from changes in its condition, in particular from an increase in moisture content.
bulking factor	The ratio of the final volume and the initial volume of a material after bulking has occurred.
bull float (concrete)	A flat, broad-bladed steel hand tool used in the final stages of finishing operations to impart a smooth surface to concrete.
bulling	The enlargement of the bottom of a drilled or jumped hole by firing a small charge of explosive.
bunch	<i>See</i> traffic platoon
bund	Watertight wall designed to contain any liquids accidentally escaping from tanks, drums or other equipment through leaks, damage or incorrect operation.
burden	In blasting operations, the distance back from a face to the explosive charge.
burned lime	<i>See</i> quick lime.
burnt lime	<i>See</i> quick lime.
bus bay	An auxiliary lane of limited length at a bus stop or terminus, usually indented into the shoulder or verge.
bus charter	Rental of the exclusive use of a transport vehicle, including the driver, for a predetermined purpose.
bus driver	Person who is licensed to drive a bus for the transport of passengers for hire or reward.
bus lane	A traffic lane reserved for, or primarily used by, buses either when transporting, loading or discharging passengers, or when standing. (<i>See also</i> bus way, transit lane)
bus lane or bus ways	Traffic lane reserved for, or primarily used by, buses.
bus priority	Means by which buses are given an advantage over other traffic; for instance, by traffic signal pre-emption measures or by freeway entrances or bus lanes that give priority to buses.
bus way	Road way reserved for buses only. (<i>See also</i> bus lane)

Term	Definition
bus omnibus	Passenger vehicle constructed to carry a minimum number of seated passengers, including the driver; the number being specified in individual State legislation and regulations (normally more than eight or nine).
articulated bus	A bus consisting of two or more rigid sections with access between the sections for passengers and the rear sections of which are connected to the front section so as to allow rotary movement between the sections
commuter bus	A bus that takes people from a place near their residences to a place near their work, usually travelling from a suburb to a city.
express bus	A bus operating on a trip with few or no intermediate stops.
heavy bus (ME classification under ADR)	A bus with a gross vehicle mass (GVM) exceeding a mass specified in individual State legislation and regulations (normally more than 5 t.
kneeling bus	A bus that can be lowered closer to the kerb to allow easier boarding by the elderly and by some people with disabilities
large bus	A bus having an occupant capacity, including the driver, of over 20 persons.
light bus (MD classification under ADR)	A bus having a gross vehicle mass (GVM) not exceeding 5 t.
route service bus	A bus licensed to carry seated or standing passengers (or both) on approved routes.
small bus minibus	A bus having an occupant capacity, including the driver, of up to 20 persons.
bush	Aggregate of all the 'efficient' paths from one node to all other nodes in the network. An 'efficient' path is any path along which the nodes are progressively further from the origin and closer to the destination. None of the paths are uniquely definable and regularly interconnect giving a bush-like structure.
bush hammer	A tool with small protrusions which is operated usually by means of compressed air or by electric motor, to remove by hammering the outer skin from stone or concrete to give a uniform rough textured finish.
busway	Right-of-way for the exclusive use of buses and emergency vehicles
butt joint (concrete)	A joint between a base slab and other parts of the pavement without any gap, dowels or tie bars.
buttress	A strengthening rib at right-angles to and monolithic with a wall on the side opposite to lateral thrust and provided for the purpose of resisting such thrust.
bypass (by-pass)	An alternative route which enables through traffic to avoid urban or congested areas, or other obstructions to movement. Usually to divert heavy vehicles away from residential areas.
by-pass road	See bypass

Term	Definition
by-passable traffic	<i>See</i> traffic
C	
cable guyed bridge	<i>See</i> cable stayed bridge
cable pit	An inground box for the junction and installation of conduits and ducts.
cable stayed bridge	A bridge in which the deck is supported directly from pier towers by inclined straight cables as distinct from vertical hangers from a draped or curved cable, as in suspension bridges.
cable tramway	Public transport vehicle tramway operating with unpowered, individual vehicles propelled by moving cables located in a slot beneath and between the rails.
cable way flying fox	A load-handling device consisting of towers carrying between them a steel rope on which a carriage runs.
cab-lease	Lease approved by the appropriate authority upon certain requirements being met. The owner may lease the taxi plates to an approved lessee for a set amount.
caisson	A hollow structure for keeping water or soft ground from flowing into an excavation. As the excavation proceeds the caisson follows down and usually it is subsequently incorporated in the permanent foundation when a satisfactory load bearing stratum is reached.
calibration	Process of determining the parameters of the mathematical travel models so that these models simulate observed travel patterns as accurately as possible.
California bearing ratio (CBR)	A measure of the bearing capacity of a soil obtained from a standard soil penetration resistance test.
camber	1 The transverse convexity given to the surface of a carriageway or footway. 2 The upward vertical curvature of a beam.
camber board	A board used to gauge the crossfall of a road.
cantilever bridge	A bridge in which the main structural members project beyond the support into all or some of the spans. The projecting ends may be joined in the centre of a span by means of a hinge, or linked by a simply supported section called a 'suspended span'.
capacity	Maximum flow of trains, vehicles, passengers or goods that can be accommodated in a transport system in a specified period.
basic capacity	Capacity of a road or area to accommodate moving and/or stationary vehicles regardless of the effect of delaying drivers, restricting their freedom to manoeuvre, or the need to maintain specified environmental standards.
environmental capacity	Capacity of a road or area to accommodate moving and/or stationary vehicles with regard to the need to maintain specified environmental standards
freight capacity	Maximum payload volume which a vehicle may carry

Term	Definition
parking capacity	Total number of marked parking spaces provided within a parking facility; also known as ‘static capacity’.
public transport capacity	Maximum number of passengers which a vehicle is designed to accommodate according to specified loading conditions. These may be exceeded on trains under crush load conditions.
road capacity	Maximum number of vehicles or pedestrians that can pass over a given section of a lane, road or footpath in one direction (or in both directions for a two-lane or three-lane road) during a given time period under prevailing road and traffic conditions. It is the maximum rate of flow that has a reasonable expectation of occurring. In the absence of a time modifier, capacity is an hourly volume. The capacity would not normally be exceeded without changing one or more of the conditions that prevail. In expressing capacity, it is essential to state the prevailing road and traffic conditions under which the capacity is applicable
capacity indicator	In capacity restraint, curves relating the volume/capacity ratio to speed are used. Different curves are used for different types of roads or different land uses and the capacity indicator for a link identifies which curve is to be used for that particular link.
capacity restraint	Process by which the assigned volume on a link is compared with the practical capacity of that link and the speed of the link adjusted to reflect the relationship between speed, volume, and capacity. The procedure is repeated until a realistic balance is achieved.
cape seal	A treatment consisting of a slurry seal over a sprayed seal providing an asphalt-like appearance.
capillary water	Water drawn upwards into soil pores and held by surface tension.
capping (concrete)	A capping of the top of the drill hole following affixing of the tiebar to provide cover to the tiebar and to reinstate the surface appearance of the base concrete.
Capitive riders	Persons limited by circumstances to use one mode of transportation. (<i>See also</i> public transport captive) NOTE: Generally, captive drivers do not own or drive an automobile and must depend on public or specialized transit.
car availability	Number of cars available for use per particular unit, i.e. ‘x’ cars per 1000 people or ‘y’ cars per household.
car occupancy	The average number of occupants, including driver, per passenger car.
car ownership	Number of cars owned per particular unit, i.e. ‘x’ cars per 1000 people or ‘y’ cars per household.
car park	A place set aside for the parking of vehicles.
carbenes	The constituents of bitumen soluble in carbon disulphide and insoluble in carbon tetrachloride.

Term	Definition
car-owning household	Household in which at least one member has a car available for regular personal use, whether owned outright, subject to hire purchase, borrowed or owned by a company or a government authority.
car-pooling ride-sharing van pooling	Pre-arranged ride-sharing of a car trip for the purpose of commuting. The car is usually provided by the driver.
carriageway	That portion of a road or bridge devoted particularly to the use of vehicles, that is between guide posts, kerbs, or barriers where these are provided, inclusive of shoulders and auxiliary lanes.
cast spoke wheel spiderwheel, wheelspider	Wheel consisting of a casting that includes the hub and multiple spokes, at the end of which are the studs, clamps and nuts to support the rim.
castellated girder	A steel beam formed by cutting a rolled steel 'I' beam longitudinally along the web in a zigzag shape and rejoining the halves by welding them crest-to-crest. The resulting beam has a series of hexagon-shaped holes in the web and is deeper than the original beam.
cast-in-place	Refers to concrete that is cast directly into its final position.
cast in situ	<i>See</i> cast-in-place
catalytic converter	Pollution control system used by some motor vehicle manufacturers in order to meet the requirements of motor vehicle emission control programs. In this system, the exhaust passes through material in a container. Catalytic converters can be used to control emissions of carbon dioxide, hydrocarbons and oxides of nitrogen.
catch bank	A small earth levee constructed along the high side of a cutting to intercept and direct the flow of surface water.
catch drain	A surface channel constructed along the high side of a road or embankment, outside the batter, to intercept surface water.
catch pit	<i>See</i> sump.
catchment area	That area determined by topographical or equivalent features, upon any part of which falling rain will contribute to the discharge of the stream at the point under consideration.
category analysis	In trip-generation analysis, households that are cross-classified by those variables influencing the amount of traffic generated, such as car ownership, income and family size and composition.
catenary system	System of overhead wiring, including its supports to supply power to electric trains and locomotives.
cationic bitumen emulsion	A type of bitumen emulsion in which the suspended particles are positively charged.
cats eyes	Raised pavement marker with reflectors, fixed in the carriageway.
cattle creep	<i>See</i> stock subway
cattle grid	A grid across the road to prevent stock movement along it.
cattle stop (cattlestop)	<i>See</i> cattle grid

Term	Definition
causeway	A raised carriageway across wet or low areas or across tidal water.
CBR	<i>See</i> California bearing ratio.
cellular abutment	A hollow bridge abutment with lateral and/or transverse diaphragms.
cellular deck	A hollow bridge deck consisting of a top and bottom slab separated by longitudinal webs and cross-beams.
cellular pier	A hollow bridge pier with lateral and/or transverse diaphragms.
cement	A general term for substances that bind aggregates. NOTE: In concrete work the term normally refers to portland cement.
cement concrete	<i>See</i> concrete
cement concrete pavement	<i>See</i> concrete pavement
cement mortar	A mixture of Portland cement or lime with sand and water.
cement penetration	Coarse aggregate bound with cement mortar by a grouting process.
cement stabilization	The controlled application of cement to improve the load-carrying capacity of a pavement layer (usually the basecourse) or of the subgrade.
cemented materials	Those produced by the addition of cement, lime or other hydraulically binding agent to granular materials in sufficient quantities to produce a bound layer with significant tensile strength.
cementing value	The measure of the binding power of materials such as rock, dust, and soil, determined by testing under specified test conditions.
census collector's district (CCD)	Unit of area for which each census collector is responsible for collecting information. NOTE: CCDs are the smallest individual areas for which basic land use and population data are available in Australia.
census point	<i>See</i> census station
census station survey station census point	The location at which a traffic count or other traffic data or information is collected. (Survey or study may involve a number of census stations.)
central business district (CBD)	Dominant centre of business and commercial activity within a given area, which is characterized by high density office and retail development, large numbers of pedestrians and vehicles, and a heavy demand for parking; also known as central activities district (CAD).
centre-line (marking)	Pavement marking on a road, which delineates opposing traffic flows.

Term	Definition
centre of an axle group	1 A line located midway between the centre-lines of the outermost axles of the group. 2 If the group consists of two axles, one of which is fitted with twice the number of tyres as the other axle, a line located one third of the way from the centre-line of the axle with more tyres towards the centre-line of the axle with fewer types. 3 In a single axle, the centre of that axle. 4 In a tandem axle group or a close-coupled axle group— (a) where both axles are fitted with an equal number of tyres, a line located midway between those axles provided all tyres are of the same size; (b) where one axle is fitted with twice the number of tyres of the other, a line located one-third of the way from the axle fitted with the greater number of tyres, towards the axle fitted with the lesser number of tyres provided all tyres are of the same size; (c) in a twin-steer axle group: a line located midway between the two axles in the group provided all tyres are of the same size; or (d) in a triaxle group: a line located midway between the extreme axles of the group provided all tyres are of the same size. (<i>See also</i> axle group)
centre-line	The basic line that defines the axis or alignment of the centre of a road or other work.
centroid	Assumed point in a traffic zone that represents the origin or destination of all trips to or from the zone. NOTE: Generally, the weighted centre of trip ends rather than a geometric centre of the zonal area.
chainage	The distance of a point along a control line, measured from a datum point.
change point turning point	A peg or point on which the staff is held when levelling and from that continuity is preserved while moving the levelling instrument to another position.
channel	The drain that accepts water directly from the pavement. (<i>See also</i> kerb and channel, surface water channel)
channelisation (channelization)	A system of controlling traffic by the introduction of an island or islands, or markings on a carriageway to direct traffic into predetermined paths, usually at an intersection or junction.
channelised (channelized) intersection	An intersection provided with medians and islands for defining the trafficable area and to control specific movements.
channelizing island	A traffic island used at an intersection to confine specific movements of traffic to definite channels.
characteristic value of relative compaction (CVRC)	The statistical measure of relative compaction to determine conformance of a lot.

Term	Definition
chassis	Basic underframe of an operating road or rail vehicle including engine frame and other essential structural and mechanical parts but exclusive of body and all appurtenances for the accommodation of driver, property and passengers' appliances, or equipment related to other than control.
chassis-cab	Partially completed vehicle with a completed occupant compartment, which requires only the addition of cargo-carrying or loadbearing components to perform its intended work-performing functions.
chassis-cowl	Partially completed vehicle with a partially completed occupant compartment with at least the windscreen and seats fitted, which requires only the completion of the occupant compartment and the addition of cargo-carrying, work-performing or loadbearing components to perform its intended functions.
cheesy state	The transition state of an emulsion in the period from initial break to final cure. The binder exhibits a consistency like that of cheese and has poor aggregate retention properties during this period.
chevron board	A patterned reflective sight board that indicates an abrupt change in road direction.
chevron marking diagonal marking	1 A V-shaped marking applied to areas of pavement not for general use by vehicles. A diagonal marking of slopes in one direction only relative to traffic. These markings are used to give definition to splayed approaches to islands or obstructions and to sealed shoulders. They are used extensively for painted traffic islands and medians. 2 Diagonal striping on hazards and barriers to make them more conspicuous. 3 On roadways at traffic islands.
chicken wire cracking	<i>See</i> crocodile cracking
children's crossing flag crossing	A transverse portion of a carriageway which, by placement or display of regulatory signs during certain periods of the day, is indicated to operate as a crossing primarily for children.
chip (chippings) (an overseas term)	Crushed aggregate, essentially single sized, used for road surfacing. <i>See</i> aggregate.
chip loss	<i>See</i> stripping
chip seal	<i>See</i> sprayed seal
chips (an overseas term)	<i>See</i> aggregate
chopper controller	Solid-state electronic controller used to control traction motors of powered rail vehicles and electric buses. Chopper equipment supplies direct current energy to the propulsion motors by very rapidly turning the motor current on and off in a controlled pattern.
circle aspect	A traffic signal aspect of circular form and appropriate colour.
circulating carriageway rotary carriageway	The carriageway surrounding the central island of a roundabout.

Term	Definition
circulation	Pattern in which traffic moves in a given area.
circumferential road	<i>See</i> road
class 170 bitumen	A residual bitumen having a viscosity of between 140 and 200 Pas at 60°C.
class 320 bitumen	A residual bitumen having a viscosity of between 260 and 380 Pas at 60°C
class 50 bitumen	A residual bitumen having a viscosity of between 40 and 60 Pas at 60°C.
class 600 bitumen	A residual bitumen having a viscosity of between 500 and 700 Pas at 60°C.
classification count	A sample count of traffic in which the vehicles within the traffic flow are classified into types or characteristics, such as speed and weight.
clay	A natural earthy material, formed by the natural decomposition of rocks, possessing plastic properties and consisting of fine particles (less than 2 µm) of complex hydrous silicates and aluminates.
clay loam	A loam with clayey materials predominating.
clay minerals	Hydrated aluminium silicates, with variable amounts of calcium, magnesium, iron, sodium, potassium, etc, usually occurring as very small crystalline particles, with layered structure.
clay size	An engineering term applied to particles smaller than 2 µm.
clearance	1 Official permission to have access to nominated land areas which may or may not include classified areas such as historic or sacred sites. 2 The measurement of the extent of an obstruction.
clearing	The removal of vegetation or other obstacles at or above ground level, prior to the commencement of earthwork, drainage, etc. (<i>See also</i> grubbing)
clearing interval	The interval of a traffic signal cycle during which traffic executing a particular movement is warned that availability of that movement is about to end. The interval is indicated by the display of a yellow aspect to vehicular traffic and, if provided, a flashing red DON'T WALK or its symbolic equivalent aspect to pedestrian traffic.
clearing pegs clearing stakes	Pegs or stakes placed to define the limits of clearing in advance of road construction.
clearway	A portion of carriageway generally defined by signs, along which vehicles must not voluntarily stop or be left standing at prescribed times of the day.
climbing lane	An auxiliary lane, usually on a long upgrade, primarily for the use of slow moving vehicles. (<i>See also</i> overtaking lane)
close-coupled axle group	<i>See</i> axle group

Term	Definition
cloverleaf	An interchange between two roads that cross one another at different levels and which comprises inner loops for right turns and outer connections for left turns in all four quadrants. (<i>See</i> Figure A2, Appendix A)
clutch	In sheet piling, the hook shape at the edge that interlocks a corresponding hook on the adjacent pile.
coach	Vehicle seating more than nine persons, including the driver, which is licensed to carry only seated passengers. (<i>See also</i> articulated bus, light bus, and heavy bus)
coarse aggregate	Aggregate having a nominal size not less than 5 mm.
cobble	A water-worn rounded stone usually between 60 mm and 300 mm in size.
cobblestone	<i>See</i> cobble
coefficient of run-off	The ratio of the amount of water that runs off to the amount that falls in a catchment area.
cofferdam	A temporary enclosure formed to exclude water from an area in which construction is to take place.
cohesion	The ability of a material to resist by means of internal forces of attraction the separation of its constituent particles.
cohesive soil	A soil whose relevant behaviour characteristics are derived largely or entirely from the cohesive bonds associated with the fine fraction.
cold in-place recycling	A rehabilitation treatment involving cold milling of the pavement surface and remixing with the addition of emulsion, Portland cement or other modifiers to improve the properties, followed by screeding and compaction of the reprocessed material in one continuous operation.
cold milling	<i>See</i> cold planing
cold mix (patching)	A mixture of bituminous binder and aggregate, with or without added mineral filler, produced warm or cold in a mixing plant and delivered in a workable condition suitable for stockpiling, spreading and compaction.
cold planer	A mechanical device for cold milling a pavement surface, mounted either on wheels or tracks with a horizontal revolving drum fitted with replaceable cutting tips (usually tungsten carbide).
cold planing	1 A mechanical method of cold milling a pavement surface to restore the road to a specified grade and profile by removing corrugations, ruts and other surface imperfections in preparation for resurfacing. 2 A method of mechanically trimming a pavement surface of a road.

Term	Definition
cold recycling	The in-place processing, or removal and processing at a mixing plant, of the entire existing pavement structure, including in some cases the underlying untreated base material. The materials are mixed cold and other materials, such as cementitious and bituminous materials, may be added during mixing to provide a higher strength base. The finished product requires an asphalt-wearing course.
collector road distributor road	A non-arterial road that collects and distributes traffic in an area, as well as serving abutting property.
collector-distributor road	An auxiliary road, separated laterally from but generally parallel to a through road and joining it at a limited number of points. The road serves to collect traffic from and distribute traffic to several local roads. (<i>See also</i> service road) (<i>See</i> Figure A3, Appendix A)
colloidal grout	A cement grout in which individual particles of cement are separated by violent agitation and chemical additives forming a stable suspension.
combined vehicle	Either a combination of a rigid vehicle and one trailer (other than a semitrailer) or an articulated vehicle.
commercial vehicle (CV)	1 Motor vehicle that is principally constructed to carry goods or passengers for hire or reward. 2 Road vehicle constructed specifically to convey goods, passengers or burden in the course of trade or business. (<i>See also</i> heavy vehicle)
commercial vehicle survey	<i>See</i> survey
commodity	Individual type of load carried by a freight vehicle.
community	The locality in which a group of people live.
commuter	Person who travels back and forth regularly between two points. NOTE: The word commuter is often used in reference to a suburban resident who travels daily into the city to work. (<i>See also</i> reverse commuting)
commuter bus	<i>See</i> bus
commuter parking lot	Parking lot in which people travelling from home to work may park their cars and continue on their trip either by carpool, bus, commuter bus, express bus, rail, other forms of public transport or on foot.
commuter train	<i>See</i> train
compact	<i>See</i> compaction
compacting factor test	A test of the consistence of freshly mixed concrete, which is made by determining the mass of concrete that will fill a container of standard size and shape, when allowed to fall into it under specified test conditions. NOTE: The test is tending towards disuse.
compaction compact	Reduction in volume of a material by inducing closer packing of its particles by rolling, tamping, vibrating or other processes to reduce the air voids content.

Term	Definition
compaction factor	Ratio of the final volume of the soil to the initial volume, after subjection to compaction of standard form or according to field practice.
compaction test	A laboratory test to determine the maximum dry density of a soil or paving material under specified test conditions. (<i>See also</i> relative compaction)
compaction test (field)	To compare field compaction with maximum dry density of the soil or pavement material.
compaction test (laboratory)	A laboratory test to determine the maximum dry density of a soil or pavement material under specified test conditions.
competing opportunities model	<i>See</i> model
complete (or full) control of access	The condition in which access is confined to chosen points, and crossings access at grade and direct access from adjoining property is prohibited.
completion of batching (concrete)	1 For stationary batch mixers, the time at which the batch is discharged into the delivery truck. 2 For mobile mixers, the time at which mixing and slump adjustment ceases at the batching plant, or 10 min after the commencement of mixing, whichever occurs first. 3 For continuous mixers, the time at which discharge ceases into the truck.
complex modulus	A complex number that defines the relationship between stress and strain for a linear viscoelastic material subjected to a sinusoidal loading.
compliance plate	Identification plate, as approved by the Australian Motor Vehicle Certification Board (AMVCB) for affixing to the vehicle for which it is approved.
component materials (slurry)	Those materials such as bitumen emulsion, mineral aggregate, mineral filler, additives and water, which constitute the bituminous slurry.
composite beam	A beam formed by the connection of materials of different properties, the whole acting as a single unit.
composite pavement	A pavement structure that combines both flexible and rigid pavement layers.
composite skim	<i>See</i> skim
compound curve	A curve consisting of two or more arcs of different radii curving in the same direction and having a common tangent point or being joined by a transition curve.
compound manoeuvre multiple manoeuvre	The crossing, merging, or diverging of multilane traffic streams.
compressibility limit (polymer-modified binder)	The minimum thickness to which a film of binder may be compressed under the conditions of maximum pavement temperature and maximum traffic stress after infinite time.

Term	Definition
compression test	A test for determining the strength and elasticity of a material in compression under a specified test condition.
compressor	A unit that supplies compressed air for air-powered tools.
concrete	An intimate mixture of aggregate, cement and water.
concrete pavement	A general term for a pavement in which the wearing course is concrete. NOTE: It is usually implied that the concrete layer combines the functions of the base and of the surfacing.
condition signs	Temporary signs indicating the condition of the road surface through the work area.
condition survey	The process of collecting data on the structural and functional condition of a pavement.
condition type	Classifies condition of a component, e.g. pavement roughness.
cone penetration test	A test in which the effort to push or drive a standard steel cone into soil at a controlled rate is used as a measure of certain soil properties.
conflict point	Point of potential collision between vehicles involved in a manoeuvre.
congestion pricing	Pricing of public and private urban road transport until each covers its real resource costs.
consistence	<i>See</i> workability
consistency	A general term for the physical state of a semi-fluid or plastic material associated with its resistance to deformation or to flow.
consistency (elastometer test)	The viscosity at service temperature, expressed as the ratio of shear stress over shear strain rate.
consolidation	The process by which soil reduces in volume under load over a period of time due to loss of water from its voids.
construction joint	A joint made during the placing of a concrete, asphalt or pavement base material to divide the work into parts for convenience of construction or to provide for unavoidable interruption to placing. (<i>See also</i> contraction joint; dummy joint and expansion joint)
container	Large receptacle into which goods are packed and secured for transit by one or more modes of transport.
containment fence	A physical barrier sufficient to provide separation between the travelled path or pedestrians and the work area, but not so rigid as to become a hazard if struck by vehicles, or to act as a safety barrier.
continuing road	The road (except a road-related area) that meets the terminating road at the T-intersection.
continuity line	A longitudinal broken line of distinctive pattern, which may be used to indicate the edge of that portion of a carriageway assigned to through traffic and which is intended to be crossed by traffic turning at an intersection, or entering or leaving an auxiliary lane at its start or finish or entering or leaving a freeway at an interchange.

Term	Definition
continuous beam	A beam carried by three or more supports and having 110 joints, which allow rotational discontinuity to occur.
continuous grading	<i>See</i> graded material
continuous mixing plant	A mixing plant using a continuous process. (<i>See also</i> mixing plant.)
continuously reinforced concrete pavement (CCRP)	A concrete pavement that contains relatively heavy longitudinal reinforcement and that has no transverse joints.
contour line	An imaginary line connecting a series of points on the surface of the ground, which are all at the same reduced level; also the line representing this on a map or plan.
contraction joint	A provision made in a structure or pavement to allow contraction of components, induced by temperature change or other causes, to occur in a controlled manner. (<i>See also</i> construction joint, dummy joint and expansion joint)
contraflexure	<i>See</i> point of contraflexure
contraflow	Traffic flow in a direction opposite to the normal flow. NOTE: For example, a contraflow bus lane might be one that runs the 'wrong' way on a one-way street.
control authorities	State government departments, local authorities or other bodies with legislative responsibility for pollution control.
control line	A line, generally at or near the centre-line of a road, on which design is based, and from which measurements for setting out for construction may be conveniently made.
control line (brakes)	Device that transmits the control signal from the towing vehicle to the first other device, or between other devices on the trailer as a boosted or relayed signal not involving significant amounts of stored energy transfer (often called the service line in the case of compressed air brake systems). (<i>See also</i> brakes, control signal, and control system)
control of access	<i>See</i> access control
control signal (brakes)	Signal that is provided by the towing vehicle to the trailer for control of the service brake system in normal operation. (<i>See also</i> brakes, control line, and control system)
control system (brake)	Brake devices between the trailer brake system couplings (supply and control) and the brakes' actuators. (<i>See also</i> brakes, control line and control signal)
controlled access road	A road for through traffic to which access from abutting properties or joining roads is controlled.
controlled area	That portion of a carriageway or intersection, the entry into which is controlled by traffic signals.
controller	<i>See</i> traffic signal controller
conventional bitumen emulsion	A bitumen emulsion with a bitumen content of 60%.
converted traffic	<i>See</i> traffic

Term	Definition
converter	A length of drain constructed to provide a transition between two lengths differing in shape of cross-section.
cooperative	Trading society formed by groups of public transport owners to carry on the business specified in and authorized by the rules, to promote the interests of members in relation to their objectives. NOTE: Commonly used in the taxi industry.
coordinate system	A system of lines or planes for defining the location of points, lines, and the like, for example, latitude and longitude, local grid system.
coordinated control	The operation of a traffic signal system where the control of individual signal installations is inter-related, usually to enable platoons of vehicles to travel through several sets of signals without having to stop.
copolymer	A polymer that contains two or more kinds of polymer molecules, e.g., SBS, SBR, EVA.
corbel	A short projection supporting a beam at its end and designed to provide adequate bearing on the structure beneath.
cordon	1 The boundary of the area being studied in a cordon count. 2 Imaginary line drawn around a given study area at which traffic counts and interviews may be taken.
cordon count	A count of all traffic entering or leaving an area by all routes.
cordon line	See cordon
cordon station	Location on a road crossing the cordon line at which information is obtained concerning the movement of vehicles.
core	1 A piece inserted into a mould for concrete, before casting, to form a hole for a bolt, prestressing cable, or other use. 2 A cylinder drilled out of soil, concrete, rock or other material for testing or other purposes.
core drilling diamond drilling	Boring into soil, concrete, rock or other material by rotating a hollow bit set with diamonds, or tungsten carbide, usually to obtain a core for examination.
corner cube reflector	A delineator consisting of retroreflective elements, usually acrylic, in which the retroreflection is achieved by three planes mutually at right-angles, and used on pavements, guide posts and other roadside objects.
corner cut-off	See splay
correction course	See regulating course
corrective maintenance	Maintenance treatments, such as pothole patching, to correct localized failures or minor problems, carried out as routine practice.
corridor	A major area of travel between two points. NOTE: It may include more than one major route and more than one form of transport.

Term	Definition
corrosion	The chemical or electrochemical reaction between a material, usually a metal, and its environment that produces a deterioration of the material and its properties.
corrugation	A deformation of a road surface, consisting of closely spaced transverse waves that develop under traffic.
cost effectiveness	An economic measure defined as the effectiveness of an action or treatment divided by the present worth of life-cycle costs.
cost-benefit analysis (CBA)	<i>See</i> economic analysis
costean	An excavation to determine the nature of the material near the surface.
count classification count	A count of traffic in which the vehicles within the traffic flow are classified into types.
cordon count	Count of all traffic entering or leaving an area through all cordon stations
intersection count	A count of through and turning volumes at an intersection; also called 'Turning movement count' in Victoria.
traffic count	Process of determining the number of persons, vehicles or pedestrians passing a given point or points during a specified period of time.
counterfort	A strengthening rib at right-angles and monolithic with a retaining wall on the same side as the retained material.
coupler	A device for connecting prestressing tendons or reinforcing bars end to end.
coupling	Mechanical assembly that provides a connection between the drawbar of the trailer and the towbar of the drawing vehicle
automatic coupling	Coupling of rolling stock together without manual assistance, which generally takes the form of mechanical coupling to convey drawbar forces but can include both electrical and pneumatic coupling of passenger vehicles, the action of which is completed by bringing the units together but uncoupling requires some additional action such as lifting an uncoupling rod.
ball coupling	Coupling comprising a coupling ball and a complementary coupling body (assembly).
fifth wheel	A device, other than the upper rotating element and the kingpin (which are parts of a semitrailer), used with a prime mover, semitrailer or converter dolly to permit quick coupling and uncoupling, and provide for articulation.
pin-type coupling	Coupling for connecting a towing vehicle to a trailer by means of a vertical pin.
pintle-hooks coupling	Coupling for connecting a towing vehicle to a trailer by means of a pintle-hook and safety latch.

Term	Definition
turntable	Rotating device normally used as part of a trailer or between a semitrailer and towing vehicle with the semitrailer not readily detachable from the towing vehicle. It includes the upper and lower rotating elements. NOTE: A turntable is sometimes used as a stabilizer base for the fifth wheel, in which case the semitrailer is readily detachable.
course	1 Any one of the different layers of which a pavement may be constructed. 2 One or more layers of the same material within a pavement structure.
cover	1 The depth of material between the surface of the ground or carriageway and the top of a culvert or pipe. 2 The thickness of concrete between a reinforcing bar, tendon or duct, and the nearest surface of a concrete member. 3 The depth of material over the subgrade or any layer in the pavement structure.
cover aggregate	Aggregate spread over the surface of a pavement after the application of a bituminous material.
cover material	Aggregate spread over the surface of a pavement after the application of a bituminous material.
cover plate	A plate spanning an expansion gap in a bridge superstructure, or sometimes a plate to conceal untidy details.
coverage	1 The measure of the rate per unit area, either by volume or mass, at which a material is applied to a pavement structure or surface. 2 In airfield pavements, the passage of an aircraft over the area of the pavement surface.
crack (concrete)	An irregular, unplanned opening in base concrete, which is essentially vertical and of various widths and which may intersect with others, oriented longitudinally (viz. in the direction of traffic), transversely or a combination. NOTE: The crack may be straight or meandering and may have arris spalling.
crack and seat	The breaking up, into blocks, of an old Portland cement concrete pavement, followed by a heavy roller to seat the blocks.
crack filler	A material, usually bituminous or silicon-based, used to fill cracks in existing pavements. (<i>See also</i> crack filling)
crack filling	The filling of cracks in the pavement.
crack sealant (sealer)	A material, usually rubberized bitumen or other similar product, used to seal cracks in existing pavements. (<i>See also</i> crack sealing)
crack sealing	The bridging of cracks in the pavement surface.
cracking	The appearance in the road surface of small regular or irregular shaped contiguous areas with fissures.
crazing	<i>See</i> crocodile crazing

Term	Definition
creep	The slow plastic deformation of a material under stress.
creep test	The measurement of the slow plastic deformation of a material under constant stress.
crest curve	<i>See</i> summit curve
crib	<i>See</i> grillage
crib wall	A retaining wall consisting of interlocking members placed in alternative longitudinal and transverse skeletal layers to form a row of open cells which are filled with earth or rocks.
critical acceptance gap	The minimum gap (in seconds) in a traffic stream acceptable to drivers wishing to join or cross that stream, or to drivers in the opposing stream wishing to overtake. (<i>See also</i> gap acceptance)
critical density	The traffic density on a given road or carriageway when the traffic volume is at capacity.
critical movements	The traffic movements that determine the capacity and timing requirements of a signalized intersection.
crocodile cracking	Interconnected cracks forming a series of small blocks resembling a crocodile's skin or chickenwire, normally caused by excessive deflection of the surface over unstable/weak subgrade or lower courses of the pavement. (<i>See also</i> alligator cracking, fatigue cracking and cracking)
crocodile crazing crazing	The appearance in the road surface of small regular- or irregular-shaped contiguous areas of cracking.
cross-anisotropic	A term used in relation to pavements having properties in the vertical plane different from those in the horizontal plane.
crossfall	The slope, at right-angles to the alignment, of the surface of any part of a carriageway.
crosshead headstock	A beam at the top of a pier or abutment to provide support for the bridge superstructure.
crossing	A formal area set aside for other modes of transport, pedestrians, cattle, and the like, to cross the road; usually called cycle crossing, pedestrian crossing, railway crossing, and the like, as appropriate.
crossing sight distance	Sight distance required to enable traffic to start from rest and safely cross one or more traffic streams.
crossroad (cross-road)	Intersection of two roads or joins two main roads.
cross-section	A vertical section, generally at right-angles to the centre-line showing the ground. NOTE: On drawings it commonly shows the road to be constructed, or as constructed.
cross-stitch (concrete)	A process of drilling alternately inclined holes into concrete across a crack/longitudinal joint and affixing a tiebar for the purposes of tying adjacent concrete faces to prevent the crack/joint from further widening. The tiebar is also subjected to shear forces when in service.

Term	Definition
crown	1 The highest part of an arch. 2 The highest point on the cross-section of a carriageway with a two-way crossfall.
crosswalk lines	A pair of parallel lines across a carriageway to indicate the path to be used by pedestrians.
crude tar	A tar that contains all the products of distillation including water.
cruising speed	Vehicle speed achievable on a section of road uninterrupted by control devices but affected by side friction, road geometry and traffic volume.
crumb (crumbed) rubber	<i>See</i> scrap rubber
crushed aggregate	An aggregate, having all fractured faces and obtained from the crushing of hard rock. NOTE: The size of aggregate particles is not necessarily uniform.
crushed gravel	A gravel in which all or some of the particles have been crushed.
crushed rock	An aggregate made by crushing rock, as distinct from crushed gravel.
crusher	Equipment that is used to reduce larger stone and gravel to smaller, usable sizes.
crusher dust	The dust or fines produced by the crushing of gravel or rock.
crusher fines quarry fines	The smallest sized material produced from a particular crushing or screening plant.
crusher run	An aggregate prepared by crushing without subsequent screening.
crust	The fines-bound top 'skin' of an unsealed road.
cubic aggregate	An aggregate that is cube-shaped and has six approximately square faces.
cubical aggregate particles	An aggregate particle that is approximately cube-shaped.
cul-de-sac	A street or road open for vehicular traffic at one end only. <i>See also</i> no exit road.
culvert	One or more adjacent pipes or enclosed channels for conveying a watercourse or stream below formation level.
cure	To facilitate the achievement of the desired end state of concrete or other material by providing a suitable environment.
cure (emulsion)	Progressive loss of water and volatile oil from the broken emulsion accompanied by increase in cohesive strength.
cure coat	A thin coating of bituminous material applied to a cement-treated course, to retain moisture and allow full hydration of the cement.
curing (concrete)	<i>See</i> cure
curing compound	A substance sprayed or painted onto any concrete surface to retard loss of moisture during hardening.
curing membrane	A membrane enclosing concrete to retard loss of moisture during hardening.

Term	Definition
curtain wall facing panel	A non-structural wall, usually suspended, which improves the appearance of a bridge by concealing bearings, piles, pile caps or relieving spans.
curtain wall	A non-structural wall, usually suspended, which improves the appearance of a bridge by concealing bearings, piles, pile caps or relieving spans.
curvature function	The curvature function of a deflection bowl is the difference between the maximum deflection at a test site and the deflection at a point 200 mm from the point at which the maximum deflection was produced (in the direction of travel).
cut	1 The depth from natural surface of the ground down to the subgrade level. 2 To excavate. (<i>See also</i> cutting)
cut and cover	A method of constructing culverts and tunnels whereby the structure is built in an open excavation and is subsequently covered with backfill.
cut back	To reduce temporarily the viscosity of a bituminous material by the addition of a cutter.
cutback bitumen	A material made from bitumen by the addition of cutter oil for the temporary reduction of viscosity.
cut-down kerb	A kerb that that been cut down for vehicle or pedestrian crossing.
cut-off	<i>See</i> splay
cut-off drain	An interceptor drain constructed along the top of a cutting or batter to prevent surface water running down the face.
cut-off layer	A layer of aggregate or synthetic fibre (geosynthetic) used to prevent clay intrusion into the road pavement.
cut-off wall	A watertight wall for preventing seepage or movement of water under or past a structure, or for preventing scour from undermining a structure.
cut-out	An opening that allows water to escape from the carriageway or channel to a drain or watercourse.
cutter	<i>See</i> cutter oil
cutter oil	A light petroleum distillate added to bitumen to temporarily reduce its viscosity.
cutter stocks	<i>See</i> cutter oil
cutting	That portion of the road where the finished road surface is below the natural surface.
cutwater	The shaped end of the upstream side of a bridge pier.
CV	<i>See</i> commercial vehicle.
cycle	One complete sequence of traffic signal aspect displays.
cycle crossing	<i>See</i> crossing
cycle lane	That portion of a road devoted to the use of pedal cycles only and marked accordingly.

Term	Definition
cycle path	Separate carriageway devoted to the use of pedal cycles.
cycle route	A route (on or off roads) recommended for use by pedal cycles.
cycle time	The time required for one complete sequence of aspects.
cycle way (cycleway)	1 Portion of a road or footpath devoted to the use of pedal cycles. 2 <i>See</i> cycle lane. 3 An accessway designed specifically for use by pedal cycles.

D

damage (bridge)	The sudden worsening of the condition of a bridge, its elements and component materials due to the effect of a sudden event such as fire, flood, accident or vandalism.
date of manufacture	Date the vehicle is available in Australia in a condition that will enable it to be registered. NOTE: In cases where the vehicle is complete except for items that are not subject to Australian Design Rules (ADR), the AMVCB may agree to an earlier date.
datum	1 Azimuth to which all bearings are referred. 2 A defined horizontal or level plane to which the relative elevations of other points may be referred, i.e. level datum.
db	<i>See</i> decibel
dead head	<i>See</i> dead running-time
dead load	The weight of the structure and any permanent loads fixed thereon. (<i>See also</i> self-weight)
dead man	A buried plate, wall or block designed to anchor a structure against forces, usually horizontal, which is held in place by its own weight and passive pressure from the soil and is connected to the structure by a tie or ties. (<i>See also</i> anchorage)
dead running-time dead head	Trip made with no passengers or no load. NOTE: For example, a bus may dead run to a suburban terminus in the morning, or a rail freight wagon may dead run back to a terminal, or a road transport vehicle may dead run back to a depot.
dead-end street	<i>See</i> cul-de-sac
decantation test	A test for particle size by means of repeated successive sedimentation and decantation.
deceleration lane	A speed-change lane provided to allow vehicles to decrease speed.
deck	The bridge floor directly carrying traffic loads.
deck bridge	A bridge in which the deck is laid on top of the beams, trusses or arches.
deep lift (asphalt)	A paving technique whereby asphalt is placed in a lift of at least 75 mm compacted thickness.

Term	Definition
deep strength asphalt pavement	A pavement structure in which the wearing course and a substantial portion of the base consist of asphalt.
deep-lift (stabilization)	A pavement construction technique whereby in situ stabilization is carried out to depths in excess of 250 mm.
deflection (pavement design)	The vertical elastic (recoverable) deformation of a pavement surface between the tyres of a standard axle.
deflection (pavement)	The vertical movement of a pavement due to the application of a load.
deflection angle	1 The difference in bearing between the ingoing and the outgoing tangent of a curve. 2 An angle used for setting out a curve, usually from a tangent point.
deflection bowl	The depressed shape produced at the surface of a pavement when a load is applied.
deflection point	The point where the direction of a straight changes without the introduction of a curve.
deflectograph	See Lacroix deflectograph
deformed bar	A reinforcing bar, on the surface of which an embossed or indented pattern has been rolled, in order to increase the bond with concrete.
deformed joint keyed joint	A joint with abutting faces keyed to resist relative movement.
degradation	The changes in the mineral fragments of a pavement caused by the fragments rubbing or grinding against each other, within the mass.
degradation factor	A measure of the ability of an aggregate to withstand deterioration due to environment conditions. NOTE: The degradation factor can be determined by a number of ad hoc tests, the best known being the 'Washington degradation factor-source rock' test.
degree of saturation	The ratio, sometimes expressed as a percentage, of the number of vehicles entering an intersection in a specified period, to the number of vehicles that could enter if all approaches were fully saturated during that period. NOTE: The degree of saturation is often applied to individual traffic movements within the cycle.
degree of urgency	The relative urgency of a type of recommended work.
delay	The time lost while traffic is impeded by some element over which the driver has no control. (<i>See also</i> delay study)
delay study	A traffic survey involving the measurement of the delay suffered by traffic under certain conditions. (<i>See also</i> delay)
delineation	Treatments that enhance the selection of the appropriate path and speed, or position, to allow a manoeuvre to be carried out safely and efficiently, e.g. devices such as linemarking, raised pavement markers, traffic cones and flaps and post-mounted reflectors.

Term	Definition
delineator	A device, other than a simple post, used to indicate the edge of the formation, carriageway or traffic lane.
delivery time (concrete)	The elapsed time measured from the completion of batching to the arrival at site within 100 m of the point of placement.
demand	1 The registration at a controller of the presence of vehicular or pedestrian traffic waiting to enter a controlled area. 2 The traffic volume desiring to travel along a given route.
demand responsive transport dial-a-bus dial-a-ride	System providing radio control despatched door-to-door or point-to-point service. The vehicle is usually summoned by phone and routed by computer or manual means to respond to a number of calls; it may also operate on a fixed route with diversions to pick up passengers upon telephone requests. It provides service to travellers with different origins and destinations and may also include permanent bookings on a subscription basis.
demountable rims	Channel section of steel designed for fitting of a tyre and used in conjunction with a cast spoke wheel. NOTE: This type of rim differs from a disc wheel as it has no centre disc.
tri-lex type	Patented demountable rim system that consists of three interlocking rim sections (approximately 120° of a full circle) which as a set forms a complete rim for cast spoke wheel applications.
dense graded asphalt (DGA)	See asphaltic concrete
dense graded mix	A bituminous mix, made with graded aggregates, with or without an added mineral filler and low in voids. NOTE: It depends largely upon grading and density for stability and produces a close textured surface when compacted.
density	Number of individual items (such as people, motor vehicles) in a certain amount of space. NOTE: For example, population density may be expressed as 200 people per square kilometre or vehicle density as 250 vehicles per lane per kilometre.
apparent particle density	Mass of a dry particle of aggregate in air divided by volume of particle of aggregate excluding permeable voids.
bulk density	Mass per unit volume including voids of a material.
bulk particle density	1 Mass of a saturated surface-dry particle of aggregate in air divided by its volume including all voids. (<i>See Note</i>) 2 Mass of a dry particle of aggregate in air divided by its volume including all voids. (<i>See Note</i>) NOTE: Voids both permeable and inaccessible to water.
dry density	The ratio of the dry mass of a sample of material to its undried volume (including voids). (<i>See also</i> maximum dry density)
effective particle density	Mass of a dry particle of aggregate in air divided by volume of particle of aggregate excluding the voids filled with bitumen.

Term	Definition
field density	The dry density of earthworks or pavement material measured in situ.
in situ density	<i>See</i> field density
maximum dry density	The greatest dry density of a soil obtained when a soil is compacted in a specified manner over a full range of moisture content. (<i>See also</i> dry density)
	NOTES:
	1 The moisture content at which this density is reached is called the optimum moisture content.
	2 Two amounts of compactive effort are commonly specified, referred to as standard and modified.
maximum theoretical density	The maximum density that could be achieved in a sample of the mix if it were possible to compact it so as to exclude all air voids between coated aggregate particles.
departure angle	Smallest angle, from the side view of a vehicle, formed by the level surface on which the vehicle is standing and a line tangent to the radius arc of the static loaded rear tyre and touching the underside of the vehicle rearward of the rear tyre.
depression	A road fault in which the road or footpath surface has sunk.
design	The information required to carry out engineering works.
design drawings	A unique set of drawings graphically defining the scope of works.
design life	The period during which the performance of a pavement/structure is expected to remain acceptable.
design load	The load distribution, or combination of loads, for which a structure is designed.
design moisture content	The highest moisture content of the subgrade soils likely to be reached for a significant period during the design life of the road.
design period	A period considered appropriate to the function of the road. It is used to determine the total traffic for which the pavement is designed.
design process	Process for arriving at a final design for a transport project and normally divided into three distinct phases, viz: (a) Functional design-preparation of the conceptual design with enough detail to ensure that the design will function as intended. (b) Preliminary design-finalization of design in terms of calculations, specifications and estimates such that all aspects of the design are determined. (<i>See also</i> preliminary engineering) (c) Documentation-preparation of plans and documents describing the design sufficiently for it to be constructed.
design queue length	The length of queue normally provided for when designing an intersection, usually calculated to provide adequate storage at a given probability level, usually 95%.

Term	Definition
design specification	A documented description of the scope of work including the design constraints, the required standards of construction and the level of performance of the end product.
design speed	A speed fixed for the design of minimum geometric features of a road.
design standard	Identifies particular standards used in the design, e.g. standard lane width.
design subgrade level (DSL)	The level of the prepared formation after completion of stripping and excavation or filling and upon which the pavement is to be constructed. (Design Subgrade Level = Finished Surface Level – Nominated Pavement Thickness).
design traffic	The cumulative traffic, expressed in terms of equivalent standard axle loads, predicted to use a road over the structural design life of the pavement.
design vehicle	A hypothetical road vehicle whose mass, dimensions and operating characteristics are used to establish design requirements.
design volume	The number of vehicles expected to use the road and adopted for the purposes of geometric design, normally expressed as the number of vehicles per hour or per day.
design water content	<i>See</i> design moisture content
design year	The predicted year in which the design traffic would be reached.
desire line	Straight line joining two centroids and showing the desired direction of travel.
desired speed	The speed over a section of a road adopted by a driver or drivers as influenced by the road geometry and other environmental factors. (<i>See also</i> speed environment)
desire-line diagram	Diagram made up of many desire lines, the width or density of which represent the volume of trips moving between an origin and a destination.
destination	Point or area in which a trip ends.
detector	A device by which the presence and/or passage of vehicles is registered.
detergent	Any substance that is specially suitable for use as a cleanser (usually restricted to soap-like substances).
deterioration (bridge)	The gradual worsening of the condition of a bridge, its elements and component materials due to the effects of traffic and other loadings, the action of the environment on the structure and/or the actions of the constituents of component materials over a period of time.
deterioration (pavement)	The wear process under which the functional and/or structural capability of a pavement decreases as a result of traffic, climate and environmental effects.
deterministic model	<i>See</i> model
detonator	A device used to initiate an explosion and which is operated either electrically or by a fuse.

Term	Definition
detour	An alternative route available to traffic during temporary closure of a road.
development length bond length	The length of embedment of a reinforcing bar or tendon in concrete necessary to develop the tensile strength of the bar or tendon by bond.
deviation	An alteration to the alignment of a portion of a road, usually involving significant departure from the existing route.
device (traffic)	<i>See</i> traffic control device
dewedge	To release prestressing tendons that have been wedged to a jack during tensioning.
DGA	<i>See</i> dense graded asphalt
DGB	Dense graded base.
DGS	Dense graded sub-base.
diagonal marking	<i>See</i> chevron marking
diagonal ply tyre	Pneumatic tyre in which the bias ply tyre cords in the tyre carcass are laid at alternate angles which are substantially less than 90° to the centre-line of the tread.
dial algorithm	Multipath procedure for use in a probabilistic assignment.
dial-a-bus	<i>See</i> demand responsive transport
dial-a-ride	<i>See</i> demand responsive transport
diamond crossing	<i>See</i> diamond turn
diamond drilling	<i>See</i> core drilling
diamond interchange full diamond interchange	An interchange with single ramps in all four quadrants, generally providing for all turning movements. (<i>See</i> Figure A4, Appendix A)
diamond overlap	<i>See</i> diamond turn
diamond saw	A circular saw with diamonds set in the periphery for cutting stone, concrete or similar materials.
diamond turn diamond crossing diamond overlap	A right-turning movement in which the paths of vehicles turning in opposite directions do not cross but pass on the near (left) side of each other.
diaphragm	A transverse stiffening member between girder webs or inside a hollow pier.
differential deflection	The relative vertical movement of each side of a crack or joint in a concrete pavement.
differential friction level	The difference in scrub coefficient (SC) values between wheelpaths in the same lane, which could result in vehicle spin when braking.
differential settlement	The uneven sinking of foundations of a structure. (<i>See also</i> settlement)
diluent	A substance that has the effect of reducing viscosity when added to bitumen, e.g., cutter oil, flux oil or anti-stripping agent.

Term	Definition
dir	Percentage of traffic volume in one direction (assume 0.5 if not available).
direct benefits	<i>See</i> economic analysis
direct connection	<i>See</i> direct ramp
direct ramp	An interchange ramp that does not deviate appreciably from the intended direction of travel.
direct connection	
direct transmission mode (nuclear meter)	A test in which the gamma source is placed into the material by means of a punched or drilled access hole. Gamma rays are transmitted from the source, through the material to be measured, to the detectors located on the surface. the average density and moisture content of the lift of material are determined.
direction offset	Denotes left or right side of the road. (<i>See also</i> offset)
direction sign fingerboard	A sign to direct traffic along a route or towards a destination.
direction sign	A sign placed usually at an intersection, to direct traffic travelling along a route or toward a destination.
directional detector	A traffic detector capable of being actuated only by vehicles proceeding in one direction.
directional hazard marker	A rectangular sign marked with a series of alternate black and white bands in the form of a chevron, to indicate the direction to be taken at a hazard.
directional interchange	An interchange, generally between two freeways or expressways, providing direct connections for some or all right-turning movements.
directional split	1 The ratio of the one-way traffic volume on a road in the major direction to that in the minor direction during a specified period. 2 A comparison of the volume of peak period traffic travelling in each direction along road express as a percentage of the two-way volume, e.g. 70/30; that is 70% travels in the peak direction, 30% in the opposite direction.
disaggregate model	<i>See</i> model
disc wheel	Assembly in which the tyre, rim and wheel are one unit mounted on a machined hub and secured by a single or multiple wheelnuts.
discharge	The volumetric rate of flow of liquid.
dish channel	A channel with a u-shaped cross-section. Normally found in urban areas.
dish drain	A shallow paved drain across a road.
disincentive	That which discourages people from acting in a certain way, for example, high parking fees are a disincentive to motor vehicle use to the area of high fees.
distance	A linear measurement along the road alignment from a permanent reference point (PRP).