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RAPIDO







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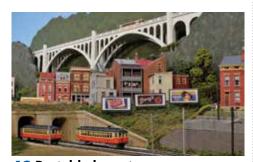
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On the cover: The Coast Starlight detours through Tyler Whitcomb's N scale Tenino Western layout.

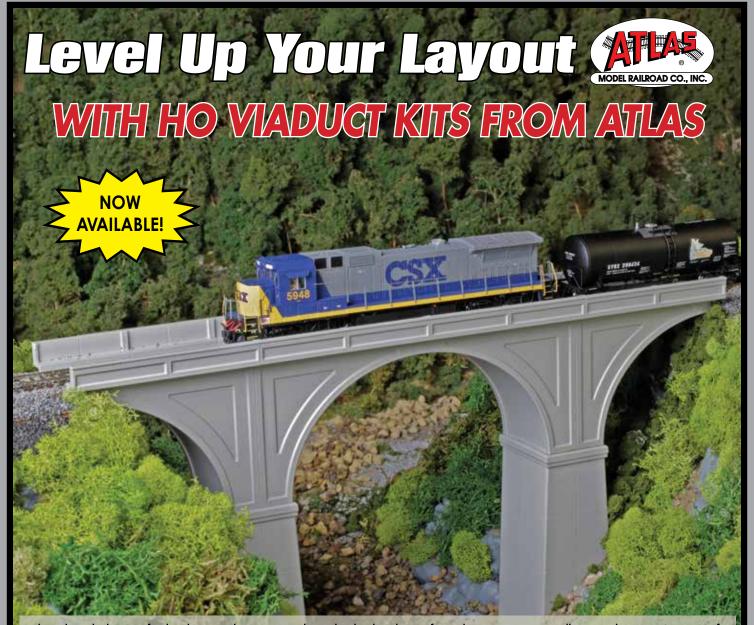
Tyler Whitcomb photo



Next issue

In November, see mountain scenery join urban canyons, learn to make autumn trees, scratchbuild a depot, model a layout design element, and more!

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Throughout the history of railroad structural engineering, the viaduct has long been a favored way to cross steep valleys or wide rivers. Consisting of a series of elevated arches or piers supporting a long flat roadbed between two points of roughly the same elevation, classic viaducts were impressive structures made of stone or reinforced concrete construction. Although taking more time to build than a wooden, iron, or steel open frame bridge, masonry viaducts could safely span greater distances and handle greater loading with less maintenance over their lifetimes.

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- Height (w/piers) to deck 9 5/8", to top of railings 10 3/8"; Height (w/o piers) to deck 3 $\frac{1}{2}$ ", to top of railings 4\%"

Pre-production Concrete Single Track Kit shown assembled.



For more information on these and other high quality Atlas products, visit your local hobby shop or www.atlasrr.com!









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Accurately modeling the 1950s

The transition era remains one of the most popular time periods with railroad hobbyists. It offers both steam and diesel locomotives, prewar and postwar rolling stock, and a booming economy that was still fueling railroads' prosperity with robust freight and passenger traffic. This article from Mitch Horner offers plenty of tips, as well as links to more in-depth stories for people who really want to dig into the time period.



Building a glass plant

Model Railroader magazine Editor Eric White introduces his modeling project for the East Troy Industrial Park layout, an upcoming series in the magazine that's previewing on Trains.com Video. Follow along as Eric explains how he plans to model this fascinating rail-served industry using kitbashing and scratchbuilding techniques, supported by onsite research.

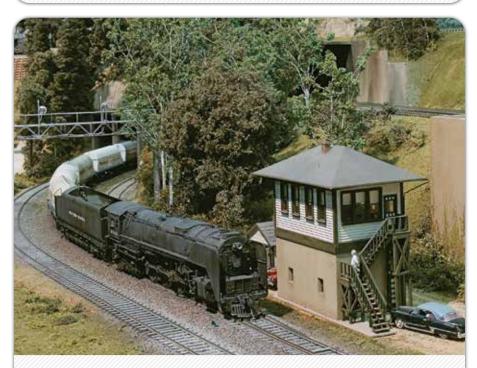


Photo of the day

We take a look back at some of the best modeling that has run in *Model Railroader* magazine over the years. S scale gained popularity during the 1940s and '50s because of American Flyer toy trains, and the scale is still going strong today. Here we see New York Central 4-8-4 No. 6008 passing Tower SM with a milk train on Ed Loiseaux's New York Central Valley Division layout. Andy Sperandeo took the photo.

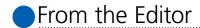


Episode 15: Installing Switch Motors

East Troy Industrial Park: Switch motors

Learn how the Model Railroader/
Trains.com team installed Walthers
Layout Control System Switch
Machines on our new project layout. David Popp and Bryson Sleppy
get under the benchwork and show
you how to get the most out of
these versatile devices. Remember,
as a Trains.com member, you can go
back and catch up on any episodes
you might have missed, and you can
keep up with all of the new videos
as we post them!





Novi convention: Not your father's NMRA

As I write this, I'm organizing my thoughts about the recently concluded National Model Railroad Association convention in Novi, Mich. The North Central Region of the NMRA set out to create a different convention that was more accessible to more people, and appear to have succeeded wildly.

Trains.com staff writer Lucas Iverson and I attended around a dozen layout open houses, spoke to multiple vendors, attended several clinics, and came away with confidence the hobby is doing just fine, and the NMRA is positioning itself to be relevant well beyond the 90 years it's been around so far.

The NMRA and Model Railroader have a long history together, with MR founder Al Kalmbach also being a founder of the NMRA.

This month, we hear from NMRA Magazine Editor

Cinthia Priest, who shares her experiences as a model railroader, and how membership in the hobby organization made her participation in the hobby more fulfilling.

As the NMRA's 90th anniversary year comes to a close, we'll be featuring stories that share people's experiences with the group.

Many people know about its role in setting standards in the model railroad hobby. Though many of those standards have long been set, such as track and wheelsets, rolling stock weights, and coupler heights, there are still developments on the horizon.

Technology is changing the hobby, just as it is the rest of modern life. How these changes get implemented in the hobby may be something the NMRA needs to have discussions about.

One of the clinics Lucas and I attended was about

using battery power in locomotives. Popularly known as "dead rail" by many, NMRA President Gordy Robinson opts for the less ominous "power on board," reasoning that the rails may not be dead, or unpowered, but capable of supplying power to recharge locomotive batteries.

Other discussions covered topics such as 3D printing, which is really coming into its own as a viable method for building unique models that would have been extremely difficult in the past, especially if you wanted more than one identical item, be it windows, doors, or other architectural details, or complete body shells for locomotives and rolling stock.

You can check out our video coverage of the convention on Trains.com. If any of this has you considering attending next year's convention in Chattanooga, don't



wait! This year's convention was popular enough that organizers had to turn away walk-up attendees as they had reached the hotel's maximum occupancy in the public spaces.

There's much to be excited about with the NMRA, so go ahead and check it out.

See you next year in Chattanooga!



Craig Fuller

David Bradford

Keith Beckman

Preston Brown

Nicole McGuire

Tripp Thurston

Amanda Joyce

Barry Carpenter

Nicole McGuire

Model railroading is fun!

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We welcome contributions from readers, including articles, photographs, and drawings. For more information on submitting material, email Editor Eric White at eric.white@firecrown.com. Model Railroader assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Firecrown Media unless otherwise noted. We assume letters, questions, news releases, and club news items are contributed gratis.

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Norfolk Southern AC44C6M diesel locomotives. ScaleTrains offers these modern road units in six different Norfolk Southern paint schemes, including the "Sonic Bonnet" and black mane with blue stripes. Features on the HO scale AC44C6M include factory-applied m.u. and train line hoses, m.u. cables, and uncoupling levers; see-through, etched-

metal radiator intake and exhaust grills on the sides and top of radiator compartment; General Electric Hi-Ad trucks with rotating bearing caps; and factory-painted wheel faces. Direct-current models with 21-pin connector are priced at \$225. Models with an ESU LokSound V5 sound decoder sell for \$335. ScaleTrains, 844-987-2467, scaletrains.com

HO scale locomotives



 Electro-Motive Division F45 diesel **locomotive.** Burlington Northern; Atchison, Topeka & Santa Fe; Canadian Pacific; Copper State Ry.; New York, Susquehanna & Western; and Utah Ry. Detailed cab interior; see-through cab windows: Flexicoil-C sideframes with high brake cylinders; detailed fuel tank with fillers, gauges, and breather pipes; and flexible rubber train line and m.u. hoses. Minimum radius, 18"; recommended radius, 22". Direct-current model, \$264.99; with SoundTraxx Tsunami2 sound decoder, \$369.99. Genesis series. Athearn Trains, 800-338-4639, athearn.com



• General Electric E44 electric locomotive. Conrail, Amtrak, Penn Central, and Pennsylvania RR. Operating pantographs (DCC only); road-number-specific details; three styles of roof vents, hood doors, and end doors; various vent hoods as appropriate; and full cab interior with illuminated consoles. Direct-current model, \$389.95; with ESU LokSound V5 sound decoder, \$499.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• General Electric ES44AC GEVO diesel locomotive. CPKC, BNSF Ry., CSX (Baltimore & Ohio, Chesapeake & Ohio, Chessie System, and Pere Marquette heritage units), Norfolk Southern, and Union Pacific. Molded drill starter points for grab irons. Prototype-specific trucks (three styles), factory-installed speaker in DC and DCC versions, six powered axles per unit, and two- or four-vent dynamic brake vent as appropriate. Direct-current model, \$195.98; with ESU Sound and DCC, \$260.98. Wm. K. Walthers Inc., 414-527-0770, walthers.com

HO scale freight cars

• American Car & Foundry two-bay Center Flow covered hopper. BNSF Ry., Chicago & North Western, DuPont, GATX Leasing, Montana Rail Link, Norfolk Southern, Union Pacific (Denver & Rio Grande Western reporting marks), and Winchester & Western. Multiple road numbers per scheme. Etched-metal running boards, metal knuckle couplers, and InterMountain metal wheelsets. \$46.95. InterMountain Railway Co., 800-472-2530, intermountain-railway.com



• Bethlehem Steel Car F68BH finger rack flatcar. Trailer Train and TTX.

Prototype-specific details; underbody brake system with more than 18 separately applied parts, including air reservoir, control valve, and reduction relay valve; detailed 100-ton trucks with hydraulic snubber and bracket details; and vertical handbrake staff and housing with detailed wheel. \$52.99. Rivet Counter line. ScaleTrains, 844-987-2467, scaletrains.com



• Thrall 5,800-cubic-foot capacity double-plug-door boxcar. St. Louis-San Francisco (Frisco); Atchison, Topeka & Santa Fe; Canadian Pacific; and Milwaukee Road. Multiple road numbers per scheme. Factory-applied door rods, handles, tack boards, door track details, and flexible rubber air hoses. See-through Apex, Gypsum, or Morton crossover platforms as appropriate and metal stirrup steps and uncoupling levers. \$58.95. Tangent Scale Models, 828-412-3886, tangentscalemodels.com



• Evans 4,780-cubic-foot capacity three-bay covered hopper. Greenwood (Neb.) Farmers Co-op, ADM Milling





Electro-Motive Division SW7 diesel locomotive. Road names on the latest run of this end-cab switcher from Broadway Limited Imports include Amtrak, Nickel Plate Road, Norfolk & Western, Pennsylvania RR, St. Louis Southwestern (Cotton Belt), Union Pacific, and Union RR. The N scale SW7, offered in two road numbers per scheme, has a die-cast metal body and chassis, plastic cab, and single or dual headlights as appropriate. The switcher has a minimum radius of 9". Stealth-series models (no sound) retail for \$189.99. Models with a dual-mode Paragon4 sound decoder are \$259.99. Broadway Limited Imports, 386-673-8900, broadway-limited.com

Co., Armstrong, Aurora (Neb.) Co-op Elevator Co., FMC Chemicals, Hampton (Neb.) Co-op Elevator Co., and Louis Dreyfus Corp. Factory-installed grab irons; see-through, etched-metal running boards and end platforms; and 36" metal wheelsets. \$57.98. WalthersProto. Wm. K. Walthers Inc., 414-527-0770, walthers.com

HO scale passenger equipment



• 1800s wood passenger cars.

Atchison, Topeka & Santa Fe; Baltimore & Ohio; Pennsylvania RR; and Union Pacific. Coach and combine. Metal vertical brake staff with plastic brake wheel,

and Bachmann couplers. \$23.98. Rock Island Hobby, rockislandhobby.com

HO scale transit equipment



• Chicago Transit Authority Budd 2600 series 'L' cars. Chicago Transit Authority (As-delivered, Speedlines logo, Circle logo, Work Motor, Pink Line promotional, and 75th anniversary schemes). Also available painted silver and black but unlettered. One powered and one unpowered car per two-car set. Interior with seat and decoration details; operating headlights, marker lights, and interior lighting on both ends; and detailed underbodies. Two-car set, \$389.95; with sound, \$499.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com

In Memoriam

David Renard, 1936-2025

David (Dave) Renard, co-founder of the Hartford Associates for Railroad Modeling (HARM) and National Model Railroad Association Master Model Railroader No. 35, passed away on April 7. He was 89 years old.

David started work on his HO scale Sylvania Central RR in 1965. The freelanced layout was set in the mid-1960s and featured freight and passenger trains. He worked on the roughly 10 x 20-foot layout for more than 50 years.

A tribute on the HARM website said, "In every carefully laid rail and hand-built structure, Dave told a story — not just of railroads, but of patience, imagination, and heart. He was more than a Master Model Railroader — he was a master of bringing dreams to life in miniature."

HO scale track



 Chicago Transit Authority elevated **track system.** Elevated transit curved kit with rails installed (45 degrees, one bridge section with joiners), display (three assembled straight sections with box), and straight track kit with rails installed (one bridge section with joiners). Each double-track kit contains nickel-silver rail and bridge pieces. Track and bridge components have keyed sections to join together. Curve sections feature Chicago Transit Authority's unique heavy guardrail on inside curves with bolt detail. Includes third rail, guardrail, and center walkways. Bridge girders have rivet detail. Inside curve radius, 15". Assembled display track, \$99.95; straight track kit, \$29.95; curved track kits, \$49.95; Elevated track rail joiners (48 pieces), \$6.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com









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News & Reviews

Club offerings



• Western Fruit Express 40-foot steel hinged-door refrigerator cars. Accurail HO scale kits custom decorated for the Great Northern Ry. Historical Society. Three paint schemes (1949, 1956-1960, and 1960 to end of service). 68400-68649 series. One to two road numbers per scheme. Plastic kits with plastic wheelsets, weight, and Accumate couplers. \$31.95 each. GNRHS Company Store, gnrhs.org/store

N scale rolling stock

• Pullman-Standard 60-foot flatcar. Alaska RR; Atchison, Topeka & Santa Fe; BNSF Ry.; Southern Ry.; Trailer Train; TTX; and Union Pacific. Multiple road numbers per paint scheme. Bodymounted knuckle couplers and InterMountain metal wheelsets. \$38.95. InterMountain Railway Co., 800-472-2530, intermountain-railway.com

Z scale locomotives

• Electro-Motive Division SD50 diesel locomotive. Kansas City Southern (white with red lettering and yellow sill stripe). Two road numbers. Prototype-specific details, blackened metal wheels, traction tires, and American Z Line AutoLatch couplers. Contact manufacturer for pricing information. American Z Line, 614-764-1703, americanzline.com

Z scale freight cars

• Association of American Railroads 40-foot modified 1937 boxcar.

Chicago, Burlington & Quincy (Boxcar Red with "Everywhere West" on one side and "Way of the Zephyrs" on the opposite side). Single car and two-pack. Etched-metal running boards, positionable doors, solid-bearing trucks with blackened metal wheels, and truckmounted AutoLatch knuckle couplers. Contact manufacturer for pricing information. American Z Line, 614-764-1703, americanzline.com

Rapido HO Fairbanks-Morse H16-44



A Fairbanks-Morse H16-44 diesel locomotive, based on a Phase III prototype, is now available from Rapido Trains. The HO scale model features plastic and diecast metal construction, prototypespecific details, and body-mounted Macdonald-Cartier metal couplers.

Fairbanks-Morse, and its Canadian subsidiary Canadian Locomotive Co., produced the H16-44 from April 1950 until March 1963. During the course of the production, 299 units were built for railroads in the United States, Canada, and Mexico.

The sample we received is decorated as Milwaukee Road 435, part of the railroad's 400 through 436 series. The fouraxle road switcher was built in January 1956 as Milwaukee Road 2515 and renumbered 435 in 1959. The H16-44 was retired in April 1976 and scrapped on May 14, 1976 at the railroad's shops in Milwaukee, Wis.

Spotting features on Phase III locomotives include C-Liner trucks with a curved-bottom drop equalizer, straight walkways, and a smaller radiator section.

Of the 37 H16-44 diesels the Milwaukee Road rostered, eight (429 through 436) were Phase III models.

The Rapido H16-44 has many separate, factoryapplied parts. Details on the front and rear pilots include m.u. and train line hoses, footboard pilot handrails, uncoupling levers, and m.u. receptacles. The model is complemented by seethrough, etched-metal footboards, steps, and radiator fan screens.

Additional details on the Milwaukee Road unit include wind deflectors on the conductor's side of the cab and an all-weather window on the engineer's side. Modeler-installed Automatic Car Identification plates and an extra all-weather window are included.

Our review sample is neatly painted

in Milwaukee Road's orange-and-black scheme. The herald and lettering placement matches prototype images of the 435 that I found online. The road numbers on the long hood look a whisker oversize, but hardly what I'd consider a deal breaker. The bottoms of the stanchions that extend into the orange should be painted to match.

Drawings of the H16-44 were printed in the 1956 *Locomotive Cyclopedia of American Practice* (Simmons-Boardman Publishing Corp.) The Rapido model matches all dimensions.

The sample we received has an ESU

LokSound V5 sound decoder. For workbench testing, I used an NCE Power Cab. At step 2, the four-axle road switcher crawled along at less than 2 scale mph. The H16-44 achieved a top speed of 72 scale mph at step 28.

The locomotive easily switched cars on our Winston-Salem Southbound

Tar Branch. With a drawbar pull of 3.8 ounces, the H16-44 can pull 53 freerolling cars on straight and level track.

Rapido has done a great job capturing the lines of the FM H16-44. The sounds of the single-chime air horns and the rumble of the eight cylinder, opposed-piston diesel engine are the icing on the cake. — *Cody Grivno, senior editor*

Facts & features

Price: Direct-current model, \$225; with ESU LokSound V5 decoder, \$335

Manufacturer

Rapido Trains Inc. 382 High St. Buffalo, NY 14204 rapidotrains.com

Era: 1959 to 1976 (as decorated)
Road names: Milwaukee Road; Baltimore & Ohio; Canadian National (green and yellow and "wet noodle" schemes);
Canadian Pacific (maroon and gray with block lettering and Action Red schemes);
New York, New Haven & Hartford (McGinnis and Alpert schemes); Norfolk & Western (blue); and Virginian Ry. One to four numbers per scheme.

Features

- Body-mounted Macdonald-Cartier couplers, at correct height
- Metal wheel stubs on plastic drive axle gears, correctly gauged
- Minimum radius, 18"
- Weight: 14.6 ounces



Athearn N sulfuric acid tank car



A 13,600-gallon sulfuric acid tank car is now part of the N scale Athearn Genesis line. The newly tooled model, based on a Union Tank Car Co. prototype, features a plastic body; many separate, factoryapplied details; and body-mounted McHenry double-shelf couplers, available for the first time in 1:160.

Athearn offers the sulfuric acid tank

car in two body styles. The early version, based on a prototype produced between mid-1979 and late 1988, has a tank body with four sections. Our review sample, Union Tank Car Co. 125013, is an example of an early body style. The late version, built between early 1988 and late 1999, has three body sections.

Sulfuric acid has a variety of uses, including fertilizer production, metal processing, and oil and ore refining. The full-size cars can be found throughout the North American rail network.

The Athearn model has a plastic body with separate tank heads. Two plastic handrail, corner post, and support bracket castings frame the dome and safety vent. A see-through, etched-metal operating platform is attached to the plastic castings.

The end platforms, saddles, stub sills, bolsters, and draft-gear boxes are a single plastic casting attached with screws. The end platforms have a see-through metal walkway and factory-installed and painted formed-wire grab irons.

The end platform safety rail is also formed wire, threaded through a

standoff attached to the tank head. The plastic draft-gear box covers are secured with screws. A wire uncoupling lever runs from a bracket on the end platform to the bottom of the cover.

The brake system on tank cars is easy to see, and Athearn didn't skimp on the details. The air reservoir and control valve are located between the saddle and platform on the B end. The auxiliary and emergency reservoir pipes, both formed wire, run parallel to the end platform.

Underneath, the brake pipe and brake cylinder pipe are formed wire. The remainder of the brake system is an engineering plastic casting attached to the underbody with two pins.

Our sample is neatly painted black with yellow and white graphics. The lettering placement matches prototype images I found online. All but the tiniest printing is legible under magnification.

The model has a New 10-88 stencil, but the full-size car has New 09-88. The load limit and light weight are also different than what's found on the prototype UTLX 125013, but within the range of other cars from the series.

The model features printed placards with UN number 1830, which is sulfuric acid with more than 51% acid. The 8 below the number indicates the hazard class (corrosive substance).

I was unable to find prototype drawings of the tank car. The distance between the truck centers measures a scale 27'-0"; over the sills is a scale 39'-0". From the railhead to the top of the operating platform handrails is a scale 14'-6".

To see how the car performed in an operating layout environment, I put it in a train on our Milwaukee, Racine & Troy State Line Route. The car ran without issue while being pushed and pulled in a train. The double-shelf couplers also worked well. They were easy to uncouple using a wood skewer and commercial plastic pick.

The Athearn N scale sulfuric acid tank car is a well-detailed model. The Genesis-series car would look right at home in front of an industry that calls for the product. Another option is to use these cars as bridge traffic in freight trains. — *Cody Grivno, senior editor*

Facts & features

Price: Single car, \$44.99; three-pack, \$124.99

Manufacturer

Athearn Trains 2904 Research Rd. Champaign, IL 61822 athearn.com

Era: mid-1979 to present

Road names: Union Tank Car Co., Asarco Inc., Ferromex, Procor, and Rhodia Inc. Six road numbers per scheme (three single cars and one three-pack)

Features:

- 36" metal wheelsets, correctly gauged
- Body-mounted McHenry double-shelf couplers, at correct height
- Weight: 0.9 ounce, correct per National Model Railroad Association Recommended Practice 20.1

QUICKLOOK

Menards HO scale Grandma's House

Price: \$49.99 Manufacturer Menards 5106 Menard Dr. Eau Claire, WI 54703 menards.com/trains Era: 1930s to present

Comments: Kids on the porch swing, a dog in the front yard, and a neatly manicured yard. Those are just some of the highlights of Grandma's House, a new HO scale structure from Menards.

The two-story house has laser-cut siding detail; separate, factory-applied corner trim; multi-piece windows with curtain detail behind the glazing; and a front door with a sidelight. Octagonal gable vents are located on the front and right sides of the structure.

Tabs on the bottom of the house fit into slots on the plastic base. Attached to the base is a static grass mat,

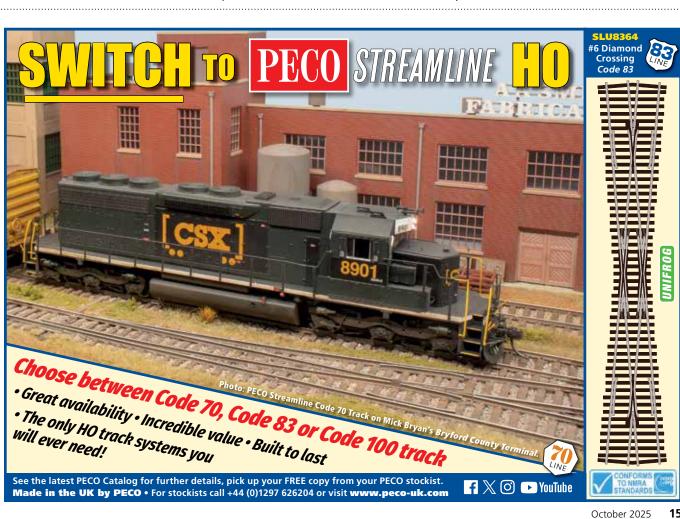
sidewalk, eight shrubs, and a tree. The edges of the base are painted green and gray to match the scenery above.

Next to the tree is a motorcycle and a figure kneeling down to pet Jack the German shepherd, a regular feature on structures from Menards. On the porch, grandma is taking a freshly baked apple pie over to her grandkids on the swing.

Propped against the house is a yellow ladder. It's a bit oversized for HO. The ladder is attached with a tacky adhesive and can be removed with minimal damage to the house or scenery.

Similar to many other structure offerings from Menards, Grandma's House features light-emitting-diode lighting. It requires a 4.5-volt power source, sold separately. The power source can be connected to a jack on the back of the structure or the dropdown pigtail.

Grandma's House has a footprint of $4^{3}/_{4}$ " x $4^{1}/_{2}$ " x $3^{7}/_{8}$ ". It could be used as a as part of a farm scene or in a neighborhood with houses of similar vintage. The ready-to-install structure can be purchased at your local Menards store or through its website. — Cody Grivno, senior editor









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N scale Magne-Matic couplers have been around since the late 1960s. A great way to learn how to work with them is with the Micro-Trains Line Co. coupler starter kit No. 1050. Cody Grivno photo

Understanding N scale couplers

I have gone to train shows and garage sales and bought many N scale cars with all sorts of different couplers. I am trying to create my own standard and stick with the majority of people with N scale rolling stock. I know there are many vendors out there. Can you help me sort them out?

Doug Burns

You're right, Doug. Most modelers pick a specific brand of coupler and adopt it as their standard. It's possible you've encountered many different types of couplers at train shows and garage sales, so let's take a look at the different N scale offerings that are out there.

Arnold Rapido, an early manufacturer of N scale models (not to be confused with today's Rapido Trains), let other companies use its coupler design. The wedge-front coupler, which was used on most N scale models (except Micro-Trains) through the 1990s, pivoted up and down. This allowed one coupler to ride over the other for coupling. Although the Rapido did a good job of keeping cars coupled, it was oversized and didn't look like a prototype knuckle coupler.

Following on the success of its HO scale knuckle coupler, Kadee introduced an N scale version of its Magne-Matic operating knuckle coupler in the late 1960s. The spring-loaded coupler is split in half vertically. The knuckle is on the top half of the shank, while the rest of the coupler head is on the bottom half. The coupler opens and closes in a scissors action.

In 1990, Kadee split into two companies: Kadee (HO and larger scales) and Micro-Trains (N and Z scales). For many years, the only way to get factory-installed Magne-Matic couplers was to purchase a Micro-Trains car.

Today, Micro-Trains produces coupler conversion kits for many current and former N scale locomotives and freight cars. The company also offers a variety of truck-mounted couplers, as well as assembled couplers and coupler kits designed for body mounting.

Similar to what happened in the HO scale market, the late 1990s saw a growth in automatic N scale couplers from other manufacturers. Accurail, Bachmann, and McHenry all offer plastic knuckle couplers. In recent years, other manufacturers have developed couplers, including Broadway Limited, Jacksonville Terminal Co., Kato, Rapido Trains, and ScaleTrains.

For the most part, all brands of N scale couplers perform well while coupling. However, you may find occasional cross-compatibility issues when uncoupling. That's why N scale modelers, especially those who host regular operating sessions, select a specific brand and use it exclusively to avoid such problems.



A Trenitalia high-speed train is shown passing through a station in Florence, Italy. The web of the rail is painted white to reflect heat, reducing the chances of buckling during high temperatures. Keith Fender photo

• On a recent trip to Italy, I noticed that the rails were painted white. I'm assuming that it's more functional than aesthetic. Why do they do that?

Jeff Monner

A Keith Fender, European rail correspondent for *Trains* magazine, responded, "This is very common in Italy (and has been for decades) and it's for the same reason some buildings there are painted white, to reflect heat. The white paint helps reduce the temperature of the steel rails by a few degrees, making them less likely to buckle or expand too much and removing the need for serious speed restrictions (although if it's super hot these may still be imposed).

"And it's not just done in Italy," Keith added. "I've seen it in Germany, though I'm not sure if it's widespread there. Network Rail in the U.K. does it as well."

When were vented wheels banned?

Michael Hauri

A Vented freight car wheels were known as castiron wheels (and sometimes



The ribs on the back of cast-iron wheels helped to dissipate heat from braking. Cars equipped with this style of wheel couldn't be interchanged after 1970.

Cody Grivno photo

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Cody Grivno used Walthers Solvaset and a Faber-Castell eraser pencil to remove the reporting marks and road number from a WalthersMainline HO scale gondola. This is one of many ways to remove factory printing from a model. Cody Grivno photo

"chilled" wheels for the heat-treating process used on them). These wheels were common on early freight cars. They usually had ribs on the back, which helped dissipate heat created by braking. The wheels weren't allowed on new or newly rebuilt cars as of Jan. 1, 1958; they couldn't be interchanged after 1970.

Q I have a question about removing markings from rolling stock and steam

engines. I've seen your videos on removing decals, but how do I remove these items when they're factory painted?

Michael Ricci

A Over the years, I've used a variety of methods to remove factory-printed graphics. In my September 2022 article "Quick and easy gondola weathering" I used Walthers Solvaset and an eraser

pencil to take select data off a WalthersMainline HO scale gondola.

I've also used Microscale Micro Sol along with Scotch Magic Tape and round-head toothpicks to remove graphics. Wet sanding works, too, but it requires a delicate touch.

② In the May 2025 Ask MR, the answer to a question about early diesel power for the Milwaukee, Racine & Troy included this statement: "It's possible the MR&T could have had a few EMD SD7 and SD9 diesels for branch line duty." Why would SD units be appropriate for branch lines? My understanding was that SD units were significantly heavier than comparable Geeps.

Michael Paster

A Your initial instincts are correct, Michael. Electro-Motive Division SD9, SD38-2, SD40, SD40-2, SD40-2B, and SD60 diesels, along with General Electric U30Cs and C30-7s, weren't allowed on the Burlington Northern branches served out of my hometown in Minnesota.



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Milwaukee Road was known for using six-axle diesel locomotives on its branch lines over the years. One example was the Electro-Motive Division SDL39, offered in HO scale by ScaleTrains.

Cody Grivno photo

However, there are exceptions to the rule. For example, Milwaukee Road purchased EMD SD7 diesels, in part, for use on branch lines. To keep the weight of the locomotives down, the railroad ordered its SD7s with a single 1,200-gallon fuel tank instead of two tanks. Further, the SD design allowed the weight to be spread over six axles.

Milwaukee Road also had 10 EMD SDL39 diesels. The six-axle units were designed for branchline duty and had a weight-saving 12-cylinder diesel engine and export-style truck sideframes.

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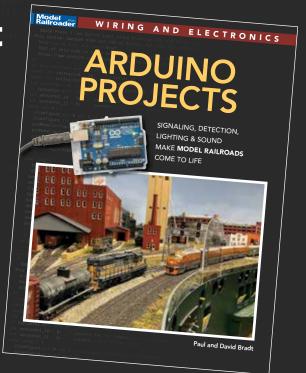
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Michael Huntsberger's layout, inspired by Steven Otte's September 2023 article, "My dream 4 x 8 layout," has a 1 x 8 fold-down yard. Michael Huntsberger photo

Finding the right-size layout

In response to your From the Editor column in the August issue, you may be interested in my 5½ x 8-foot layout, which has proven to be the right size for me. My Southern Pacific St. Johns District was inspired by Steve Otte's story, "My Dream 4 x 8 Layout" in the September 2023 MR.

Steve's article gave me a starting point, and the resulting layout has proven to be completely satisfying. I've finished the tabletop portion, including most of the structures and basic scenery. Just last week I laid the track on the folddown yard.

I'm a lone wolf modeler. My biggest interests are constructing models and watching the trains run, with just enough operation to make things interesting. With the modifications I made to Steve's plan, I can achieve these goals and still conform to the space limitations. The layout includes a number of structures from previous HO projects going back to the 1980s. These include a couple of MR kitbash projects and Al Armitage's passenger station from his September 1961 MR article "A ticket to Tomahawk, please".

> Michael Huntsberger McMinnville, Ore.

More uses for labels

I enjoy reading Model Railroader with the recent July 2025 article "Preserving model railroad history" by Troy Bisesi being a recent favorite. But in addition to history I also label certain pieces in my train room with stickers (generally underneath) saying who is to receive the item when I am gone. Thanks, Troy, for pointing out the extra value in what we have and do.

John R. (Bob) Kelty

Memories of early days

I enjoyed the entire March 2025 issue of Model Railroader. Two of the articles took me back to the memories of my early railroad days in the 1960s in Midwestern Iowa and later in my career in Kansas City, Mo.

The first flashback was triggered by Scott Kremer's article "Transition to operations." I spent a few years on three railroads during the timetable-and-trainorder era when the trains were controlled by a dispatcher at a central location with *Lincoln, Neb.* his train orders being delivered to us by

operators at depots along our routes. We lived with timetables in our pockets.

Brian Lingner's article "From Chicago to Champaign" also brought back memories of my 1960s days and mostly nights working as an engine foreman, switchman, brakeman, and flagman on the Illinois Central at Fort Dodge, Iowa. I had the pleasure of operating on Brian's first layout and had the unique opportunity to run trains on his auxiliary EJ&E section of that layout. This experience of having an auxiliary operation supplementing the main operation triggered ideas for my own layout much later.

Tony Koester's Trains of Thought addressing the clutter under layouts was well taken, and Jerry Dziedzic's column reminds all of us of the early train separation methods used by various railroads at some locations.

Thank you all for all the GREAT articles.

> Mike Porter Parkville, Mo.

Inspired to get back in the hobby

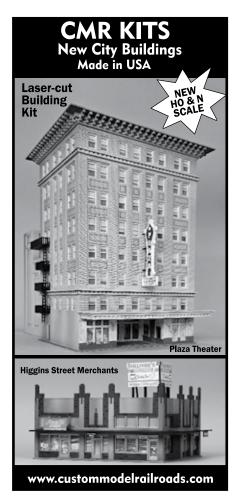
John Vavra's May 2025 article on building a modular unit for his spectacular layout was perfect! The photos, building techniques to conceal the wiring, and extraordinary detail results in a process easy to copy. His idea to mix soil from the actual town of Silverton was a unique touch! After many years away from the hobby, he's inspired me to get back engaged. Well done!

Please consider more articles from John. He's a true artist.

> Chris Glaeser Plymouth, Minn.



John Vavra's story, "Building downtown Silverton, Colo.," was in the May 2025 issue of Model Railroader. John Vavra photo







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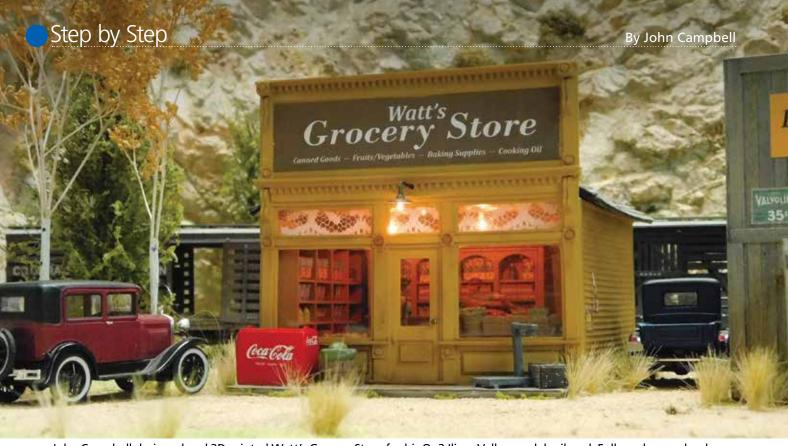
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John Campbell designed and 3D printed Watt's Grocery Store for his On3 Ilium Valley model railroad. Follow along as he shares his techniques detailing the store's interior and stocking the shelves. Photos by the author

Do-it-yourself building interiors

While I was working on the town of Keystone on my On3 Ilium Valley, I decided to add a country store. I wanted a structure that was close in size and appearance to the other buildings in the scene. Using 3D computer-aided drawing (CAD), I modified a previously designed wood false-front building to make Watt's Grocery Store.

Since the building has large storefront windows, leaving the interior empty wasn't an option. There are many ways to create interiors. One option is to find a photo, print it out, and wrap it in a curve or place it flat on the walls. This technique can be taken further using images of stocked shelves and turning them into freestanding details.

Another approach is to build shelves from wood or styrene and then stock them with random bits and pieces. This technique requires a lot more time as the details on the shelves have to be painted.

For Watt's Grocery Store, I used a variety of these techniques to bring the building's interior to life. Follow along as I share my methods.

John Campbell is a retired mechanical engineer and National Model Railroad Association Master Model Railroader.



I constructed the shelves from kits and scratchbuilt a simple counter

1. I used a few individual items to populate the shelves. However, for the bulk of the inventory, I tried a technique new to me.

While shopping, I took pictures of shelves with canned goods, boxes, and other items that would look right for my store. Then I scaled the images down in a graphics program and printed them out I folded the printouts so I could

add glue along the bottom edge.

I was concerned that the items on the shelves closest to the front window might look too much like 2D pictures. To minimize this, I placed images of boxed goods at the window end of each shelf. The appearance was quite satisfactory. I even experimented with canned goods by the windows and they looked fine.

I built the floor and front walk for the store on a piece of styrene that mounts under the grocery store and added these details to it.







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STEP 2 QUICK AND EASY WALLS



I often create walls using a graphics program and draw shelves, pictures, clocks, plants, and wall trim, among other items. After printing them out and trimming them to size, I attach them to the interior walls with doublesided tape.

The three pieces at the top of the image are for Watt's Grocery Store. Since most of the interior walls are covered by shelves, only a small portion of the right wall needed graphics. Another wall has a door leading to the back room.

Light it up!

I used incandescent lamps from Miniatronics to illuminate the interior and exterior of Watt's Grocery Store. To show off the detailed interior, I used two 12V, 30mA, 1.7mm-diameter bulbs.

Above the front door, I turned to a 1.5V, 30mA, 1.34mm-diameter bulb with a 360 ohm dropping resistor. I mounted the bulb in a lamp shade from Grandt Line (now San Juan Details).

I run 12V from wall-mount transformers to groups of buildings. I keep a list of the current drawn by each structure connected to a particular transformer so I don't exceed the capacity of the power supply. — *John Campbell*



STEP 3 FINISHING TOUCHES



A detail often found in buildings from my modeling era is lace in the transom windows. I added some to Watt's 1 and a few other buildings on my model railroad. It's a small detail, but it adds a touch of class.

The other detail items inside the store and on the front walk, such as the soda chest, fresh fruit and vegetable



displays, crate, and scale came from my spare parts box 2. Many of the items are left over from other kits I've built.

This was a fun little project that helped me make progress on my model railroad. Along the way, I stumbled on a new-to-me technique for stocking shelves. I hope you can put some of these ideas to use.



Michael Tylick acquired two Bar Mills Shipyard Brewery backdrop kits and combined them into a single full structure, proving you don't always have to use the parts in the box to build the structure exactly as depicted in the instructions.



a bigger, better wood structure

7 steps to convert a Bar Mills brewery from flat to full-bodied

By Michael Tylick • Photos by the author

t's not unusual for model builders to split or modify a complete structure kit to create one or more flats for placement in the background of a layout scene. But what about doing the inverse — converting a backdrop kit into a freestanding, 3D model? That's exactly what Bar Mills Scale Models (barmillsmodels.com) proposed.

As the first "false-front" structure produced by Bar Mills, an assembled HO scale (1:87.1) Shipyard Brewing Co.

(No. 0852) fills a 5 x 12-inch space. Inspired by photos of modified versions that significantly expanded this original footprint, I decided to purchase two kits (available in N, HO, and O scale) and build my own.

The structures from Bar Mills feature precision-fit parts that are easy to assemble and paint when following the provided instructions. Of course, *Model Railroader* magazine offers numerous references for those seeking additional

insights and helpful techniques for basic laser-kit construction. Draw from these references, and you'll soon realize that kitbashing with wood really isn't any more difficult than working with styrene. Let's get started!

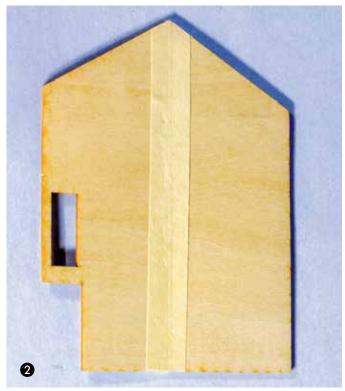
Michael Tylick is a well-established model builder and layout designer with numerous works previously published in the pages of Model Railroader and Classic Toy Trains magazines.

STEP 1 Building walls

To create a full-depth building from two identical backdrop kits, I started by joining the end walls. I had concerns that abutting the two wooden walls directly to each other would result in a noticeable seam, especially when painted a lighter shade. To form a clean joint, I added a 1/16" square piece

of stripwood between the two end walls **1**, and then repeated the process for the opposite pair of end walls. This joining technique is sometimes used on 1:1 structures. Additionally, I applied a strip of masking tape to reinforce the fragile butt joint for handling in the next steps 2.





STEP2 Painting walls and windows

First, I primed both sides of the wood carrier sheets with an inexpensive, clear spray enamel 1. Applying primer to both sides of the wood parts is important as it prevents the porous material from warping.

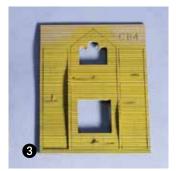
I chose affordable craft store acrylic paints for the final, flat-finish colors. For the walls, I used Americana Yellow Ochre (No. DA08), which is a close match to Testor's Depot Buff. Next, I painted the trim using Delta Ceramcoat Burnt Sienna (No. 02030), which is similar to Testor's Boxcar Red. Finally, I painted the doors, cupola, and stairwell accent in Apple Barrel Antique White (No. 20505).

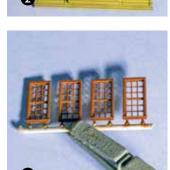
For optimal coverage, always brush paint in the direction of the wood grain. Although applying several coats of paint will give the structure a new construction appearance **2**, I prefer using a slightly uneven application to create a moderately weathered appearance. To further accentuate the weathering effect, I lightly sanded the painted walls, and then used a pounce wheel to simulate nail holes. For extreme weathering effects, I used a hobby knife with a chisel blade to lift and nick a few boards 3. Be careful not to overdo this.

While allowing the walls to dry, I used reverse-spring clothespins to clamp and secure plastic carrier sprues of the supplied styrene windows, doors, and fixtures 4. This made it much easier to prime and paint the windows using acrylic craft paints, before weathering the parts with watercolor washes **5**, including white, brown, and black.

Note that I made frequent use of these clothespin clamps throughout the entire construction process. [Expert tips like this are readily found within the Model Railroader "how-to" category on the Trains.com website. — Ed.]











STEP 3 Forming walls

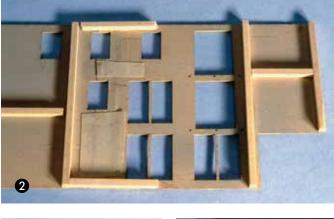
As specified in the kit instructions, I assembled and braced the walls using the supplied 1/4" stripwood. I placed at least one brace in each corner and near the center of larger walls. White glue worked well to bond primed wood components. Clothespin clamps proved helpful when forming wall parts, too 1.

The instructions also suggested adding horizontal bracing to longer walls 2. Doing so improves overall structural rigidity and prevents warping. To form a strong and neat corner joint,

I added vertical 5/32" square corner posts 3. For kitbashing, this technique is more secure and easier to align than the slot-and-tab construction found in some kits 4.

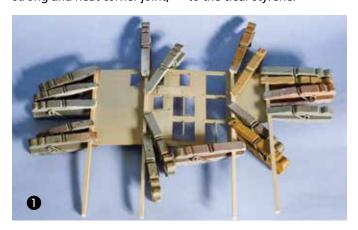
Next, I used Aleene's Tacky Glue (No. 15603), a water-based, non-toxic adhesive, to affix the windows into the laser-cut openings along the walls. This glue is also handy for attaching glazing.

Finally, I added an aged glass effect by applying Apple Barrel Gallery Glass Crystal Clear (No.19693), a liquid stained-glass medium, to the clear styrene.









STEP 4 Build the two-story loading door tower

To convert the two, singlestory loading door towers into one taller, two-story tower, I needed to make a few cuts 1. Once assembled **2**, the tower and other walls required doors.

Laser-cut overlays made it easy to construct doors and

apply a two-color paint job. For convenience, I painted the doors an off-white-color while they were attached to the wood carrier sheet 3.

Before installing the doors, I added signage to the walls

1. To give the signs (included with the kit) a painted-on appearance, I







first sanded the back of the printed paper to reduce the thickness, before securing them to the clapboard courses. [Michael's technique appeared in an article published in the February 1996 Model Railroader. — Ed.]

Because the back of the tower protrudes above the roofline, I used scrap material to form a wall that was sufficient enough to cover the visible section. The results can be seen in photos and 6.







STEP5 Rooftop remodeling

The supplied cardstock roof can be modified for a more typical two-sided clerestory. I used a sharp hobby knife to cut windows from the roof to allow interior light to shine through. Unfortunately, I mistakenly made opposing, rather than mirrored, openings on the two roof components 1! It was easy enough

to move the cutout to the correct position, and keep it in place with masking tape before adding bracing, then priming both sides of the cardstock **2**.

Because the kit doesn't use slot-and-tab construction, relocating components is an easy way to further modify the original appearance.

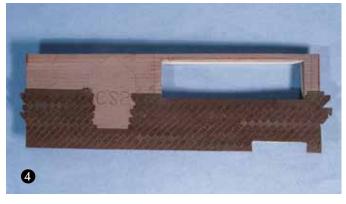
Such was the case for the supplied stairway, which I painted off-white and moved to the side of the brewery 3.

Back on the rooftop, the supplied self-adhesive, diamond-pattern roofing shingles proved helpful for hiding any inaccurate roof cuts. To help create the appearance of an unevenly weathered roof, I randomly applied strips of roofing from several different material sheets. I also painted the roofing with multi-colored primer spray cans. Using one color as a base tone, I then spritzed other colors (rust, black, gray, and white) to create a discolored, well-weathered rooftop 4.









STEP 6 Quick interior details

Numerous, large windows made it necessary to add some visible interior details before final assembly. I used brightly colored felt-tip pens to quickly add shapes to the interior walls. Small floor platforms can be glued in front of the smaller windows, with vertical objects placed in front to create the illusion of interior detail ①. [Michael highlighted several interior detailing techniques in the August 2006 issue of Model Railroader. — Ed.]

To represent large fermenting tanks, I drew seams on the sides of toilet paper tubes 2. These helped block the view directly through the structure, but also served to secure the low-wattage (12-volt lamps operated at 6 to 9 volts), interior light strips 3.







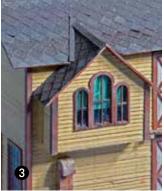
STEP 7 Final assembly

I began the final stage of construction by gluing the clerestory to the finished roof. On the backside of the extended tower wall, I added a small roof that slopes toward the main building 1. This component covered the gap with an architectural feature used to prevent precipitation from accumulating on rooftops 2. Using some of the extra kit parts and castings, I also built and attached a new bay window opposite the extended tower 3. Finally, no business is complete without proper signage, so I combined the two laser-cut roof signs into a single, bi-directional display 4.

To set the scene, Shipyard Brewing Co. needed to have additional details and surrounding scenery, all situated atop a 15" square piece of ½" thick foam core board. I made the distressed parking lot pavement by applying a thin, irregular layer of spackle. For the industrial storage tanks at the rear of the building, I used Rix Products Water/Oil Tanks (No. 628-0500). Finally, fencing from Central Valley (No. 1601), plus a scratchbuilt loading dock, helped convey the industrial appearance of the now three-dimensional site.









My NIRA Journey

How the National Model Railroad Association Achievement Program enriched my hobby

By Cinthia Priest • Photos by the author unless noted

t the long-awaited return of Milwaukee's Trainfest in late 2022 after the pandemic, I made a lifechanging decision — that is, life-changing for my model railroading hobby. During the weekend show, I witnessed wide-eyed kids of all ages as they filled the vendor and manufacturer aisles, eagerly exploring various vintage treasures; gently used "junk;" and the latest and greatest must-have models, tools, gadgets, and other products. Nearby, and quite possibly the event's biggest attraction, module clubs in various scales inspired young and old, bringing life to inanimate models as trains moved miniature passengers and freight through scenes as varied as the equipment.

At that event, I resolved to become a kid again — eager to learn aspects of modeling I had dared not explore previously due to a paralyzing fear of failure. Sure, I had superdetailed or kitbashed a locomotive here and there, scratchbuilt freight cars, and even helped construct several layouts over the years. Still, I stuck to projects I felt confident I could master after a quick lesson or minimal practice. And for years I stayed within the selfimposed boundaries of my chosen skills.

Enter the National Model Railroad Association and its Achievement Program, the pathway to achieving Master Model Railroader (MMR) status. More on that later. The NMRA's members — worldwide — have supported me and countless other modelers to grow and enjoy many aspects of the hobby. This organization and its membership have profoundly and positively affected my model railroading confidence, skill level, and understanding.

How it began

I met and married Stephen Priest — a well-accomplished, lifelong model railroader, former editor of *Railroad Model Craftsman*, and COO of ClassOneModelWorks.com. Since our first date, Stephen has graciously shared his hobby with me — nearly every social gathering and family vacation involved model railroading or railfanning (or both). Every circle of influence in my life welcomed and encouraged me in my modeling efforts.

My models placed in the top three in several contests at Santa Fe Railway Historical & Modeling Society conventions and various NMRA events. My article about my kitbashed Athearn GP35 even won First Place in Model Railroader's Young Author Contest (November 1988 before I was married!). What's more, our son also loves all things trains. What, then, caused me to resist exploring specific aspects of the hobby?

In a word: stubbornness. Know thyself, right? I know my shortcomings: I overthink, I overcomplicate, and I overcriticize my work. It's



frustrating, to say the least, and extremely paralyzing. My mind vacillates between "I'd like to accomplish that" and "I could never...." I wanted to run before I learned to walk. and here I was — 34 years after that MR contest — still crawling because I believed learning to walk would take too long. All that inward chaos and negative self-talk distracted me from the most valuable resources: my modeling community, particularly the NMRA.

My previously mentioned kitbashed GP35 model also won first place at my local (a Division) NMRA meet. *Model Railroader* Associate Editor Gordon Odegard handed out that year's plaques (yes, I was star-struck). He and numerous Division members, including Larry Long and Pat Harriman, enthusiastically encouraged my modeling efforts, offered friendly advice on how to improve and what to pursue

next, and invited me to participate in numerous other activities the NMRA offered, including the Achievement Program (AP).

At that time, my modeling focused solely on entering popular contests. I didn't care if it placed first, second, third, or at all; I just wanted them to place better than my husband's entry — my "objective" measuring stick for being a "good modeler."

The realization

Fast-forward to Trainfest 2022 and my paradigm shift. I met up with good friends and fellow modelers Michelle Kempema (Executive Director, Colorado Model Railroad Museum) and Nancy Workman (Sound Traxx CEO). We were promoting one of the newer NMRA Special Interest Groups (SIGs): Women In Model Railroading (WIMRR). Gerry Leone of

MRVP (Model Railroader Video Plus) fame interviewed us on Trains.com's live feed during the show.

Throughout that interview, as I talked about the NMRA, my mind overflowed with the names and faces of organization members, Gerry among them. Through my NMRA membership and engagement over the past three decades, those modelers had planted seeds of encouragement in me to expand my modeling skills. I had long relegated those dormant seeds as "someday/maybe" daydreams, but that day, something changed — I wanted to model to my potential, not my comfort zone.

It was time to invest in my skill development. With our home model railroad no longer in existence, the opportunity to construct an office layout was a chance for me to take ownership of various model railroading aspects I had previously left to others.

▲ Cinthia Priest switches the Centralia Division Point Yard dressed in official "merch" for the NMRA's 2018 National Convention held in Kansas City. During that convention, the Priest family's 3,400-square-foot HO scale St. Louis Division — a proto-freelance road based on the Atchison, Topeka & Santa Fe running from St. Louis to Kansas City and points east and west — was featured on the layout tours.



▲ Cinthia used a tried-andtrue method for ballasting her latest HO scale layout, the 15 x 19-foot protofreelance Wellspring Inter-Metropolitan RR (WIMRR). She mixed Elmer's white glue 1:1 with water and applied generously to ground cover in a swirling motion. The glue/water mixture dries clear and bonds even the smallest scenic bits.

► This in-progress photo shows the third (and final) jig Cinthia fabricated to space the 248 "waffle" sections evenly on a scratchbuilt HO scale 63-foot Southern Ry. boxcar. The jig, the brass pieces shown in place between the exterior posts, was one of many obstacles to conquer during this rewarding project. The **Overland Models brass** version (background) provided inspiration and a handy reference to follow during construction.

The era, setting, benchwork, trackwork, and more were all to be primarily my creation, a departure from our previous home or project layouts.

This shift in responsibility was my journey toward a deeper understanding of model railroading. I now faced "givens and druthers," selective compression, operating objectives, curve radii, and more. I planned on availing myself of my husband's input and expertise, but I also recognized the value of seeking help from additional resources and partnering with my friends in the model railroading community.

Now enter the NMRA's Achievement Program: a road map, if you will, to learn a wide variety of model railroading skills benefiting all levels of modelers. It is a self-exploration challenge open to all who are passionate about model railroading and want to enhance their overall experience in the hobby.

A big part of the program is service (giving back) to the hobby. Modelers who pursue any aspect of the program, including the Master Model Railroader designation, are asked to "assist other members in this subject whenever possible, whether or not they are participants in the Achievement Program."

The AP epitomizes the NMRA's mission: "Advance the worldwide scale model railroading community through education and standards as well as advocacy and fellowship." These words particularly resonated with me: community, education, standards, advocacy, fellowship — qualities I needed for this journey. With childlike

wonder, I silenced my selfdoubts and resolved to design and construct a model railroad while pursuing the Master Model Railroader (MMR) certification.

Achievement Program

This unique NMRA program has a total of 11 possible categories, also known as "certificates," which fall into one of the four overarching technical and service aspects of the model railroad hobby:

- Model Railroad Equipment
- Settings
- Engineering and Operation
- Service to the Hobby

You can pick and choose categories. If you've been modeling, you may have already completed some requirements and only need to build a few models (or none) and have them evaluated (more on that later). To earn MMR — which isn't everyone's goal who participates in the AP — I needed to earn seven certificates, with at least one in each of those four overarching categories.

Not all the categories include modeling, per se. Some involve investing my time, such as presenting a clinic, writing an article (like this one), volunteering for an





event, or serving in an official (elected) capacity; others develop skills in electronics, layout design, and operations.

The idea is to provide modelers a framework for exploring all facets of the hobby and to assist anyone at a loss in tackling a particularly intimidating subject; in my case, operations and layout design. Each category (Structures, for example) has requirements that must be met to earn that Certificate.

I needed to understand what the AP entailed, the areas and topics I wanted to explore, their requirements, and how to incorporate them into the new layout. A wealth of information exists on the nmra.org website.

Here's where my real layout prep work began. I

created a dedicated notebook to corral all my AP reference materials and paperwork. I read through the requirements for each topic I wished to pursue, highlighting various must-do items, and conferred with my community of mentors (Frank Koch, Mike Brestel, Mark Juett, Bret Overholtzer, Gerry Leone, Mike Porter, Keith Robinson, Rick McClellan, Tony Koester, Bill Scheerer, Craig Drenkow, Larry Diehl, Fred and Barbara Soward, Miles and Fran Hale, Gordy Robinson, and Andy Zimmerman, to name far too few) on how best to incorporate those elements into the model railroad.

Layout design was one of those lesser-understood, daunting areas for me, but I

was strangely excited to take on that responsibility after reading through the AP requirements for Civil. Through my NMRA membership, I discovered a wealth of knowledge and support, having met several modelers who were members of the Layout Design SIG.

I joined the LDSIG and immediately sought their input. John Young didn't hesitate to offer guidance, asking me some excellent questions about things I had not yet considered. He began with what I would describe as the 10,000-foot view, exploring themes that might influence my modeling choices, such as childhood memories, frequent railfanning haunts, prototype preferences (or not), trademark features, etc.

▲ A super-detailed Walthers SW1 sports the WIMRR corporate colors, based on a combination of Rock Island's attractive "Bankruptcy Blue" scheme and classic EMD striping. Cinthia designed the corporate logo, rolling stock livery, and decal sheets (printed by Precision Design Co. www.pdc.ca). In the background, a city scene is under construction designed around two Woodland Scenics buildings.



The era, setting, benchwork, trackwork, and more were all to be primarily my creation.



▼ The NMRA Achievement Program encourages modelers to explore nearly all aspects of the hobby, including operations. Here, Cinthia works on creating a string diagram for the Columbia branch of the St. Louis Division as part of the requirements to obtain the Chief Dispatcher certificate in the NMRA's Achievement Program. Completing this certificate gave Cinthia a deeper understanding of prototype operations and how to translate them to a model railroad.

It took me almost a month to answer — his questions required that much thought.

And that was just the beginning. I asked and answered a "gazillion" more questions as I drew (and redrew) plans, and during layout construction. The value of each person's guidance was immeasurable during the planning stage. Those friendly compadres helped me tackle a lot of challenges up front, avoiding potential pitfalls (and redos) midway through construction.

Operations was another aspect of model railroading I typically avoided. I'd run a train or two (begrudgingly) on our home layout to appease my husband, and I even dispatched a few sessions. However, I dreaded invitations to operate on "foreign" roads. Why? I had difficulty seeing how the turnout was lined — a closely guarded secret I had kept for decades. Who wants to be the cause of

a head-on collision with someone else's models?

Having declared my intent to earn the Dispatcher certificate, of which 50 hours of layout operations in various roles are required, my NMRA friends dragged me to op sessions across the country. And it was my NMRA family who came alongside me to help me overcome my fear of ops.

I also availed myself of the numerous hands-on clinics, including several immersive, multi-day Modeling With The Masters (MWTM) clinics, held at my NMRA Region and National Conventions. I learned how to scratchbuild a turnout with Clark Kooning and Tim Warris. Peter Youngblood, Jim Gore, Fred Headon, and Clark taught me how to assemble, paint, and weather plastic structures, build paper structures, and work with CORAFOAM to create detail elements such as bridge abutments and retaining walls. MWTM clinics are gold mines!

When it came time for my modeling efforts to be evaluated, I listened in as three NMRA members methodically examined my model, focusing on such things as quality of workmanship, model complexity, detail refinement (bonus points if those items worked), conformity (achieves prototypical appearance or follows prototype practice), finish and lettering, and amount of scratchbuilding. I listed those qualities in order of their weight, from greatest to least, toward my final score.

I needed to reach 87.5 points out of 125 (equivalent to a C grade) to earn a Merit Award, which counted toward the requirements for that category's certificate. Rather than "besting" my husband's contest entry (he seldom enters contests these days), I now had an objective measuring stick for "good modeling." And this time, the only person to "beat" was me. Talk about a win-win.

But the score isn't the point; it simply served as a framework for my skill development. The Achievement Program is a supportive environment where you can learn and grow, and the best way to achieve that is by seeking input from experienced model railroaders.

This aspect of the program, having models evaluated, can make some people hesitant to participate. I understand that apprehension; putting yourself "out there" for critique can be quite daunting.

However, I'd like to share a different perspective. I've learned far more by listening to and discussing my modeling techniques and processes with evaluators than I ever could have from a video, an article, or just plopping that model on the layout. They've offered me tips on improving my score, should that be my goal, and guidance on scratchbuilding items I had previously sourced from commercial parts.

My goal wasn't to "win" a one-time score of 125 points; it was about continuously improving my modeling skills for the rest of my life. I'll never forget Gerry Leone's insightful words regarding this aspect of the Achievement Program: "It taught me how to take off my 'loving creator' glasses and see my modeling objectively. Some of it really isn't very good. Some of it actually is. Most importantly, I learned that by raising the bar for myself, my joy in clearing that bar is multiplied. If that isn't a 'life lesson,' what is?"

The result

My newly constructed $13^{1/2}$ x 15-foot layout is a proto-freelance industrial switching road set roughly in the 1960s-1970s in the fictitious town of Wellspring. I didn't want my layout to be associated with any real place or prototype; this layout



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SNOITVIS



reflects my hobby journey. My involvement with the Women in Model Railroading SIG inspired the road's reporting marks, WIMRR, which stands for Wellspring Inter-Metropolitan RR.

I developed the corporate heralds and paint schemes for the locomotives (mostly Alcos) and rolling stock fleet, creating my own decals for paint and lettering. The benchwork construction is complete, trackwork is mostly laid (save for a few industrial areas), and basic wiring has been installed. Scenery is well underway.

As of spring 2025, I have completed six categories in the AP: Author, Volunteer, Dispatcher, Civil, Motive Power, and Cars. (I detailed how I earned each certificate in a series of articles titled, "Destination MMR," appearing in the *NMRA Magazine*. NMRA members get free digital access to past issues with their membership.) I'm working toward my seventh, Structures, which will qualify me for MMR.

Thanks to the National Model Railroad Association, its Achievement Program, and my model railroading community, I'm closing in on the ambitious goals I set for myself three years ago. My confidence has increased, my skills have improved, and my love for the hobby has deepened.

Could I have accomplished this on my own? Honestly, probably not. Do I have more

to learn? Undoubtedly; the model railroading hobby is continually innovating.

From the early encouragement from the late Larry Long to improve my modeling skills, to the wise and frequently sought-after advice bestowed to me by Frank Koch and the late Mike Brestel, to the goofy antics and handholding through several op sessions by Speed Muller and Michelle Kempema, to the cheering section including Charlie Getz, Riley Triggs, and countless NMRA members across the globe, I am grateful for your fellowship. My hobby life has forever changed thanks to you.

Happy 90th birthday, NMRA. MR

▲ Fellowship in the NMRA encouraged Cinthia, a lifelong HO scale modeler, to explore N scale. Michelle Kempema, Executive Director of the Colorado Model Railroad Museum, invited Cinthia to participate in the Evanston, Wyo., N Scale Operations 2024 meet. Cinthia constructed the T-TRAK module shown for the event. Michelle Kempema photo

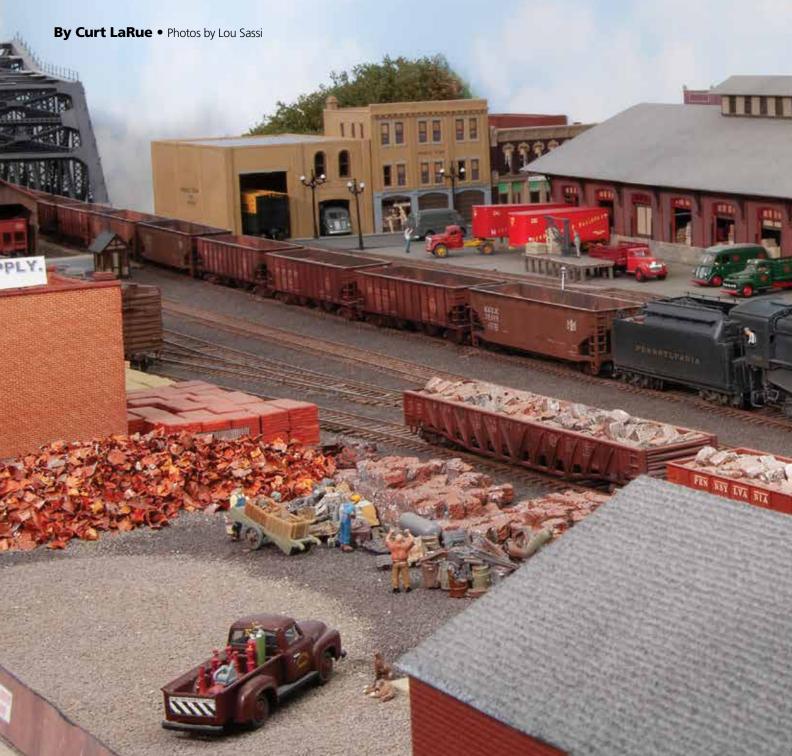


The Achievement Program is a supportive environment where you can learn and grow.

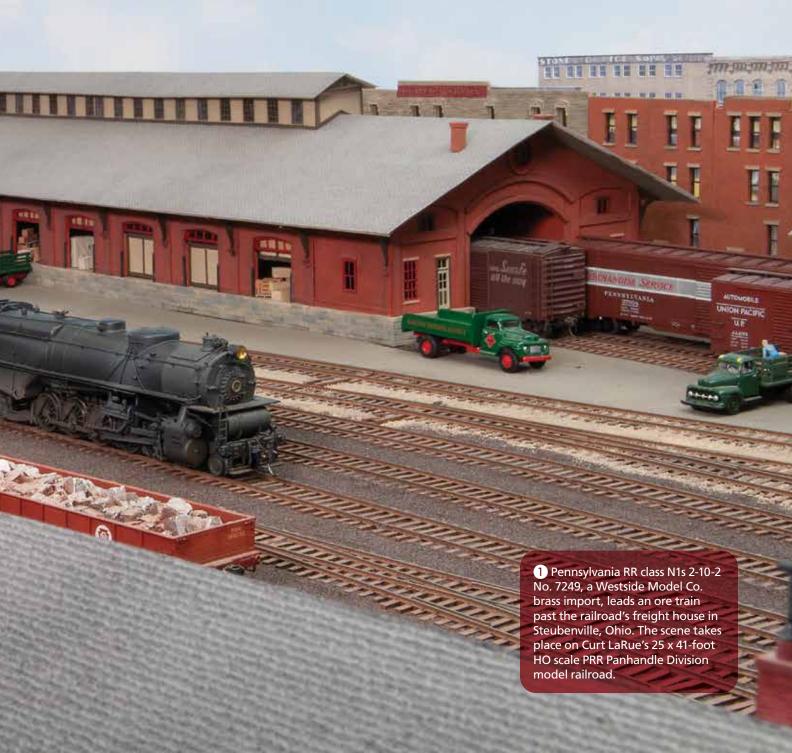


The Pennsylvania RR PANHANDLE

This 25 x 41-foot HO scale layout is set in the steam era



DIVISION





2 This view shows the Steubenville, Ohio, section on Curt's model railroad. The kitbashed bridge over the Ohio River is visible at left. The roundhouse and freight yard can be seen at right.

y HO scale Pennsylvania RR Panhandle Division is a reflection of my longtime interest in all forms of transportation. In 1946 my brother and I received a Lionel train set. I later became interested in military modeling and pursued that hobby for many years. But trains were still in the back of my mind.

After I got married, I started to pursue model railroading. I really liked the Pennsylvania RR, even though I had never seen a Pennsy train. Maybe it was the Lionel set from my childhood — the locomotive had a keystone on the smokebox. Or perhaps it was the copy of *A Book Of Trains* that my great uncle gave me. I later learned it was illustrated by Grif Teller, the famed artist whose work was used on many PRR calendars.

I was a lone wolf modeler at the time and started buying any model with a keystone herald. About this time I met Brady McGuire, who was a knowledgeable PRR modeler. I invited him over for a visit and showed him my freight cars. He asked what class they were. I didn't know what he meant and realized I was in over my head. With Brady's help, I started educating myself. I joined the



3 Pennsylvania RR class M1a 4-8-2 No. 6766 is in charge of an eastbound freight passing over the Ohio River bridge that connects the Buckeye State with West Virginia. The structure was kitbashed from three Atlas O single-track truss bridge kits, Central Valley bridge parts, and assorted girders.

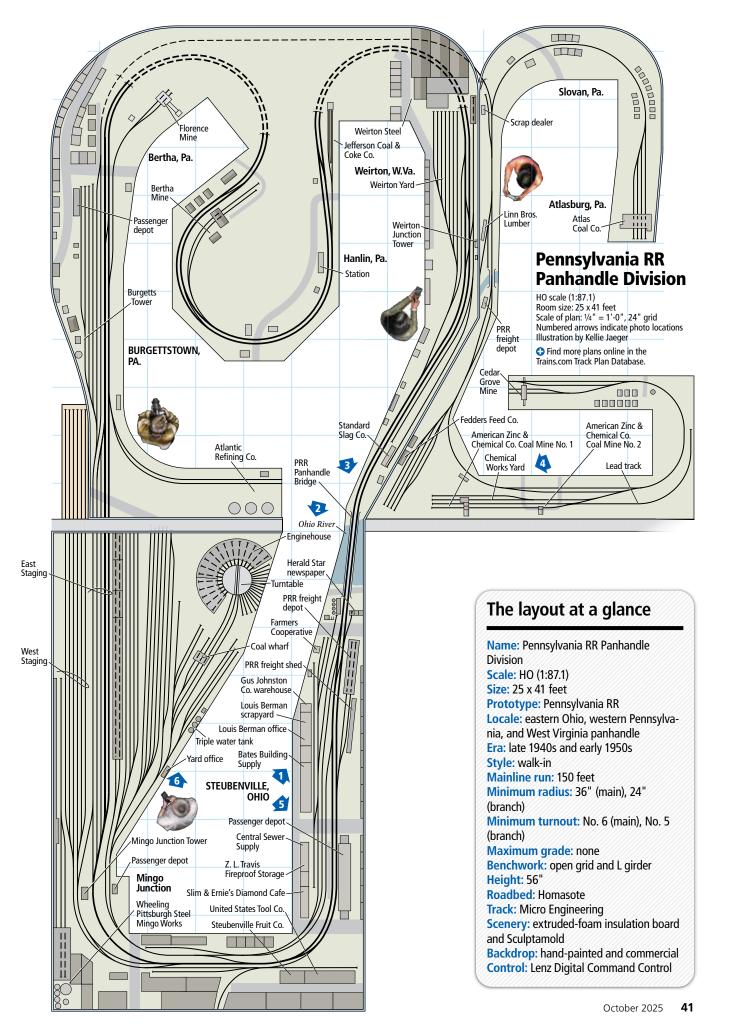
Pennsylvania RR Technical & Historical Society (PRRT&HS) and became interested in prototype modeling.

Coming into focus

I had several false starts before I started work on the layout. As my hobby knowledge grew, I developed a list of things I wanted the model railroad to

accomplish. Among my goals were to model a prototype-based line with accurate structures (specifically heavy industry and coal mines) and equipment for the late 1940s and early 1950s. I also hoped to run long trains on a multitrack main line; local switching and mine runs were also a must.

Next, I needed to find a prototype location to model. One year, while on





Scenes from vintage postcards were used at locations where streets meet the backdrop at a right angle. Curt used a paintbrush to carry the color of the modeled street onto the backdrop.

Postcards as backdrop scenes

One of the mistakes I made when building the layout was having streets meet the backdrop at a right angle. In hindsight, I should have placed the streets at acute or obtuse angles and hid them with structures.

At Steubenville, Ohio, I forced myself into the problem with the placement of the passenger station and freight depot. After I evaluated the situation, I came up with a simple solution. I logged onto eBay and searched for vintage postcard street scenes from Steubenville. Specifically, I searched for views looking down the street with buildings on both sides.

Fortunately, I found several cards and purchased them. The scenes needed to be enlarged to match the height of the foreground structures closest to the backdrop. I went to the local FedEx store and used its color copier to enlarge the postcards.

When I returned home, I carefully cut along the edges of the buildings on both sides of the street. I also removed the street.

I temporarily taped the images to the backdrop and selected the ones that best fit the scene. When satisfied, I used an Elmer's glue stick to coat the back of each image and the backdrop and pressed the prints into place. I easily removed the excess glue with my fingers.

I finished the project by extending the color of the modeled street onto the backdrop using an artist paintbrush. When finished, the scene was extended into the distance using other postcard images. — *Curt LaRue*

our way to the PRRT&HS annual convention, my wife and I followed the line from Columbus, Ohio, to Pittsburgh. We drove through Mingo Junction, Steubenville, Ohio, and Weirton, W.Va.

After doing some research, I decided this would be the area I would model. The only problem was that the Panhandle Division, the east-west main line from Pittsburgh to St. Louis, was an obscure part of the PRR with little documentation. Thus started a long search for images and prototype information.

I made several trips to the area, visiting local libraries and historical societies. The Ft. Vance Historical Society in Burgettstown, Pa., was most helpful. It had several short monographs with a treasure trove of information. In addition, the society had photos of local coal mines and other businesses.

The Burgettstown passenger depot was still standing when I was researching the line. During one visit, my wife and I measured the structure. While gathering information, a local walked up

and asked if we were the couple that had purchased the depot. My wife's eyes got real big and I quickly said, "No."

From plan to benchwork

I found the best way to design the railroad was to put Homasote roadbed on the floor and draw the track centerlines. Drafting the track plan full-size eliminated the guesswork I experienced with paper-and-pencil planning.

I quickly discovered that my eyes were bigger than my stomach. At first, I wanted to start the layout at the PRR — Montour RR interchange in Primrose, Pa., but soon discovered I didn't have room. I revised the plan to start at Burgettstown, about halfway between Pittsburgh and Steubenville.

I also wanted to model the Burgetts Branch, so I laid out a single track leaving Burgettstown. Again, I found that I didn't have room for several locations and still be able to model Steubenville and Mingo Junction, so I had to bypass Collier, Pa.

With the plan in place, I started work on the layout. The benchwork is a mix of L-girder and open grid. I liked open grid more, but care needed to be taken to provide ample room for switch machines and controls.

I then started laying Railcraft (later Micro Engineering) track. I drilled the ties so I could spike the track in place. This technique, which I learned from friend Don Leedy, proved beneficial as it made the track easy to remove if new arrangements or repairs were necessary.

I used Shinohara and Walthers Nos. 6 and 8 turnouts on the main and Micro Engineering code 70 track on the branch line. Turnouts on the main are controlled with Tortoise by Circuitron switch machines. I turned to fasciamounted, manual push-pull knobs for sidings and yards.

Signature structures

Pennsylvania RR track charts were helpful because they indicated mines and other businesses along the right of way. I also used a PRR Form C.T. 1000 to locate businesses. The C.T. 1000 lists sidings and customers served by the railroad. The only problem was that I didn't have photographs or plans for many of the businesses.

So began a 20-year search to find more information and images to aid in making credible models. Over time, I began to amass a sizable collection of information. I was further aided by friends in the PRRT&HS who sent me plans and photos of railroad buildings.

I also became friends with Bill Neale, who was modeling the same part of the PRR. We corresponded, exchanged photos, and shared information about the PRR Panhandle Division. We also visited each other's layouts, which helped us both build better and more accurate model railroads.

I scratchbuilt and kitbashed replicas of many of the structures along the Panhandle Division. I scratchbuilt the Burgettstown passenger depot using the dimensions from my field trip.

My friend, Jon Barker, was a great help in identifying and building models of PRR Lines West structures. A significant model was the station in Hanlin, Pa. Jon identified the structure as a Lines West Class A station. He worked with a local laser kit manufacturer and had a kit made, along with kits for watch boxes and tool houses.

I built freelanced models of structures when I didn't have photos or plans. I painted the buildings in muted tones.

Three coal mines are served off the main line. I found pictures of the Florence Mine in an issue of *Coal Age* and scratchbuilt a model of it. The other two mines are freelanced.

There are three more coal mines on the Burgetts Branch. I found good images of two of the mines, which I scratchbuilt. There was a third mine operated by American Zinc & Chemical Co. The only prototype photo I found wasn't very clear, so I had to guess what it looked like.

Multi-step scenery

The terrain on the Panhandle Division between Pittsburgh and Weirton, W.Va., is rolling hills. To capture that look, I first stacked layers of extruded-foam insulation board. After shaping the foam with a rasp, I covered it with a thin slurry of Sculptamold and white glue to smooth out and cover the joints between layers.

Next, I scenicked the layout with ground foam. I sprayed it with wet water (water with a few drops of dish soap added) to help break the surface tension. Then I used a mixture of wet water and white glue to hold the scenery in place. I added ground up leaves in locations where trees would be installed.

I made hundreds of individual trees using candytuft and Scenic Express SuperTrees. I bundled sprigs of



4 As workers get ready for their shift at the American Zinc & Chemical Co. coal mine, class H10 2-8-0 No. 8014 rolls back to pick up loaded hoppers. Curt scratchbuilt the tipple using corrugated styrene sheet and plastic doors and windows from Tichy Train Group. The head frame is a laser-cut kit from England.

candytuft, a natural material, and wrapped the trunks with floral tape. Then I spray-painted the handmade trees Oregano Green and touched up the trunks and branches with gray paint.

I followed the Scenic Express instructions when working on the SuperTrees. Making individual trees was a slow, laborious task, but I think the results were well worth the effort.

After the scenery was in place, I hand-painted most of the backdrops. I used muted shades so the backdrop would appear to be in the distance and not draw attention away from the layout.

In wooded locations, I painted the backdrop green to the top of the foreground trees and feathered the top with a fan brush to simulate leaves and tree tops. Then I added tree trunk and

branch detail to the lower parts of the green areas.

At Steubenville and Mingo Junction, I used commercial backdrop pictures of buildings and steel mills from SceniKing and Micro-Mark. Clouds are my weakness. I tried brush-painting, using sponges, and spray-painting, but wasn't pleased with the results. When I improve my skills, I intend to repaint the clouds.

Locomotives and rolling stock

Currently, the motive power is all steam, with a mixture of brass imports and models from Broadway Limited Imports. All have Digital Command Control and sound. I prefer SoundTraxx decoders because they're robust with addresses and configuration variables.



5 As class N1s 2-10-2 No. 7249 waits for clearance to bring its ore train into the Mingo Junction Yard, K4s 4-6-2 No. 5418 makes a station stop at the Steubenville passenger depot. Curt used an architect's rendering and vintage photos to scratchbuild the depot from styrene and JTT Scenery Products brick sheet.



6 The Roberts & Schaefer 700-ton coal wharf at Mingo Junction keeps Pennsy's fleet of steam locomotives fueled, including class J1 2-10-4 No. 6170. Curt heavily kitbashed the Walthers coal dock kit using PRR blueprints provided by Gary Rauch.

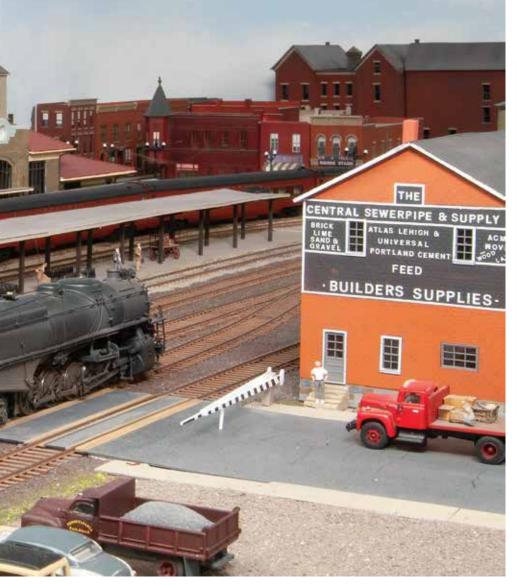
Operations are primarily freight. Most of the rolling stock is superdetailed with separate grab irons and brake rigging. I try to run accurate PRR models. To support that goal, I have a mix of plastic and resin kits, ready-to-run and brass models, and kitbashed equipment.

Most of the cars are what I would consider "layout models," ones that can withstand normal handling in an operating environment. For example, there are more than 200 hoppers on the model railroad. I quickly realized it would be impossible to superdetail all of them and still build a model railroad. As a result, I used off-the-shelf cars from Accurail, Athearn, Bowser, and Stewart.

Running trains

When I began building the layout, I knew very little about operations. After retirement I joined a weekly operating group and was exposed to several approaches to running trains.

My operating scheme was heavily influenced by a series of articles in *Rails*



Northeast by Rick Erben, a PRR tower operator in the east. Rick's stories detailed how the flow of traffic was controlled by operators via telephone.

The three tower operators on my layout communicate with each other via radio. I hope to replace the radios with telephones. Each operator reports the passing of trains to the next, who sets the appropriate signals and switches. The signals are manually controlled by the tower operators. The operators also direct the flow of traffic on the main line.

Train crews are called by a dispatcher who follows a sequential schedule. Two operators receive and make up trains at Mingo Junction Yard. A hostler readies locomotives for trains departing the yard and receives engines that have arrived.

The Weirton Junction tower operator also works with road trains, making pickups and setouts at Weirton. Compared to Mingo Junction, there's much less activity at Weirton Junction Yard.

A typical operating session usually has four train crews who are assigned trains by the dispatcher. Among the mainline freights are PH10, an east-bound perishable reefer train; LM4, a stock train from Cincinnati; and LCL2, a merchandise train from St. Louis. We also run an ore train originating in Cleveland and a coal train off the Montour RR.

Trains are routed using a combination train order/switch list. I learned this approach from Bob Bartizek, who uses this system on his O gauge PRR layout. The system eliminates car cards and having to decipher confusing routing locations. The system tells the crew what the train does and what cars are picked up and setout all in one document.

I use a Lenz Digital Command Control system to run trains. It has proven very reliable. One drawback is that all of the throttles are tethered. If I were younger, I would be tempted to switch to NCE's wireless system.

Upgrades and future goals

Over the years I've made several changes to the railroad. I carpeted the



Meet Curt LaRue

Curt LaRue grew up in Toledo, Ohio, where he had a front-row seat to trains from the Baltimore & Ohio, Chesapeake & Ohio, Nickel Plate Road, Toledo Terminal, and Wabash. He has been a member of the Pennsylvania RR Technical & Historical Society for more than 40 years. Curt lives in Cincinnati with his wife, Kathy. The couple has a daughter, three grandchildren, and a great-grandson.

layout room to improve the appearance and footing. I'm glad I made this change as it's easier on the feet and knees.

I also replaced the 2 x 2-foot recessed fluorescent fixtures with light-emitting diodes. The recessed panels provide ample lighting without leaving harsh shadows on the backdrop.

To help new operators, I've added location and east/west signs to the fascia. In addition, there are now cup and pencil holders throughout the layout for convenience and to keep items off the model railroad.

I added color-matched skirting below the fascia to give the model railroad a finished look. The skirting, held in place with thumb tacks, are a love-hate item. They do a good job of hiding the hobby shop worth of unbuilt models stored under the layout. However, when repairs need to be made or I'm trying to find a kit, they sometimes get in the way.

Though I've completed the layout, I will replace structures and make changes as I get more information. Much of the fun in building the layout came from doing the research, collecting photos, and meeting new friends.

I also plan to introduce a second era set in 1956. I'll replace the steam locomotives with diesels. Freight cars with shadow keystone heralds will take the place of equipment with circle keystone heralds. This change will also allow me to run Truc-Trains, which is another one of my interests.



Expect interesting challenges and opportunities to arise

By Mark Albert • Photos by Lou Sassi

or more than 30 years, my
Cincinnati-themed portable HO
scale traction layout went to
annual train shows and several
national and regional conventions. In its current form, the model railroad consists of four sizable modular
sections that can be separated, moved to
another location, and reconnected for

operation. However, this move isn't an easy one — certainly not a one-man task. A few years ago, I decided its traveling days were over. Once I reached retirement age, moving the sections from my basement was more than I wanted or was able to manage.

Although I miss showing it off at these public events, keeping the layout in

its usual spot at home has opened a new and rewarding chapter in my enjoyment of the hobby. I've added detailed scenes and finishing touches that weren't practical on a portable layout. I can now consider expanding the layout or changing its configuration. Best of all, I don't worry about the risk of damage that comes with moving the layout.

123, one of the famous "Red Devils," enters the loop around the car house, while C&LE freight motor 648 pulls a trailer on the other side. The scene takes place on Mark Albert's HO scale Cincinnati Traction layout.



Cincinnati theme

Although trolleys disappeared from Cincinnati streets in 1951, a few years before I was born, electric trolley buses were still running on several lines, including the one that passed my childhood home. I was especially fascinated by the twin trolley poles on these electric buses. When I first saw a few historical photos of streetcars operated by the Cincinnati Street Ry. (CSR), I noticed that they also had two side-by-side trolley poles on the roof. Later I learned that just about everywhere else, streetcars used only one pole to contact the overhead wire.



Around the same time, I started reading about electric interurban railroads and found that one of the most famous was the Cincinnati & Lake Erie (C&LE). I saw that interurban cars used only one pole on the wire, although a few used an electrified third rail. I also learned about Cincinnati's unfinished "phantom" subway that lay hidden and dormant for several miles under the city's streets. Money for its construction ran out in the early 1920s and a new city government opted not to spend any more tax dollars.

In time, tales and rumors about the abandoned Cincinnati subway (more properly referred to as the Interurban Rapid Transit Ry.) became part of local 2 In his version of history, Mark imagines an interurban freight train like this one ducking into the subway tubes to reach an underground station once proposed for express package service. Here, a Ken Kidder brass model of a 1930 C&LE steel freight motor is pulling a string of trailers, all of which are built from LaBelle Woodworking kits.

lore. All these stories simply increased my fascination with Cincinnati streetcars and interurbans.

Developing interest

However, my interest in model railroading developed along more



3 Cincinnati's long-abandoned rapid transit system comes alive on Mark's traction layout, portions of which model its unused subway tunnels.

conventional lines. My older brother had a tinplate Marx set and then moved to Revell model trains. These had me hooked on HO scale.

Many years later when I was out of college, married, and had a place of my own, I became serious about building an HO scale traction layout. I soon acquired a brass model of a C&LE Red Devil high-speed car and a secondhand brass model of a Cincinnati curveside car, a rather fine rendition of the 75 single-end trolleys built for the CSR in 1923.

My daydreams and sketchpad ideas for an ideal traction layout focused on creating something in which city street-cars and interurbans would be appropriate. This first layout was constructed on a hollow core door and featured tracks running in paved streets under a single contact wire. This layout went to several train shows in the early 1980s.

Joining a club

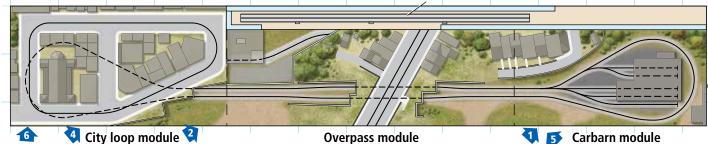
It was at one of these train shows a couple of years later that I met another local traction enthusiast, Walt Wyatt, who was displaying an HO scale traction module and hoping to find other model railroaders interested in joining him with compatible modules to form a club.



4 If you see a photograph of vintage American streetcars with two side-by-side trolley poles, it's almost certain to be a scene in Cincinnati. The city's one and only Brilliner (an NJ International brass model) features the distinctive twin trolley poles.

I built a 2 x 6-foot module and became the second member of the fledgling club.

Walt had detailed specifications for the proposed club's modules. Side and end rails were 1 x 6 clear pine, with L-shaped legs made from 1 x 4s. Halfinch plywood under Homasote formed the track surface 42" from the floor. The center of a two-track main line was located 9" from one side. I had my module built in time for the next train show, complete with code 70 flextrack and ½" brass rods as line poles supporting the overhead of 26-gauge phosphor-bronze wire. Otherwise, the module was largely unfinished. My plan was to make its centerpiece a subway tunnel that passed beneath a street partially lined with houses and storefronts from my original layout.



Cincinnati Street Railway

HO scale (1:87.1) Layout size: 2.5 x by 14.5 feet (three portable modules—2.5 x 4.5, 2 x 6, 2 x 4) Scale of plan: $\frac{1}{2}$ = $\frac{1}{-0}$, 12" grid Numbered arrows indicate photo locations Illustration by Rick Johnson and Kellie Jaeger

• Find more plans online in the Trains.com Track Plan Database.

Over the following year, I made the subway tubes of plaster poured into carefully sealed cardboard forms. The rest of the underpass was constructed of extruded-foam insulation board covered with a thin coat of plaster and finished with ground foam of various colors and textures. The completed subway underpass was introduced at the next annual train show.

A modular layout at home

However, at home my lone module was an orphan. Most of the year it sat idle against a basement wall. To remedy this I built two new 2 x 4-foot modules, each with a return loop, so that together all three modules formed a layout I could operate. These modules also could interface with Walt's at train shows.

One of the new modules could fulfill my dream of running Cincinnati street-cars while interurbans were running on the "rapid transit" tracks below. I built a slightly longer and wider upper platform for an oval of track just for city cars. This platform consisted of 1/4" tempered hardboard with two lengths of aluminum angle attached on the underside for stiffness. The platform sits on six 4" posts.

I used Atlas code 100 flextrack on the modules, which easily bent into curves as tight as $6\frac{1}{2}$ " where the street corners were laid out. I attached the track with construction-grade adhesive. I pressed gray polymer clay between the rails, then tapered it to the edge of the street to form a realistic crown in the pavement.

I heat-cured the clay with a 100W incandescent bulb in a lamp fixture held about 6" from the surface. Once hardened, I carved flangeways with the tip of a No. 7 blade in a hobby knife.

The loop of interurban track below now became another portion of the

Cincinnati subway. The track enters and leaves through two portals modeled after the prototype subway portals that are visible to this day.

Cincinnati-style structures

The two blocks inside the oval gave me plenty of room for structures found in older Cincinnati neighborhoods. These buildings are a mix of modified or kitbashed products from many suppliers, along with scratchbuilt townhouses, rowhouses, and storefronts of my design.

For these scratchbuilt models, I wanted to capture the distinctive look of the Italianate style that was common for urban dwellings in Cincinnati during the 1880s and '90s. I made a set of master patterns and corresponding silicone rubber molds to cast a front, rear, and two gabled side walls of a typical row house. I also made a facade of a storefront in the Queen Anne style. I used Permastone, a very hard plaster-like medium, for the castings.

In addition to building numerous duplicates of these designs, I modified the walls to create new varieties. Learn about this technique in "Make your own kits and bash them" on Trains.com.

Going solo

Although Walt and I displayed our combined modules at train shows for many years, our hopes for attracting other traction enthusiasts never panned out. Eventually, Walt built a permanent traction layout at home. I continued to take modules to shows on my own.

However, going solo intensified my focus on the Cincinnati theme of this layout. I finally got around to erecting trolley wire over the loop of track on the city scene module. I was determined that

The layout at a glance

3

Name: Cincinnati Traction Scale: HO (1:87.1) Size: 2'-6" x 14'-6"

Prototype: Cincinnati Street Ry. (city streetcars) and Cincinnati & Lake Erie

(interurban)

Locale: Cincinnati, Ohio Era: 1930s and '40s Style: shelf

Mainline run: Approximately 24 feet (dogbone on interurban rapid transit line) Minimum radius: 7" on streetcar line, 11" on interurban rapid transit line Minimum turnout: not applicable Maximum grade: none

Benchwork: open grid

Height: 43" (interurban rapid transit level), 471/2" (city streetcar loop level)

Roadbed: 1/2" Homasote

Track: code 70 flextrack and handlaid track on interurban rapid transit line, code 100 flextrack in paved streets on city streetcar loop

Scenery: carved extruded-foam insulation board and Sculptamold

Backdrop: hand painted on ³/₄" extrudedfoam insulation board

Control: DC via overhead wire

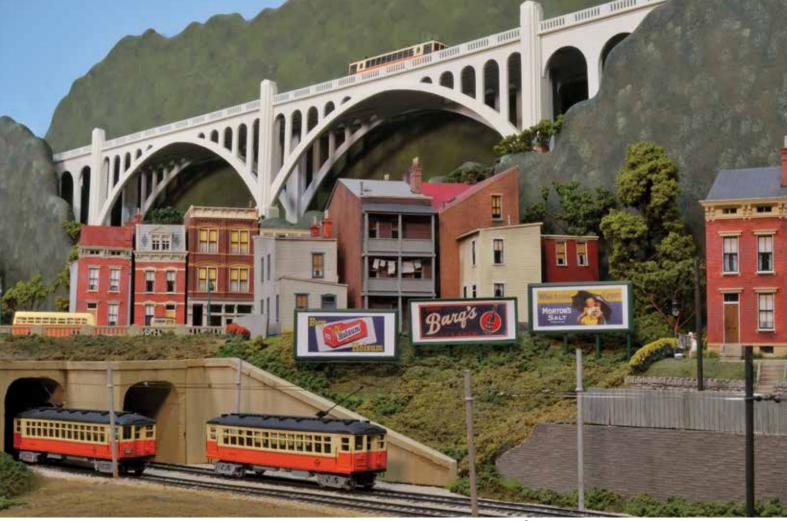
it would have two parallel contact wires modeled after Cincinnati's overhead.

The twin wire challenge

I began by drawing a full-size diagram of the streets and tracks to plan the location of the line poles, span wires, and pull-offs. Looking at the complex web of wires on paper alarmed me. Were my skills up to the task?

The tricky part was installing one contact wire in an offset position all the way around the loop, then returning to string the second contact wire at the correct 2-scale-foot spacing from the first. The key was to tackle this task in small doses, especially around the curves.

I intended this double wire to be powered, but I made no attempt to keep the



overhead wires isolated so that one wire was positive and one wire was negative. I simply wired some of my trolleys so that both roof poles could take power from the overhead while other cars could operate by two-rail with dummy poles on the wire just for appearance.

Growing a fleet of city cars

As my layout was taking shape, I was assembling a fleet of Cincinnati-style streetcars and interurbans. The Bachmann Brill suburban trolley, for example, closely resembles Cincinnati's large fleet of deck-roof cars. Making one a single-ender by blocking up the folding doors on the left side and painting the model in Cincinnati's bright orange and deep cream did the trick

Bachmann hit another home run with its side-door Peter Witt trolley, which is remarkably similar to Cincinnati's 100-series cars built by the Cincinnati Car Co. I painted several in Cincinnati colors to add to my roster. Naturally, all were equipped with the obligatory second trolley pole.

Then along came Bowser's Executive Line Presidents Conference Committee (PCC) cars from San Francisco's F Line. The modernized trolleys are painted in honor of different North American cities with PCCs, including Cincinnati. I snapped up several models.

Interurban rapid transit cars

Suitable cars for the interurban/subway line were a different story. To accompany my original Red Devil, I acquired a Ken Kidder brass model of a C&LE steel freight motor, a prized addition to my collection. Then I built a couple LaBelle Woodworking freight motor kits, which I altered to match specific C&LE prototypes.

Since Cincinnati gave up on its rapid transit system before any cars were ordered, there's no prototype vehicle to model. The closest I could come to transit cars that might have been built specifically for Cincinnati subway service are a pair cast resin kits from Q Car Co. of 4500-series cars built for service on Chicago's elevated railway system.

Backdrops and a bridge

For a long time, I recognized my layout needed some sort of backdrop. Constructing a suitable (and portable) Two transit cars are about to pass near the portals of a subway underpass on the city's stillborn rapid transit system. Mark made his best guess as to what these cars might have looked like. He chose Q Car Co. models of Chicago's 4500-series elevated cars because they were built around the same time Cincinnati would have ordered its cars.

backdrop ultimately inspired me to add the bridge I was dreaming about.

The backdrop is made from panels of ³/₄" extruded-foam insulation board clamped to the back of each module. By giving the panels a curvy, rounded profile at the top and painting them in woodland colors, I made them resemble the contours of the hillsides that frame many Cincinnati neighborhoods.

Not long after I'd finished these panels, it occurred to me a bridge could be installed behind the 6-foot module in the center. The bridge I selected was Cincinnati's Ida Street Viaduct, an Art Deco creation built in 1931 on a hillside in Mt. Adams.

I cut the arches and piers for the front and rear side from rigid plastic foam board. To make the bridge appear wider when viewed from eye level, I skewed the front and back sides about 3" when



attaching them to the deck. I painted the structure a soft ivory to simulate gently weathered, white-washed concrete.

The bridge rests on a 1 x 8 board 2" longer than the bridge itself. The three piers on each side of the bridge were attached to the base with screws and ½" brass angle joints. Fully assembled, the bridge formed a sturdy, rigid unit mounted on two 1" metal pipes that pass through the base to meet locating rings on the underside of the bridge deck. The bottom of each pipe leg is attached to a board that serves as a foot to hold the entire unit upright so it can be positioned behind the center module.

Out with a bang

In the fall of 2014, I took all three modules, the new bridge unit, and the new background panels to the annual train show. The layout was now in its final configuration. I applied to have my layout on display at the NMRA national convention in Indianapolis the following summer and was accepted. My three brothers served as the road crew on the fun and successful trip.

I resolved to take the layout to one more show as a sort of farewell tour. At

that event, I was asked to display it at the 2018 Cincinnati Express Mid-Central Region convention. I agreed, thinking I would go out with a last hurrah. The convention was great, but moving the layout convinced me I'd had enough.

Rethinking everything

With the layout now established in its usual position against the basement wall at home, I looked it over with fresh eyes. I began by refurbishing the track and overhead wire by the carbarn. Then I added a small park on the middle module, refreshed the vegetation with washes of green watercolor, and installed a large factory building at the far end of the carbarn module. See "A view block that is and it isn't" on Trains.com.

As for my big dreams, I plan to incorporate a working model of what Cincinnatians called an "incline," a funicular contraption that once carried streetcars on platforms riding on inclined, trestle-like planes to reach hill-top communities. So far, I have only sketches and creative doodles.

And so, the saga of my Cincinnati traction layout continues. For now, the layout and I are in a very good spot.

6 A CSR streetcar turns the corner in one of Cincinnati's older neighborhoods. The model is a Bachmann Peter Witt trolley modified to resemble the single-ended, side-door cars, complete with double trolley poles.



Meet Mark Albert

Mark spent much of his professional career on the staff of Modern Machine Shop, a trade publication focused on advanced metalworking technology. He and his wife, Debbie, are Cincinnati natives. They have a daughter and son and two grandchildren. Mark is a longtime member of the Cincinnati Transit Historical Association and is its newsletter editor.

HOW TO BUILD A DESERT



There's more to making a desert scene than throwing sand on a sheet of plywood

By Pelle Søeborg

Photos by the author

I'VE BUILT several HO scale layouts during my time in this hobby. An early one was the Union Pacific Daneville Subdivision. Unlike my current efforts, it was set in the American Southwest and featured desert scenery.

Making scenery consists of two basic steps: creating the supporting terrain and applying rock castings, ground cover, trees, and bushes to it. For the terrain, I find extruded-foam insulation board is superior to any other product. I used insulation board for the terrain on my previous layouts and on a couple of dioramas built for various purposes. For me it works better than the old plaster cloth on chicken wire method.

There are different ways to make terrain from insulation board. Option one is to cut blocks and stack them on top of each other horizontally like a sandwich, then cut the terrain contours. Method

two is to cut the terrain contours before stacking the foam. The third option is to cut the terrain profiles and place them next to each other vertically. This method works well for creating rugged terrain and is also a good way to use the odd pieces left over from other projects.

Although deserts appear flat, there are height variations in the topography. Avoid making a desert on a sheet of plywood. The desert terrain I was going to make was relatively flat, so I used the sandwich method with the board layers lying horizontally, except in a corner where the height difference between the track and highway made gluing foam together vertically the obvious choice.

Ground cover

I did some research regarding the colors of the soil in the Mojave Desert. On a

LANDSCAPE



trip to California I collected dirt samples from three different areas of the desert. When I compared the samples, it turned out that the color of the dirt was different in all three places. I selected one as the color I wanted for the desert soil on my layout.

After I studied the sample under the layout lighting, it appeared too dark compared to how it looked in bright sunlight. I thinned the dirt with Low Desert Soil from Arizona Rock & Mineral, which is much lighter. I ended up with a ratio of 1 part Mojave dirt to 3 parts Low Desert Soil, which looked pretty close to the real thing on the layout.

Weeds and bushes

Many people imagine a desert is a vast area covered with dirt and only a sparse number of shrubs and bushes.

That is true in some areas, but I model the Mojave Desert in Southern California, and most of it is overgrown with shrubs and small bushes.

It's always been difficult for me to model a convincing desert scene. The biggest challenge is how to make a 20inch-deep scene look like a vast desert. A backdrop helps, of course, but requires that the scene blends together with the background extremely well. That makes modeling a desert more challenging than making a scene with trees or mountains where you more easily can hide the transition between the modeled scene and the backdrop.

I'm constantly looking for products I can use to make better looking scenes. For this project I used miniNatur scenery materials from the German company Silhouette. Among others, it makes a series of grass tufts well suited as desert

Pelle Søeborg shares the methods he used to create desert scenery on one of his earlier layouts, the HO scale Union Pacific Daneville Subdivision.

scrub. The fall colors looked desert-like, and they matched the colors on my photo backdrop well. I also used a fiber mesh called horse tail, which I cut in small pieces for desert bushes.

I experimented with spreading the tufts on the dry dirt, then wetting and gluing everything in the same workflow. Unfortunately, this method didn't work well. Most of the tufts were still loose after the glue had dried, so there was no other way than applying the tufts one by one with a dab of glue. It was tedious work applying tufts that way to my 25 square foot desert, but in the end I was rewarded with a nice-looking scene.

Continued on page 56

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BASIC TERRAIN — VERTICAL STACKING (FROM PAGE 53)



Filling the area between the tracks and the highway with insulation board stacked vertically starts with finding the first piece. With a pen, I outlined the shape I wanted on the foam block, then I cut along the line.

I used various tools to cut foam insulation board: A hot-wire cutter, a saw with a flexible blade, a bread knife, and a Woodland Scenics Foam Knife, which has a long thin blade in a hobby knife handle. [Snap-off wallpaper knives are also useful. — Ed.]

A hot wire foam cutter is by far the best tool for the job ①. When cutting foam with a hot wire tool, make sure you're working in a well-ventilated area and wear appropriate personal protective gear.



Next, I attached the foam pieces to the layout with construction adhesive. I prefer working with adhesive sold in tubes so I can apply it with a caulk gun as shown in 2.

When selecting a construction adhesive, make sure it is foam safe. Solvent-based adhesives have the potential to burn or dissolve extruded-foam insulation board. Examples of foam-safe products include Alex Plus all-purpose caulk, Dynaflex 230 sealant, and Foam Board Construction Adhesive, all produced by DAP Global Inc.; Loctite PL 300 Foamboard; and Liquid Nails Projects & Foamboard Adhesive. These products can be found at most well-stocked hardware stores and big box home-improvement centers.





I added the next piece the same way until the entire area was filled with vertical foam pieces, as seen in 3.

I sanded all joints and cutting marks smooth with a piece of coarse sandpaper. This created a lot of charged foam dust, so keep a vacuum cleaner ready. I filled any gaps with a lightweight putty 4, then painted the area with earthtoned latex paint.

BASIC TERRAIN — HORIZONTAL STACKING





I trimmed a piece of foam so it fit the gap between the track subroadbed and the highway. I then traced the contour of the highway on the foam 1.

I shaped the terrain contours with a flexible saw 2. It's easiest to do the trimming before the foam board is glued in place.

Next, I set the shaped foam block back in the scene and glued it to the





model railroad, as shown in 3. As you can see in the photo, there's a notch at the end of the foam. The next section will have a corresponding notch and rest on the first section.

I continued with filling the large gap between the tracks and highway, along with the smaller opening between the road and fascia, with more extrudedfoam insulation board 4.



I used blocks as risers to support the foam on the other side of the track **5**. The gap between the foam and tempered hardboard was intentional as the backdrop had yet to be installed.



Although deserts look flat, there are height variations in the terrain. In most areas I could shape the scenery with a single layer of 2"-thick foam 6. Where the scene ended there was a little hill that required multiple layers of foam.

BASIC TERRAIN — HORIZONTAL STACKING (CONT'D)





After testing a precut block to see if it fit the corner, I roughly shaped the piece and glued it in place, as shown in photo 7. Then I shaped the stacked foam using the tools and techniques outlined earlier in the story 3.



Photo **9** shows the a long stretch of the desert scene as it looked before any ground cover was applied. The extruded-foam insulation board terrain is strong and makes the entire benchwork construction more sturdy.

Working with foam insulation board can generate quite a bit of dust and debris. Before proceeding to the scenery phase of the project, I made one more pass over the desert scene with a shop vacuum.

APPLYING THE GROUND COVER



I applied a base layer of dirt to the area to be scenicked. This provided a coarse surface for the final layer of desert soil, which prevented it from being flushed away in subsequent steps.

To get started, I applied thinned white glue with a brush 1. I worked in 2-foot square sections to prevent the glue from drying too fast.



I didn't ballast my track as a separate process. Instead, I applied ground cover and ballast in the same workflow 4. That way I avoided going over the same scene again and again. This method not only saves time, but the various



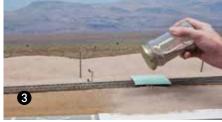
I then sprinkled a layer of dirt on the wet glue 2. I continued section by section until the entire scene was covered, then let it dry. I applied a layer of desert soil on top of the dirt.

I used a homemade sifter for sprinkling the dirt evenly on the area. I fashioned it out of a glass jar and made holes in the metal screw-on lid.



elements also blend together nicely, yielding a realistic-looking scene.

I spread the ballast evenly with a wide, soft brush **5**. To create a seamless surface, I applied the ground cover to the entire scene before wetting it.



Precautions should be taken when working near delicate areas like the moving parts of turnouts. As shown in 3, I covered the points with a thin piece of material similar to a note card.

To help keep the road surface clean, I covered the edge of the highway with a scrap piece of sheet styrene, visible in the lower right corner of the image.



I wet the ground cover and ballast with rubbing alcohol diluted with water, working in 2-foot to 3-foot sections. Then I went over the area again with white glue thinned with water **6**. I used a pipette to apply both products.

ADDING SCRUB AND DESERT GRASSES



For the desert scene I used miniNatur scenery materials from Silhouette 1. I picked four different shades of tufts within a narrow range colors:

727-23S Grass Tufts Long "Early Fall" 727-24S Grass Tufts Long "Late Fall"

737-23S Two-Color Grass "Early Fall"
737-24S Two-Color Grass "Late Fall"
I created a kind of palette by peeling the tufts off their factory backing paper and placing them on a sheet of cardboard 2.



Then I randomly picked the tufts one by one, applying a dab of white glue under them, then placing them on the terrain. Yes, this was an incredibly time-consuming process. But the finished results were worth the effort.



I used miniNatur horse tail to create the scattered bushes 3. The colors I used were:

990-23MS horse tail "Early Fall" 990-24MS horse tail "Late Fall" First, I cut out a small piece with a pair of scissors 4. Then I folded the horse tail into HO scale-sized bushes.

One of the benefits of using foam as a scenery base is that it's easy to make holes in. Using an awl, I randomly poked holes in between the static grass tufts. Then I picked up the bushes I made from horse tail, dipped them in white glue, and placed them in the holes **5**.





MAKING DIRT ROADS







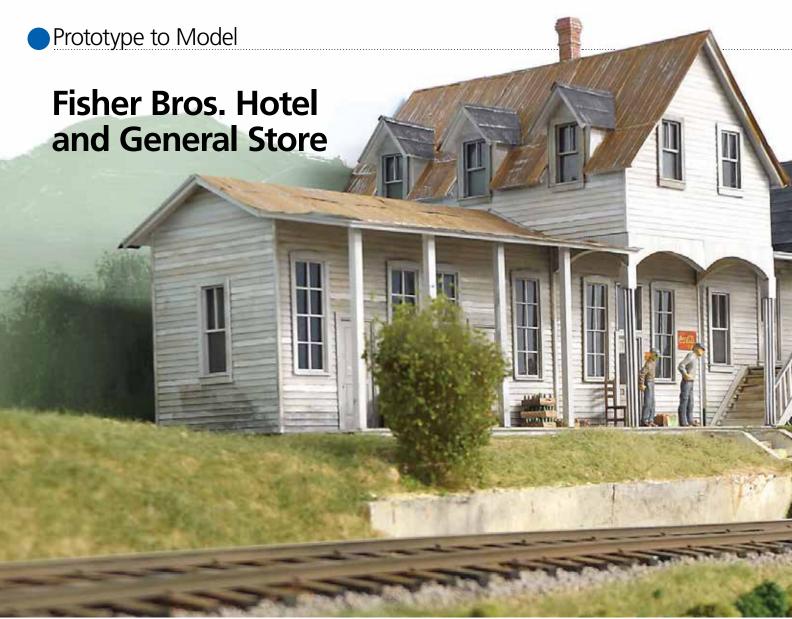
The dirt roads were made at the same time I installed the rest of the ground cover. First, I wet the area with rubbing alcohol. After that had time to soak in, I used a pipette to apply thinned white glue, as shown in photo 1.

Immediately after applying the glue, I sprinkled a topcoat of very fine grained desert soil where the service road would go ②. As you can see in the image, I used a salt shaker to distribute the scenery material. Some modelers like to use a mesh tea ball infuser with a sprung handle to apply fine ground cover such as this.

After a couple of days, when the glued area was completely dry, I created tire marks by rubbing the surface with a stiff, short-bristle brush ③. You can also use a finger or a sanding stick.

With that, my desert scene was complete and trains were ready to start moving 4. I hope you can put some or all of these techniques to use on your model railroad.





Nearly every part of my O fine-scale layout depicting a Louisville & Nashville branch line in the steam era (see *Model Railroad Planning 2019*) is a reproduction of the prototype, so you might think coming up with a pair of photos for MR's Prototype to Model feature would be easy. But it is difficult to get quality photos of the real thing when it no longer exists.

Sometimes one gets lucky, however, especially if he stretches the boundaries of his modeling realm a bit. One of my best examples is the Fisher Bros. Hotel and General Store in Bushnell, N.C., on the Southern Ry.'s Murphy Branch. The prototype photo was taken around 1942 during construction of

Fontana Dam. The resulting lake buried Bushnell (and several other towns). I came across the photo when doing research for my book on the Murphy Branch.

I noted that way too many years were passing by, so I decided to build a model of it despite having only the one photo and guessing at dimensions. The assumption was made that the clapboard siding was 6 feet wide and that the windows and doors were probably 3 feet wide. Using those assumptions, I was able to count boards and multiply by six to get vertical dimensions. The same method was used with the horizontal dimensions.

Measurements were made using my 3 foot "scale" to

The Fisher Bros. Hotel and General Store was scratchbuilt in O scale based on information Michael George gleaned from a single photo, as the prototype was long gone. The model is all styrene sheets and shapes except for some doors and window moldings from Grandt Line (now San Juan Details). The roof materials are K&S corrugated aluminum and .005" styrene to represent shingles and tar paper. The figures are heavily modified Preiser and Tamiya items; the soft-drink bottles and cases are from Berkshire Valley and Chooch. Michael George photo

come up with rough lengths. Then it was drawn out on a large sheet of paper. It took some adjusting to get the roof angles right. But in the end, the mock-up bore a strong resemblance to the photo and it was time to start cutting building material.

The structure is all styrene with some Grandt Line (now San Juan Details) windows and doors. There were three different roofing materials on the prototype, and the

architecture suggests it was added onto several times. The model would be a perfect fit for an otherwise "boring" corner of the layout.

I tried to capture nearly everything in the prototype shot, including the men on the porch. The most amazing thing was the huge number of soft-drink bottles and cases on the porch, which I reproduced as well.

You might be wondering why someone who goes to



Send us your scenes

Have you modeled a scene based on a prototype photo? Send both the prototype and model photos, along with a brief description of the scene and the modeling techniques shown, to: Prototype to Model, *Model Railroader* magazine, 18650 W. Corporate Dr., Suite 103, Brookfield, WI 53045; or email to Contributing Editor Tony Koester in care of editor@modelrailroader.com.

the trouble of modeling in Proto:48 fine-scale standards would move an eye-catching model like the Fisher Bros. Hotel and General Store from the Southern Ry. to the L&N — The Old Reliable. In model railroading, even fine-scale modeling railroading, we make compromises every day. As long as we keep them within the bounds of

plausibility — in this case, moving an obscure Appalachian masterpiece across country a ways — it's not likely to be jarring. Prior to this project, this corner of the layout was plain and uninteresting, just track climbing a grade to get to the second level. Adding the Fisher Bros. Hotel and Store brought this corner to life. IMIL

▼ That this central Appalachian building was still standing, let alone inhabited and doing business, when the photo was taken during World War II seems miraculous. But everything from the various additions and roofing types to the people and stacks of soft-drink bottles make this an extremely appealing challenge for a modeler despite a lack of overall dimensions. National Archives and Records Administration photo



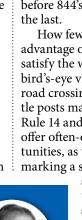
Crossings at grade

Juicy tidbits jumped up

when I thumbed through rulebooks looking up information for last month's column. I puzzled over making a column of them until a westbound working upgrade on a nearby line whistled a grade crossing warning. Who doesn't enjoy hearing one? It's stirring to hear a faraway, lonesome whistle calling wistfully, lifting spirits on a dark night.

The Standard Code's Rule 14 describes whistle signals, including the familiar long, long, short, long approaching public crossings. Note that 'public" is a general term which can include road and pedestrian crossings. The current editions of the General Code of Operating Rules (GCOR) and Northeast Operating Rules Advisory Committee (NORAC) whistle rules read almost identically to Rule 14, though updated with exceptions for quiet zones. Some railroad traditions are everlasting. The "whistle" term persists, even though postwar dieselization made air horns much more common. Curiously, only NORAC breaks, titling its rule "Engine Whistle or Horn i marking a stop, three shorts Signals."

Steve Lee treated me to a cab ride once, when Union Pacific's 844, its magnificent 4-8-4 Northern steam locomotive, returned the Denver Post rodeo train from Denver to Cheyenne. I'll never forget how he handled the whistle as we raced through small towns laced with road crossings. Some were



OPERATION AT THE DIAMOND **MAKES A GOOD EXAMPLE HOW** TIMETABLE **SPECIAL INSTRUCTIONS** AND OPERAT-**ING RULES** OVERLAP. - Jerry



There's no mistaking the meaning of the stop signs on the gate protecting this Louisiana &North West move across the Illinois Central Gulf diamond in Gibsland, La., on Oct. 7, 1975. Jerry Dziedzic photo

so close together Lee's first note screamed for the next before 844's pilot touched

How few modelers take advantage of opportunities to satisfy the whistle urge. Our bird's-eye view helps us see road crossings, whether whistle posts mark them or not. Rule 14 and its current forms offer often-overlooked opportunities, as varied as a short

> signaling a back up, and a lo-o-ong approaching stations, junctions, and railroad crossings at grade.

We often connect railroad crossings at grades (diamonds) with signals and interlocking towers. They come in easy-to-model forms, too. The above photo shows the simple gate with stop signs at Louisiana

& North West's crossing of the Illinois Central Gulf in Gibsland, La. This was formerly Illinois Central's line between Meridian, Miss., and Shreveport, La., now a joint operation of CPKC and Norfolk Southern. Switching kept the diamond busy while L&NW and North Louisiana & Gulf interchanged there. Operation of former Southern Pacific Electro-Motive Division F7s, which L&NW bought from Wellsville, Addison & Galeton, distinguished the line.

Operation at the diamond makes a good example how timetable special instructions and operating rules overlap. Rule 98 (A) requires a train to approach a railroad crossing at grade not protected by an interlocking prepared to stop. ICG Mississippi Division Timetable No. 1 carded six second class trains at Gibsland. Its special instructions designate Rule 93 yard limits for two and half miles there, with the diamond at the center. The instructions note that stop signs whose

normal position is against the L&NW protect the diamond. The timetable further restricts speed to 10 mph until an engine or a leading car crosses the diamond.

How does all this govern an ICG engineer? He slows to restricted speed a little more than a mile away. Even if the diamond is clear, he pinches his train down to 10 mph to satisfy the timetable speed restriction. These measures keep the train under control, prepared to stop, if the swing gate is lined for the L&NW.

An interesting modeling project can produce a live crossing, making one line a stub over which little more than a foreign road engine and caboose shuttle. A slowmotion switch motor or a servo can operate the gate. But a simple diamond with a fixed swing gate works, too, because the appeal comes in the way the crossing demands whistling l-o-o-ng, two speed reductions, and a resume speed of an alert engineer. Wouldn't this be a neat addition to a layout? MR



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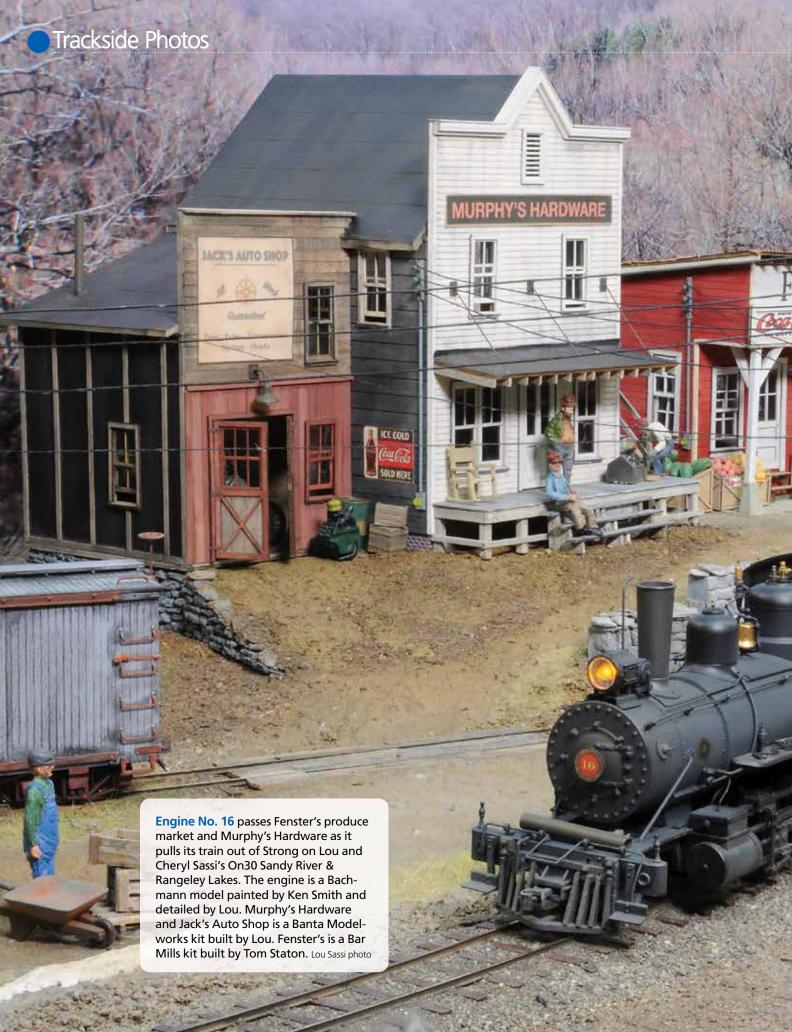




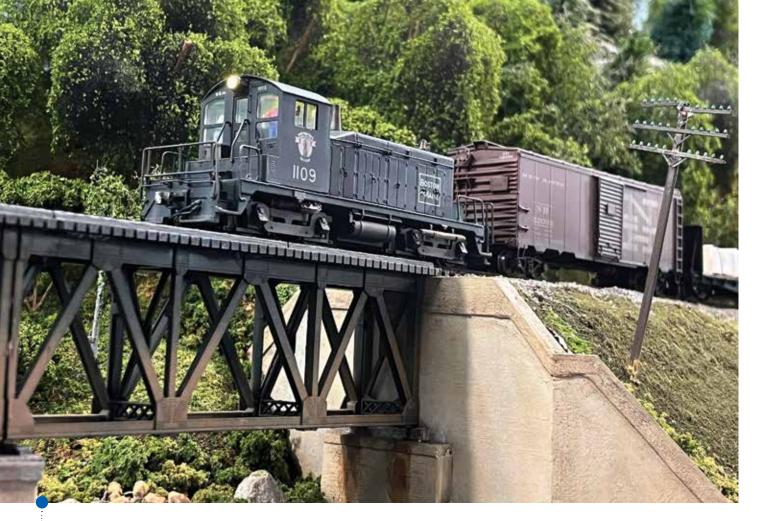












The New Haven RR occasionally leased power from its neighbor to the north, hence Boston & Maine SW1 No. 1109 heading up a local freight running northbound from Putnam, Conn., to Worcester, Mass., across the Quinebaug River bridge. Chris Adams caught the train on Bob Murphy's HO layout, which is based on the New Haven's Norwich and Worcester Branch. Chris Adams photo

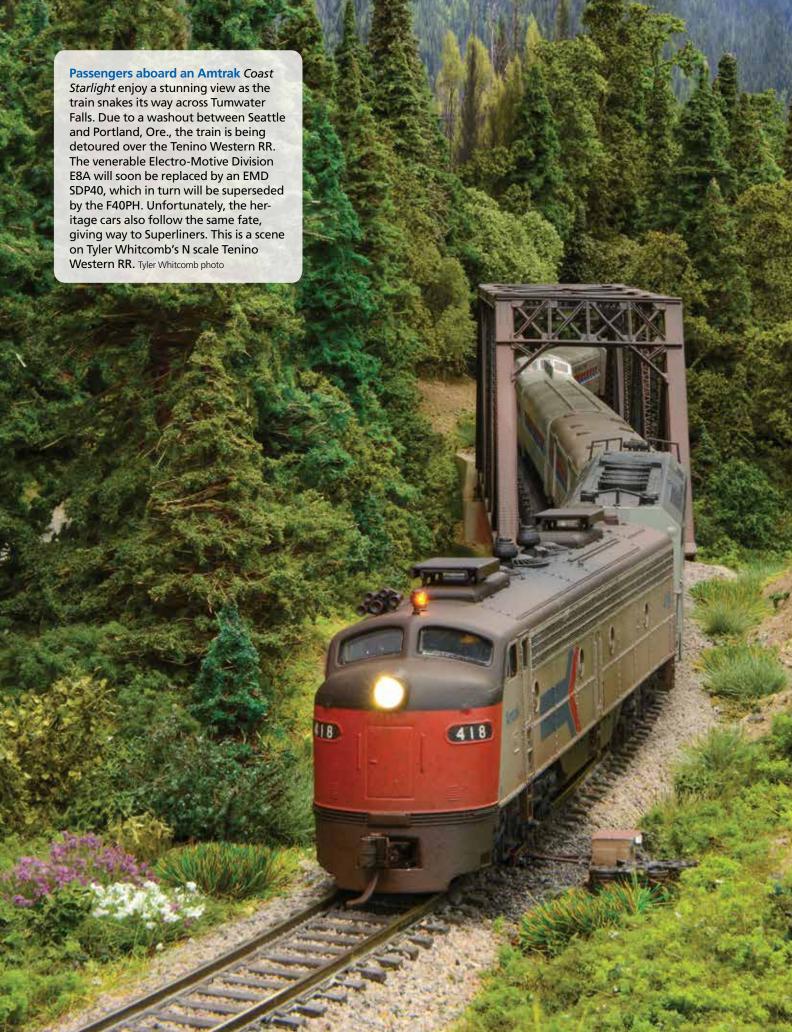
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The engineer aboard Chicago Great Western's Mills City Limited waves to a little boy and his dad as the train leaves the local depot. The locomotive is a detailed Athearn F unit, the Chrysler is by Oxford, and the figures are from Preiser. The scene is on Robert Baudler's HO scale Chicago Great Western RR 12-foot diorama, set in rural Midwest America. Robert Baudler photo





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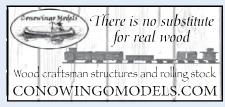
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Schedule of Events

- CA, CARMICHAEL: Sac-Sierra TCA Toy Train Show. Elks Lodge, 5631 Cypress Ave., Carmichael, CA 95608. Saturday, October 4, 2025, 10am-3pm. Admission \$10.00, children 12 and under FREE w/paid adult. Buy/Sell/Trade, operating layouts, free parking, food. Free train set drawing for 17 and under (must be present to win). Contact: Bryan Stanton at brsta@comcast.net
- CO, ESTES PARK: Rails in the Rockies XXVIII. Estes Park Events Complex. September 20-21. Saturday 10am-5pm, Sunday 9am-4pm. Admission \$10; kids free w/adult. Large operating layouts, club layouts, all scales, exhibits, vendor tables, activities for kids. Fun for the whole familyl 25,000+ square feet of railroad excitement! Facebook.ttps://www.facebook.com/groups/railsintherockies, Email: estesparktrainshow@gmail.com, Website: https://railsintherockies.org
- CO, LOVELAND: Rocky Mountain Train Show, November 29-30, 2025. The Ranch Events Complex, 5280 Arena Circle, Loveland, CO 80538. Saturday, 9am-5pm, Sunday 9am-3pm. 200+ sales tables, 50+ vendors, operating layouts, model trains of all scales. Admission \$10.00, 12 and under free. Free parking. 303-364-0274 www.RockyMountainTrainShow.com Information@RockyMountainTrainShow.com
- IA, DELMAR: Delmar Train Show & Swap Meet. October 11-12, 2025. Saturday 10am-4pm and Sunday 10am-2pm. Delwood School Gym, 311 Delmar Avenue, Delmar, IA 52037. Admission: Free Will Donation. Free tours of Delmar Railroad Museum. Vendor tables: \$25 each (limit 10 tables per vendor). Food & drink available. Free parking/handicap accessible. Information: bradgeneralcontractors@gmail.com
- IA, IOWA CITY: 5th Annual lowa City Train Show. Sunday, October 19, 2025. 10am-3pm. 4261 Oakcrest Rd. SE, Iowa City, IA 52246. Admission: \$5, children 10 and under free w/adult. New club building open house! All different scales! Displays and layouts to see! Sponsored by the Hawkeye Model Railroad Club and Scale Signs! Iowacitytrainshow@gmail.com or visit: www.hawkeyemodelrrclub.com
- IL, EAST MOLINE: Quad City Society of Model Engineers Open House and Swap Meet. Saturday, November 1, 2025. 9am-2pm. 740 16th Avenue, East Moline, IL 61244. (The Old East Moline Public Library.) Admission: \$5 (cash only), children 12 and under are free.
- IL, ST. CHARLES: 34th Annual Chicago Railroadiana and Model Train Show and Sale. Kane County Fairgrounds, (Front Building), 525 South Randall Rd., St. Charles, IL 60174. Sunday, October 19, 2025, 10:00am-3:00pm. Admission: \$6.00 (includes tax). Children under 12 FREE. Tables starting at \$65.00. For information: 847-358-1185, RussFierce@aol.com or www.RRShows.com
- IN, INDIANAPOLIS: Indianapolis Train Show at Garfield Park. Hosted by Naptown White River MRC. Saturday, October 4, 2025. 10am-3pm. S5 admission. 12 and under Free. All Scales Welcome. Operating layouts, Displays, Memorabilia. Garfield Park Burrello Family Center, 2345 Pagoda Dr., Indianapolis, IN 46203. Morgan Davis, naptownmrr@gmail.com, 317-643-0779, www.naptownrr.org
- KS, TOPEKA: TMRR Club Show & Swap Meet. October 4-5, 2025. Saturday 9am-5pm; Sunday 9am-3pm. Great Overland Historic Station, 701 N. Kansas Ave.. Topeka, KS 66608. Admission: \$5; kids 12 and under FREE with paid adult. 10,000 sq.ft. of operational layouts, railroad histories and vendors. Free parking. Contact: Stan Spice 704-450-7929

- MA, MARLBOROUGH: Hub Division NER/NMRA. Royal Plaza Trade Center, 181 Boston Post Road West (Rte. 20 West), Marlborough, MA. Saturday December 7, 2025, 10am-4pm, and Sunday December 7, 2025, 10am-4pm. Admission: \$15.00; Children under 12 and Scouts in Uniform FREE. Admission is good both days. Information: Ray, 781-910-9581; e-mail: TE.info@hubdiv.org; website: www.hubdiv.org
- MA, TAUNTON: OLD COLONY MODEL RAILROAD CLUB ANNUAL MODEL RAILROAD SHOW. Sunday, September 21, 2025, 10:00am-3:30pm. Taunton Inn & Conference Center, 700 Myles Standish Blvd., Taunton, MA 02780. Route 495, Exit 25. Adults \$5.00, children under 12 (accompanied by an adult) & scouts in uniform FREE. For more information visit: www.oldcolonyrailroadclub.com
- MI, BATTLE CREEK: Battle Creek Train Show & Swap Meet. Calhoun County Fairgrounds, 720 Fair St., Marshall, MI 49068. Saturday, September 20, 2025, 10am-3pm. Admission: \$5 adults, under 12 free. Operating layouts, hands-on displays, door prizes. Refreshments available. Dealers welcome, \$30 per table. For information: contact Shawn Rhoades 269-758-3477, Andy Buck 269-268-0910.
- MI, EAST LANSING: Lansing Model Railroad Club Show and Sale. Michigan State University Pavilion. Sunday, November 9, 2025, 10:00am-4:00pm. Admission \$8.00, under 12 free. Michigan's largest train show: layouts, demonstrations, and 500+ tables. Free parking. Flyer, table forms and map, visit: www.lmrc.org or call John Hartmann 517-290-8948
- MN, ST. CLOUD: GRANITE CITY TRAIN SHOW AND SALE. River's Edge Convention Center, 10 4th Ave S, St. Cloud, MN 56301. Saturday, November 8, 2025. 9:00am-3:00pm. \$6.00, Kids 10 and under FREE. Buy/sell model/toy trains, books, videos, railroad collectibles. Operating model and toy train displays. Win a LIONEL train set! 612-558-6484; GraniteCityTrainShow@gmail.com or visit www.GraniteCityTrainShow.com
- MO, ST. LOUIS: 34th Annual Greater St. Louis Metro Area Train Show sponsored by Mississippi Valley N Scalers. St. Louis Community College-Meramec Gym, 11333 Big Bend Rd., Kirkwood, MO 63122. October 11-12, 2025, Saturday 10am-4pm; Sunday 10am-3pm. Admission: \$10, kids 12 and under FREE! All scales-swap tables-layouts-grand prize drawing! Free parking. David Johnson, 636-225-2405, https://mvns.railfan.net
- MS, GULFPORT: UPDATE POSTPONED. NEW DATE COMING! Mississippi Coast Model Railroad Club: 1st Annual Train Show. CTA Hub & Event Center...on the beach! (Corner of 20th Ave and Hwy 90, next to the MS Aquarium). Admission: \$10 Adults, \$2 Children (5 & under FREE), \$8 Active 1st Responders—Military—Seniors. Contact: Rob Mooney, crmoon051@gmail.com, 228-596-5740
- NC, RALEIGH: Neuse River Valley Model RR Club 41st annual FALL TRAIN Show; November 8-9, Sat 9-5; Sun 10-4. NC State Fairgrounds. 400 tables of model railroading, 12 operating layouts. Displays & Judging of Craftsman Structures & Rolling Stock. Admission: \$10 covers both days, children 12 and under free with an adult. Contact: bobwitwer@gmail.com. Visit: www.nrvclub.net
- NY, HAMBURG: TCA Upstate NY Chapter Toy Train and Collectible Toy Show! St. Mary's of the Lake Church Hall, 4737 Lakeshore Rd. (Rt. 5), Hamburg, NY 14075, Saturday, September 27, 2025. TCA Members: 8:30am, General Public: 9:00am-2:00pm. Admission: Adult \$5.00, Children 12:17 \$3.00, Upstate Chapter Members & children under 12, free. Contact: Mike 716-913-4195, Email: tca. upstatenychapter.events@gmail.com
- OH, BEREA: The 51st Annual Great Berea Train Show hosted by the NMRA. Saturday, October 4th and Sunday, October 5th. 10:00am to 4:00pm both days. Cuyahoy, October 5th 10:00am to 4:00pm both days. Cuyahoy, October 5th 10:00am berea, Ohio. Admission \$10.00. Under 16 free with an adult purchase. 70.000 square feet of model railroading. Show Contact: David James showmanager@thegreatbereatrainshow.org 440-785-9907. Visit: www.thegreatbereatrainshow.org
- OH, DAYTON: 49th Original Dayton Train Show. The Montgomery County Fairgrounds, 645 Infirmary Road, Dayton, 0H 45417. November 1-2, 2025. Saturday 11am-5pm and Sunday 11am-4pm. Admission: \$10.00 per adult, children 12 and under free with a paid adult. Gail Yarnall, PO Box 341233, Beavercreek, OH 45434, 937-424-6413. Email: NMRA.Div.3@gmail.com or visit: www.DaytonTrainShow.com for updates.
- OH, MASSILLON: CJ Trains Winter Train and Toy Show. Massillon Knights of Columbus Hall, 988 Cherry Road NW, 44647. Sunday, December 14, 2025, 10:00am-3:00pm. Admission: \$5.00, 12 and under FREE. \$25/dealer table, 152 8' dealer tables. Jon Ulbright, PO Box 446, Wooster, OH 44691, 330:262-7488, cathijon@sssnet.comwww.cjtrains.com
- TX, HOUSTON: Houston Area Model Train Show, November 15-16, 2025. Saturday 10am-5pm, Sunday 10am-4pm. Adults \$7, 17 and under free. All scales, operating layouts, club/museum displays, table sales and more. Pearland Knights of Columbus Hall, 2320 Hatfield Rd., Pearland TX 77581. More information at http://houstonttrak.org or by email info@houstonttrak.org. Sponsored by Houston Area T-TBAK Association. Inc.
- TX, TEMPLE: 43rd Annual Temple Model Train & RPM Show by CentraMod Inc. Central Texas Area Model Railroaders. Frank W. Mayborn Convention Center, 3303 North 3rd St., Temple, TX 76501. September 20-21, 2025, Saturday 10am-5pm and Sunday 10am-4pm. Admission: \$10, Seniors & Military w/ID \$9, 12 and under free w/adult. FREE Parking! Additional information: 254-760-3761 or

- WA, BATTLE GROUND: Southwest Washington Model Railroaders, Great Train Swap Meet. Saturday, September 27, 2025. 9:00am, Beat-the-Crowd, \$10 admission. 9:30am-2:30pm, Adults \$5, Students \$3, under 6 FREE w/adult. Battle Ground High School Gymnasium, 300 W. Main St., Battle Ground, WA 98604. Take N. Parkway Avenue to Free Parking. Vendor tables \$25.00. Info: Larry Sprenkel, 360-619-8899, Larry.sprenkel@gmail.com
- WA, CHEHALIS: Lewis County Model Railroad Club, Annual Fall Train Show and Swap Meet. Southwest Washington Fairgrounds, Blue Pavilion Building, 2555 N. National Ave., Chehalis, WA 98532. October 18-19, 2025. Saturday 10:00am-4:00pm and Sunday 10:00am-2:00pm. Admission \$5.00. Free parking. Contact information: Ted, 360-985-7788, or email: TedsTrains@LewisCounty.com
- WA, SPOKANE: River City Modelers Fall Model Train Show, Spokane Fairgrounds, 404 N. Havana. Sunday, October 12, 2025, 9:30am-3:30pm. Admission: adults \$8, 12 & under free. 200+ tables of Railroad-related items for sale, operating layouts, Free-MO, Operation Lifesawer & more. Free Parking. For table rental or general info, contact: Shirley Sample, 509-991-2317 or email: shirleysample13@gmall.com
- WI, MONROE: Green County Model Railroaders 47th Annual Model Train Show & Swap Meet. The Stateline Ice and Community Expo. 1632 4th Avenue West. Monroe, WI 53566. September 27-28, 2025. Saturday & Sunday, 10am-4pm. For information contact Kevin Johnson, 608-558-9332, or visit: www.gomrrinc.org

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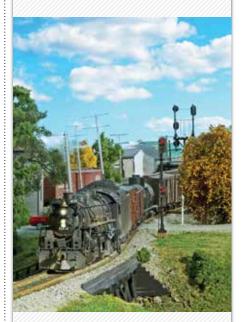
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Plans Bravo and Charlie



Tony is building a Proto:48 (O fine-scale) layout depicting two towns and Bridge 283 on the Wabash RR's High Line in northwestern Illinois circa 1953 on his enclosed porch as part of his Plan Bravo. Tony Koester photo

Tempus does have a way of

"fugiting." One day it's spring, then summer, too soon fall, and finally winter. But with any luck at all, winter is a time when you can pull back from the daily grind a bit and get more of what you want to do done.

Growing more mature ("older" is a state of mind and not usually very helpful) does require a bit of planning ahead. Many Northerners head south for at least part of the year, which can cut into one's modeling time. So can extensive travel. (Has anyone built a switching layout that fits in an RV? If so, tell me about it!) Incomes are usually lower following retirement, so it pays to stash away the more expensive stuff you'll need before pulling the plug.

But let's talk about more practical things. Those of you who live in Basement-less Land won't understand the problem, but those of us north of the Mason-Dixon Line usually have basements. In fact, a large, dry basement,

that hasn't been burdened with a bar, home theater, or exercise equipment, is line-item Number 1 when northern layout builders look for a home. With any luck, they'll get a decade or three out of the railroad built in that basement. There's no reason the railroad won't continue to serve them until it's time to move in with one of the kids or to a retirement community. Right?

Maybe. You may find that it's increasingly difficult to do routine maintenance chores, such as crawling under the benchwork to fix a switchmotor pivot that has slipped out of its guides.

I have a couple of 36"-long bridges that span the door to the basement-level garage that have to be lifted into place before each operating session. They must have collected a lot of dust over the years, as they seem much heavier to lift into position now than when I first built them 20-odd years ago.

And what if I twisted an ankle or worse? The "more

mature" I am, the longer it takes to recover. Those basement stairs might virtually double or triple in number.

Which brings us to Plans Bravo and Charlie. My Plan Bravo is an O fine-scale railroad I'm building on my 13 x 25-foot enclosed porch. It depicts two towns and a bridge scene on the Wabash RR's 11th District in northwestern Illinois, popularly known as the High Line. I've always been a fan of Kemtron's Wabash Moguls (I now own two of them).

The Wabash still ran five

of its Moguls until 1955, several years after it had dieselized, because of a long, spindly truss bridge across the Illinois River. I chose 1953 for a variety of reasons which I plan to share with you in a book about building a branchline railroad later next year.



GROWING MORE MATURE DOES REQUIRE A BIT OF PLANNING AHEAD – TONY

But the porch is on the same level as the main house. So even if stairs become a problem, I could still get out onto the porch to work on or operate the High Line.

Plan Charlie builds on the flight simulators I've seen and even flown; they're now good enough to log flight time in.

If standing for lengths of time becomes problematic, I'd like to think that it won't be long before someone will offer two things: a vacuumformed or 3D printed near full-size facsimile of part of the engineer's side of a modern steam locomotive backhead (as long as I'm wishing, let's make it for a Nickel Plate Road Berkshire) into which I can slide video screens to show the track ahead and behind and landscape beside the engine. I'll need stereo sound and operating controls such as throttle, Alco-style lever power reverse, independent and train brakes, whistle, bell, and so on. A speedsensitive seat shaker would be nice too. It would be tied via the internet to other train crews and a timetable-andtrain-order dispatcher. A printer could issue train orders and/or messages as I passed open stations.

Right now, there's no room in my office for such a device, but within an hour of its

announcement, there will be!

Content as you may be with the status quo, I strongly recommend planning now for a time when circumstances may change. Make it something you'll look forward to if, and when, that change comes.



The P42 is a diesel electric locomotive built by GE Transportation. It served as the successor to the EMD F40PH, and since then it has become one of the most common passenger train locomotives in The United States and Canada. While it was built with Amtrak specifications in mind, such as low tunnel clearance, it has found its way onto VIA Rail and Metro North service lines. For 2025, we're happy to announce that the N-Scale P42 returns to store shelves with two colorful paint schemes! These engines feature body mounted KATO magnetic knuckle couples and quality directional lighting with illuminated pre-printed numberboards.

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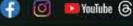
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