



# The BTR RR.

An unconventional approach to layout design

**BY ART CURREN**

**T**HIS track plan for a 5 x 9-foot HO layout is about as nontypical as a track plan can be if you judge it by normal track planning criteria.

BTR stands for Break The Rules since that is what I did in designing this plan. Most track plans are either of someone's already built railroad and reflect his or her desires, or they are plans that have been very laboriously thought out and are practically foolproof in design so that anyone can adopt them without fear of making a mistake.

Track planners try to include as many features as they can so the builders will enjoy operating the layouts. The BTR has none of these "standard" features: no

yards, no engine facilities, and no stations. The BTR interchanges with itself, has an 8 percent grade, subradius curves, and very little scenery. And to cap it all off, it is just a simple oval on which the trains go round and round.

Why break all those track planning rules? Well, I wanted to design a small layout that would be fun to operate, and I also wanted to include lots of structures. To have room for lots of buildings, some other features had to go. I began by eliminating a lot of "standard" features. The first things to go were the yards and the engine-servicing area that usually take up huge amounts of space. I also decided not to include other railroad structures like depots, interlocking towers, etc. Stop and think of how many nonrailroad structures are found along rights-of-way in relation to ac-

tual railroad structures. Usually the ratio is very top heavy in favor of nonrailroad structures. So, I think the BTR is very prototypical.

You do have to pay close attention to details along the right-of-way to give the layout a railway look without the aid of typical railroad structures.

Another compromise I feel is necessary when designing a small layout is to eliminate the aspect of time when it gets in the way. The same with distance. There is no way you can convey realistically any form of length in a 5 x 9-foot space. What we have on the BTR is a run from one crowded industrial area through the edge of a residential area and into another industrial area. Wouldn't most prototype railroads like to have that kind of concentrated — and profitable — operation?



By having the tracks on different levels in the industrial areas and the streets twisting and winding in all directions, we are able to create the illusion of greater depth and distance and make these areas of the layout look very realistic.

Revenue-producing industries are the key to the BTR, and they dominate the layout. I've managed to squeeze 18 BTR customers into this small space. I've also provided some relief from the industrial areas by including a tree-laced residential area between the industrial areas on each side of the plan. The buildings on the creek end of the layout are low, and they get progressively higher as you head toward the left and center of the layout. The buildings on the left end should be tall enough so that at normal viewing height they will form a view block so that side A cannot be seen from side B and vice versa. The best way to accomplish this is to start with a layout height that is just a little below eye level.

Modeling this many structures using commercial kits will not be as difficult or as expensive as you might think. Note that many of the buildings can be seen only from one side, so the rear walls can be left off and used as the front or back of another building. If you don't use a wall here, you can use it there.

You can get trains running quickly if you use flextrack and commercially available turnouts. Once the trains are running, you can work on the structures whenever you have some free time. I suggest you use Code 70 rail to convey the look of the light rail usually used by the prototype in industrial areas.

Slight grade separation, such as lowering the sidings to industries 8 and 9, is very prototypical, as is the steep grade down to industries 10, 11, and 12. A grade this steep (8 percent) can be negotiated by most locomotives with one or two cars. It is not the steepness of the grade that causes most problems on a model railroad, but rather the vertical transition from level to grade. This is the critical area. This transition must be very smooth so couplers and pilots do not snag or short on the rails.

My old layout had an 8 percent grade with a 12"-radius curve at the bottom and I had no problems with it. The vertical transition was accomplished by using 3/16" paneling for roadbed in this area. The paneling can be flexed into gentle transitions naturally. I screwed and adjusted the slopes by tightening or loosening the screws as I ran a locomotive and car up and down, until there were no snags or shorts.

Although I did not plan the BTR to be an expandable layout, a foot more of space at the wall end would allow you to actually route the tracks in the direction that the buildings along the tracks suggest. The tracks would cross behind industries 6 and 10 and then continue along the walls. If the trestle at the right side of the layout were eliminated, the layout could be expanded in that direction, if space were available.

The BTR RR could be imagined to be a lesser line of anything from Conrail or the Family Lines (or their predecessors) to the Burlington Northern or the Southern Pacific. You might also want to change the name to the F & P, for Fun & Pleasure - that's what this layout offers in a 5 x 9 foot space.