American Railway Engineering and Maintenance of Way Association
Letter Ballot

1. Committee and Subcommittee: Committee 14, Subcommittee 6 – Passenger Facilities

2. Letter Ballot Number: 14-20-02

3. Assignment: Subcommittee 6 assignment is to keep Section 6 within Chapter 14 updated with current information. Subcommittee members reviewed changes to the Chapter 14 Foreword, Part 6 Foreword, and Part 6.2.3, and provided updates which were approved by the Committee.

4. Ballot Item: Chapter 14 Foreword, Chapter 14 Part 6 Foreword, and Part 6.2.3

5. Rationale: In collaboration with Committees 6 and 11, the ballot items above were updated to clarify references to other chapters.
Part 6

Passenger Facilities

–2020–

FOREWORD

The designation "passenger facilities" as herein employed includes the platforms, platform canopies, tracks, passenger train yards and other accessory features necessary to conduct mass transit, suburban and intercity rail transportation. AREMA Committees 6, 11, and 14 collaborated to develop manual recommendations. Chapter 14 focuses on the layout and geometric considerations related to tracks for passenger facilities. All other elements of passenger facilities are discussed in Chapter 6 and Chapter 11. For design criteria on railway passenger stations and other buildings, refer to Chapter 6, Buildings and Support Facilities. For design criteria on railway passenger platforms, refer to Chapter 11, Commuter and Intercity Rail Systems.

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SECTION 6.1 TERMINAL PLANNING

6.1.1 GENERAL (2015)

a. Studies for passenger facilities should be made by a team consisting of representatives from Engineering, Mechanical, Transportation, Passenger Service, Real Estate, Police, and other departments as required. Preferably the officer to be placed in charge of the new facility should also be a member.

b. Information should be gathered as to the intended use of the facility including projections for future years. Field investigations of terminal activities at sites similar to the proposed should be carried out to verify assumptions. Current literature should be reviewed to assure that the latest methods are utilized in design and construction. Team members should meet with representatives of railroads or agencies that have developed similar projects to exchange planning techniques and to look for ways of avoiding problems encountered.

c. Terminal design criteria should be established for each element. Key design inputs include frequency of train movements, number of passengers arriving per hour (peak), average baggage count, gross ticket sales, and retail revenue per square foot of space. Regional Planning Agencies are good source of data on population densities, travel patterns, etc.

d. Good design practice:
   (1) Design platforms to appropriate width.
   (2) Provide appropriate routing of passengers to and from platforms to avoid temptation to cross tracks.
   (3) Provide flexibility to add or extend platforms in the future.

e. Additional Considerations:
   (1) Will trains run-through or terminate?
   (2) What is the proposed mix of trains?
   (3) Will commuter and intercity trains use the same platforms? Each has different dwell time characteristics;
   (4) How will variations in rolling stock, and dwell time impact design?
   (5) Where and how will trains be yarded?
   (6) How will proposed operations impact terminal capacity?
   (7) What type of facility is required for crew on duty and layover?
   (8) Will air rights development be considered? If so, must ensure that air quality is addressed for both passenger and crews.
   (9) Homeland Security elements required in the design - i.e., passenger screening; video surveillance; restrictions on trash receptacles, etc.

f. Operation of passenger service in North America has in all but a few situations been assumed by government agencies, public supported corporations, or special departments within private carriers in order to isolate the attendant costs of providing such service. As a result, new passenger station facilities are publicly funded as distinct from facilities.
required for freight operations. Team members should be aware of the restrictions on such funding and allow adequate time for the various approvals involved.

g. A passenger terminal should be so located and designed as to coordinate as far as reasonably practicable with other civic activities. It is often desirable to make general civic improvements at the same time the terminal is being constructed. Modification of street approaches is almost always involved. The costs should be assumed by the parties benefited. Close cooperation between the terminal team, the planning board and executive officers of the municipality, and perhaps other civic groups, is necessary in order that any new legislation as may be necessary shall be fair and equitable to all.

h. Considerations must be given to accessibility for persons with disabilities. A number of factors are to be considered. A thorough review of guidelines of the Americans with Disabilities Act (ADA) should be completed during the planning process to ensure that the proposed facility will comply with ADA guidelines and regulations as required.

SECTION 6.2 STATION ENVIRONMENT

6.2.1 GENERAL (2015)

a. The station environment includes all facilities required for the complete accommodation of passengers and their belongings between public entrances and the trains. The station typically includes the main building, connecting concourses, platform access, platforms, parking and station approaches.

b. The location of the station should be determined by the economic balance among the following factors:

(1) Proximity to and ease of approach from all associated rail lines, without excessive curvature or gradient, and preferably without grade crossings.

(2) Proximity to yard, support facilities, and layover locations (downtown and outlying facilities are required for commuter services).

(3) Ability to develop (or access to existing) support facilities.

(4) Accessibility to business and civic activities and other modes of transportation.

(5) Land values and land use.

(6) Cost of construction.

(7) Size and shape of available real estate.

(8) Possible need for future expansion.

c. Factors to consider when designing a station that will be used by connecting intercity passengers include:

(1) Transfer passengers occupy a station for a longer length of time and require more extensive facilities per passenger than commuter or through passengers.

(2) Reducing the time interval between incoming and outgoing trains decreases requirements per passenger for waiting room space and for certain other facilities.
(3) The number of passengers handled during the rush hour does not alone determine the size or number of facilities required. Local conditions must be studied, as they affect requirements for any particular situation.

(4) The size or number of facilities must be modified to make allowance for the time of arriving and departing trains and the span in minutes between them; the ratio between passengers commencing or terminating their journey and transfer passengers; number of hold over passengers arriving or departing outside of the rush hour but occupying space and requiring service during a portion of the rush hour; and the departure from a reasonably uniform spread of passengers entering and departing within the rush hour.

d. Factors to consider when designing a station that will be used by suburban commuters:

(1) Suburban passengers occupy a station for a minimum length of time and move faster than the through passenger and therefore requirements in the way of station facilities per passenger are substantially less.

(2) When suburban business is heavy, it is desirable to separate the through and suburban service, as their requirements are not similar. This may be done by handling the two classes of service at different levels different sides or ends of the station; or different stations, one beyond the other.

(3) Indicator boards are the only directional information required, as a rule, by commuters. They should show track number, scheduled leaving time, and essential identification of the trains.

e. Factors to consider when rehabilitating or moving existing stations:

(1) Railroad stations have previously been an important element of communities serviced by railroads. Often, the railroad station was the focal point of the community.

(2) In order for the railroads to effectively and actively compete in the transportation marketplace, they must have efficient comfortable stations and station environments.

(3) Station environments should be created to cause the using passenger to enjoy and be comfortable in the facility.

(4) Station environments must be designed with enough flexibility to meet changing travel patterns. They must be easily expandable when ridership levels show marked increases.

f. When designing any passenger facility the designer must realize that it is subject to vicissitudes of weather, delays and derailments to trains, late connections, power failures, surges in traffic, bad order equipment, special trains or cars requiring special handling, excursion travel, conventions, and special functions at irregular periods.

6.2.2 ACTIVITIES (2015)

The station activities that tracks and track configuration may have to support include, but are not limited to:

a. Loading and unloading of passengers.

b. Loading and unloading of baggage.

c. Adding or removing cars and/or locomotives.

d. Setting out defective equipment.

e. Lay-over of trains and equipment.

f. Fueling and minor servicing of cars and locomotives.
6.2.3 TRACK (2020)

a. The track layout at any station should be designed to accommodate the planned schedule of trains stopping at that station, trains passing through it, sections combining or splitting, special cars on or off, locomotive changes, delayed trains, special movements, and future increases in traffic. The track layout should not be solely designed around a specific timetable, since train schedules can be altered very quickly.

b. Sufficient lead tracks should be provided to permit at least two simultaneous parallel movements. The track layout should be sufficiently flexible to provide for complete interchange of routes. A ratio of three station tracks to one lead track should be adequate if the lead is properly designed.

c. The track layout should be designed with the length between turnouts as required for the proper signal indications and necessary clearances for operation of track circuits so that a system of fixed signals or interlocking may be installed whenever desired without restricting the use of any of the routes or the necessity of additional track changes.

d. The number of station tracks should be determined by the schedule of trains and switching desired; allowances for delayed or special trains, schedules changes, and future expansion; layover time and the proximity of the passenger yard; track lengths available; and the type of operation used. Servicing may be performed in the station when a maintenance facility is not available.

e. The track length is determined by the size of the consists operated, the maximum platform length required, and allowances for flexibility in the assignment of tracks for the longest trains.

f. Through track stations are preferred to stub track stations from an operational standpoint. Loop tracks are preferable to wyes and generally expedite service at terminal points when nonreversible equipment is used.

g. Freight or industry connections on the station approach tracks or on lines within or adjacent to the terminal zones should be arranged to avoid or minimize interference with passenger train traffic.

h. It is generally acceptable at stations where dwell time is less than 10 minutes to provide platforms adjacent to the main line trackage. Where other activities such as section splits occur, a separate station track is usually necessary.

i. At stations where freight movements are anticipated through the station area, dedicated freight tracks or freight mains should be considered to minimize conflicts between freight and passenger operations, such as at platforms where the loading/unloading of passengers is performed.

j. When a station is on a rail line that carries freight and passengers, and high-level platforms are required, it will be necessary to provide a separate station track, as the high level platforms do not accommodate the horizontal clearances required for freight operations.

k. When a new station site is being considered, it is preferred that the station and platforms be located on tangent track to provide the best visibility for passengers and train crews and avoid excessive gaps between high-level platforms and equipment.

l. Track grades adjacent to platforms should be as flat as possible.

m. The station site should be well drained.

n. There should be no grade crossings within the limit of the proposed platforms, or for approximately 500 feet beyond each platform end.

o. Station tracks should be designed with the ability to accommodate future expansion of train length when possible.
p. Station environment must accommodate placement of signals in stations, or rules must require operation at restricted speed until the next signal can be seen.

q. When stations are expected to operate with high volumes of ridership or adjacent to high ADT roads, grade separations are recommended.

r. Tracks in multiple track stations should be spaced such that intertrack fencing can be installed without the need to provide flaggers when maintenance is performed on adjacent tracks.

SECTION 6.3 PASSENGER TRAIN YARDS

6.3.1 GENERAL (2015)

a. It is desirable that a single coach yard and its associated facilities for car inspecting, repairing, cleaning, watering and stocking be an integral feature of every large passenger terminal, whether or not more than one railway is accommodated. It is definitely preferable to have all coach switching performed by and under full control of the terminal management either as a joint operation or as a separate company. Separate facilities may be provided for particular trains or types of equipment, although the servicing of all passenger train equipment in a single yard is preferable.

b. The location of a coach yard should be determined by the economic balance among the following factors:

(1) Available sites.

(2) Land values.

(3) Cost of construction.

(4) Proximity to the station and other facilities.

(5) Nearby utilities.

(6) Cost of moving equipment between station, coach yard and engine house.

(7) Possible need for future expansion.

c. The capacity required in a coach yard depends upon:

(1) Number of cars and trains to be handled.

(2) Type of equipment.

(3) Level of maintenance.

(4) Schedule of equipment layover.

(5) Frequency of cleaning.

d. The ability to secure the proposed yard against trespassers to reduce theft and vandalism should be considered.
6.3.2 ACTIVITIES (2015)

The yard activities that tracks and track configuration have to support may include, but are not limited to:

- Lay-over of trains and equipment.
- Storage of cars and locomotives.
- Cleaning of cars and locomotives.
- Restroom and toilet cleaning and servicing.
- Switching and handling of trains.
- Repair of cars and locomotives.
- Fueling and inspection of equipment.
- Welfare and layover facilities for crews.

6.3.3 TRACKS (2015)

- There are two general types of coach yard layouts: Stub track and through track. Through track yards may be operated as two systems of stub tracks. Operation is most efficient in a system of through tracks.

- Tracks of equal length and equal to the length of the longest trains provide the greatest operating efficiency.

- An alternating spacing of 28 feet/20 feet between track centers is desirable for tracks on which car and locomotive servicing work is done. This allows service vehicles to pass each other on the wide platform and utilities to be centralized on the narrow platform. Where platforms between tracks are obstructed by supports to overhead service lines, brake shoe racks or above-platform service outlets, such obstructions should be located off center of platforms to provide a wider passageway on one side. Obstructions may require increasing the track centers to allow service vehicles to clear. Obstructions must be located so that they do not foul minimum State clearance requirements. Utility equipment should be placed on the narrow platform at convenient locations.

- Tracks used for storage of extra cars do not require particularly wide spacing or any special car servicing features other than utilities necessary to support the car's equipment while idle.

- Tracks with wide centers are usually arranged in groups at the leads to facilitate switching. Auxiliary leads and tail tracks of ample length should be provided.

- Curvature of tracks should not be less than 450 feet radius through turnouts or otherwise. Make-up tracks should be as straight as practicable to afford long sight lines for operating crews.

- Tracks should be placed on as nearly a level gradient as possible.

- A wye or loop track should be provided for turning equipment. Movements on a loop track are more expeditious and are preferred.

- Special tracks for making up or breaking up trains are sometimes required.

- Only light or running repairs are normally made in a service yard. Cars needing additional work are usually switched to a Car Shop.
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k. Yards must be well drained.

l. In the interests of cleanliness, sanitation, and possible reduced maintenance expense, consideration should be given to track constructed on longitudinal concrete slabs with paving between slabs to present a completely paved area which can be washed. Such construction is particularly desirable for tracks at commissary platforms or on which diners are restocked.

m. Yard trackage is the most inflexible item in a yard. Due to severe curve and grade restrictions, all buildings and utilities should be located after the necessary track and leads are designed.

n. Where tracks will be surrounded by platforms, consideration should be given to the use of concrete ties as any future tie removal will be very complicated.

o. In regions with significant snow fall, locations for snow storage or alternative means of snow removal/disposal should be considered.

p. When proposed consists will include locomotives, additional considerations are appropriate. Fueling, inspection, collection of sanitary holding tanks, and collection of retained fluid tanks are all functions that may have to be accommodated.

SECTION 6.4 UTILITIES


a. Steam standby connections, if needed, should be provided at all tracks on which cars will stand without a locomotive attached. For stub tracks, steam connections should be located at the ends, one connection for each track. For through tracks they should be placed to serve each track at the point or points where the rear of a train would normally be placed and an inside derail protection when in yards. Pressure of 125 lb delivered through a 2-1/2 inch connection is standard. Appropriate control and bleed valves should be provided. Locomotive boiler water facilities may also be needed if steam generators are utilized. Steam may also be used for thawing, cleaning, and heating. Due to rapid pipe deterioration, steam lines should normally be built above ground or in accessible underground tunnels. Steam pipes must be anchored and thermal expansion controlled through the use of expansion joints or loops.

b. Compressed air connections should be provided at all tracks where the method of operation or servicing requires that an air brake test be made while the train is standing without locomotive attached. Air pressure should be between 120 and 140 lb and be delivered through 1-1/2 connection with appropriate control and bleed valves. Compressed air may also be used for cleaning and portable tools. If used in this manner, connections of 3/4 inch size should be distributed as needed so that no more than 100 feet of hose is normally necessary. Tool outlets should be provided with a regulator to reduce pressure to match tool working pressures.

c. Natural gas may be used for building heating. Pipe routing should be shown on site plans and the pipe identified at convenient intervals. Appropriate measures should be taken to ensure that if a pipe is ruptured the utility involved can be notified as soon as possible. These measures would include ready availability of pipe plans, utility phone contacts, and easy accessibility to shut off valves.

d. At yards or stations where train equipment may be watered, hydrants spaced two car lengths apart, preferably serving two tracks, should be provided. Where station dwell time is short, hydrants may be spaced for every car. Water service should be distributed so that no more than 100 feet of hose is necessary to reach a car. Water hydrants in yards are usually placed on alternating platforms allowing service vehicles an unobstructed path on non-utility platforms. Freeze protection should be applied where necessary. If backflow preventers are required, a heated cabinet is preferable. A potable connection of 1 inch size should be provided for car watering and a minimum 3/4 inch non-potable connection
may be used for washing purposes. By looping and interconnecting water pipes, a better flow pattern can be achieved. Adequate control valves should be installed to allow sections to be taken out of service without affecting all operations.

e. Adequate drainage should be provided to drain track structures, catch paved area runoff, and collect roof drainage. Where necessary, piping should be separated to allow for treatment of polluted wastes. Sanitary drainage should be kept separate until delivered to city facilities, if available.

f. Pipe lines may be installed for fuel oil, lube oil, sand, cleaners, foam, and other specialized products. These and all other pipe lines should be identified at adequate intervals. A spill prevention plan is usually necessary for such installation.


a. Adequate power supply should be designed to handle current needs with at least 50% available for expansion, if anticipated. Building supply of 480V/277V is common along with 208V/120V systems. Where required, head end train standby should be provided at the end of the platform corresponding to the end of the train not subject to switching. Modern North American systems provide 480V 3 phase standby for train power. Amperes of 400, 800, and 1600 are standard. Recording ammeters are useful in determining consist power requirements. Equipment and climate variations preclude the use of universal sizing by train length. See Chapter 33, Electrical Energy Utilization for more information. Older 240V 3 phase 100 amp standby may also be provided for steam heated equipment with outlets provided so that no more than 100 feet of cable is necessary to reach each car. Convenience outlets of 120V may be provided where necessary such that cord lengths do not exceed 200 feet. Electric vehicle charging stands should be located so as not to disrupt operations while vehicle is being charged. Emergency platform standby power systems should be considered. Block heater outlets are necessary in parking lots in certain areas of extreme cold. Electrical power may also be required to support the needs of trains equipped with Head End Power (HEP).

b. Platform lighting should be provided at a minimum 20 foot candle level. Parking lot illumination should be a minimum of 5 foot candles. Walkways, entrances and signage should be lit at an appropriate level taking into consideration adjacent lighting and security requirements.

c. Telephone service should be provided as needed. A trunking capability of at least three times current use should be requested to ensure easy future expansion, if anticipated. Consideration should be given to interconnecting telephone and other company communication systems to allow for faster information flow. Platform jacks may be provided to permit the connection of train telephone systems.

d. Yard lighting should be provided where work at night is common or security is desired. A 5 foot candle minimum will generally provide acceptable night lighting. Lights should be mounted as high as possible to reduce shadowing between cars. High pressure sodium lighting is currently the most energy efficient source although it does alter color perception. Mercury vapor or metal halide lighting should be used if color perception is important.

e. Train status reporting systems covering waiting rooms, gates, and platforms should be provided as required. Equipment ranges from simple moveable sign boards to elaborate video and flip-sign systems where the entire system is interfaced with the train operations.

f. Public address, intercom, talk-back, and message tube systems may be included in yards. They speed problem resolution and increase security. Public address systems should be provided to reach all station areas including the platforms. Microphones or telephone deluxe paging may be used to initiate announcements. By designing such facilities in advance, wires can be installed underground avoiding weather and vehicle contact. Particular care should be used when determining control and terminal locations to avoid conflicts between operating hours of those locations and other users. Spare ducts should be provided in all duct banks, where possible, for future expansion.

g. Adequate conduit should be provided in buildings to carry radio antenna wires to the roof. As the FCC limits the number of broadcast stations in a close area, consideration should be given to remote base stations when needed. Radio
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antennas should be located so as not to detract from the facility but allow clear coverage to the entire site. See Chapter 6, Buildings and Support Facilities for roof penetration information.

h. Signal, fare control, computer, fire, security, and alarm systems should be designed carefully in advance of construction on a master plan to avoid overhead wires and afterthought appearances. Video cameras can be used for security, car observation, drawbridge control, and to improve existing sight lines. Since they require power, an adequate source must be identified before locations are committed. Signal systems, when present, should be interfaced with yard operations to avoid excessive radio or intercom use.
The following Terms are used in the various Parts of Chapter 14 Yards and Terminals and are defined here. These definitions apply only to those Parts in which they are cited as Terms since they may have different meanings where used in other Parts. Textbook definitions of all terms included in the Chapter are not included in the Glossary as it is assumed that engineering professionals are the intended users of the Manual; however, some basic terms were included in the belief that they may be less commonly used by engineers with less railroad-related experience.

**Advance Tracks**

A track somewhat longer than the maximum train length, or freight main tracks extending to or beyond the outside of the yard, in either direction Term cited in 2.3.6.5a.

**Block Swap**

A group of cars heading to the same destination is called a block. The operation where a block is placed in a siding or yard track to be exchanged between trains or operators is known as the swap. Block swaps may include exchanging crews, and/or road power.

**Body tracks**

*Synonyms: Bowl track or Class track.* Parallel tracks in a railroad yard upon which cars are switched or stored. Term cited in Figure 14-2-1 and 2.5.3.1b.

**Car Throughput**

The rate at which cars will be expected to be processed through the classification yard. Term cited in 2.4.5.4.

**Double yard**

A double yard has two separate classification body track areas and switching ladders to handle each direction of traffic separately. Term cited in 2.3.2.

**Drilling**

*Synonyms: Switching.* The back and forth motion of locomotives and cars during switching operations. Term cited in 2.4.5.3.

**Flat Yard**

A yard where cars are moved by a locomotive on relatively level tracks as opposed to over a hump.

**Gravity / Hump yard**

A classification yard where the classification of cars is accomplished by pushing them over a summit, known as a "hump", beyond which they move by gravity into their assigned track. Term cited in 2.3.2 and 2.4.1
Kicking
Uncoupling cars from the switching locomotive while in motion, allowing the cars to roll freely to other rail cars where they are expected to couple upon impact.

Ladder tracks
A lead track in which turnouts (switches) are placed connecting successive body tracks in a railroad yard. Term cited in 2.4.1b, 2.5.3.1c, 2.7.2.3 and 2.7.2.4.

Local yard
A yard intended to handle local traffic within a larger classification yard complex. Term cited in 2.4.1b, 2.5.3.1c, 2.7.2.3 and 2.7.2.4.

Marine Dock
A marine structure at which ships or barges are moored. A dock constructed parallel to the shoreline is typically called a "wharf", while a dock constructed at an angle, ranging from acute to right to the shoreline, is called a "pier". Term cited in 4.1.3.1.

Material Supply Tracks
Tracks for Stores and Maintenance-of-Way departments. Term cited in 2.3.6.5f.

Pin-Puller
A railroad employee responsible for uncoupling cars. Term cited in 2.4.1g.

Point Protection
Crew member on or observing movement of the lead car in the direction of movement. Term cited in 2.7.3.

Recommended Practice
A material, device, design, plan, specification, principle or practice recommended to the railways for use as required, either exactly as presented or with such modifications as may be necessary or desirable to meet the needs of individual railways, but in either event, with a view to promoting efficiency and economy in the location, construction, operation or maintenance of railways. It is not intended to imply that other practices may not be equally acceptable. Term cited in Foreword, footnote 1.

Remote Control Zone
One or more tracks within defined limits, within which remote control locomotives, under certain circumstances, may be operated without an employee assigned to protect the pull-out end of the remote control movement, i.e., the end on which the locomotive is located. Term cited in 2.7.3.1 and 2.7.3.3.

Retarder
A braking device built into a track to reduce the speed of rolling cars. Examples are Powered, Inert, Hydraulic and Pneumatic Retarders. Term cited in 2.3.6.5e, 2.4.1.t(2), 2.4.3.2c and 2.4.5.3.

Scale Track
A track fitted with a scale mechanism to permit the weighing of cars. Term cited in 2.3.6.5c.

Shove Indicators
Synonyms: Clearance Indicators. A signal indicator used to convey the distance to the clear point or stopping point along a track, or to convey to yard operators instances of cars moving beyond the clearance point on a track. Term cited in 2.3.5f.
Glossary

Shoving
Moving cars into a body track where they are not uncoupled from the switching locomotive until they have been coupled to other cars in the body track. Term cited in 2.3.3f.

Standard Lead Ladder
Ladder tracks arranged such that the angle of the turnout does not change. Term cited in 2.6.5.1.

Storage tracks
Tracks to ease yard operations where many cars are held to supply local industries or on-line customers. Term cited in 2.3.6.5d.

Switching lead
*Synonyms: drill track, pullback, trim track or yard lead.* A length of track ahead of the ladder track where cars are pulled out of a yard (body) track and placed into another yard track. Ideally, this track is longer than longest yard track. Term cited in 2.3.6.2, 2.7.2.1, 2.7.2.3 and 2.7.3.1.

Tandem Ladder
Ladder tracks arranged such that the angle of the turnout is doubled. This arrangement creates internal switches. Term cited in 2.5.4.2.

Tandem turnout
*Synonyms: inside switch.* Used in a tandem ladder. The second of two turnouts, where the first turnout comes off the ladder track and the second turnout comes off the track created by the first turnout. Typically, the switch ties (head block ties) cross under the ladder track. Term cited in 2.5.4.2.

Thoroughfare tracks
Tracks normally kept free of standing cars for use in moving locomotives and cars from one end of a yard to the other without fouling the main tracks. Term cited in 2.3.6.5b.

Yard Air
Used on freight cars that are disconnected from the locomotive to maintain air pressure and permit the testing of air brake equipment. Term cited in 2.3.3e and 2.6.5.4.
The following list of references used in Chapter 14, Yards and Terminals is placed here in alphabetical order for your convenience.

1. *Assessment of Classification Yard Speed Control Systems*, SRI.


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