A

**AAR:**
See Association of American Railroads

**Adjacent Track:**
In relation to excepted track and for the purposes of the Track Safety Standards, any track or tracks next to a track that is designated as an excepted track. Any tracks or tracks with centerlines that are 30 feet or closer to the excepted track in question are considered as adjacent and speeds on those tracks must not exceed 10 m.p.h.

**Advanced Signal:**
A fixed signal used in connection with one or more signals to govern the approach of a train or engine to such signal.

**AEI:**
See Automatic Equipment Identification System

**Alignment:**
The position of the track or rail in the horizontal plane expressed as tangent or curve.

**AREMA:**

**Articulated Car:**
Articulated cars are multi platform cars, which share a set of inboard trucks. Two permanently connected rail cars, which for car accounting purposes are, considered as a single car each having the same car number. Car hire charges are assessed as though both cars are a single unit.

**Association of American Railroads (AAR):**
An organization of railroads serving the United States, Canada and Mexico for the purpose of improving transportation services.

**Automatic Equipment Identification (AEI):**
Automatic Equipment Identification (AEI) can be used in connection with the detectors to relay precise car identification and location. Such location information is helpful in identifying exact location of trouble spots and to monitor recurring problems on the same car.

**Automatic Train Control:**
A train control system for a complete line or lines supervised from a central control room, often with a computerized train regulation system and some degree of automation of the trains. If a train passes a restricted signal, and the engineer does not comply with the speed...
within 20 seconds, a penalty brake application is administered, which reduces the speed of
the train until lit comes to a complete stop.

B

Bad Order Car:
A car (rolling stock), with a mechanical problem serious enough to make car unavailable for
use, which is in need of repair.

Ballast:
Rock, gravel or other granular material placed on a road bed to support cross ties and rails
and to aid in holding the desired track geometry.

Block:
A length of track of defined limits, the use of which by a train or engine is governed by block
signals, cab signals, or both, indicating whether or not the block ahead is occupied.
In signaling terminology, a physical length of track, the use of which by a train or an engine
is governed by block signals, cab signals, or both. Also rail cars in a train, grouped together
for movement to the same destination or terminal.

Block Signal:
A block signal is a fixed signal at the entrance to a block to govern trains and engines
entering and using that block. Block signals prevent a train from ramming the train or crew
ahead by dividing the main line into segments or “blocks” and allowing only one train in the
block at a time. Signals can be set by hand, by remote operation, or by the passing train itself.

Blocking:
The manner of placing cars in a train to form a Block.

Branch:
A portion of a division designated by a time table. Rules and instructions pertaining to
subdivisions apply on branches.

Branch Line:
A secondary, local or feeder line of railway connecting with the main line; also any line other
than a main line. See Main Line.

Branch Line Tracks:
These are secondary line track(s) on a railway. Trains and engines might be operated with or
without Time Table, train order, or block signal.

C

Car Department Personnel:
Their duties include the maintenance of railway rolling stock equipment.

Centralized Traffic Control (CTC):
This method of control consists of controlled block signals and dual control switches controlled by the Rail Traffic Controller, from a central location, for both opposing and following movements on the same track. Train movements are authorized by block signals whose indicators supersede the superiority of trains.

Classes of Track:
A categorization of track based on the maximum allowable operating speed.

Classification:
The act of switching rail cars for sorting, segregating or grouping according to their kind, contents or destination.

Classification Yard:
A set of tracks where rail cars are sorted, segregated or grouped according to their kind, contents or destination. (classification)

Clearance Limits:
The dimensions beyond which the size of, or projections of a shipment may not extend in order to clear such things as switch stands, platforms, tunnels, low bridges, etc.

Clear a Track:
Is a term used to describe a train/engine or other movement, which has moved off the main track or out of the way (e.g. of a siding, backtrack).

Concrete Ties:
Ties made of concrete are gaining wider use as the demand and cost of wood increases. For large-scale projects, the cost for concrete ties is generally comparable to wooden ties. Concrete ties are reported to be stronger and have a longer life than wooden ties, but they lack the elasticity of wood. Some companies use concrete ties on curves or grades where their strength is an asset. Abrasion from the ballast sometimes leads to concrete tie failure. Rail clips are used to fasten the rail concrete ties.

Conductor:
The person officially in charge of the train’s overall operation. S/he also does most of the paperwork associated with the handling of the train.

Consist:
A listing showing the train number, the dates and times of departure as well as arrival; the locomotive, radio and caboose number; the initial and car numbers of each car on the train; the billing of these cars; the special handling of the cars and the name of the conductor. It reflects all activities that took place on the movement of cars between any two stations.

Continuous Welded Rail (CWR):
Traditionally, track was laid in lengths of 39’ with a joint between each to allow for expansion and contraction due to heat and cold. Joints were points of high maintenance. Continuous Welded Rail typically consists of lengths between 400 and 1600 feet in length and the joints between them are eliminated by in-place welding using portable equipment. Without joints, expansion and contraction can result in buckling in high temperatures and breaking in cold conditions.

Controlled Block:
A block in CTC between consecutive controlled locations.

Controlled Block Signal:
A block signal at a controlled location in CTC, which is capable of displaying a Stop indication until, requested to display a less restrictive indication by the RTC.

Controlled Location:
A location in CTC consisting of one or more controlled block signals.

Controlled Point:
A location designated by number where a control operator controls signals and/or switches of a CTC system.

Controlled Siding:
A siding within CTC or interlocking limits, the authorization for use of which is governed by signal indication or control operator.

Controlled Signal:
A control operator controls an absolute signal, the aspect of which.

Conventional (Jointed Track):
Track consisting of rail joined together and fastened to the ties by spikes and tie plates.

Crossbucks:
A term for railway crossing sign with crossed arms.

Crossing (Track):
A structure, used where one track crosses another at grade, and consisting of four connected frogs. (Rail Crossing, Diamond)
Crossover:
Two turnouts with the track between the frogs arranged to form a continuous passage between two nearby and generally parallel tracks. Double: Two crossovers in which a movement may cross from the first to the second track in either direction or from the second track to the first track in either direction.

CTC:
See “Centralized Traffic Control.”

Curved Track:
Curved track is measured by degrees, with most main track curves falling between 1 and 5 degrees. The degree of curvature is the angle subtended at the center of a simple curve by a 100-foot chord. Curves require more power from locomotives, and the forces present while a train negotiates a curve increases rail and car wear. Stronger track, ties and additional spikes are used in curves in order to take the added loads.

Cut:
String of cars.

CWR:
Continuous Welded Rail

D

Dangerous or Hazardous Goods:
Articles or substances, which are capable of posing a significant risk to health, safety or property when transported.

Dark Territory:
A section of track that is unsignaled.

Diamond:
A place where two railway tracks cross each other.

Direct Train Control:
Dispatcher-directed authority issued to permit track usage not contained in the operating rules using specified blocks to identify the limits of track authorization.

Dispatcher:
See Rail Traffic Controller.
Division:
A portion of the railroad designated by time table.

Doublestack:
A SPINE CAR that can accommodate containers placed one on top of the other, maximum two containers high. Some doublestacks are articulated and exceed two hundred feet in length.

Drop or Running Switch:
When a car being pulled by an engine in a facing point movement toward a switch is cut off in motion and allowed to proceed under its own momentum to a different track than that being used by the engine.

Dual Control Switch:
A switch equipped for powered operation, also equipped for hand operation.

Electric Switch Lock:
An electric lock connected with a hand-operated switch to prevent its operation until the lock is released.

Emergency Application:
A rate of brake pipe reduction fast enough to cause the control valves to move to emergency position.

Emergency Stop:
An application resulting from an emergency rate of brake pipe reduction which causes the brakes to apply quickly and with maximum braking force for the shortest practical stopping distance.

End of Train Device (EOT):
A device, which enables the operation of a train without a manned caboose. This device serves as a marker and provides information regarding the train line air pressure to the engineer.

Engine (Eng):
A unit propelled by any form of energy, or a combination of such units operated from a single control, used in train or yard service.
Facing Point Movement:
A movement toward or over a switch, in which the movement approaches the switch points first.

Federal Railroad Administration (FRA):
A U.S. Federal agency attached to the Department of Transportation. The FRA serves as the principal organization for assistance to the Secretary of Transportation on all matters relating to rail transport and safety.

Flag Man:
An employee authorized to restrict the movement of trains through the use of flags.

Flat Yard:
A yard where car switching is dependent on locomotive power with little assistance from gravity.

Frog:
A track structure used at the intersection of two running rails to provide support for wheels and passageways for their flanges, thus permitting wheels on either rail to cross the other.

Gage (of Track):
The distance between the rails, measured at right angles thereto 5/8 inches below the top of the rail. (Standard gage is 4 feet 8-1/2 inches or 56-1/2 inches.)

Gross Ton Miles:
The movement in line-haul service of transportation equipment and contents, for a distance of one mile. The weight of the haul is expressed in tons of 2,000 pounds.

Gross Ton Miles Per Train Mile:
The number of gross ton miles divided by the number of train miles. Gross ton miles of locomotive and tender are excluded unless otherwise stated.

Hazardous Materials:
Cargo that poses a risk to individuals and/or the environment, the movement of which is governed by the Department of Transportation Regulations. Hazardous Materials (hazmat) include corrosive materials, poisons and explosives among other substances.
High/Wide Load:
A load that exceeds clearance limits. See Clearance Limits

Hi-rail Equipment:
Equipment designated to travel on rail as well as on pavement, used primarily for the inspection of track conditions and for maintenance of way.

Hi-rail Inspection Vehicle:
A self-propelled vehicle equipped with both steel wheels and rubber tires for movement on either railway tracks or highways. Normally used by division personnel conducting track inspections.

Hot Box:
Where a journal on the wheel of any rolling stock has run hot due to lack of lubrication or internal defect.

Hot Box Detector (HBD):
The device is located at track level. It detects overheated journal bearings. A train must be immediately stopped and inspected when evidence of an overheated bearing or other defective condition is suspected. Overheated bearings, etc. are critical as they can easily derail a train at speed. Sometimes supplemented by “smart” acoustic sensors that listen for stuck brakes and failing bearings. As bearings on car axles begin to fail, the turning axle creates heat that can cause axles to freeze or break off. Special roadside detectors can sense heat or excessive noise coming from the bearings as the train passes. If a fault is detected, the hot box detector sends a message directly to the train giving side and axle locations. Such detection devices are typically spaced 20 – 50 miles apart. They can catch many but not every fault.

Hot Wheel Detectors:
Similar to hot box detectors, hot wheel detectors sense excessive wheel heat caused by stuck or unreleased brakes.

Hours of Service:
A government regulation which determines the number of hours covered employees (defined by law and regulations) may work before going off duty for a specified length of time.

Insulated Joint:
A rail joint designed to arrest the flow of electric current from rail to rail by means of insulation so placed as to separate the rail ends and other metal parts connecting them.
**Interchange or Interchange Point:**
A place where the line of a railway company connects the line of another railway company and where loaded or empty cars may be stored until delivered or received by that other company.

**Interlocking:**
A configuration of switches and signals interconnected to direct trains along different routes, the limits of which are governed by interlocking signals. An arrangement of interconnected signals and signal appliances for which interlocking rules are in effect. An arrangement of signal appliances so interconnected that their movements must succeed each other in proper sequence. It may be operated manually or automatically. Interlocking consists for most of them of controlled block signals with dual-control switches that are controlled by the dispatcher.

**Interlocking Limits:**
The tracks between the extreme or outer opposing interlocking signals of an interlocking.

**Interlocking Signals:**
The fixed signals of an interlocking, governing trains and engines using the interlocking limits.

**Intermodal Traffic:**
Traffic, which moves in containers, trailers on flatcars. Traffic, which moves in via two or more different modes of transport.

**J**

**Joint Facility:**
Two or more railways jointly operating on the same segment of tracks, covered by agreement between the affected railroads.

**Joint, Rail:**
Joint Bar, also know as an Angle Bar – A fastening design to unite the abutting ends of rails.

**Journal:**
The bearing in which an axle turns.

**K**

**Kick:**
When a car being pushed by an engine is cut off in motion and allowed to move under its own momentum while the engine stops or slows.
L

Lading:
That which constitutes a load. The freight in a car, vessel, or truck.

Limits:
A segment of track that can be controlled by signals or other identifiable means.

Line:
The condition of the track in regard to uniformity in direction over short distances on tangents, or uniformity in variation in direction over short distances on curves.

Line Capacity:
The maximum possible number of trains capable of being operated over a line in one direction. Usually expressed as trains per hour, it will depend on all trains running at the same speed, having equal braking capacity and on how the signaling is arranged.

Local Train:
A train, which stops at all stations, as required, on its route.

Locomotive:
A unit propelled by any energy form, or a combination of such units, operated from a single control, as defined in the railroads Operating Rules (an engine).

M

Main Line:
A main line track is the principal line of a given railroad company’s rail network. Main lines consist of either single, double or multiple track lines extending between major stations. Trains are operated by time table, train order, or governed by block signals.
A track extending through yards and between stations, upon which trains or engines are authorized and operated by time table or train order, or both, or the use of which is governed by block signals by one or more methods of control. May not be occupied without proper authority or protection.

Main Track:
For the purposes of the Track Safety Standards, a track other than an auxiliary track extending through yards and between stations.

Maintenance of Way (M.O.W.):
On-track maintenance of repairing, testing, and inspecting track, including ties, ballast, and rail. M.O.W. work is usually conducted by the Engineering Department of a railway.

Manifest Train:
Manifest traffic refers to the freight trains that carry the bulk of the freight along regularly scheduled runs. Manifest traffic routes are advertised as regularly occurring, yet the actual composition of the train will vary from day to day based upon the specific commodities being shipped. Regularly scheduled mixed freight trains can be referred to as manifest trains.

Mechanical Services:
The Mechanical Services Department is responsible for the maintenance, repair and inspection of engines and rail cars.

Mile Post:
Post along a railroad right of way, which indicates the distance, in miles, to or from a given point.

Million Gross Tons Of Traffic (MGT):
The total amount of traffic on a track based on the sum of the weight of all trains that operate over the track over a period of one year.

Multi-platform Cars:
Any intermodal car with two or more platforms which share a set of in-board trucks or which are connected by solid drawbars.

Multiple Unit (MU):
Two or more locomotive units coupled in such a manner that control is from a single control point.

On-track Equipment:
A machine that operates on a railway track and is used in connection with construction or work on, or inspection of, a railway track.

Operating Employee:
Means on board train employees directly involved in operating or assisting in the operation of the train, including those employees who are trainee candidates for such positions.

Power Operated Switch:
A switch equipped for powered operation but not equipped for hand operation.
Private Siding:
A track built for the exclusive use of a shipper, and not to be used by the railroad for its own general purposes.

Pull:
Picking up loaded cars and moving them to switching districts or yards where they will be classified according to destination.

R

Rail (Track):
A rolled steel shape, commonly a T-section, designed to be laid end to end in two parallel lines on crossties or other suitable supports to form a track for railway rolling stock. It has three main parts:
1. The head that comes into contact with car wheels.
2. The web, which is the thinner, middle part of the rail; and
3. The base.

Rail Anchors:
Rail anchors are fastening devices that put contact pressure on the rail to keep it stationary. Rail anchors are used with CWR to prevent longitudinal movement due to thermal expansion or train movement.

Rail Fasteners:
Contrary to what one may think, most rail fasteners are not used to hold the rail down. In fact, moderately loose spikes pose no danger to the track or train. The major function of rail fasteners (except for rail anchors) is to keep the rail in gage and to prevent rail roll over. The weight of the train and the design of the rails keep the rails upright. Another function that fasteners perform is to prevent the rail from stretching lengthwise under the force of the train.

Rail Joints:
Rail joints are plates of metal with holes used to join two pieces of rail end-to-end.

Rail Section:
The shape of the end of a rail cut at right angles to its length. The rail mills identify the different shapes and types of rails by code numbers, as for example 131-28 for the 131 RE rail section.

Rail Traffic Controller (RTC):
The person responsible for the good usage of the main track(s), so that trains may be expedited from one point to another in the smoothest and fastest manner, allowing also responsible maintenance of way personnel to make repairs and enhancements to our main tracks with as few delays as possible to trains so that everybody gets a fare share of the main track to be able to perform their duties accordingly. Same as dispatcher.

Remote Controlled Switches:
Switches controlled from a central location by the rail traffic controller/dispatcher.

Right of Way:
The property owned by a railway company on which tracks have been laid, including the track and land surrounding that track.

Set Off (Set Out):
A car left by a train at a station. Also when a railroad delivers a car to another railroad at one of its terminals so that it can be placed within that terminal.

Shoulder of Track:
The outside portion of the track comprised of the ballast. The width of the shoulder is usually expressed as the level top portion of the ballast up to the point where is begins to slope down.

Shunt:
In signaled track, to make an electrical connection across both rails of the track

Side Track:
An auxiliary track which is used to perform a variety of different functions, such as to allow the set off of cars, change crews, etc.

Siding:
A track auxiliary to the main track, for meeting and passing trains, which is so designated in Timetable, General Bulletin Order, or Dispatchers Operations Bulletin.

Signal:
Visual indication passed to the locomotive engineer to advise the speed, direction or route of the train. There are almost as many types of signals as there are railways. Some are: Engine whistle signals, Display of headlights, Markers, Blue signal protection, Signals imperfectly displayed, and emergency protection

Signal Aspect:
The appearance of a fixed signal conveying an indication as viewed from the direction of an approaching train; or the appearance of a cab signal conveying an indication as viewed by an observer in the cab.

Signaled Siding:
A siding, which is controlled by manual or automatic signals.

Signaled Turnout:
A turnout that is controlled by signals.

Single Track:
One main track upon which trains are operated in both directions.

Slow Order:
Is a term sometimes used for train speed restriction order.

Speed:
Note speed definitions may vary from one railroad to another and from one country to another.

- Limited Speed: A speed not exceeding 45 miles per hour.
- Maximum Authorized Speed: The fastest speed that trains are permitted to operate over a track as designated in a railroad timetable or special instruction.
- Medium Speed: A speed not exceeding thirty miles per hour.
- Reduced Speed: A speed that permits complying with flagging signals and stopping short of train or obstruction.
- Restricted Speed: A speed that will permit stopping within one-half the range of vision of equipment, also prepared to stop short of a switch not properly lined and in no case exceeding SLOW SPEED. At restricted speed, the engineer should be on the lookout for broken rails.
- Slow Speed: A speed not exceeding fifteen miles per hour.

Special Instructions:
Instructions located in a time table or other publication that modify railroad operating rules and procedures.

Speed Restriction:
An imposed speed restriction of a train to below the maximum speed for the railroad, division, or subdivision, caused by track, signal, train equipment, or environmental conditions.

Spine Car:
251-foot car capably of handling 10 x 20 foot containers; 5 x 40 foot containers or 5 x 48 foot domestic containers. Unlike double stack cars, spine cars can only accommodate one container high.

Spotting (Car):
Placing of cars by a railroad where they are required for loading or unloading.

Spur Track:
See Stub Track

**Standard Gauge:**
The distance between the rails of railway track. Standard gauge in North America is four feet eight and one-half inches (56-1/2 inches).

**Station:**
A location designated in the time table by name.

**Stub Track:**
Same as Spur Track Side track that is connected at one end only to a running track. Some form of bumping post or other solid obstruction usually protects the other end.

**Subballast:**
Any material of a superior character, which is spread on the finished subgrade of the roadbed and below the top ballast, to provide better drainage, prevent upheaval by frost, and better distribute the load over the roadbed.

**Subgrade:**
The finished surface of the roadbed below the ballast and track.

**Superelevation:**
As a train goes around a curve, the cars tend to tip towards the outside of the curve, especially with tall and top-heavy loads. To compensate, the outside rail is raised or superelevated to force the load back toward the inside of the curve. The amount of superelevation is determined by the degree of the curve and the intended train speed.

**Surface (Track):**
The condition of the track as to vertical evenness or smoothness. Track surface may need to be measured while under load, since some setting of the track can occur.

**Switch:**
A track structure used to divert rolling stock from one track to another.

**Switch:**
The act of rearranging rail cars on railway tracks. See Switching.

**Switch Heaters:**
Because some switches operate in cold weather, and because switch operators cannot visually inspect or maintain all switches, switch heaters guarantee operation. Snow or ice is melted from the switch mechanisms so the switch can be thrown. Remote sensors on some heaters allow them to come on automatically when weather conditions warrant.

**Switch Point Derail:**
A derail consisting essentially of a split switch point with the necessary fixtures.

Glossary of Railroad Terms

Switching:
The physical movement of rail cars from one place to another within the limits of a yard, terminal or station. (as opposed to Line Haul)

T

Tail Room:
In yard operations, the track space available to pull out of one track and then switch over to another. Desirable tail room is as long as the longest yard track.

Terminal Area:
A location that includes one or more yards together with the tracks connecting the yard or yards and the industries within that area.

Tie, Cross:
The transverse member of the track structure to which the rails are spiked or otherwise fastened to provide proper gage and to cushion, distribute, and transmit the stresses of traffic through the ballast to the roadbed.

Tie, Switch:
The transverse member of the track structure, which is longer than but functions as does the crosstie and in addition supports a crossover or turnout.

Time Table:
The document, which contains subdivision information footnotes and special instructions relating to movements of trains, engines and track units.

Track:
An assembly of rails, ties, and fastenings over which cars, locomotives, and trains are moved.  
  Body: Each of the parallel tracks of a yard upon which cars are placed or stored.  
  Classification: One of the body tracks in a classification yard, or a track used for classification purposes.  
  Connecting: Two turnouts with the track between the frogs arranged to form a continuous passage between one track and another intersecting or oblique track or another remote parallel track.  
  Departure: Tracks where rail cars are classified and assembled into trains for line-haul movement.  
  House: A track alongside of, or entering a freight house, and used for cars receiving or delivering freight at the house.  
  Interchange: A track on which cars are delivered or received, as between railways.  
  Ladder: A track connecting successively the body tracks of a yard.  
  Lead: An extended track connecting either end of a yard with the main track.
Main Track: For the purposes of the Track Safety Standards, a track other than an auxiliary track extending through yards and between stations.

Passing: A track auxiliary to the main track for meeting or passing trains. Same as a Siding. The correct term to use is “Siding.”

Receiving Track: Tracks where incoming trains are received.

Running: A track reserved for movement through a yard.

Scale: A track leading to and from and passing over a track scale.

Side: A track auxiliary to the main track for purposes other than for meeting and passing trains.

Spur: A stub track diverging from a main or other track.

Storage: One of the body tracks in storage yards or one of the tracks used for storing equipment.

Stub: A track connected with another one at one end only.

Team: A track on which cars are placed for transfer of freight between cars and highway vehicles.

Wye: Railway tracks arranged in the form of a “Y” which are used for turning locomotives and rail cars in the opposite direction.

Track Gage:
Measured at right angles, the distance between running rails of a track at the gauge lines, which are 5/8" below top of rail.

Trailing Movement:
A movement toward or over a switch in which the movement trails through the switch points.

Trailer on Flat Care (TOFC)
Today's term for piggyback service.

Train:
An engine or more than one engine coupled, with or without cars, or a track unit(s) so designated by its operating authority, displaying a marker(s).

Truck or Trucks:
An assembly that contains the wheels, bearings, springs, and connecting frames that supports the car on the rail.

Turnout:
An arrangement of a switch and a frog with closure rails, by means of which rolling stock may be diverted from one track to another.

Turnout Number:
The number corresponding to the frog number of the frog used in the turnout.
Unit Train:
A freight train consisting of carloads of the same commodity moving from origin to one destination, on one day from one shipper to one consignee on one bill of lading.

Wheel Impact Load Detector (Wild):
A device found in some Hot Box Detectors or as stand alones, which measure excessive wheel impact on rail.

Wood Trestle:
A wood structure composed of bents supporting stringers, the whole forming a support for loads applied to the stringers through the deck.

Yard:
A system of tracks within defined limits provided for making up trains, storing cars, and other purposes, over which movements not authorized by time table or by train-order may be made, subject to prescribed signals and rules, or special instructions. Under freight yard, the definition is: “A network of tracks set aside for a railway’s own working purpose, such as classification, switching and holding rail equipment.” It is common to use the words yard and track interchangeable in some instances but they are basically tracks used for a specific purpose and located within the yard limits.

Yard Limits:
That portion of the main track or main tracks within limits defined by yard limit signs.