

Highway–Rail Crossing Questions and Answers

What is track ABANDONMENT? — The rail line has permanently ceased to operate.

What is an ADVANCE WARNING SIGN? — A yellow sign with a black letters “RXR”. The sign is located alongside the highway in advance of the crossing. It advises motorists of a crossing ahead.



What is AADT? (ANNUAL AVERAGE DAILY TRAFFIC) — The annualized average 24-hour volume of vehicles at a given point or section of highway. It is normally calculated by determining the volume of vehicles during a given period, and dividing that number by the number of days in that period. (Also known as a “Traffic Count”).

Why can’t I use the word ACCIDENT in my presentation? — An “Accident” is an uncontrolled event. A “Crash” or a “Collision” is preventable. The preferred terms are Crash, Collision and Incident. (See “What is a CRASH?”).

What are ACTIVE WARNING DEVICES? — Active warning device systems inform motorists and pedestrians of the approach or presence of trains, locomotives, or railroad cars on or near highway-rail grade crossings. Active warning devices will include flashing red lights and bells, and may include gates. (See “What are TRAFFIC CONTROL DEVICES?”).

What is an ACTIVE CROSSING? — A crossing with active warning devices. It will also have passive warning devices.

What is a BELL? — An active warning device that provides an audible warning for pedestrians and bicyclists, when rail equipment is present. It is used with flashing red light signals and gates.

What is a BRANCH LINE? — A secondary line of a railroad. (See “What is a MAIN LINE?”).

What is a CANTILEVER FLASHING RED LIGHT? — A structure which has a flashing red light signal(s), extending over one or more lanes of vehicular traffic (See “What are TRAFFIC CONTROL DEVICES?”).

What are CHANNELIZATION DEVICES? — (See “What is a HIGHWAY MEDIAN?”).

What is a COLLISION? — An event occurring on a traffic way involving highway and railroad equipment that produces damage and/or injury. (See “What is a CRASH?”).

What does a train CONDUCTOR do? — A railroad employee in charge of train movements.

What is CONSTANT WARNING TIME — A train detection system with the capability of measuring train speed and distance. Such a system predicts the arrival of a train at the crossing, providing a relatively uniform warning time to public traffic at highway-rail grade crossings.

What is a train CONSIST? — A document which shows the number of loaded or empty cars, weight in tons and length in feet of a specific train. A locomotive consist shows the identifying number of each locomotive and location of each locomotive within that consist for a specific train. May also refer to the make up of the train itself.

What is a CORRIDOR? — A designated strip of land between two locations. In the corridor, rail, highway and pedestrian traffic, topography, environment and other characteristics are evaluated for transportation purposes.

What is a CRASH? — An event occurring on a traffic way involving highway and railroad equipment that produces damage and/or injury. Other acceptable terms are “Collision” and “Incident”. (See “What is a COLLISION?”).

What is a CROSSBUCK? — A white regulatory sign that is X-shaped with the words “Railroad Crossing” in black lettering. It is generally located alongside the highway at the railroad tracks. This sign is considered the same as a “Yield Sign”.



What is CROSSING SIGHT DISTANCE? — The distance along a railroad track from which a train might be seen by a highway user who is stopped at or approaching a highway-rail grade crossing.

What is a DERAILMENT? — When a locomotive or other rail cars leave the track.

What is a DO NOT STOP ON TRACKS SIGN? — A regulatory sign that is white with black letters and placed at a crossing. It is used when an engineering study or experience determines there is a high potential for vehicles stopping on the tracks.



What is a DOT (Department of Transportation) CROSSING NUMBER? — (a.k.a. Inventory Number) A national numbering system, containing a six-digit number followed by a letter. It is a unique designation assigned to every highway-rail grade crossing in the nation. This number is usually posted at or near the crossing, and is used to identify the location of the highway-rail crossing.

What is the ENS (EMERGENCY NOTIFICATION SIGNS)? — The sign lists a telephone number and the US DOT number. It is posted at or near the crossing and is used to notify the railroad of an emergency or warning device malfunction.



What is an EXEMPT SIGN? — A sign placed in advance of and at a crossing to inform placarded hazardous materials vehicles, buses and other highway users that a stop is not required. These vehicles still must stop when a signal, train crew member or a uniformed police officer indicates that a train, locomotive, or other railroad equipment is approaching the crossing. The sign is posted based on state law or regulation.



What is the FAIL-SAFE Mode for Highway-Rail Grade Crossing Active Warning Devices? — Highway-rail intersection warning systems apply this principle to activate the warning system when there are component failures or abnormal conditions in the system.

What is a FLASHING RED LIGHT SIGNAL? — A regulatory active traffic control device installed on a standard mast or cantilever. When flashing, it indicates the approach of a train and requires a complete stop by the highway user.

What is a crossing GATE? — An extended arm that lowers to restrict vehicular and pedestrian traffic from crossing the railroad tracks.

What is a 2- Quadrant Gated Crossing? — Extended gate arms that block the approaching lanes of highway traffic from entering the crossing.

What is a 4- Quadrant Gated Crossing? — Extended gate arms that block the approaching and exit lanes of the highway traffic from entering the crossing.

What is GCCI? (Grade Crossing Collision Investigation) — A class to teach law enforcement officers about rail operations and how to safely investigate rail related incidents.

What is a GRADE SEPARATION? — The crossing of a roadway and a railroad at different elevations, such as a highway bridge crossing over a railroad or vice versa.

What is a HIGHWAY? — A general term indicating a traffic way, including the entire area within the right-of-way, used for vehicular and/or pedestrian travel.

What is a HIGHWAY-RAIL GRADE CROSSING? — The general area where a highway and a railroad cross at the same level. Also known as a “Highway-Rail Crossing”, Highway-Rail Intersection” and “Railroad Crossing”.

Who decides what SIGNS AND SIGNALS are installed at a HIGHWAY-RAIL GRADE CROSSING? — The determination is made by the public agency with jurisdiction. Before a new or modified grade crossing traffic control system is installed, approval is required from the appropriate agency within a given state.

What are HIGHWAY-RAIL GRADE CROSSING SURFACES? — The roadway material placed between and alongside the railroad tracks to allow vehicles to safely traverse a grade crossing. Crossing surface materials may be asphalt or timber, or a combination of both. Crossing surfaces may also be removable panels that are pre-engineered and pre-manufactured from durable materials, such as reinforced concrete, molded rubber, treated timber, and others.

Who is a HIGHWAY USER? — Any person using a road, street, highway or right-of-way for transportation purposes.

What is an INCIDENT? — An event occurring on a traffic way or on the railroad tracks, involving a highway user or pedestrian and railroad equipment that produces damage and/or injury. Other acceptable terms are “Collision” and “Incident”. (See “What is a COLLISION or CRASH?”).

What is a LANE? — The part of a roadway that is designed for use by a single line of vehicles.

What is a LOCOMOTIVE or Engine? — A self-powered unit used to move freight and/or passenger rail cars.

What does a LOCOMOTIVE ENGINEER do? — A railroad employee who is responsible for safely and efficiently operating engines and train cars. An engineer must be federally certified to operate locomotives and must have a current certificate on their person at all times when they are operating an engine.

What does a LOCOMOTIVE EVENT RECORDER do? — A recording device located on all locomotives that travels at speeds of 30 mph or more, which creates a record of speed, distance, time and other locomotive functions or events.

What is a MAIN LINE? — Primary line on which a railroad operates.

What is the MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES)? — The manual approved by the Federal Highway Administration as the national standard for traffic control devices used on all public streets and highways.

What is a highway MEDIAN? — A traffic control device used as a physical separator between opposing lanes of traffic



What does the term MILEPOST NUMBER mean? — The railroad’s addressing system for identifying a location on the tracks, measured in miles from a given point along the tracks.

What is a MOTION SENSOR? — An electronic device that senses the movement of a train within the approach to a highway-rail grade crossing. It also detects when a train ceases to move toward the crossing and will, after a specific period of time, deactivate the crossing signals, allowing vehicular traffic and pedestrians to use the crossing.

What is an OFFICER ON THE TRAIN event? — An Operation Lifesaver safety program that brings local, county and state law enforcement officers into the locomotive cab. It allows the officers to observe problems at highway-rail grade crossings and to assist enforcement of motor vehicle laws at railroad crossings.

What is OL (OPERATION LIFESAVER)? — A national, non-profit public awareness and education program dedicated to reducing collisions, deaths and injuries at highway-rail grade crossings and railroad rights-of-way.

Who/What is an OL CONTACT? — Any meeting or presentation to introduce Operation Lifesaver, or to request assistance or coordinate Operation Lifesaver activities or events.

What is an OL PRESENTATION? — A formal presentation using the approved Operation Lifesaver, Inc. Presenter’s Guide format, given to two (2) or more people. The presentation must be appropriate to the audience and must cover the material for that group as outlined in the Presenter’s Guide. The presentation must be supported by the use of approved Operation Lifesaver visual aids, consisting of at least seven (7) visuals from the OLI visual charts, PowerPoint slides, overheads, or 35mm slides. Only videos approved by OLI may be used to support the presentation.

Who/What is an OL SPONSOR? — Any organization, company, association or government agency that supports Operation Lifesaver through financial contributions, in-kind services, and/or personnel.

Who is an OL STATE COORDINATOR? — A person designated to act as the “CEO”, spokesperson, and coordinator of all activities carried out by partners and participants involved in their state Operation Lifesaver program.

What is a PARALLEL TRACK SIGN? — A diamond-shaped yellow advance warning sign located on roadways parallel to the railroad tracks. This sign indicates the road ahead will cross the tracks. It warns motorists making a turn that there is a highway-rail grade crossing immediately after the turn.



What is a PASSIVE CROSSING? — A crossing without active warning devices. It has passive warning devices (i.e., Crossbuck, Yield or Stop Sign). (See “What are PASSIVE WARNING DEVICES?”).

What are PASSIVE WARNING DEVICES? — Passive traffic control devices, consisting of signs and pavement markings, identify and direct attention to the location of a highway-rail grade crossing. These devices advise highway users and pedestrians to take appropriate action. (See “What are TRAFFIC CONTROL DEVICES?”).

What are PAVEMENT MARKINGS? — The white letters “RXR” on the pavement in advance of the crossing and may include a stop line. Pavement markings advise, warn or guide traffic. These pavement markings are considered a passive traffic control device.



What is a PEDESTRIAN? — A person afoot, in a wheelchair, on skates, a skateboard, or bicycle.

What is a PRIVATE CROSSING? — A crossing where the highway is privately owned, and is intended for use by the owner or by the owner’s licensees and invitees. It is not generally intended for public use, and is not maintained by a public authority. Private crossings are found on farms and in industrial/commercial complexes, or they provide access to recreational and residential areas.

What is a PUBLIC CROSSING? — A highway-rail grade crossing where the intersecting roadway is under the jurisdiction of, and maintained by a public authority and open to the traveling public.

What is RAIL? — A rolled steel shape, commonly a T-Section, designed to be laid end to end in two parallel lines on cross ties, or other suitable supports, to form a track for railroad rolling stock.

What is a RAILROAD or RAILWAY? — A surface transportation system that operates on rail.

What is a RAILROAD FLAGMAN? — A railroad employee who warns motorists that a train is traversing or approaching the crossing.

What are RAILROAD POLICE? — A railroad employee who has full police powers. Also known as a “Special Agent”.

What is a RAILROAD RIGHT-OF-WAY? — The private land, property, or interest therein, extending a given distance on each side of the railroad tracks.

What is a ROADWAY? — The portion of a highway that is improved, designated, or ordinarily used for vehicular travel.

What is the RSER (Rail Safety for Emergency Responders (GCCCI))? — A class for emergency response personnel covering the techniques and uniqueness of vehicle/train collision investigations and the related hazards. This class may be sponsored by Operation Lifesaver, a railroad company, and/or national and local police agencies. (See “What is GCCCI?”).

What does the term Section 130 mean? *This refers to the FEDERAL-AID CROSSING SAFETY IMPROVEMENT PROGRAM, Section 130, Title 23 U.S.C., Highway-Rail* — In addition to providing monies for highway-rail grade crossing safety improvements, this program provides each state shall conduct and systematically maintain a survey of all public crossings and identify those which may require improvements, such as: separation, relocation, warning signs and devices, and surfaces. It also requires each state to establish and implement a schedule of projects for this purpose. At a minimum, such a schedule shall provide signs for all highway-rail grade crossings.

What is a SIDING? — A track connected to the main track and used for meeting or passing trains.

What is a SPIKE? — A large metal-type nail that fastens the rails and track to the cross ties.

What is a SPUR track? — Auxiliary track used for delivery or storage of rail cars.

What is a STOP SIGN — A red regulatory sign with white lettering used where motor vehicle traffic is required to stop. This sign may be added at crossings, requiring all vehicles to come to a complete stop before crossing the railroad tracks.



What does STOPPING DISTANCE mean? — The distance required to bring a train or motor vehicle to a complete stop.

What are railroad TIES or CROSSTIES? — In track construction, the cross members to which the rails are attached. Commonly, ties are treated timber or concrete.

What is TRACK CIRCUIT? — An electrical circuit where the rails are used as part of the circuit. Track circuits are used to detect trains and activate warning signals.

What is TRACK? — A rolled steel shape, commonly a T-Section, designed to be laid end to end in two parallel lines on cross ties or other suitable supports to form a track for railroad rolling stock. (See What is RAIL?“).

What is a TRACKS OUT OF SERVICE SIGN? — A sign used instead of the crossbuck. It is used when a railroad track has been abandoned or its use discontinued.



What are TRAFFIC CONTROL DEVICES? — All signs, signals, markings, and other devices used to regulate, warn, or guide traffic. These are placed on, over, or adjacent to a street, highway, pedestrian facility, or bicycle path by authority of a public body or official having jurisdiction. These devices that are located at a highway-rail grade crossing can be “Active” and/or “Passive” Warning Devices.

What is a TRAFFIC SIGN? — An official device that gives a specific message, either by words or symbols, to the public. (See “What are TRAFFIC CONTROL DEVICES?“).

What is a TRAIN? — One or more engines coupled with or without cars.

What is a TRESPASSER? — Any person who is on railroad property whose presence is prohibited, forbidden, or unlawful. A person on a highway-rail grade crossing is not to be classified as a trespasser unless the crossing is equipped with gates, or other similar barriers that were closed when the person went on the crossing, or unless the person attempted to pass over, under, or between cars or locomotives occupying the crossing.

What is the definition of a VEHICLE? — Every device in, upon, or by which any person or property may be transported or drawn upon a highway, except trains.

What are WARRANTS? — A warrant describes the threshold conditions to the highway engineer in evaluating the potential safety and operational benefits of traffic control devices and is based upon “average” or “normal” conditions. In a railroad setting, a warrant or track warrant gives a train crew authority to occupy or traverse a section of track.

What is a RAILROAD YARD? — A system of tracks, other than main tracks and sidings, used for the making up of trains, storing cars, and other purposes.

What is a YIELD SIGN? — A sign which tells vehicles to avoid interference with other vehicles, including trains, which are given the right-of-way.

