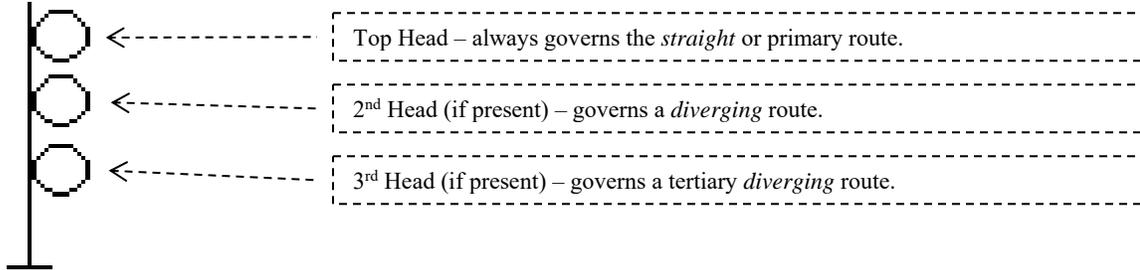


TMRR Signals

Solid Red = Stop; Otherwise Go.

Train Mountain signals use multiple heads to indicate which route ahead is selected. The signal has one head for each possible route. Only one head will be active at any given moment, all other heads will display red. If no route is permitted, all heads will be red.

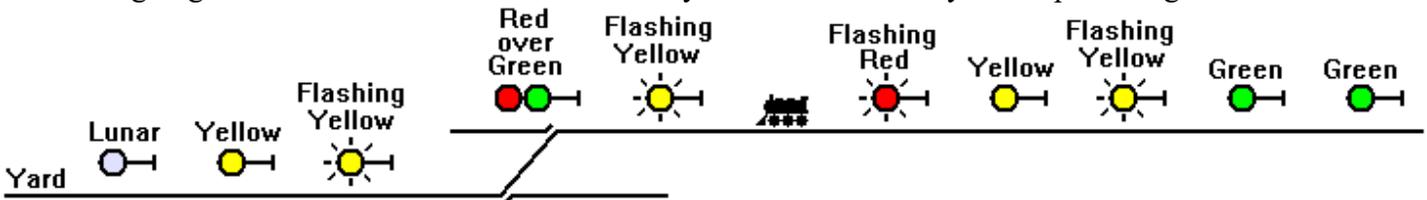


Colors are used to indicate the presence of trains ahead on the selected route. These colors can be displayed on any of a signal's heads, thus forming a matrix of possibilities.

Head Color	Summary	Meaning
Green	GO	Proceed. The track ahead is clear
Flashing Yellow	GO	Proceed, slowing down by the time you reach the next signal
Yellow	GO	Proceed, preparing to stop at the next signal
Lunar White	GO	Proceed "on-your-own". Used for entering a yard.
Flashing Red	GO	Proceed "on-your-own". There is a train immediately ahead.
Red	STOP	Do not pass the signal.

This system of combining color with head position is typical of railroads in the western US. These rules most closely resemble the Burlington Northern.

The following illustration shows a progression of signals. Displaying them in this context helps clarify their usage. Behind a train is a flashing red - a following train may proceed cautiously, prepared to stop immediately. Behind the red is a yellow - a following train must be prepared to stop at the next signal. A flashing yellow behind the solid yellow is becoming customary on real railroads. It gives additional distance in which to slow down. Ahead of the train is a crossover. For this diverging/secondary route, a green is displayed in the second head. Real trains would need to go slow over diverging switches and the preceding flashing yellow provides the warning to get slowed down. The train enters the yard on a lunar with yellows preceding.



Two route possibilities at each signal = two heads each.

- Top head governs straight route.
- 2nd head governs diverging route across crossover

Route request box.

For trains returning from the K&W

Route request box.

For trains entering the main track from the Fuel Yard. If you requested a route back at the K&W switch request box, you do not need to re-request your route.

Two route possibilities at each signal = two heads each.

- Top head governs straight route.
- 2nd head governs diverging route.

Two route possibilities = three heads.

- Top head governs route straight route to Grand Jct.
- 2nd head governs crossover route to Grand Jct.
- 3rd head governs route diverging route to K&W

Grand Jct Signals

There are five route possibilities approaching the K&W switch and Grand Jct. area. The route to the Klamath & Western is the first possibility. Grand Jct. provides four more possibilities.

Trains are able to select their desired route with five push buttons located on the route request boxes at the K&W switch.

The signal system has been designed to accommodate the possibility that you are following another train. You do not need to worry that requesting a route at Grand Jct. will affect a train ahead of you. The turnouts will be aligned for your train when the circuitry determines it is safe to do so. *But you must be patient and not pass any solid red signals.*

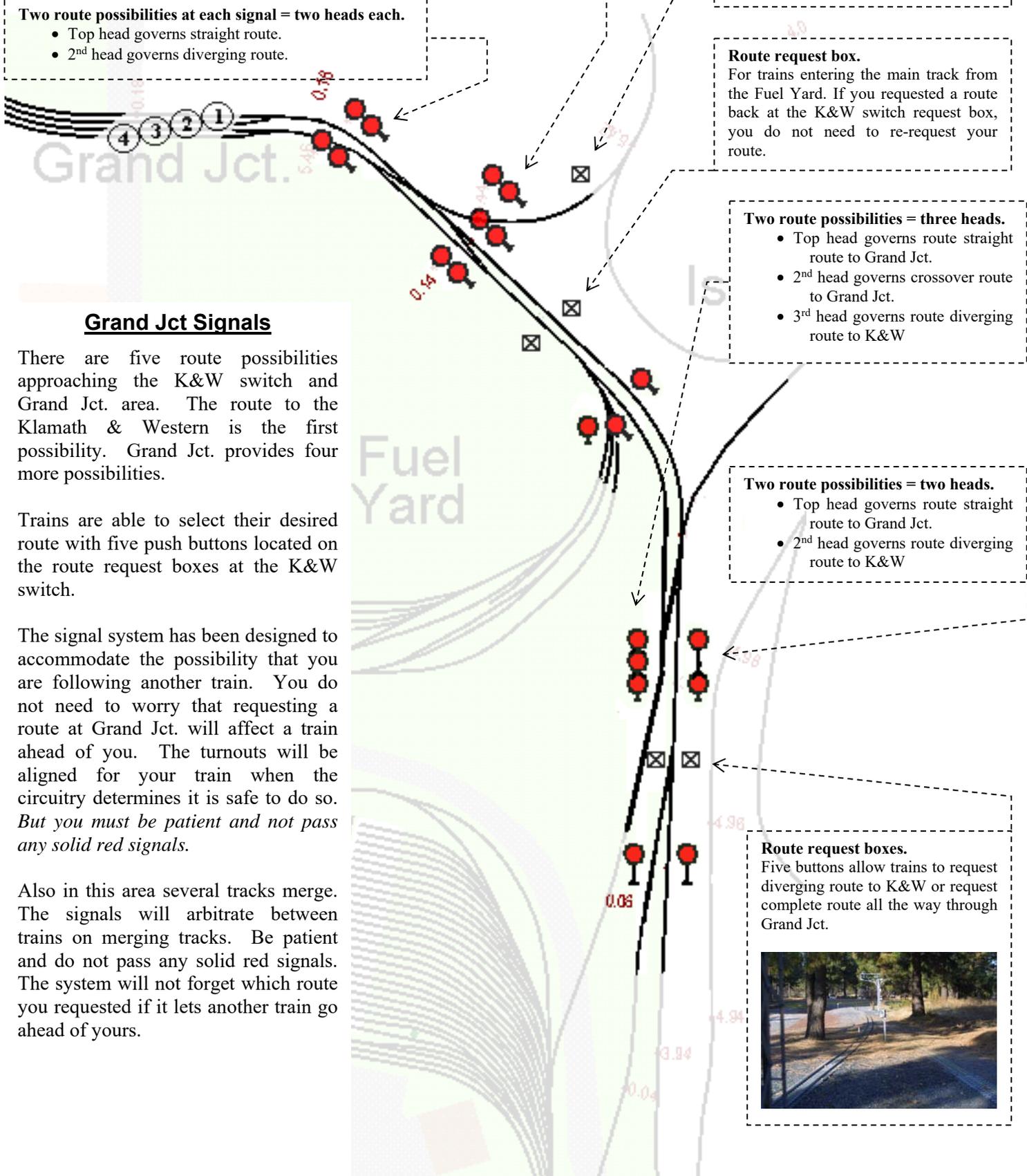
Also in this area several tracks merge. The signals will arbitrate between trains on merging tracks. Be patient and do not pass any solid red signals. The system will not forget which route you requested if it lets another train go ahead of yours.

Two route possibilities = two heads.

- Top head governs route straight route to Grand Jct.
- 2nd head governs route diverging route to K&W

Route request boxes.

Five buttons allow trains to request diverging route to K&W or request complete route all the way through Grand Jct.



Three route possibilities = three heads:

- Top head governs Central Bypass (straight) route.
- Middle head governs route to Central Station.
- Bottom head governs route to Backshop / Main Yard.

Push button box mounted on wall just inside tunnel portal provides an alternate method of selecting route.



NOTE: Buttons will not work if the front of your train is past the signal.

Warning:

The light beam request circuitry may throw the turnouts at any moment, but only when:

- The signal is solid red, and
- No train is on the turnouts.

Therefore, never pass this signal when it is displaying a solid red. Always make sure the signal is displaying a “proceed” indication to ensure that the turnout will not throw in front of your train.

Long Tunnel Signals

There are three route possibilities upon exiting the long tunnel. The leftward route leads to Central Station. The rightward route leads to the Main Yard. The center (straight) route leads to the Central Bypass.

Trains are able to select their desired route using an in-motion route selector. Mounted on the Cox bridge are two light-beam detectors that shine down on reflectors on either side of the track. Requesting a route is done by extending an arm to break the light-beam as follows:

- Left arm extended requests left route to Central station.
- Right arm extended requests right route to Main Yard.
- Both arms extended requests straight route to Central Bypass.
- Neither arm will preserve the previous route.

Trains must maintain at least 10 seconds of separation for the detectors to properly distinguish separate trains.

The system has been designed to accommodate the possibility that you are following another train. You do not need to worry that breaking a light-beam will affect a train in front of you. The switches will be properly aligned for your train when you exit the tunnel.

This signal borrows some indications from the NORAC* rulebook to indicate what route to expect exiting the tunnel. Yellow over Green indicates a left route to Central Station. Yellow over Yellow indicates a right route to Main Yard



Engineer extends left arm to request route to Central Station.

*NORAC (Northeast Operating Rules Advisory Committee) is the rulebook adopted by Amtrak, CSX, NS, and other eastern railroads. It is based on their predecessors' rulebooks.

