

LAYOUT DESIGN

Fall 2011
\$8.00 US

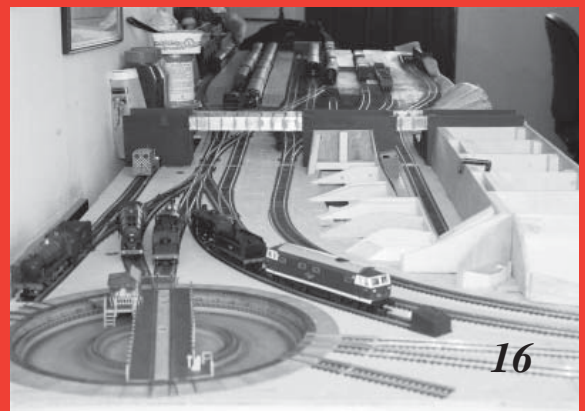
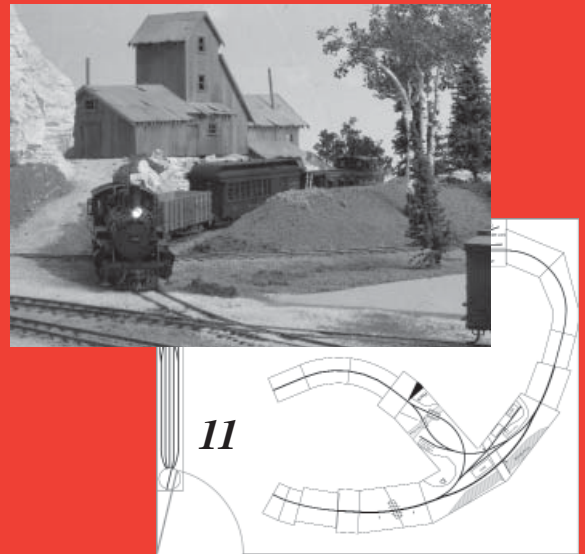
Journal 44

Official Publication of the Layout Design Special Interest Group, Inc.

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Layout Design SIG

The Layout Design Special Interest Group (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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LAYOUT DESIGN Journal

The *Layout Design Journal* (LDJ) is the official publication of the Layout Design Special Interest Group, Inc.

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Summer 2011
\$8.00 US
Official Publication of the Layout Design Special Interest Group, Inc.

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\$8.00 US
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\$8.00 US
Official Publication of the Layout Design Special Interest Group, Inc.

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Sections Designed to Move – and Do!

Midwestern-themed HO layout thrives in new spaces

by Doug Harding

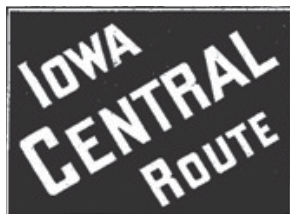
Knowing that I have moved my Iowa Central layout numerous times, our editor, Byron Henderson, asked me to write an article about my moveable benchwork design. First an introduction: I am a United Methodist pastor, which means I move, sometimes frequently, and I seldom have control over the housing arrangements with each new assignment.

Layout rooms: Ideal – and not

Any model railroad layout I built had to be moveable and it had to be flexible to fit in a wide variety of settings. Most of the time I have had a basement – and I mean a real basement, not one of those faux California basements I call a garage. Where I live, we need the garage to park the car out of the weather (or so my wife insists).

The basements in some homes have been ideal for layouts; others weren't fit to keep rats. In one location a spare bedroom was the best I could secure. My layout, the Iowa Central, has resided in spaces ranging from a 10' X 11' bedroom to a 28' X 60' basement where the laundry was upstairs (i.e., lots of space for the layout).

Currently there are forty sections totaling over 450 sq. ft. of bench work. Depending on the size and arrangement of each new basement, all of these sections may not be used and some



The prototype remains the same

Through all of these moves, I have modeled the former Iowa Central (IaC) portion of the Minneapolis and St. Louis (M&StL). I have used modeler's license to alter actual history. In my history, the Chicago Burlington & Quincy (CB&Q) acquired the Iowa Central Railroad in 1906. This was soon after the CB&Q began consolidating its other railroad holdings in 1904. I imagine that the CB&Q saw the Iowa Central as a direct link to its sister railroads in the Twin Cities: the Northern Pacific and the Great Northern.

By altering history and transferring ownership of the IaC to the CB&Q, my version of the IaC has become a stronger property with vital connections and much bridge traffic.

This altered history also allows me to make use of CB&Q equipment, including CB&Q decals, along with M&StL items. I am also planning to resurrect the long gone IaC herald and update it for use on home road equipment. I also have the freedom to use non-prototypical steam engines (hard to find for the M&StL, and limited for the CB&Q), as the “modern” IaC power. This prototype freelancing also allows me to enhance the traffic patterns and on line industry along this north-south line making it a prosperous and profitable line.

Building on real locations

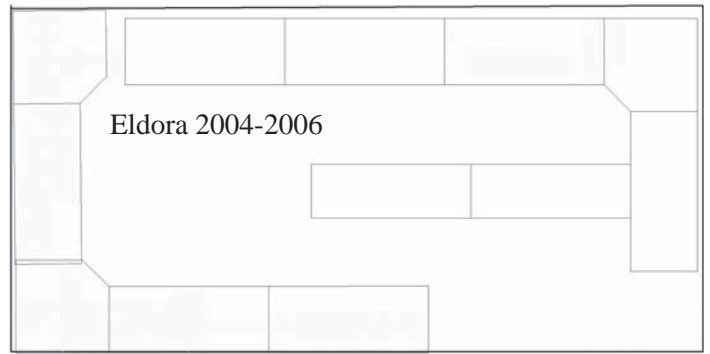
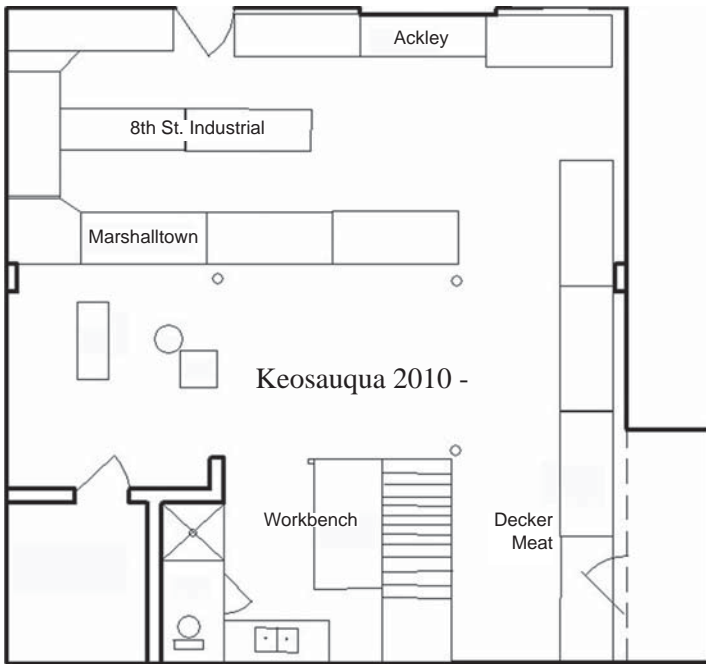
I model major locations of the original mainline of the Iowa Central, which ran from Albia to Mason City. The following towns or locations are built on the layout, from South to North: Albia, Bridgeport (Iowa Southern Utilities Power Plant), Eddyville, “Peoria Junction”, Oskaloosa, Grinnell, Marshalltown, Roland, Eldora, Ackley, and Mason City (see schematics at right).

Some “towns” occupy a single section, others spread over multiple sections. I didn't make any effort to keep the main lines in a particular location from section to section (as on a truly modular layout), they fall where they may.

Peoria is represented by staging tracks that run below and behind Albia. The Chicago &



Even long-time sections are occasionally rebuilt. At Doug's previous home, there was more room for Ackley, so Doug built a new version, shown here, to better reflect the prototype.



Sectional construction allows Doug's layout to adapt to a variety of new spaces as seen in these three sample floor plans.

When it's time to move to the next assignment, the integral backdrops help form a de facto "crate" with one section upside-down over another. The photo at bottom right shows the layout "kit" of 450 square feet of layout awaiting unpacking.

Not to scale

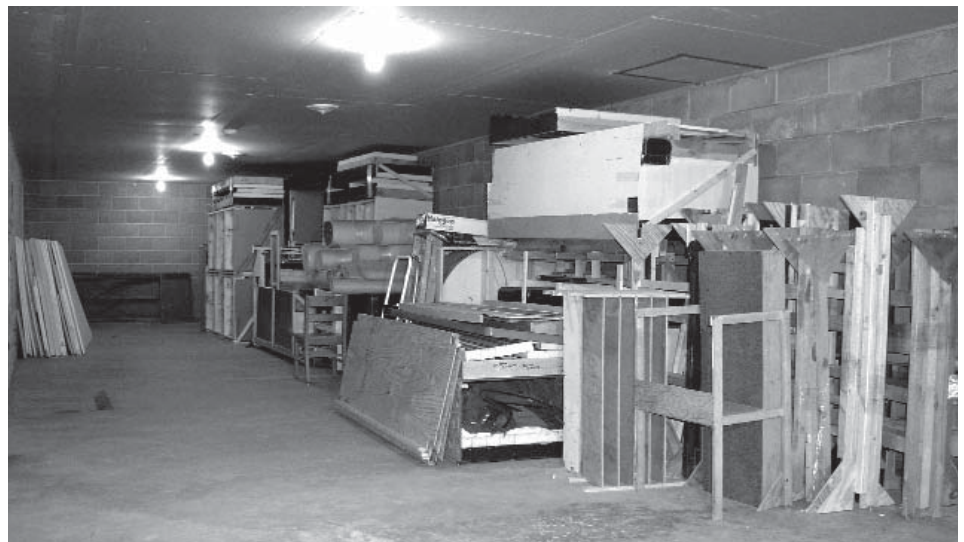
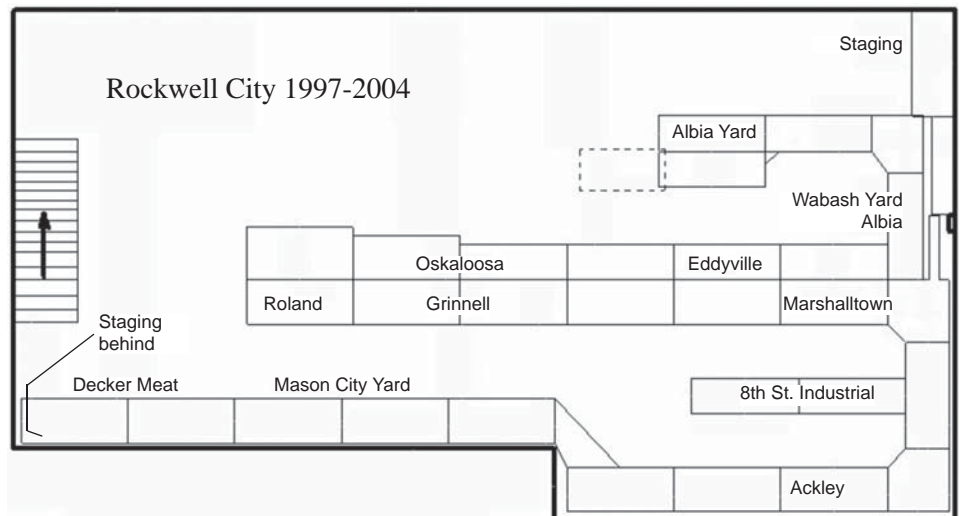
When it's Time to Move

Like the military, I am allotted so many pounds for moving, and must pay for any overage. Let me just say I am already over my limit, so anything that cuts weight is a high priority in construction matters.

I have learned to "crate" the sections by flipping one up over the other. The backdrops then form the sides of the crates while the wooden grids form the top and bottom. To do this, all railroad and scenery material must be glued in place or removed and packed separately. The ends of the resulting "crate" are enclosed with pieces of Masonite, cardboard, or even ¼" foam.

A 1x2 cross brace across the end keeps the crate from twisting. A couple of drywall screws run through the top of the backdrop into the framework of the other section makes this a tight, easy to handle "crate". Screw holes in the backdrop are not a concern, a carpenter taught me a long time ago that a tube of caulk (or spackling compound) will hide a lot of holes and gaps.

I've had professional movers ask me who did the crating; they thought it was a pro job. They found the crated sections very easy to handle and move, and were surprised at how light the sections were. -- DH



Modules for Home and Road

Silver Valley RR HO/HOn3 modules meet specific needs

by Wolfgang Dudler, NMRA Master Model Railroader #452

When my son Benjamin moved out of the house, it left an empty room in the basement. My wife told me, "Better a railroad than another storeroom", so I took the opportunity for a new layout in a new gauge for me. By spring 2009, I had built my first HOn3 stub switch.

With the new HOn3 FREMO Narrow Gauge Division developing, I saw a chance to build modules with handlaid trackwork soldered to PC ties. Soon the "new" room was filled with modules. The SILVER VALLEY RR was born: "The route from module to module."

"Scissors" at Silver Creek

Silver Creek was my first narrow gauge module. I wanted a module with some dual gauge track (HO/HOn3) and a wye. I'm only using the HOn3 rails at home, but when used at FREMO meetings, the narrow gauge line branch may connect to the dual gauge line at Silver Creek.

I ran into a few problems with the wye. I wanted this module to consist of three connecting sub-sections, hopefully with all of the narrow gauge wye tracks on one sub-section.

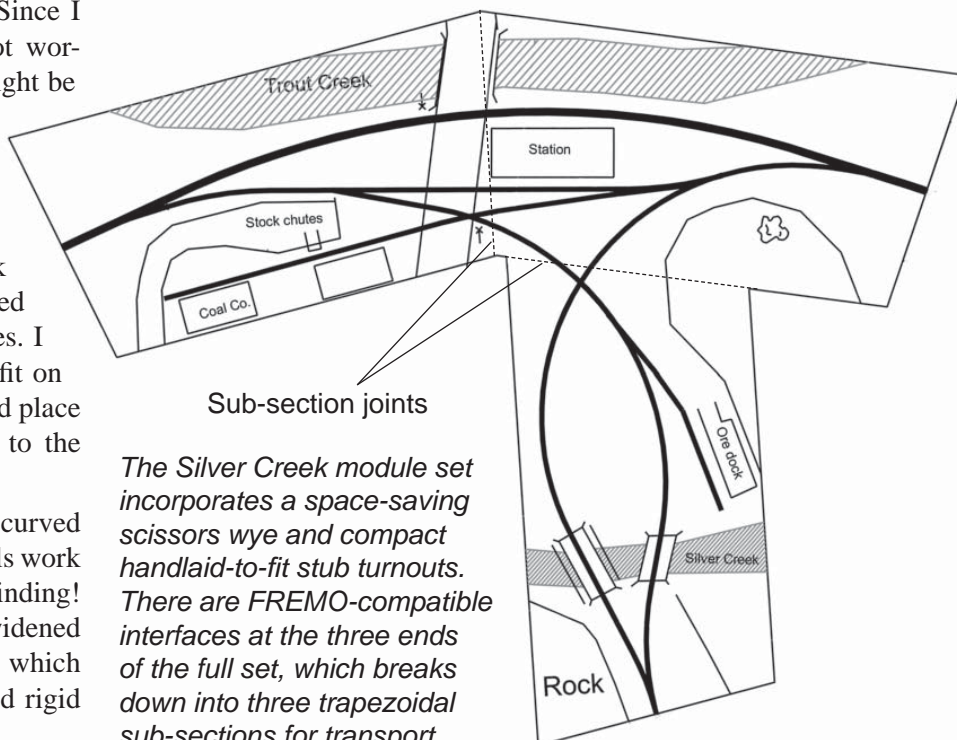
The first step was to choose a scissors-style wye (with a crossing in the middle). Since I was handlaying track to fit, I was not worried about the curved crossings that might be necessary. But I still needed fairly tight radii in the curved sections of the scissors wye to fit into the narrow benchwork I desired.

So first I made a narrow gauge test track and with help from some friends I tested the minimum radii for different engines. I shifted the wye tracks until both legs fit on one section. Using stub switches I could place the wye turnout as close as possible to the edge of the module.

But I ran into problems with the two curved crossings. At these tight radii, guard rails work like girder rails and the wheels were binding! I made the guard rails shorter and widened the flangeways through the crossing, which solved the problem of sharp radius and rigid engine frames.

Adding dual gauge

Silver Creek was the first module; a start in HOn3. I gained the experience of adding a third rail to make the through path on the Silver Creek an HO/HOn3 main line. The Silver Creek module set was ready for the FREMO meeting in October (track plan page 12).



The Silver Creek module set incorporates a space-saving scissors wye and compact handlaid-to-fit stub turnouts. There are FREMO-compatible interfaces at the three ends of the full set, which breaks down into three trapezoidal sub-sections for transport.

Tips ...

- Modules may be used as a home layout and for shows. Modules also let you explore new themes, scales, or gauges.
- Newer modular standards such as FREMO allow more flexibility in module shape and size
- Smaller and/or uniquely curved modules can solve particular problems at home and on the road

... and Trade-offs

- Transportation of modules must be considered in the design stage
- Smaller modules may be easier to transport stacked face-to-face, but more module joints may create alignment problems in a home layout
- Modular standards may restrict grades and limit scene depth – BH

Destinations for the narrow gauge

Our operations at the October meeting showed the need for a narrow gauge staging yard. So guess what? In December I started building a small staging yard, Fiddletown. It was ready for the next meeting in April.

I wanted a compact staging module to fit in a very small space. One can squeeze five HO/N3 tracks into a module one foot wide.

The first version of my staging yard had only two sub-sections, but I made two extensions to bring the full module length to eight feet (photo at right).

Show-driven Layout Design

Wolfgang is a very active member of the FREMO organization (the acronym is German for “Friendship of European Railway Modelers”), which operates modular layouts at many exhibitions across Europe.

For the Silver Creek project, many of Wolfgang’s layout design choices were driven by the needs of the exhibition modular layout set-ups, rather than what works best for his home layout. This led to smaller modules, some with small amounts of curvature, in order to fit specific modular set-ups. Smaller modules are easier to move, but with the trade-off that many small modules create more “seams” that limit the placement of turnouts and other elements.

FREMO (and its US offshoot Free-mo) has developed standards that allow much flexibility in layout design. While the end plates and layout height are specified, individual modules may be of any length and configuration.

This freedom of module size and shape is very beneficial for developing modules for home and club use, but it does mean that the modules are not typically used to create one large oval (as is the case with NTrak and similar systems). Instead, end loops are sometimes included to provide continuous running in a show environment.

For more information:

FREMO home page

www.fremo-net.eu

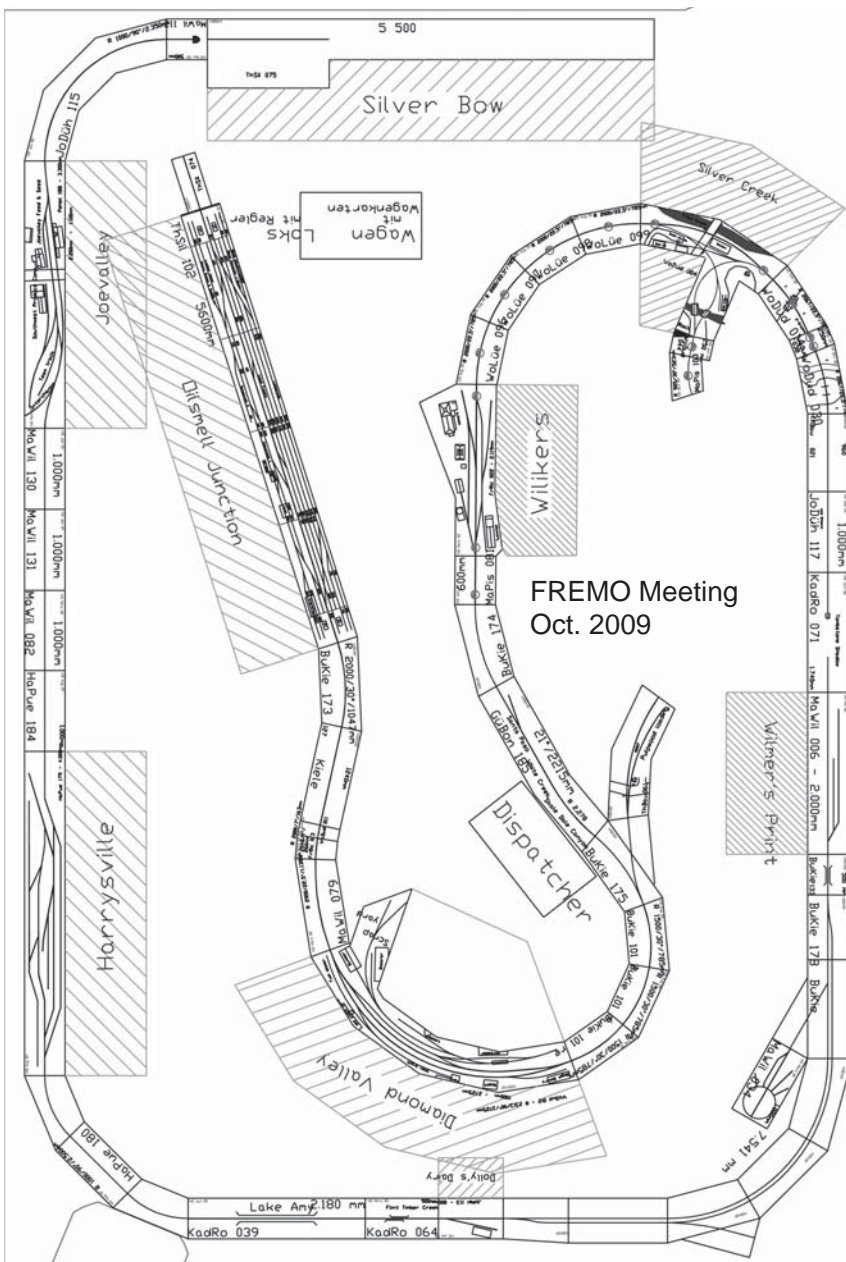
English version

www.fremo-net.eu/23.html?&L=6

US Free-Mo

www.free-mo.org

-- BH



The three-rail dual gauge HO/HO N3 main line through the base of the Silver Creek wye allows it to be used in standard- or narrow gauge set-ups. Note the “free-form” shape typical of FREMO layouts (left).

Trenance: Compact English Terminus

Salvaged section becomes portable OO exhibition layout

by Nigel Mann

As finally realized (but not yet complete!), my freelanced portable exhibition layout of Trenance represents a harbourside railway terminal shared by the Great Western Railway and Southern Railway in North Cornwall, England in the 1950s. While there really is a town of Trenance, no railway ever reached it: my design is based on the character of similar locales.



But Trenance began as something completely different. I have over the past 25 years operated a part-time layout design and building service. It is an “at home” service where I visit the customer and do most of the construction in the customer home, involving them in the process where possible.

Begin with a garage ...

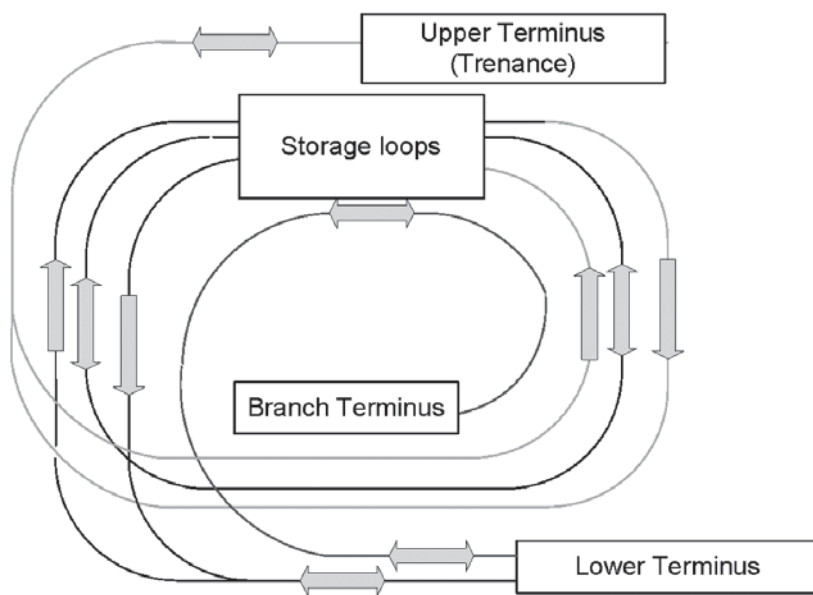
This particular commission was for a layout to fit into a garage which had been converted for the purpose of housing a model railway. I designed a layout to use the maximum size of the 16' X 10' room, with usable space of about 12' X 10' (see photo this page).

Given the desire that the layout had to provide engaging operation for two people with a mix of express and local passenger trains together with freight traffic, I created a three-level solution. Trains from the top level terminus dropped down to a mid level at which trains could independently travel round a circuit (one for up and one for down trains). The mid level included some loops¹ to allow multiple trains to be housed on the mid level.

From the mid level, tracks then dropped down to the lowest level where a larger terminus station was planned. Double track was provided between the two termini to allow independent operation of each line (up and down).

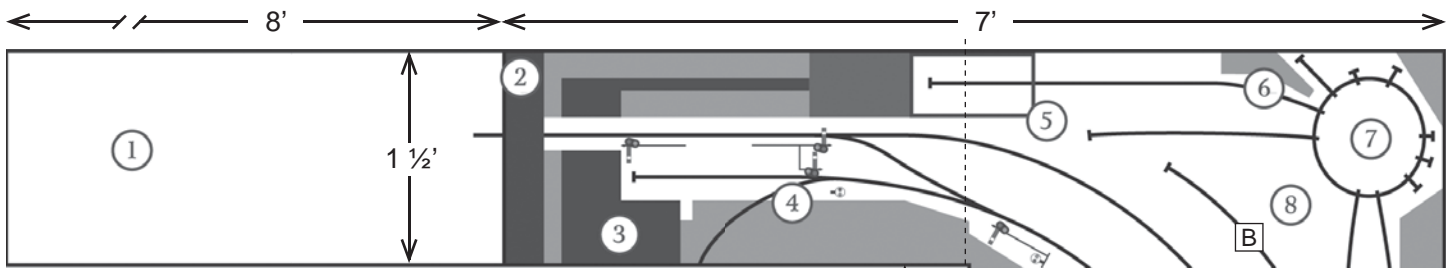
The mid level was designed to allow the operation of trains around the circuit and extending the journey for any train travelling between the two termini. As there was no connection between the up and down lines, any train leaving one terminus had to eventually arrive at the other terminus. The concept was that each operator would control one terminus and drive trains from the far terminus towards their own.

On the lower level a further branch curved off at the same elevation past a dock scene to a country terminus from where a further goods branch came off back to an Army depot.



The original layout that spawned Trenance was far from portable. In the photo at top, the portion that became Trenance would have been an Upper Terminus above the tracks at the upper right. The Branch Terminus is seen at the lower left. (Above) The schematic shows how this original layout allowed trains to make multiple loops before arriving at the opposite terminus. All photos by the author.

¹ English “loops” are American English “sidings” (double-ended). English “sidings” are American English “spurs” (single-ended).



Legend

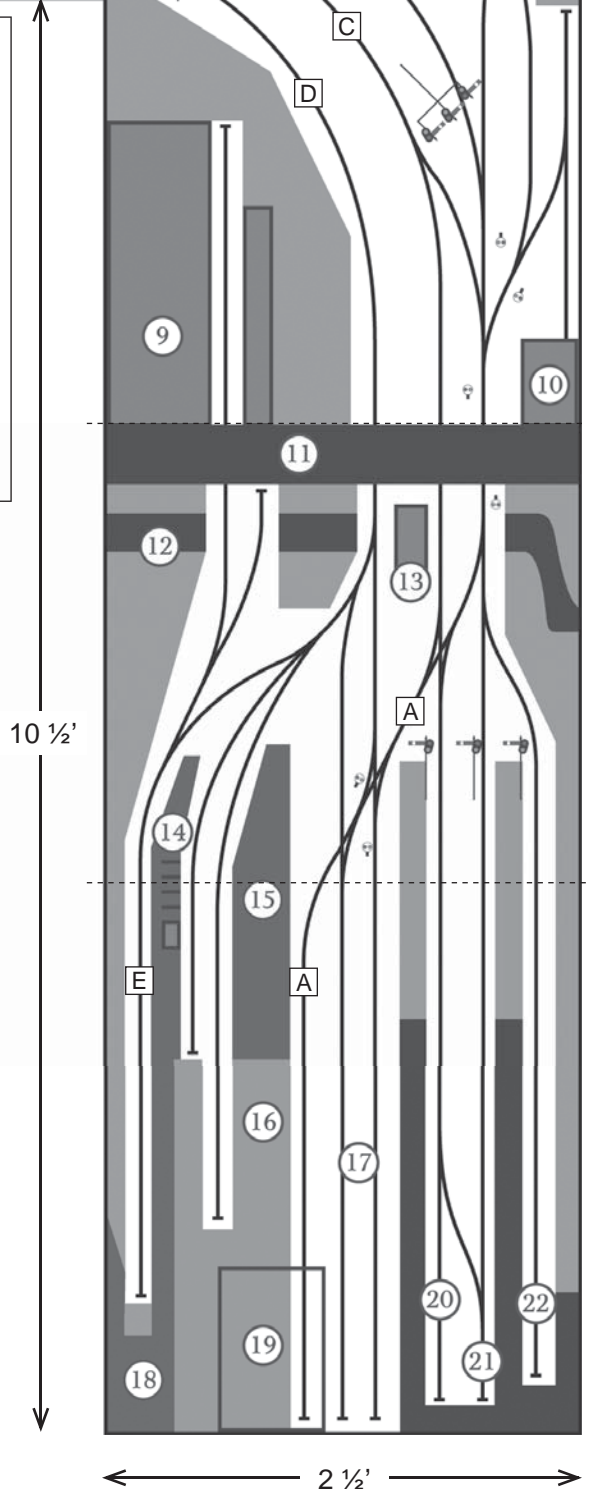
1. Fiddle yard	11. Road over railway
2. Footbridge over railway and scenic break	12. Stream under railway
3. Harbor and stream under the railway	13. Signal box
4. Abandoned harbor branch	14. Coal merchant
5. Engine shed and cattle dock	15. Goods yard
6. Coaling platform	16. Loading platforms
7. Turntable	17. Carriage sidings
8. Locomotive depot	18. Access road to goods depot
9. Oil depot	19. Goods shed
10. Water tank and staff entrance from bridge	20. Platform 3
	21. Platform 2
	22. Platform 1
	A,B, etc. – see text

into which the layout was being built. Now this line heads off toward the fiddle yard past the engine shed and an old harbour area, which includes a siding for holding overflow wagons and coaches. The line continues over a bridge at the end of the harbour, under a footbridge and into the fiddle yard (photo page 20).

The link to the goods spur (“D”) runs inside the curve of the main line to provide independent access to the freight yard. It provides access into the main spread of sidings in the freight yard and a link to the track known as the oil spur (“E”). This oil spur is only used to shunt oil trains or prepare departing freight trains. There are no freight handling facilities available on its length.



It's interesting to note that the complex yard throat is made up of off-the-shelf PECO Code 100 turnouts and slips. Nigel's track plan is designed to provide maximum operating flexibility in tight quarters with many tracks performing multiple duties during the exhibition operating sequence.



OO scale, 12' X 15' overall
(with fiddle yard)
Not to scale

What Would you do Differently?

Experienced panel of layout owners offer advice

Phil Gulley, Robert Hoffman, David Parks, Jim Providenza and Jim Radkey

Moderated by Seth Neumann, transcribed and edited by Dick Zeren

“You really don’t need a massive layout to have fun.”

One of the LDSIG-sponsored panels at the Sacramento X2011 West National Convention brought together five experienced layout builders for a discussion moderated by LDSIG President Seth Neumann (an experienced layout owner and operator himself).

The general topic for discussion was “What Would you do Differently?” based on their own experiences with their successful designs. The panelists had their layouts open for tours and/or op sessions for the Convention.

Layout owners included Phil Gulley, Robert Hoffman, David Parks, Jim Providenza and Jim Radkey (see sidebar below for their modeling background). [Since there are two Jims, we’ll spell out their last names in the text below, for the others we’ve used first names.]

LDJ volunteer Dick Zeren transcribed and story-edited the recorded panel discussion. Dick

is a member of David Parks’ construction and operating crew and has visited or operated a number of the other owners’ layouts.

Lessons learned – not to be repeated

Seth’s first question to each panelist was: **“Based on your experience, what would you not do again?”**

David responded, “I have 2,600 feet of staging and ramps [just] to get the trains to the point where they appear on the visible layout. I would not do that again.” He added, “No long runs – no runs at all – from staging to the visible layout.”

Robert suggested not trying to plan before buying the house. His dream designs were well beyond the space ultimately available.

Jim Radkey said, “I would have chosen wider aisles. I also needed a ‘standards party’” (see sidebar, page 30)

Phil commented, “You really don’t need a massive layout” to have fun.

Jim Providenza noted that a change from the steam to the diesel era required more staging to match his evolved layout concept.

Changes based on experience

Seth next asked: **“What would you change?”**

David kicked off with, “I have so many things! One of the main problems is that the layout has junctions on both the Baltimore & Ohio and Western Maryland, with nearly equal traffic on each leg.”

Prototype operations were much more complex than David realized and this created problems. He needed lots of staging, but that created long hidden runs to the visible layout.

David thought staged trains could be automated but this wasn’t practical at the time. [It is just now being implemented nine years after starting the layout. – DZ] If he had it to do over again, these long runs would be eliminated. David also remarked “...with two railroads, I didn’t know... what I was getting into.”

Panelists and Their Layouts

The discussion opened with each of the panelists describing their current layouts.

Phil Gulley models the UP from Ogden up to Wasatch in 1952, including the Park City branch. The layout is in a 1500 sq. ft. purpose-built building. The Park City branch is the first segment to be built and is now fully operational.

Robert Hoffman dedicated his 22’X18’ two-car garage to the Santa Fe Hereford Sub, between Clovis NM and Amarillo TX, in 1983-85, planning operations for 24 hour “days.” He chose the era and the Amarillo area because he wanted “to have trains that looked different from each other – not just all container trains.” He noted that night operations significantly affect design.

David Parks described digging a 1200-square-foot basement for a layout based on the B&O and Western Maryland in Cumberland MD in 1953. David first saw Cumberland on Amtrak. “It looked really cool to model – It looked like a model railroad” So he went back to research the area. Both railroads from the east split into westward and northwestward main lines, with heavy action on each leg of each railroad.

Jim Providenza models the freelance Santa Cruz Northern 1971-2 era, as a subsidiary of the Western Pacific connecting San Jose to Santa Cruz CA on 2 decks in a two-car garage.

Jim Radkey had an 18’X21’ carriage house that was about to fall over, so he rebuilt it to house his BNSF in 1995, known as the “Pink Lady” for its extruded pink foam structure. Jim learned a lot about construction from rebuilding the carriage house, which he says was good background for layout building. -- DZ