

LAYOUT DESIGN

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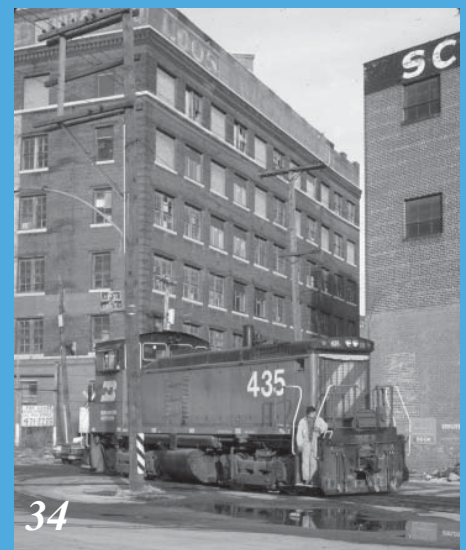
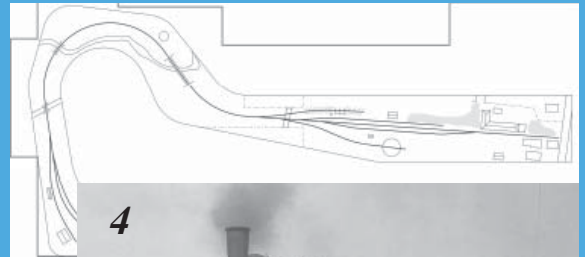
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The Layout Design Special Interest Group, Incorporated (LDSIG) is an independent, IRS 501(c)(3) tax-exempt group affiliated with the National Model Railroad Association (NMRA).

The LDSIG's goal is to act as a forum for the members' exchange of information and ideas, and to develop improved ways for hobbyists to learn the art and science of model railroad layout design.

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Breaking Marley's Chains – On2 to S

“Givens” don't fit? Change everything for a better layout

by Trevor Marshall

Remember Jacob Marley? He's Ebenezer Scrooge's dead partner in *A Christmas Carol* by Charles Dickens. When Marley's ghost appears to Scrooge, he is chained to a collection of cash boxes, deeds, ledgers and purses. These chains represent Marley's earthly obsession with money.

Well, layouts can be like that, too. Hobbyists often find they're no longer having fun with a particular layout. Maybe their interests in the hobby have changed, and the scale, era, theme or another factor no longer appeals to them. Or perhaps they're having problems with something essential to realizing their layout's goals. This might be anything from trouble getting enough operators to run a session to reliability issues with key locomotives.

Difficult to change

But these hobbyists have invested so much time and money into their layout that they're

reluctant to admit they're not enjoying it. To admit this, they feel, would be to admit failure. So, they continue to struggle with the hobby. They continue to try to work on a layout for which they no longer have enthusiasm.

Sometimes, they recover: They make a breakthrough and move on, once again enjoying the project. More often, I suspect, they simply continue to drift – not engaged by the hobby, but not out of it either.

This has happened to me. And it's not easy to accept. But I have learned that if I have not touched the layout in a full year, I never will. At that point, it can continue to occupy space and collect dust, or I can break “Marley's chains” and do something new.

In late 2011, after eight years of working on a freelanced layout strongly influenced by the two-foot gauge railroads in Maine, I've decided it's time to start again. The On2 Somerset & Piscataquis Counties Railroad is gone. In its place, I'm building a new layout – in a new scale and gauge, with a new theme.

When I'm 1:64

I've decided to work in S scale this time out – a new scale for me. Here's how I landed in the 1:64 pool.

Before switching to On2 in 2003, all of my layout and model-building experience had been in HO. Scale choice is personal, of course. But for me, going larger was a great move. I discovered I enjoy building and detailing structures and scenes, and working in a larger scale is great for that.

I was disappointed, however, with the running qualities of On2. A friend has a beautiful On3 layout and he is a master at tuning locomotives. He did a tremendous job of improving the running qualities of my locomotives. But On2 modelers rely on older brass models and those models can be temperamental beasts. This is particularly true of that iconic piece of Maine two-foot gauge motive power, the Forney.

Also, quite frankly, working in On2 can be lonely. I suppose it would be different if I lived in Maine – but being a 12-hour highway drive

“ I have learned that if I have not touched the layout in a full year, I never will.”

Givens not working? Maybe they're actually 'Druthers.

Prospective layout builders have developed many approaches to layout design over the years, but regardless of the method they all start with Givens and Druthers. For those new to layout design, these were the terms popularized by layout planning legend John Armstrong for the things that can't easily be changed (the “Givens”), and the choices that we have more control over (the “Druthers” – from the colloquial “I'd ruther”).

One's layout room is a good example of a “Given”. In theory, even this Given can be made into a Druther: We can excavate a basement to increase the ceiling height, we can tunnel under the garage to make space for staging, we can hang the “for sale” sign on our current home and go hunting for a better layout room, and so on. But most of us have to play the hand we're dealt, real estate-wise.

Other considerations often written in on the Givens side of the ledger include scale, prototype influence, era and equipment already owned. And while these often work as Givens because they give us a focus to our planning, it's also unfortunate – from a planning perspective, anyway – that these choices are traditionally considered to be carved in stone. Sometimes, punting these Givens into the Druthers column reveals new possibilities for one's space or allows one to work through the layout-planning equivalent of Writer's Block.

Even those who are perfectly happy with the layout they've designed should give this a try: The results can be surprising. They surprised me. – TM

Ontario. One is in Western Canada and the other is in the United Kingdom.

After almost a decade of self-imposed exile, it's really nice to be working on something to which my local peers can relate. Already I'm benefitting from the knowledge of those modeling the line south of Hamilton to Port Dover and Port Rowan, as well as the expertise of those modeling the Canadian National in S scale (and in other scales, too).

New enthusiasm

As can be seen in the accompanying photos, I've already started my S scale adventure. I've acquired enough appropriate equipment to ensure I can represent the CNR in Port Rowan – a modest yet interesting example of Canadian branch line railroading in the twilight of steam. If you care to follow along, I'm documenting my progress on a blog at:

<http://themodelrailwayshow.com/cn1950s>

I never thought modeling in S scale could happen to me, but the change has injected new enthusiasm into my enjoyment of the hobby. In addition, it has strengthened existing friendships in my local hobby circles, and even fostered new ones. I foresee many enjoyable (but brief) operating sessions followed by memorable evenings at the pub, talking trains and solving the world's problems. And really, isn't that what a hobby should be about? LDJ

(Middle right) Looking up-line from Port Rowan. The boxcar at right is on the team track, while the elevated coal track is in the distance. The box to the left indicates the position of the turntable (although it will not project into the aisle). This will be added after the rails have been spiked down elsewhere. In the distance, the twin-span crossing of the Lynn River is above the hopper car, while across the aisle can be seen the road overpass just south of St. Williams. A 12-volt DC landscape lighting system lights the layout and will be hidden by a valance.

(Bottom right) 42"radius curves with easements and lots of room for non-dramatic scenery give the layout the relaxed feel essential for capturing rural southwestern Ontario railroading in the 1950s. The line in the foreground will run between orchards.

Tips ...

- If a layout sits neglected for over a year, it's time to think about whether that layout will ever be completed
- If layout design attempts repeatedly end in frustration, try designing in another scale
- It pays to think about one's non-hobby commitments and realistically assess one's available hobby time if one wants to plan an achievable layout
- If a scene from an adjacent branch fits, use it!

... and Trade-offs

- Switching scales, gauges or prototypes will involve some expense if one has to sell existing stock and purchase new equipment
- A favorite prototype or theme may not be well supported by manufacturers, especially in niche scales. Before committing to a new plan, it pays to assess what's needed to translate the design into a layout and then audit what's available from suppliers – *TM*



SP on a Shelf – the Clinton Branch

Even Class Ones can make for good switching layouts

by Greg Johnson

If you are a fan of the Southern Pacific, your concept of the railroad's identity was probably based on what you saw of the "Friendly SP" on a daily basis. In my case, it was black widow and grey-and-scarlet switch engines and road switchers shuffling cars and making transfers in the Houston, Texas area. So naturally, when I needed inspiration for a shelf-type switching layout, the prototype was there; residing in my memory and on previously shot negatives and transparencies.



Everyone expects petroleum and chemical industries in Houston (above, a refinery on the Clinton Branch), but grain and rice were major commodities as well. Greg featured all of these on his switching layout. (Below) In a nostalgic view from an earlier time, two SP switchers idle in front of a grain elevator. All photos by author.

An ideal switching layout prototype

There are several good locales for a switching layout based upon the railroad activities in the Houston area, but in my opinion the best was and is, the Clinton Branch of the Southern Pacific. Begun as the Direct Transportation Company and later the Texas Transportation Company, the line ran from downtown Houston to the head of navigation on Buffalo Bayou at the town of Clinton. Completed in 1876, the line was acquired by the Texas & New Orleans (T&NO) around the turn of the century, and in 1961 the T&NO was officially folded into the Southern Pacific family.

The interesting part of the branch is that it alternatively led or followed Houston's powerful industrial growth through the mid-twentieth century. Imagine a switching line with oil refineries, chemical plants, heavy manufacturing, cotton compresses, warehouses, grain elevators, oil tool manufacturing and docks and wharves.

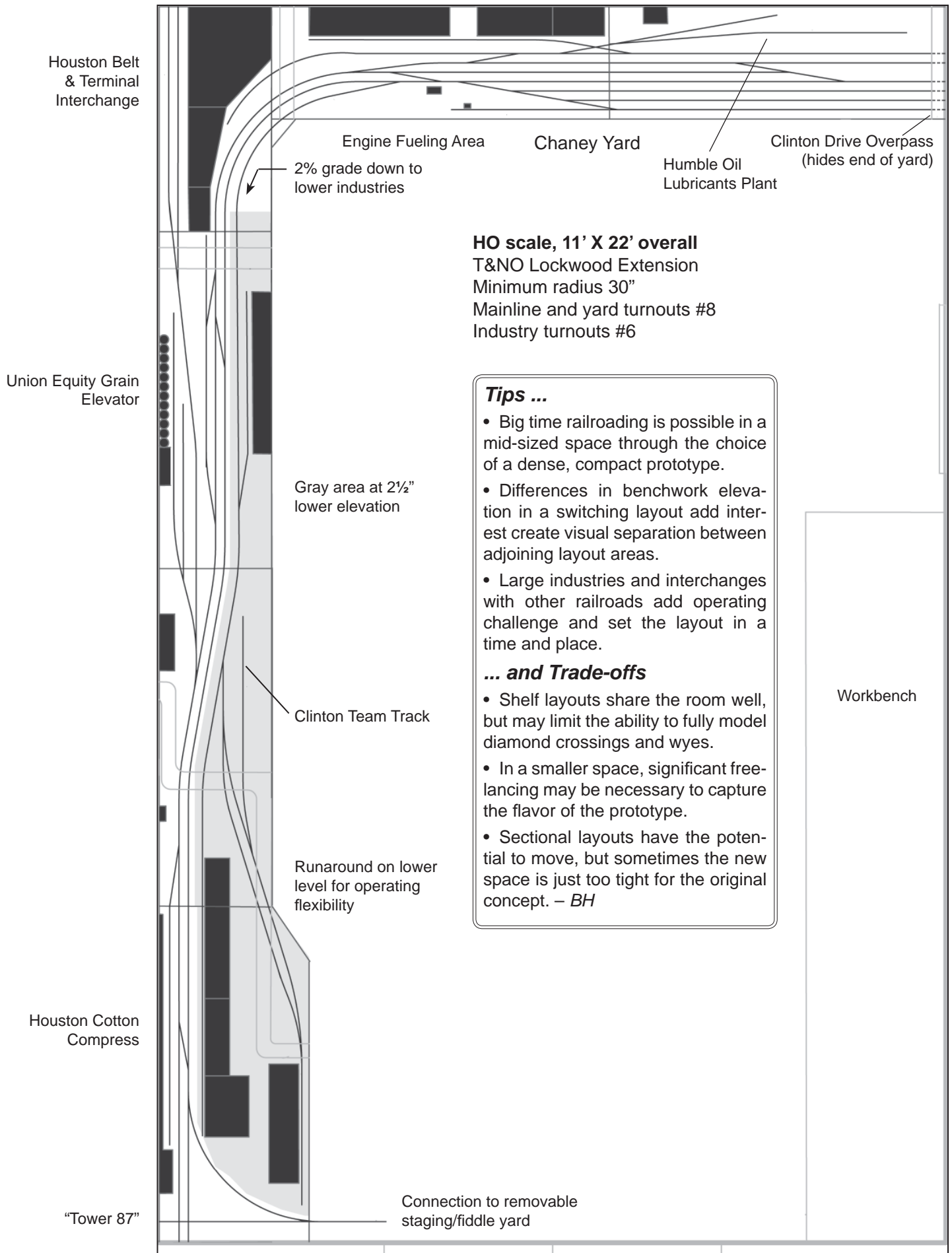
There was even an integrated steel mill (originally Sheffield Steel, then Armco Steel) that indirectly connected with the branch via the Port Terminal Railroad Association (PTRA). When you talk about industrial variety, the Clinton Branch had it. For over 50 years, part of the branch even hosted daily passenger trains between Houston and Galveston.

Track Design

Given all that, there was plenty to choose from when designing my switching layout. Overall size of the switching layout room is 11' x 22', however only the walls were available for railroad real estate acquisition.

The layout features a main yard at one end. On the other end of the layout, about 32 running feet away, there is an interchange connection with a removable fiddle yard. The fiddle yard, along with a Houston Belt & Terminal Railroad interchange, provide for plenty of new cars and destinations for off-line shipments.

Like the prototype, some of the trackage is both double-tracked and signaled. This attests to the level of interchange traffic, local trains



HO scale, 11' X 22' overall
 T&NO Lockwood Extension
 Minimum radius 30"
 Mainline and yard turnouts #8
 Industry turnouts #6

Tips ...

- Big time railroading is possible in a mid-sized space through the choice of a dense, compact prototype.
- Differences in benchwork elevation in a switching layout add interest create visual separation between adjoining layout areas.
- Large industries and interchanges with other railroads add operating challenge and set the layout in a time and place.

... and Trade-offs

- Shelf layouts share the room well, but may limit the ability to fully model diamond crossings and wyes.
- In a smaller space, significant free-lancing may be necessary to capture the flavor of the prototype.
- Sectional layouts have the potential to move, but sometimes the new space is just too tight for the original concept. – BH

Heavy Switching Design Challenge

A variety of prototypes and approaches from Tulsa 2011

by Charles J. Tapper. Additional plans and text by Bob Madison, Olaf Melhouse and David Salamon

Event organizers decided to hold our first Layout Design Challenge at the 2011 Tulsa OK NMRA/LDSIG/OpSIG Meeting. We chose the 14' X 17' overall attic space of a local modeler (me) that was to be finished and used as a layout room. (You may read more details of the Design Challenge process on page 20.) This article features six entries presented to attendees at the Meet.

Challengers received details of the attic space (see figures this page), "givens and 'druthers", and other background information.

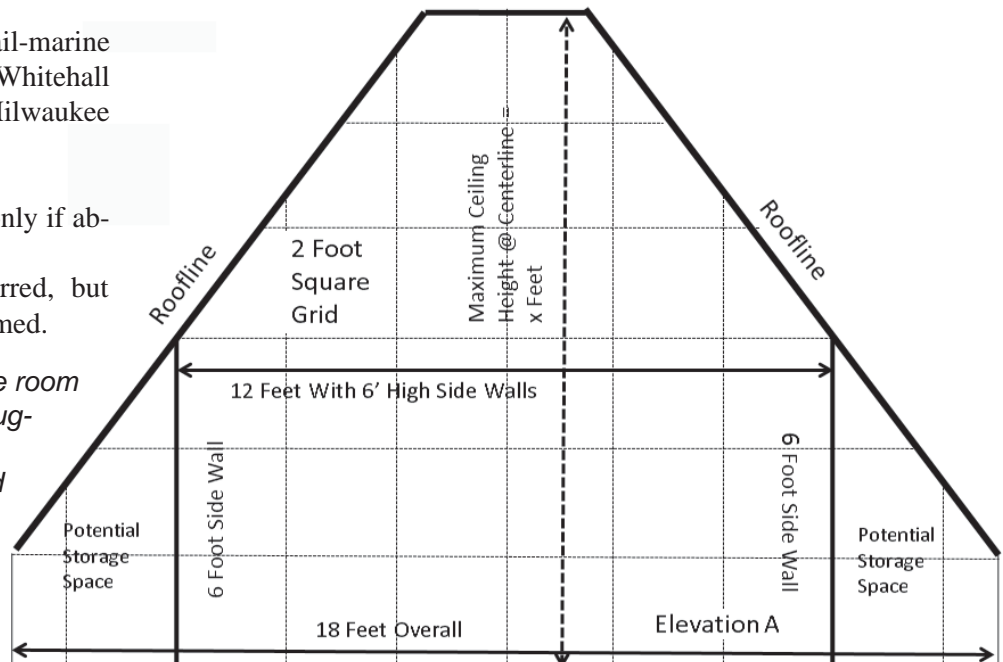
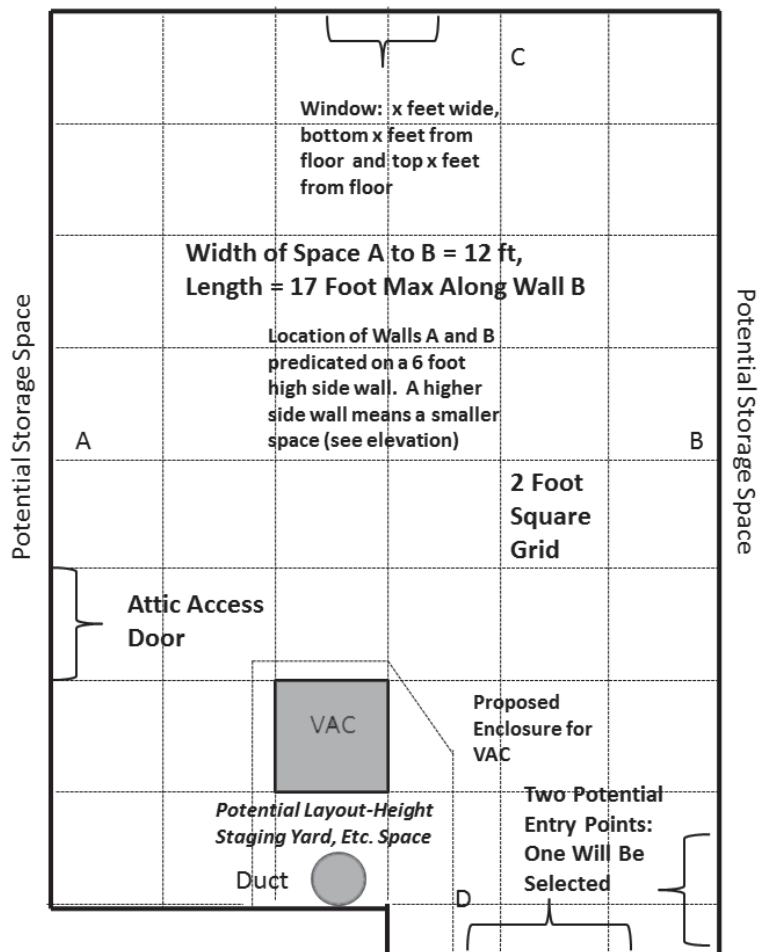
The concept suggested was heavy switching, either industrial/commercial or Class 1 (or a combination of both). This fit the interests of the space owner, in view of the limited number of operators that could realistically be accommodated in that space. Suggested preferences included, but were not limited to:

- Steel mill intraplant or interplant switching and terminal roads, examples of which include Union RR, Monongahela Connecting, Lake Terminal, McKeesport Connecting, Newburgh and South Shore. Can be integrated mill or mini-mill scenarios.
- Urban switching with a rail-marine component (Hoboken Shore, Brooklyn Eastern District Terminal [BEDT]).
- Urban switching without a rail-marine component (examples include the Whitehall Branch PRR, Kingsbury Branch Milwaukee Road, Kansas City Terminal).

A few important caveats were:

- No duckunders; gates or lift-ups only if absolutely necessary.
- Single deck designs were preferred, but multi-level designs were also welcomed.

The basic plan and elevation of the room for the Design Challenge. It was suggested that designers concentrate on the 12-foot-wide space that had 6-foot headroom or more. Before the Design Challenge occurred, the layout room was finished to a different configuration, and some plans reflect the revised room.



Gooseneck, Bottoms and Bluffs

Unique multideck HO layout of Kansas City's "West Bottoms"

by Rick Mugele

This layout has an interesting history. The first version was designed in response to *Model Railroader* magazine's 9'X11' track planning contest. Although not selected for publication, I later offered a revised version as an entry in the Urban Transfer and Belt Layout Design Challenge organized by Don Marenzi in 2009 for the Bay Area PCR/LDSIG/OpSIG Meeting (Rick's was the only entry that year – BH).

Design goals

The track plan was designed with several goals in mind:

- Interesting switching operation from the comfort of an office chair (see below).
- Easy access.
- DC-friendly design to take advantage of emerging control and sound technologies that are compatible with a DC layout.
- Diorama scenes that will help isolate lighting and sound effects within each scene.
- Some reference to recognizable prototype Layout Design Elements that will give the layout an identity.
- Minimalist scenery to avoid messy construction work in a finished room and to allow for easy changes to track and structures.
- Accommodation of sectional HO track and legacy DC equipment, if desired, showing that wholesale new investments are not required to create an engaging layout

Why Kansas City?

Big cities are generally good places to find lots of different railroads in a small area. A railroad map of Kansas City appeared in the *NMRA Bulletin* of April, 1973 along with a chart that indicated that the whole thing could be modeled in HO in a space of merely 460' x 825'! While this was good for a laugh, the map also included a matrix of interchange points for the thirteen railroad companies serving Kansas City in 1972. This would suggest 156 possible interchange moves!

Many K.C. railroads had several yards, so there would also be transfer runs between different yards of the same company. There was also a Union Station with its own engine facilities

and coach yards. All of this activity produced many short trains on interchange and transfer moves, caboose hops returning to the home yard, and road engines moving between yards, Union Station, and various engine terminals.

Evolution to switching operations

The passenger operations of the Santa Fe in Kansas City were the theme of a large layout built by Chuck Hitchcock and featured in *Model Railroad Planning* 1997. Kansas City transfer runs and industry switching were the theme of another large layout built by Jim Senese and featured in *Model Railroad Planning* 1999.

Eventually, Chuck Hitchcock was inspired by Jim Senese's operations and replaced his passenger-oriented layout with an industrial switching layout featured in *Model Railroad Planning* 2002. These layouts joined other terminal- and switching-oriented layouts receiving attention in the model press, such as David Barrow's industrial switching layouts featured in *Model Railroad Planning* 2004 and 2006.

Switching and terminal layout opportunities

What we can learn from all of this is that industrial switching and terminal operations can provide interesting operations with short trains. These operations are typically less structured than main line train operation (but just as challenging) and are often compared to the game of chess. Like the game of chess, industrial switching can be easy to learn and a long-term challenge to master.

The Gooseneck

Kansas City is hilly country except for the bottom lands. To gain elevation to cross the Hannibal Bridge, the old line of the Hannibal and St. Joseph (later CB&Q and BN) climbed up along the bluffs in an 'S' curve that became known as the "Gooseneck".

The tracks of the Missouri Pacific run under the approach to the bridge while a line of the Kansas City Terminal crossed over on the way up to the Kansas City Southern on top of the

"Like the game of chess, industrial switching can be easy to learn and a long-term challenge to master."

The principle of "building up" in West Bottoms is seen in Dan Mackey's 2011 photo of Holsum Foods. Note the tracks to the right of the building as well as into the "urban canyon" on the other side. These multi-story warehouses could readily be constructed from the modular structure sections offered by Walthers, DPM, and others. These would serve well as view blocks between adjacent areas in the track plan.

