

HO Switching Variations in 2' X 9'

One good design deserves another?

by Byron Henderson

Working on custom layout designs for clients can be a variable experience. Quite often, we reach agreement on a general approach and basic layout footprint fairly quickly and then spend much of the process making incremental refinements.

Once a client sees what can be done with an approach, they are usually happy. But occasionally a view of one good alternative opens their imagination to other approaches that might fit in the same space – in this case, a 2' X 9' area for an HO switching layout.

“Structure”-ing a switching layout

Space is usually a key consideration in layout planning. But this time the inventory of completed and unbuilt building kits was an important priority. We began with a request to use as many of my client’s on-hand structure kits as was logically possible.

For freelanced smaller shelf designs I often look to paired “running tracks”¹ with crossovers to allow for switching both facing-point and trailing-point industries for more interest and challenge (I also touched on this idea in LDJ-51). This provides a lot of flexibility in switching activity while also allowing overlap of tracks and functions.

Overlaps are good

OK, maybe not at the waistline, but in terms of small switching layouts, overlapping elements can be our friend. As designers, we are nearly always struggling with a lack of running *length*. Real railroads, after all, are really long, but relatively *narrow*. So our shelf switching layouts are thus sometimes more accommodating in terms of depth than length.

For this reason, I try to make multiple use of the overall layout length by overlapping runarounds, industry tracks, and switching

leads. Multiple uses of the same track for multiple functions are ideal, but even when tracks must be separate, arranging them side-by-side often uses the space very efficiently.

Placing structures

With the thought of possible overlaps in my mind, the next step in this particular case was placing the building kits along my paired running tracks, which will serve as both switching leads and portions of the runaround. There were a couple of aspects to be concerned about now: the footprint of each structure; and the demands it places on the serving trackage.

This was especially true for the Car Shop model. It’s a relatively large structure (for a layout this size) and the three serving tracks must be arranged to match the door locations of the kit walls. So that seemed to be possibly the toughest fit and the best place to begin.

I sited this kit at the right end of the layout and passed the running tracks in front. My first thought was to place the building against the backdrop (to the top in the track plan on page 38), but then I thought I might want to reserve enough depth for one other industry track or lead to pass behind (overlaps, remember?). I wasn’t yet sure just how I would use a track in this area, but I left the space for now.

I do love my yards

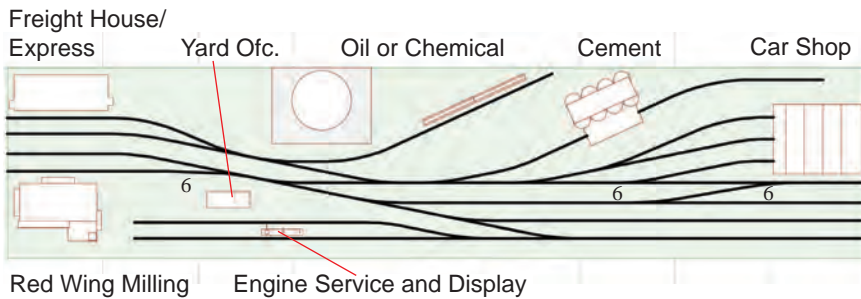
One of my favorite operating patterns for small freelanced designs is to work from a yard (representing interchange with through trains or other railroads) to switch the various industries. There would be a lot of activity at the Car Shop on this layout, so I didn’t want a large structure in front of it. I quickly sketched a few parallel tracks in front of my running tracks to represent the yard-to-be at the right end of the layout and moved on.

When operating, some cars would be imagined to have been set out in the yard for delivery to the various industries. The crew might also begin with some inbound cars in their train as if they had just arrived.

Naturally, some outbound cars could be placed in the yard as interchange as well. One

“... multiple use of the overall layout length by overlapping ...”

1 In a given location on the real railroad, what I am calling “running tracks” might represent a branch- or main-plus-siding or other paired-track arrangement. For this small switching layout I’m using the more generic term of “running tracks” to refer to the two central tracks used as switching leads and runaround path.



Alpha Terminal
HO scale, 2' X 9'

1 foot grid
 "Running Track" min. 30½" R
 Industries 20" R
 PECO C83 #5 min. turnout

Byron's initial track plan was designed around specific on-hand structures. Note the overlap and/or multiple uses of tracks forming leads, industry spurs, and runaround.

could also imagine reasons to classify those outbounds, whether for "east" and "west" destinations, different connecting railroads, etc. (more switching, more fun!). Between sessions, it will be easy to manually swap cars to provide plenty of rolling stock variety.

On a roll

One of the important aspects of designing the serving trackage for some industries is allowing "room to roll". Bulk commodities such as coal, flour, and (in this case) cement are typically loaded or unloaded as cars are rolled by a discharge chute, unloading grate, spout, or hopper.

The Walthers Medusa Cement structure kit represents a facility where bulk cement is discharged from hoppers and then conveyed into the silos. There were also a number of short transition-era cement hoppers in the rolling stock inventory. So I knew I would need a reasonably long track ahead of, through, and beyond the discharge area. Where would I find the length for the empty cars to be imagined to roll? How about that space I left behind the Car Shop? Perfect!

Everybody's got an angle

To locate Medusa Cement in a way that made the empties run-out practical, I set the

structure at an angle to my running tracks. I try to use care when setting tracks at an angle to the main tracks, because too many odd angles can look haphazard and toylike (in my opinion, see sidebar at left). So for this freelanced design, I

Aligning Industry Tracks

There are certainly cases where a particular real-life industry area will have tracks and industries placed at many different angles to one another, but I find that generally facilities tend to line up along one or only a few angles in real life (besides the railroad tracks, perhaps aligned with a street grid, river or stream, etc.). – BH

was looking for another desired industry that I could set at a similar angle for appearance's sake. Walthers Tank Racks kits and a good number of tank cars were on hand, so some sort of oil- or chemical facility seemed like a natural fit to place near Medusa Cement.

Transition-era tank cars are also shorter and help with our yard track capacities and lead lengths. A handy thing about liquid bulk commodities is that the storage tanks and other associated structures may logically be nearby or some distance away – this was to prove useful later. But for now I assumed that storage tanks and other related facilities were "beyond the benchwork".

Throwing myself a curve

OK, the right side of the layout was going pretty well at this point, but for visual interest I didn't want to end up with all of the structures on the far side of the running tracks – nor did I want those tracks to just run dead straight across the benchwork. I was also noticing that all of my yard tracks and spurs were pointing in the same direction so far. Time to mix it up.

I began by trying a gentle curve of the running tracks toward the back of the layout as they moved to the left. The only problem with adding fairly broad curves in a layout with limited length like this as that one begins to run out of places to locate turnouts. And I could see that I would need additional turnouts for crossovers and industry tracks.

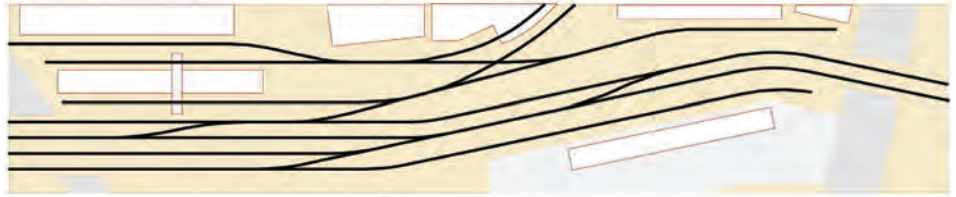
Armstrong to the rescue

The late John Armstrong offered us many great ideas. One I have used often is the angled crossover. Rather than joining two same-handed turnouts together to form the typical straight crossover, making use of one of each (left and right) allows for the outside running tracks to make a slight "jog" through the crossover itself. This was just what I needed to allow the slight curve I was seeking in the running tracks, include the crossover I needed, use smaller-numbered (thus shorter) turnouts, and in this way preserve more tangent track for the straight legs of other industry-serving turnouts. I then adjusted the Tank Rack track to accommodate the resulting angled running track.

Wait a minute ...

As I continued to experiment with this arrangement, I began to feel as if I had seen

the layout somewhere before. And then I realized that it was beginning to somewhat resemble SIG-member Jonathan Jones' terrific switching layout from the May 2001 *Model Railroader* (but mirror-imaged). I certainly hadn't started with Jonathan's fine layout (at right) in mind, but my decisions along the way were moving me in a similar direction!



Adding switching variety

With the running tracks roughly located, I now began scanning the highest priority kits for good fits. We only had spots for boxcars at the Car Shop so far, so the Walthers REA Transfer kit seemed like a nice addition that might support multiple boxcar spots – I imagined it as a freight house.

This multistory kit would look good against the backdrop and placement at the left edge of the layout made it logical to have the serving spur facing the opposite way from all of those used so far. As John Armstrong reminded us, a variety of facing- and trailing-point spurs adds interesting switching variety and justifies the crossovers and runaround.

This left only Red Wing Milling from the high-priority structure list, which luckily just fit into the remaining space at the front left corner. (OK, I had to move things around *a little*.) Switching this spur through one turnout of the angled crossover created a bit of an S-curve, so I used a #6 turnout here to be conservative (there was also just enough room).

Locomotive opportunity

Next I went about the process of finalizing the yard trackage and other details. Because of the way the running tracks curved and the placement of the industries, there was a bit of a gap at the front of the layout at the center-left. I could have added a rail-served industry there, but I didn't want to require the use of a yard track for a switchback move. Fortunately, locos have the benefit of being self-powered and can easily tuck themselves into such an out-of-the-way spot.

Filling the gap

I ended up with a bit of open space at the rear of the layout. As I mentioned earlier, the flexibility of liquid commodities provided an assist and this became the perfect spot for a scratchbuilt large tank or tank farm with no

Mid-Atlantic & Western HO scale, 2' X 10'

1 foot grid
Mainline min. 24" R
Handlaid-to-fit #5 to #7 turnout

Partway through designing the initial track plan, Byron realized that it was evolving some similarities to Jonathan Jones' prize-winning sectional layout (MR, May 2001)

additional track required. Don't forget the berm, even if compressed a good deal.

The final design provides a lot of switching activity and accommodated a diverse list of desired industries, structure kits, and rolling stock. Overlapping elements (and drawing on an Armstrong trick or two) helped it all fit!

Not so fast ...

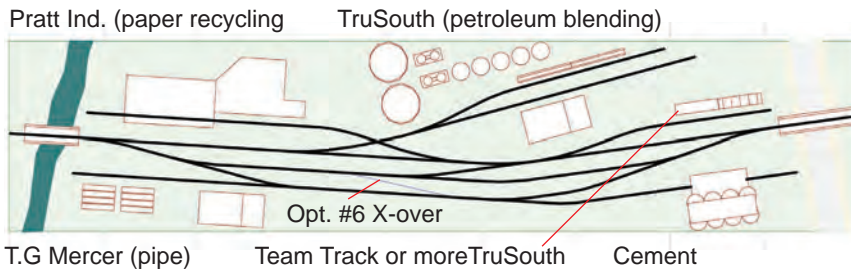
Just as I was patting myself on the back for having finished up the project, the client came back with a new request. He was intrigued by the overall appearance of the Third Street Industrial District by Bill Baumann (*Model Railroader* November 1985, also published in *48 Top Notch Track Plans from Model Railroader*; Kalmbach, 1993). Unfortunately, that design as drawn has nearly unbuildable grades and a virtually unswitchable switchback (also on a grade). In addition, he had been thinking that perhaps he should consider industries that fit well together prototypically rather than be limited to the kit inventory.

I suggested that rather than deal with the extreme grades of the Baumann plan to create an over-under look, a river and road could provide some vertical scenery without making the trackwork ... well ... unworkable. At the client's request, the resulting plan (back cover) incorporates some real-life industries from the Port of Caddo-Bossier Business Park in Louisiana for inspiration, although not at all in their actual size or geographical relationships.

Short tail tracks at each end of the layout provide room for a single unit to runaround, and with the addition of both angled *and* straight crossovers, cars could be moved to the various industries. The car capacity and flow of the operation would probably be more limited than the Alpha Terminal, but it did provide the general curved look and variety in the vertical dimension that my client was seeking.

"... a variety of facing- and trailing-point spurs adds interesting switching variety and justifies the crossovers and runaround."

Although in my opinion not as strong of an operating alternative as the Alpha Terminal, this layout could probably provide reasonable switching fun and certainly a bit more scenic variety. OK, another project in the books.



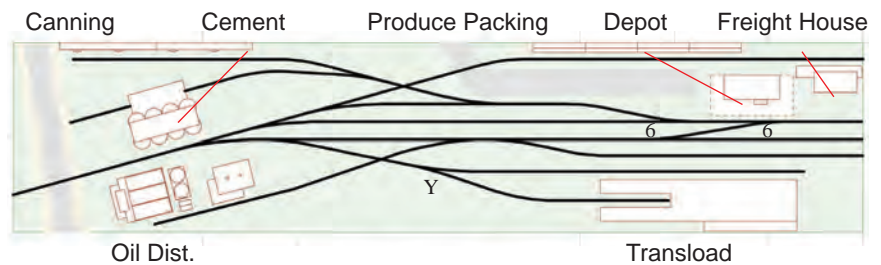
Caddo-Bossier Ind. Park
HO scale, 2' X 9'
 1 foot grid
 Mainline min. 24" R
 Industry min. 20" R
 PECO C83 #5 min. turnout

The client wanted a particular look for this design suggested by a published Bill Baumann plan. Crossings allow longer spurs, but the short tail tracks mean that fewer cars may be easily switched than there are spots available.

But wait, there's more ...

Yes, you guessed it, while the Caddo-Bossier plan was being completed, a new idea had come to the fore. The client now felt reassured that some decent switching operation could be managed in the space he had available. But the relatively urban designs we had come up with so far weren't really scratching one itch: a desire to model something with the feel of Northern New Mexico.

He was intrigued by the end-of-the line terminal in Santa Fe, New Mexico. Ironically bypassed by its namesake Santa Fe Railway, the town was linked to the ATSF mainline by a branch from the junction at Lamy.



Branch Terminal
HO scale, 2' X 9'
 1 foot grid
 Main line min. 24" R
 Industry min. 22" R
 PECO C83 #5 min. turnout

Again, at the client's request this track plan probably provides spots for more cars than can realistically be switched. If room was available to the lower left, an extension of the lead would be a welcome addition.

The line is now operated by the shortline Santa Fe Southern (www.sfsr.com) and although my end-of-line design (below right) again didn't match the real-life scene, it does reflect some of the feeling, including the curved approach into town.

I've also added a lot of industry that is not present in real life, some represented by flats against the backdrop – perhaps an opportunity for a painted or photographic scene that adds to the western atmosphere.

As in the previous design, the tail tracks on the main runaround probably create the most significant limitation on operations, but this track plan did seem to offer the client much of what he was hoping for.

The client was left mulling over his various alternatives and options. Whatever path he chooses, it was an interesting exploration of switching variations on a compact shelf. **LDJ**

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