

Full Sized O-Scale in a Spare Bedroom

Anyone can build an O-scale layout in a warehouse, but could I make a layout with a real operating purpose (not just a figure-8) that fits in a small bedroom?

Here was the criteria:

Typical small bedroom (10' x 10' with a side entrance). Inward swinging door can be removed.
Layout had to be designed for FULL SIZED O-scale models (e.g., O-54 diameter curves minimum).
Had to handle BIG passenger cars and locomotives (e.g., 72' coaches and A-B configured locomotives).
Was to use the MTH ScaleTrax track, and have sufficient "finger room" between tracks for uncoupling.
Conscientiously keep costs down by only using the minimum amount of switches actually needed.
Trains could be physically handled in order to "stage", and scenery could be PaperCraft constructs.
Had to represent a portion of a believable railroad, but train lengths could be unprototypically short.

This layout represents a late 20th century shared passenger car and passenger locomotive maintenance facility (we assume that some railroads keep their allowed option to remain independent from Amtrak). It is very small, because it is located in an urban setting near the compact passenger yard of a large passenger terminal. Maintenance facilities are a good modeling choice, as they require lots of switching, yet "trains" are usually just one car/locomotive long. Where possible, curves gently spiral inwards.

All layout track is O-scale MTH ScaleTrax. The transfer table will have to be custom built, and will incorporate ScaleTrax. Buildings will be PaperCraft constructs. Track is intended to be powered by MTH DCS (or optionally DCC), but I would recommend dividing the layout into multiple isolated blocks, so you could power older locomotives conventionally (they won't need to do any coupling). Cars are always manually uncoupled from each other physically, but DCS/DCC allows automatic locomotive uncoupling.

The centerpiece of the layout is a 30-inch long transfer table. This table is long enough that it can handle a full length 72' passenger car with a short switcher, or a long A-B diesel set. This table services fourteen tracks, which besides being a space saving necessity in an urban environment (and in the bedroom), it is a great value when you consider the cost of all the switches it replaces. Besides, it adds huge fun value.

The first three tracks on the upper left of the transfer table lead into the repair building. This building can accept cars/engines up to 21 inches in length for both routine inspection/maintenance, and for light locomotive and light to moderate passenger car repairs/modifications. The building has inspection pits, and is tall so that a double overhead horizontal transfer crane can move wheels or lift car bodies. Behind the building is a full machine shop with an office and a break room. For visual interest, behind the machine shop is a Lionel Microwave Relay Tower so that the mechanics can stay in radio contact. The lowest bay has a rear door through which the track extends. There is no length limit to this track, as it lines up with a table entrance track. Dead engines that with a switcher would be too long for the table, as well as regular repair parts deliveries, are often pushed into the building using this track.

The fourth track also has no limit, as it also lines up with a table entrance track. If you have a slightly wider bedroom, I recommend extending this track so you can use it to park idle work trains and such.

The lower three tracks are primarily used for parking bad order passenger cars awaiting service. They can accept cars/locomotives totaling up to 30 inches in length.

The track on the upper right leads into a paint shop, which can accept cars/engines up to 21 inches in length. Behind the building is the electrical substation for the entire facility.

The second track is slightly longer than the transfer table. Usually a Lionel Mobile Generator Car is parked here for scenic interest. When not actually required for an emergency on the road, the car is kept connected to the substation as an emergency backup generator. The 15 inch track section on the end of the spur where the car is parked also has an Action Car Activator. This track is electrically isolated from the rest of the layout, so a parked car can exclusively pull variable voltage track power. The 20 inch track section just ahead of this segment receives normal layout power.

The next two tracks are entrances to the transfer table, and they also serve as a runaround (this is the only piece of flex track used on the layout). In other words, if a passenger car needs for example to move a passenger car from the repair building to the paint shop; the switcher will pull the car onto the transfer table, pull the car onto one of these tracks, uncouple and run around, pull the car back onto the table, then push the car into the paint shop.

The lower three tracks are primarily used for parking passenger locomotives that are laying over. They can accept locomotives/cars totaling up to 30 inches in length.

The transfer table entrance tracks come together at the end of the passenger yard lead track (ideally the yard should have its own dedicated lead, but space did not allow). Following this track, you come to two switches, which lead into the diesel passenger locomotive fueling and sanding area. The spur on the right is long enough for steam generator equipped passenger cars or A-B/A-A diesels. The spur on the left is shorter, and also doubles as the track where sand and fuel is resupplied. For visual interest, I suggest substituting an animated K-Line Operating Diesel Fueling Station for the lower platform half.

The next switch leads to the Wrecker parking track. This is a great place to show off your specialty equipment, but if you don't own any, you could use this track for parking unused baggage cars, business cars, "heating cars" (a car fitted with a steam generator so that a freight engine can heat older passenger cars), or even an Aerotrains. Just for fun, an Action Car Activator track was placed at the end of the spur.

The last switch leads into a four track passenger yard built around a curve. Here passenger trains are broken up, and the cars are cleaned internally, resupplied, and sometimes even given a light exterior hand wash. Here also is where a few pool cars can be stored. The service buildings are off-layout, at the end of the platforms which extend past the spur ends. Note that occasionally a single car might have to be sent to the station, or a single empty baggage car sent to the off-layout express depot.

Just past this turnout is a single semaphore signal that leads into the staging track. A semaphore is easier to read from across a room, but you may want to substitute a colored light signal as it does not require a motor. This is a real working signal, that indicates to layout operators whether the staging track is occupied (it is manually toggled red/green from the "staging" location at the end of the track). I do mean operators, as this layout is capable of being operated by two people simultaneously.

This track now becomes the track that travels to the station. At the end is where you can "stage" locomotives, or strings of passenger cars for switcher pickup, by physically placing them on the track. If you wanted, this track could be hidden behind a thin view blocker (this is why the reminder signal is important). If you choose the view blocker, I suggest you leave the corner open as a small access hatch.

Example of a Train Ballet

Passenger train 5 arrives at the downtown station. This is simulated by physically placing four coupled passenger cars onto the staging track, followed by a short gap, then the passenger road locomotive (head end cars in use were assumed cut off and delivered elsewhere "off-layout", so won't be staged).

The passenger yard switcher now travels down staging track and couples onto the four cars. Cars are pulled past the passenger yard turnout, then pushed into the yard for the cleaning crew to vacuum the insides and hand wash the exterior. Servicing status of each car is tracked on the yards status board.

One of the cars has a mechanical problem, so the car is cut out, and the switcher pulls it up to a transfer table entrance track. The switcher uncouples the car, moves onto the table, shift to the other entrance track, then runs around and recouples the car on the opposite side. The car is then pushed onto the table, the table shifts to an unoccupied repair building track, and the switcher pushes the car inside.

Meanwhile, the passenger road locomotive that pulled train 5 into the station now travels down the staging track into an unoccupied refueling track. If necessary it can pause until the yard lead is clear.

Passenger train 6, which uses the same consist as train 5, is scheduled to leave the station soon. The switcher travels back to the yard, and rebuilds the train. Because one of the cars is now in the shop, the switcher must substitute the missing car with one taken from the yards car pool.

Meanwhile, the road locomotive is now serviced, but is unneeded for a while. It backs out of the fueling area, moves to the transfer table, and parks on an empty layover track (or if scheduled for inspection, moves to the maintenance building first).

Finished with building the train, the switcher backs out of the yard with the four cars, then heads down the staging track to the station. Note that an off-layout "Y" track is assumed to lie between the passenger yard and the station, so the entire train could be turned around if need be.

After the switcher returns, an idle road engine now leaves its parking spot on the transfer table, then heads to the station to couple onto train 6. If need be, this locomotive could also use the "Y" track.

The locomotive and cars are physically removed from the layout, and a new train for the yard or a locomotive for fueling/inspection, is now staged.

CONSTRUCTION TIP:

It is possible to create the transfer table inexpensively, if you design the transfer area to function in a manner similar to a top desk drawer (equipped with weight holding and smooth gliding drawer slides). Mount the transfer track near the edge of this closed "drawer". Now to move the transfer track, you manually pull out this drawer gently until the transfer track lines up with the appropriate spur.