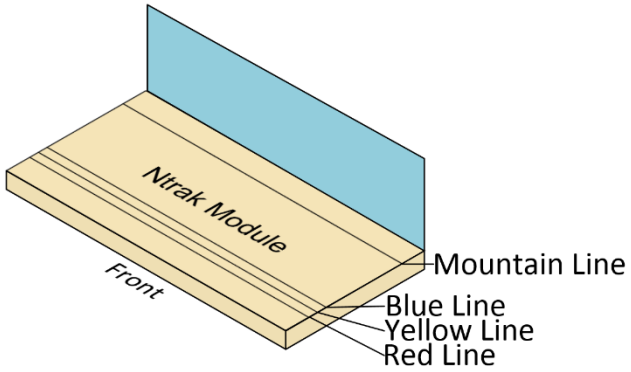
PNR Operations Overview



The main goal of this model railroad operations game is to simulate the railroad industry by using freight trains to move rolling stock to and from local businesses. Operators are faced with the complex puzzle of how to move specific freight cars from the middle of a train to a railroad siding using only push and pull movements in a finite space.

This system was created for the Pacific Northwest Region 4dNtrak NRMA model railroading group to provide a means of performing structured switching operations on a dynamically changing layout during exhibition shows. To create a game, we have the ability to choose which NTrak and oNeTrak modules will be available for an operating session on a particular layout. From those modules selected, a switch list sheet of available industries can be created, and optionally, movement orders can be printed in the form of individual waybills.

The Pacific Northwest Railway

1. Player roles

a. Dispatcher
   i. Coordinator of layout staffing operations.
   ii. Assists Yard Masters with Car Card management.
b. Yard Master
   i. Assigns rolling stock to handle selected waybills.
   ii. Blocks together trains for Train Operators.
c. Train Operator
   i. Assigned a DCC throttle and transfers equipment or passengers from module to module.

2. Types of trains

a. Long distance trains
   i. Looping trains of any type, highest priority right-of-way. Other traffic must yield.
b. Local passenger trains
   i. Consisted together, generally not broken up.
   ii. Runs a route from waybill to/from locations, and stops at all stations in between.
c. Yard transfer trains
   i. Blocked trains to move <u>empty</u> equipment from yard to yard, one way, to help free track space.
d. Sweeper trains
   i. Clears "<u>Off Layout</u>" and orphaned rolling stock from the layout to a local yard.
e. Local freight trains
   i. Delivers to local industries and returns empty equipment to yards.

Operating the Layout

3. How to use Car Cards

a. Locomotive cards
    i. Contains Road Number and DCC address.
b. Car cards
    i. Train orders are card decks split between the Yard Masters.
    ii. Car type, Cargo, and Waybills are predefined and printed.
    iii. Each train car is assigned a single car card. Cards representing a "set" of cars should be avoided.
    iv. Car cards are assigned by Yard Masters, and must accompany rolling stock at all times.
    v. When a train car reaches a destination, that destination should be crossed out on the car card to help identify the route history of the train car.
c. Card lifecycle
    i. The 1st operator is assigned a locomotive and a series of car cards representing a train. An associated freight car is picked up from a local yard and is delivered to the waybill "from" load point. When delivered, the relevant car card remains in the module's industry card box with the current location crossed out.
    ii. The 2nd operator servicing an industry collects the car card from the industry box, adds the rolling stock to their train, and delivers it to the waybill's "to" unload point. The car card is again deposited in the module's industry card box with the current location crossed out.
    iii. The 3rd operator servicing an industry collects the car card again, and this time delivers both card and "empty" rolling stock to the specified return yard. The card is then given to the yard master.
d. Servicing industries
    i. The goal of the operator is to deliver all assigned rolling stock, return all empty cars to the assigned yards, and return the locomotive to its assigned yard.
    ii. Operators can elect to pick up existing rolling stock at industries currently being serviced to deliver the cars to the next destination.
    iii. If the loading track at an industry is full, the operator must collect all waiting rolling stock, but not to exceed the maximum train length.
e. End of game parameters
    i. The operator has delivered all rolling stock in their assigned train, possesses no car cards, and has returned to their assigned yard.
    ii. Or, the operator has only "empty" rolling stock and has delivered it to the destination yard.

4. Session Rules

a. Maximum train length
    i. Freight trains have a maximum length of 12 cars at any time.
    ii. Local passenger trains have a maximum length of 6 cars at any time.
    iii. Yard, sweeper, and local freight trains are permitted two “four axle” locomotives or one “six axle” locomotive.
    iv. Passenger trains are permitted two locomotives.
b. Cabooses
    i. Freight trains must have a caboose when moving from module to module, but may disconnect when delivering to local industries.
    ii. The caboose cannot be used to push or pull more than two cars at a time.
c. Hazardous Materials
    i. Freight cars containing hazardous or flammable materials (chemicals, fuels, gasses) must be at minimum one car away from the locomotive and caboose at all times.
d. Train consists (married pairs)
    i. A single car card is assigned to two or more actual freight cars for bulk shipping.
    ii. If the entire consist cannot fit into an industry siding, the remaining cars must be returned to the destination yard.
e. Track Priority
    i. Main lines running long distance trains cannot be blocked at any time.
    ii. All freight trains (except long distance trains) yield to local passenger trains.
    iii. Freight trains are expected to keep main lines accessible to through traffic while switching local industries.
f. Maximum speed
    i. 30 MPH speed restriction near industries (approx. 3’ in 10 sec).
    ii. 60 MPH for long distance trains.
g. Cars delivered “Off Layout”
    i. If a destination is marked “Off Layout” on a car card, that car should be delivered to a location specified by the dispatcher.