

# 4 STEPS TO ADAPTING A TRACK PLAN

THE READERS' CHOICE RAILROAD REWORKED FOR LIONEL FASTRACK – PLUS HELPFUL TRACK-PLANNING TERMS

by Kent Johnson • Illustrations by Kellie Jaeger

Kids used to be able to create a new toy train layout in the blink of an eye. All they needed were a bundle of tubular track, permission to move a few fixtures around the rumpus room, and just a bit of imagination to spawn an endless number of Carpet Central creations. But as youthful builders matured, many learned to appreciate the conveniences of a prescribed plan, much like those in CTT's special-interest publication, *Small & Midsize Track Plans for O Gauge Trains* (To order call 1-800-533-6644 or visit [ClassicToyTrains.com](http://ClassicToyTrains.com)).



Based on the favorable responses regarding these and other track plans published in *Classic Toy Trains*, it seems that readers truly do rely on these schemes to inspire and guide their layout construction efforts. But along with the comments, we also receive a fair number of requests to produce alternative versions of a specific plan, including the O gauge Readers' Choice Railroad (see the February 2011 issue of CTT). I designed for traditional tubular track sections. With such a dizzying array of track brands, types, and sizes available,

## LIONEL FASTRACK COMPONENTS

Quantity	Description/Number
2	1.75-inch straight (12026)
1	4.5-inch straight (12025)
2	5-inch straight (12024)
5	10-inch straight (12014)
6	0-36 curve, 11.25-degree (12023)
1	0-36 curve 22.5-degree (12022)
14	0-36 curve, 45-degree (12015)
2	0-48 curve, 30-degree (12043)
1	0-36 left-hand track switch (12017)
2	0-36 right-hand track switch (12018)
1	5-inch uncoupler (12020)
2	bumper (12059)

it's no wonder we're a bit more hesitant to simply amass a supply of track and start building or modifying a layout on the fly.

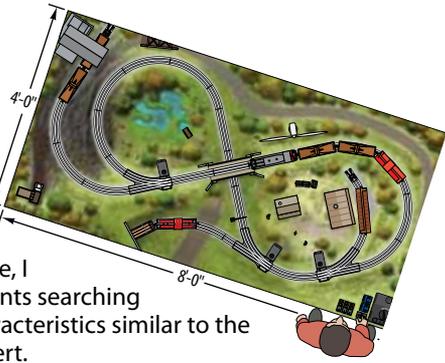
For those of us who prefer to work from a design, I've retrofitted the Readers' Choice Railroad track plan to suit Lionel FasTrack components. Along with the modified plan, I'll share some of the key considerations I made before attempting the task.

Finally, I think you'll also enjoy a brief overview of track-planning terms, tips, and techniques that should make it easier to embrace that youthful urge to design a layout of your own creation!

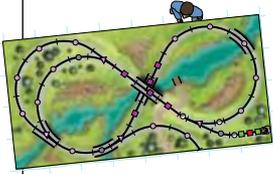
# Readers' Choice Railroad Revamped

## 1 Check for similar plans

Converting a plan isn't an impossible task, but it does take time. Before I go through the effort to convert a scheme, I spend a few moments searching for a plan with characteristics similar to the one I want to convert.



Perhaps the best source for searching alternative track plans is **CTT's Track Plan Database**. Subscribers visiting [ClassicToyTrains.com](http://ClassicToyTrains.com) can easily search nearly 100 plans based on layout size, track type, and minimum curve size.



## 2 Compare track types

You'd think that track products sold by the same manufacturer would be interchangeable, right? Not always. Before you decide whether to convert a plan to your preferred track type, be sure to explore just how many sections have complementary parts – especially the curves, switches, and crossings. As the chart illustrates, only four sizes match. Essentially, fewer matching pieces equates to more challenges in the conversion process.

In addition to knowing what's available in a product line, you'll want to compare the cost of the two brands. The appearance of contemporary track is remarkable, but it comes at a greater price than 60-year-old tubular rails.

### CURVED TRACK DIAMETERS

	Lionel O	Lionel FasTrack
0-31	X	
0-36		X
0-42	X	
0-48		X
0-54	X	
0-60		X
0-72	X	X
0-84		X

### TRACK SWITCH DIAMETERS

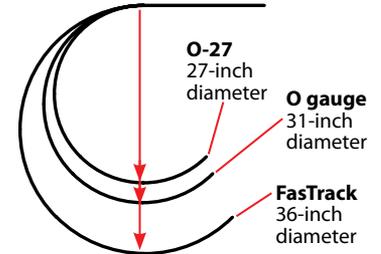
0-31	X	
0-36		X
0-48		X
0-60		X
0-72	X	X
0-72 wye		X

### CROSSINGS

22.5-degree	X	
45-degree	X	X
90-degree	X	X

## 3 Consider the curves and crossovers

After comparing two track systems, I look closely at the shape of the original plan to determine how larger and smaller sections affect the overall design. First, I'll focus on one specific loop or route and examine how swapping out curves may alter the length and width of the scheme. Even a seemingly slight change in the geometry of a curve can have a drastic impact on what fits into a prescribed space. Next, I perform a similar survey of the track switches. I pay particular attention to crossovers, where changes in track geometry can expand or constrict the spacing between parallel routes.

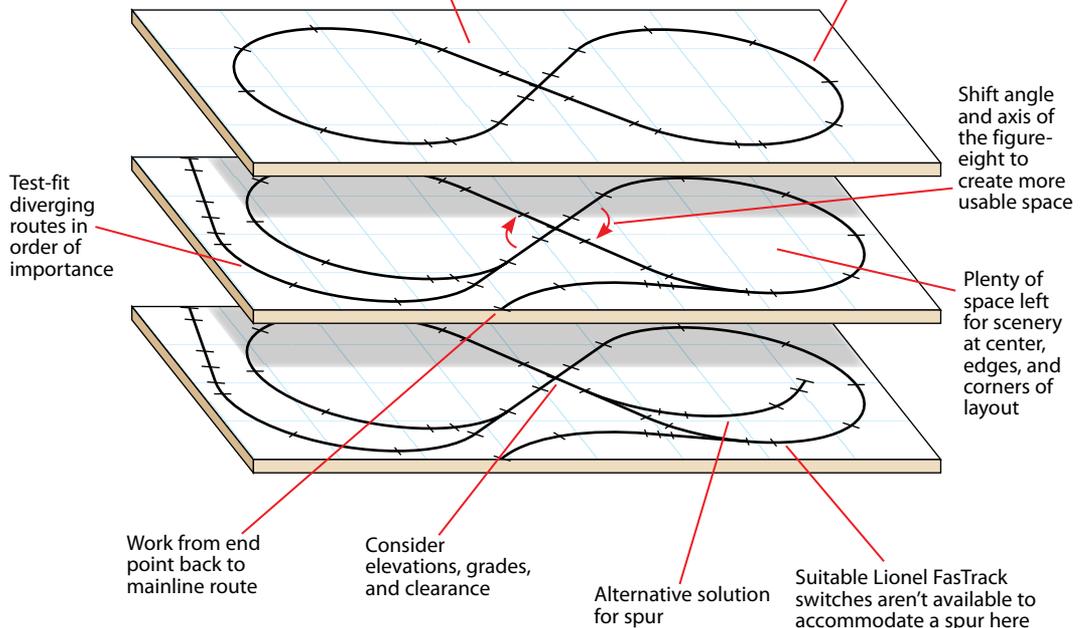


## 4 Create software sketches

Once I've gathered these critical insights, it's time to start slogging through a conversion. You may think that a no. 2 pencil and graph paper are the best tools for track planning, but I prefer layout-planning software. RR-Track from R&S Enterprises ([rrtrack.com](http://rrtrack.com)) is my favorite application, as it maintains the widest variety of track libraries from which to choose. Software makes it much easier to virtually test-fit sections of track and avoid the inaccuracies that can occur when drafting with pencil and paper. Along with software, I found it helps to keep a FasTrack Length Table as a ready reference (see the October 2009 issue of CTT or download this tool at [ClassicToyTrains.com](http://ClassicToyTrains.com)).

Basic Lionel FasTrack figure-eight configuration on a 4 x 8-foot table leaves little space for additional track and scenery. Or so it seems...

Draw curves and crossings to confirm fit in available space



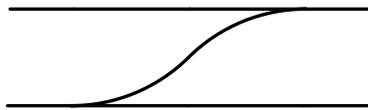
# Track-Planning Terms

When it comes to discussing track plans and the process of preparing a new or converted plan, it's easy for me to lapse into jargon that may leave new hobbyists scratching their heads. While CTT editors make a conscious effort to

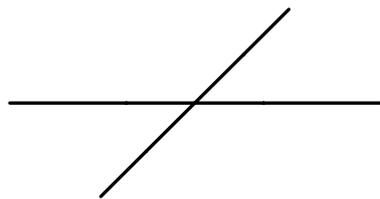
explain any uncommon terms that appear in our features and departments, we can't forget to circle back to define those terms that seem commonplace to us. With that in mind, here's an illustrated glossary of some basic track-

planning terms that will help you better appreciate the intricacies of the plans featured in our Toy Train Track Plans series and our recently launched Track Plan Database – now accessible to CTT subscribers at [ClassicToyTrains.com](http://ClassicToyTrains.com). **CTT**

## CROSSING & CROSSOVER



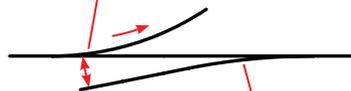
**Crossover.** Two track switches and a connecting track that allow a train to divert to a parallel track.



**Crossing.** A section of track that allows one route to bisect another. The most common toy train crossings have 45- and 90-degree angles, but other options are available.

## TRACK SWITCH & TURNOUT

O-72 track switch



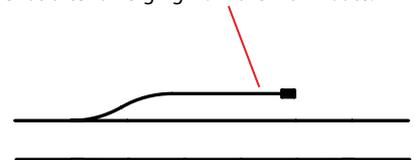
No. 5 turnout with an 11.25-degree angle

**Track switch.** A section of track featuring movable rails that allow a train to travel from one path to another. A number, such as O-72 or no. 5, designates the curve or angle of the diverting path.

**Turnout.** A model railroading term that distinguishes a track section from an electrical switch.

## SPUR & SIDING

**Stub-end spur.** A section of track that dead-ends after diverging from the main route.



**Passing siding.** This section of track also diverges from the main route, but later reconnects through a second track switch. A passing siding is typically long enough to hold an entire train while another train travels through the main route.

## JUNCTION & TERMINAL

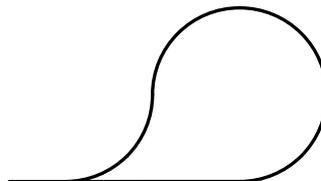


**Stub-end terminal.** Literally, the ending or starting point of a railroad route. Terminal points exist for freight and passenger trains, and locomotives.

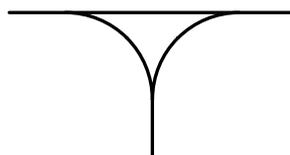


**Junction.** A point on a layout where two or more routes meet. Some junctions represent nothing more than the joining of two tracks; others include a complex network of track switches and sidings.

## REVERSE LOOP & WYE



**Reverse loop.** A single switch and balloon-shaped track arrangement used to reverse the direction of a train.



**Wye.** A triangular arrangement of track made of three legs, one of which may be the main route. This track arrangement can be used to change the direction of a locomotive or an entire train.

## RIGHT-OF-WAY



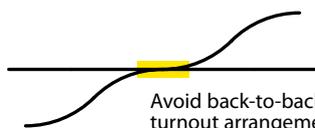
Service road

Drainage ditch

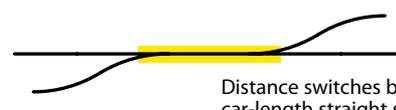
Line poles

**Right-of-way.** The railroad property that follows alongside the tracks. This Neal Schorr photo captures right-of-way details on his Pennsylvania RR-themed O gauge layout.

## SNAKING CURVES



Avoid back-to-back turnout arrangement

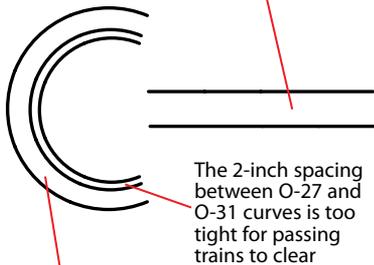


Distance switches by installing car-length straight section

**S-curve.** Track arrangements where cars passing from one curve to another are forced to bend in opposite directions. To prevent derailments resulting from the force, avoid using this arrangement anywhere on a layout.

## TRACK SPACING

**Tangent tracks.** The common spacing for parallel O gauge straight track is 4 inches, center-to-center (distance between the two middle rails).



The 2-inch spacing between O-27 and O-31 curves is too tight for passing trains to clear

**Concentric curves.** A center-to-center spacing of 5½ inches on tight-radius curves provides adequate clearance for most toy train equipment. Using wide-radius curves helps attain a more realistic 4-inch spacing.

## MAXIMUM GRADE & MINIMUM CLEARANCE



**Grades.** A grade greater than 5 percent (a 5-inch rise over a 100-inch run) can present a challenge to operation. For more reliable running, keep the grade to 4 percent or less.

**Clearance.** Small O gauge trains can pass under postwar bridges, portals, and trestle sets with a low, 4½-inch clearance height (from railhead). However, tall modern toy trains may require an additional inch or more clearance height.

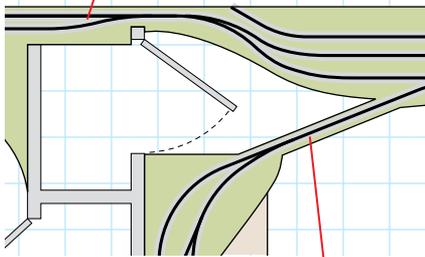
Lionel no. 110 trestle set yields a nearly 5 percent grade

The tallest Lionel "A" trestle stands just 4¾ inches high



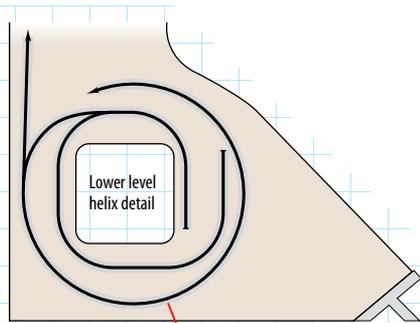
## HIDDEN TRACKWORK

Route leads to track in an adjacent room



Mainline route around the room

**Staging yard.** An out-of-sight area used to hold complete trains before running them over the visible portion of a layout.

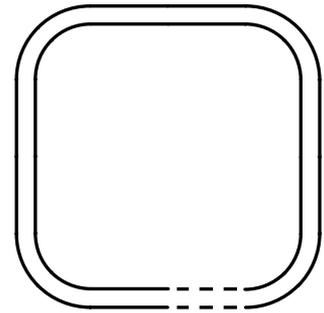


Spiraling track climbs to upper level

**Helix.** A rising curve that turns around an axis like a corkscrew. Used on multilevel layouts to allow trains to go from one level to another.

## LAYOUT DESIGNS

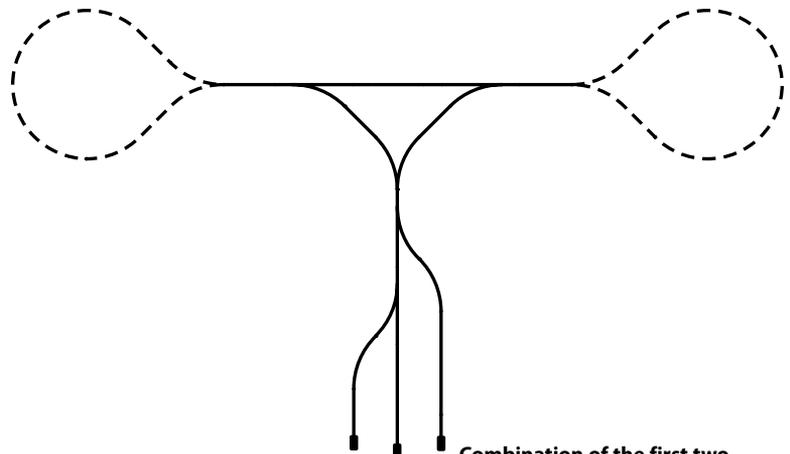
Although the variations are infinite, there are essentially three basic types of layout designs: **continuous**, **point-to-point**, and a **combination of the first two**. All can have provisions for a train to change direction, pass another train, and position cars on sidings, but that doesn't change the basic types. Whether you're considering a published track plan or would rather make your own design, be sure to think about the kind of railroad operation you enjoy most, and what specific type of locomotives and rolling stock you intend to run on your layout.



Continuous loop around the walls



Point-to-point



Combination of the first two