Layout Track Plans

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Model Train Layout Track Plans

These model railroad track plans have all been designed for the scale indicated, and can be freely copied as long as they are not sold or offered as part of a commercial product.

The grid on the plans, when it exists, is 1 x 1 foot for the scale indicated.
You can convert any plan to another scale if you want to use a plan in a scale other than the one it is designed for.

**O scale** = 1:48, **S scale** = 1:64,
**HO scale** = 1:87, **TT scale** = 1:120,
**N scale** = 1:160, **Z scale** = 1:220

The minimum radius on these layout plans is 18 inches so that there are more options regarding use of different locos and rolling stock. All industries indicated are SUGGESTIONS only. All industries indicated are SUGGESTIONS only.
Minimum Space HO Layout (4x4 feet)

Parts List - Minimum space layout (4x4)

1. Flex track (Minimum 3ft long)
2. 9” Straight
14. Full Section 18” radius
2. 6” Straight
3. Snap-Switch, left
2. Snap-Switch, right

Minimum Size HO Railroad. 4 x 4 feet.

This is about as small as you can get in HO if you
want to have continuous run, a turnaround loop, and
a few spurs to shunt. 1 of the 2 turnouts facing each
other on the right hand side of the plan needs to be
cut to fit the space available. Minimum radius is
18 inches. To get the most operation potential out of
this plan, you could have short old timer rollingstock.
Industries could include a coal mine, cattle loading/
unloading, and an old timer passenger depot.

There is a reasonable amount of space for scenery in
the middle of the track, and even around the edges.
To make it more interesting, you could have the track
raised about 6 inches above the framework, and have
some mountains and valleys, and maybe a river.
Switchback & Yardville Layout (8x4 feet)

Parts List - Switchback & Yardville layout (8x4)

2  Flex track (Minimum 3ft long)
7  9" Straight
4  22" Radius
29  9" Straight
8  Full Section 18" radius
4  22" Radius
1  3" Straight
1  1/2 section 15" radius
1  1/3 18" Radius
3  Snap-Switch right
6  Snap-Switch left
2  3" Straight
1  2" Straight

Wiring Switchback & Yardville
For Two Train Operation Step-By-Step Tutorial
http://www.model-railroad-resources.com/switchback-wiring-tutorial.html
Mainline & Industrial Layout (8x4 feet)

Parts List - Mainline & Industrial Layout (8x4)

- 2 Flex track (Minimum 3ft long)
- 22 9" Straight
- 17 Full Section 18" Radius
- 16 22" Radius
- 4 6" Straight
- 1 3" Straight
- 6 Snap-Switch, left
- 8 Snap-Switch, right
Mountain Railroad Layout (8x4 feet)

This railroad has plenty of switching, and also has the added interest of a fairly steep grade on the figure eight section. This plan will allow two train operation. This plan requires bridges on a slightly unusual curve and would suit those who want to try their hand at scratchbuilding a trestle bridge. There is also plenty of room to put in some fairly impressive mountains, and even a tunnel or two. This plan would suit OP units, or RS units. 6 axle locos would probably look out of place on a plan like this.

Parts List - Mountain Railroad layout (8x4)

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Part Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>flex track (Minimum 3ft long)</td>
</tr>
<tr>
<td>17</td>
<td>9&quot; Straight</td>
</tr>
<tr>
<td>20</td>
<td>Full Section 18&quot; Radius</td>
</tr>
<tr>
<td>12</td>
<td>22&quot; Radius</td>
</tr>
<tr>
<td>2</td>
<td>6&quot; Straight</td>
</tr>
<tr>
<td>3</td>
<td>3&quot; Straight</td>
</tr>
<tr>
<td>1</td>
<td>1 1/2&quot; Straight</td>
</tr>
<tr>
<td>7</td>
<td>Snap-Switch, left</td>
</tr>
<tr>
<td>5</td>
<td>Snap-Switch, right</td>
</tr>
</tbody>
</table>
Mineral Mountain Railroad Layout (8x4 feet)

- 5 Flex track (Minimum 3ft long)
- 29 9" Straight
- 21 Full Section 18" Radius
- 4 6" Straight
- 4 3" Straight
- 1 1/2 Section 18" Radius
- 11 Snap-Switch, left
- 6 Snap-Switch, right
- 3 Warren Truss Bridge

Track Layout inside tunnel. The turnouts inside the tunnel should be motorised, and the track should be easily accessible to fix any derailments, for track cleaning, etc. You can stable two trains in the tunnel sidings - one eastbound freight and a westbound freight. These two trains would drop off or pick up cars to or from the branch line.

Mineral Mountain Railroad
Size: 8 x 4 feet
This layout has the added advantage of having a tunnel to hide a train or two in while the branch and sidings are shunted. The 0", 2", 5" and 6" notations are the height above baseboard level for the associated tracks (in inches).
Spaghetti & Western Railroad Layout (8x4 feet)

Parts List - Spaghetti & Western RR layout (8x4)

3  Flex track (Minimum 3ft long)
37  9" Straight
13  Full Section 18"
3  22" Radius
4  6" Straight
6  Snap-Switch, left
7  Snap-Switch, right
North East Line Layout (8x4 feet)

Parts List - Northeast Line layout (8x4)

2 Flex track (Minimum 3ft long)
26 9" Straight
19 Full Section 18" Radius
16 22" Radius
4 6" Straight
6 Snap-Switch, right
9 Snap-Switch, left

Wiring North East Line For Two Train Operation
Step-By-Step Tutorial
http://www.model-railroad-resources.com/north-east-wiring-members.html
Denver Rail Link Layout (8x4 feet)

Parts List - Denver Rail Link (8x4)

3 Flex track (Minimum 3ft long)
35 9" Straight
19 Full Section 18" Radius
2 1/3 18" Radius
8 Snap-Switch, left
4 Snap-Switch, right
Red River Railroad Layout (8x4 feet)

Red River Railroad
Size: 8 x 4 foot
For the modeller who has a standard 8 x 4 space, and wants to run a point to point railroad. Would suit the steam era, with its shorter freight and passenger cars. Industries could include a logging camp, coal / ore mine, sawmill and iron ore smelter. To make the distance seem greater you could invest in some low speed geared steam locos such as the shay or climax. The two 'A's are joined through a tunnel.

Other Features:
3 Passing loops - keep 2 operators busy
Some grades
Switch back into Mine siding
Reasonable sized yard
Room for some mountain scenery
A tunnel

Parts List - Red River RR layout (8x4)

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex track</td>
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<td>(Minimum 3ft long)</td>
</tr>
<tr>
<td>9&quot; Straight</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Full Section 18&quot; Radius</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>3&quot; Straight</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1 1/2&quot; Straight</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1/2 Section 18&quot; Radius</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Snap-Switch, left</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Snap-Switch, right</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Plate Girder Bridge</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>
Olympia & North Western Railroad Layout (8x4 feet)

![Diagram of Olympia & North Western Railroad Layout](image)

**Parts List - Olympia & North Western RR layout (8x4)**

2  Flex track (Minimum 3ft long)
32  9" Straight
15  Full Section 18" Radius
4   22" Radius
1   90° Crossing
2   6" Straight
2   3" Straight
10  Snap-Switch, left
9   Snap-Switch, right
Riverside Switching Railroad Layout (6x4 feet)

![Riverside Switching Railroad Layout Diagram](image)

Riverside Switching Railroad
Size: 6 x 4 foot
This layout has an oval for continuous running, and a main yard and a few spurs for industries. The track plan is interesting enough to keep one operator busy and there is still plenty of room for scenery too. You could put an industrial district or a river scene inside the loop.

### Parts List - Riverside Switching layout (6x4)

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex track (Minimum 3ft long)</td>
<td>3</td>
</tr>
<tr>
<td>9&quot; Straight</td>
<td>11</td>
</tr>
<tr>
<td>Full Section 18&quot; Radius</td>
<td>15</td>
</tr>
<tr>
<td>25° Crossing</td>
<td>1</td>
</tr>
<tr>
<td>6&quot; Straight</td>
<td>1</td>
</tr>
<tr>
<td>3&quot; Straight</td>
<td>1</td>
</tr>
<tr>
<td>1/2 Section 18&quot; Radius</td>
<td>1</td>
</tr>
<tr>
<td>1/3 18&quot; Radius</td>
<td>2</td>
</tr>
<tr>
<td>2 1/2&quot; Straight</td>
<td>2</td>
</tr>
<tr>
<td>Snap-Switch, right</td>
<td>5</td>
</tr>
<tr>
<td>Snap-Switch, left</td>
<td>3</td>
</tr>
</tbody>
</table>
British Columbia & Rocky Mountain RR

Size: 6 x 4 foot

A small layout with rural industries, this layout allows a train to be shunting in the Interchange yard without fouling the mainline. A simple two train railroad. You could run a Budd deisel rail car or somthing similar for the passenger service too. For a freight loco, a small switcher such as an SW or S-12, or even a 44 tonner would do. There is plenty of room for scenery too.

Parts List - British Columbia & Rocky Mountain RR (6x4)

2 Flex track (Minimum 3ft long)
4 9" Straight
19 Full Section 18" Radius
1 22" Radius
4 3" Straight
1 1/2 Section 18" Radius
1 1/3 18" Radius
1 2 1/2" Straight
4 Snap-Switch, right
3 Snap-Switch, left
A Double Track Railroad Layout

Parts List - A Double Track Railroad layout

- 3 Flex track (Minimum 3ft long)
- 11 9" Straight
- 30 Full Section 18" Radius
- 1 30° Crossing
- 3 6" Straight
- 2 3" Straight
- 7 Snap-Switch, left
- 5 Snap-Switch, right
**Multi-Level & Western Railroad Layout (6x4 feet)**

![Layout Diagram](image)

**Multi Level & Western RR layout (6x4)**

3 Flex track  
(Minimum 3ft long)

17 9" Straight

37 Full Section  
18" Radius

2 22" Radius

4 6" Straight

2 3" Straight

5 Snap-Switch, left

7 Snap-Switch, right

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This layout has two separate levels, and a connecting track between them. The lower level would normally act as staging for trains that service the interchange, and the upper level has all the industries which would receive or despatch cars. The interchange will hold about 5 x 40 foot cars or 4 x 50 foot cars, plus a smallish loco (0-6-0 or SW). The interchange would only be serviced by trains running clockwise, this layout would really only suit small locos and 40 foot or less cars on the upper level. The grade between the interchange and the upper level loop is quite steep (about 1 in 20) but most all-wheel drive model locos could easily haul about 6 cars up the grade, which is more than the interchange will hold anyway. So the steepness of the grade shouldn't be any problem, operationally.

**Parts List:**

<table>
<thead>
<tr>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 x Flex track</td>
</tr>
<tr>
<td>17 x 9&quot; Straight</td>
</tr>
<tr>
<td>37 x Full Section 18&quot; Radius</td>
</tr>
<tr>
<td>2 x 22&quot; Radius</td>
</tr>
<tr>
<td>2 x 3&quot; Straight</td>
</tr>
<tr>
<td>5 x left hand Atlas Snap Switch</td>
</tr>
<tr>
<td>7 x right hand Atlas Snap Switch</td>
</tr>
<tr>
<td>4 x 6&quot; Straight</td>
</tr>
</tbody>
</table>
South Eastern Railroad Layout (8x5 feet)

This plan is based on an actual model railroad built back in the 1990s. It would suit road switchers and could include passenger services as well as freight services. One of the downfalls of this plan is that it doesn't allow two train operation if the main yard is being shunted. A lead shunt (sometimes called a drill track) for the main yard would fix that problem.

Parts List - South Eastern Railroad layout (8x5)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Flex track (Minimum 3ft long)</td>
</tr>
<tr>
<td>28</td>
<td>9&quot; Straight</td>
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<tr>
<td>16</td>
<td>Full Section 18&quot; Radius</td>
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<tr>
<td>12</td>
<td>22&quot; Radius</td>
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<tr>
<td>2</td>
<td>6&quot; Straight</td>
</tr>
<tr>
<td>1</td>
<td>3&quot; Straight</td>
</tr>
<tr>
<td>1</td>
<td>1/3 18&quot; Radius</td>
</tr>
<tr>
<td>8</td>
<td>Snap-Switch, right</td>
</tr>
<tr>
<td>5</td>
<td>Snap-Switch, left</td>
</tr>
</tbody>
</table>
Central Metro Terminal RR (10x6 feet)

10x6, L shaped, HO scale
A switching layout in a spare room or in the corner of a garage. This plan presents a number of interesting shunting movements to the operator, and is best suited to those who prefer lots of operating action rather than simply watching trains! There are switchbacks, facing and trailing turnouts. The industries are varied enough that you can have a large variety of rollingstock. There is only one ‘runaround’ track, which means you would need to plan your train movements, somewhat like playing chess. You can even wire it for more than one operator, or use DCC to have more than 1 operator.

Track is color coded as follows:
Red = 18 inch radius full section track
Green = 18 inch 1/2 or 1/3 length curve track
Pink = Flex Track
All turnouts are the same geometry

This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.
Parts List - Central Metro Terminal RR (10x6)

Track Parts List
3 Flex track
56 9" Straight
10 Full Section 18" Radius
2 19° Crossing
4 6" Straight
7 3" Straight
1 1 1/2" Straight
1 1/2 Section 18" Radius
2 1/3 18" Radius
10 Snap-Switch or similar, left
7 Snap-Switch or similar, right

Modifying this plan to suit your available space is quite easy. Simply add length on either end, either as mainline or with extra industries. You could also make this layout part of an around the wall type of layout with a continuous run.
Onion Pacific RR (10x5 feet)

This layout plan is similar to one I designed for a friend of mine to give him some ideas for his own model railroad. He wanted a double track mainline for multiple train operation, with plenty of industries to shunt. One of the advantages of this type of plan is the ability to have a train running on the mainline, while a local freight is run or switching is carried out on other parts of the layout. The track plan also features crossovers to allow trains to change tracks, something that is very important for more interesting operation. Track is color coded as follows:

- Blue = 22 inch radius full length curve track
- Red = 18 inch radius full length curve track
- Green = 18 inch radius 1/2 curve track
- Pink = Flexitrack

Turnouts are all the same geometry.

This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.
Parts List - Onion Pacific RR (10x5)

6  Flex track
79 9" Straight
13  Full Section 18" Radius
16  22" Radius
1  60° Crossing
6  1/2 Section 18" Radius
1  30° Snap Crossing
2  2 1/2" Straight
7  Snap-Switch or similar, left
13  Snap-Switch or similar, right

If you require wider radius turnouts, you may need to move some spurs, or leave them out altogether if you need to keep the layout the same size. Also, if you consider 18 inch radius to be too sharp, you may have to leave out some of the yards at the top and bottom of the plan in order to accommodate larger radius curves.

If you have the extra space to make the layout longer and wider, you could simply expand the layout size, having wider radius turnouts and curves, but having the basic plan remain the same. Another way to make the layout more realistic would be to have some gentle curves where the mainline is straight - you would need to buy more flexitrack and less standard straight sections to accomplish this.
Unfinished and Eastern (8x4 feet)

N Scale, 8x4 feet, Minimum curve radius 10"

Stage 1: Above
This plan is designed to fit a standard 8x4 feet plywood sheet. It features a single track mainline, with a good sized yard, and plenty of spurs to shunt. Take special note of the heights indicated. If you plan to build stage 2, setting these heights in stage 1 will help you build stage 2.

Parts needed for Stage 1:
6 flex track (Minimum 3 foot length each)
70 5" Straight
32 Full Section 11" Radius
1 30° Crossing
9 #6 Turnout Manual Left
6 #6 Turnout Manual Right

Stage 2: Below
The plan is still designed to fit a standard 8x4 feet plywood sheet. But now it also features an expanded yard, a branch line with a turnaround track and more spurs to shunt, a double track mainline, and better access to the yard for easier shunting.

Extra Parts Needed for Stage 2:
4 flex track (Minimum 3 foot length each)
24 5" Straight
14 Full Section 11" Radius
9 #6 Turnout Manual Left
6 #6 Turnout Manual Right
This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.
Setrack Lines (8x5 feet)

N Scale, 8x5 feet L shape, All curve radius 11"

This plan allows for 2 person operation, but does not allow trains to pass on the mainline. There is a place where one operator can shunt the numerous industries at the top of the plan, and a large yard at the bottom of the plan for the other operator to shunt. Each operator could take turns running a train on the mainline, and can shunt when not running on the mainline. There is also an industrial branch on the right hand side of the plan for added interest. This plan uses NO FLEXITRACK! So if you are new to Flextrack and don’t feel confident using it, this plan could be for you. It uses all standard curved 11" radius and straight pieces and #6 turnouts.

Scenery would be best suited to an industrial district in a large city, but if you leave out a few of the industry spurs and have industries such as coal mines, timber mills, and the like, instead of city based industries, you could make it a rural or mountain setting.
Parts List - Setrack Lines (8x5)

5  2½" Straight
3  1¼" Straight
1  5/8" Straight
156 5" Straight
33  Full Section 11" Radius
2   Half Section 11" Radius
12  #6 Turnout Manual Left
17  #6 Turnout Manual Right

This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.
O Scale, 17x9 feet, Minimum curve radius 40.5"

This O scale plan takes up a large space, but the large space is broken up by having an Operating Pit in the centre. The plan features a double track mainline, with a passing loop on the outer loop, and some decent sized spurs which could have some interesting industries on them. There is also a reasonable sized yard for making up trains.

Parts List - 'O'usatonic RR (17x9)

6       Flex track
27      40.5" Radius Full Curve
16      45" Radius Full Curve
8       #7.5 Left Hand Turnout
7       #7.5 Right Hand Turnout
60      10" Straight
1       Wye Turnout

This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.
‘O’ Scale Shunting RR (12x6 feet)

O Scale, 12 x 6 feet, Minimum curve radius 40.5"

This O scale plan is almost as small as you can get in O scale and still have lots of operating potential. There are 7 places to shunt, a small turnaround track, and the interchange. The Red track to the right is the interchange track. If you have more space you could extend this further, and maybe add a second shunting area. The two green colored turnouts are Wye Turnouts - these help save a little space. All other turnouts are #5’s. Even though this plan is compact, there is still some space for scenery. You could use buildings at the front to provide scenic breaks, and building flats at the back to provide industries on the spurs. This plan is 2 feet wide in most places, but increasing the width to 2 ½ or 3 feet would also help when it comes to more scenery potential.

Parts List - ‘O’ Scale Shunting RR (12x6)

1   flex track
3   40.5" Radius Full Curve
6   #5 Left Hand Turnout
1   #5 Right Hand Turnout
22  10" Straight
4   36" Radius Full Curve
2   Wye Turnout

This plan is designed to be non-manufacturer specific as many modellers have a particular brand they prefer. Because of this the plan may require some slight adjustment depending on the brand of track you wish to use.

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Have fun planning your layout.

Regards.

Robert

Recommended follow-on ebooks:

- **Model Train Scenery & Layout Construction Ideas**
- **303 Model Railroad Answers**

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