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# Introduction



**T**oo many modelers rush to finish their layouts, losing sight of the fact that this hobby is not a race: it's a journey. Remember that a model railroad is never truly finished. There are always details to add, scenes to finish, and freight cars to weather. You can go back and redo scenes that have become dated, swap in new structures that reflect improved modeling skills, and upgrade locomotives and rolling stock.

This book highlights 50 different projects that feature a variety of techniques and ideas that you can use to improve your model railroad, regardless of its level of completion. Projects range from scenery and structures to locomotives, rolling stock, and details. Although a few of them are scale-specific, based on the availability of certain products, most are applicable for any scale.

Don't feel that you have to complete any of these projects by following steps line-by-line to get the same results I did. Instead, view them as ideas—starting points you can use as inspiration to personalize your own projects that fit the era, theme, and prototype of your layout.

Most of the projects in this book are composed of original material, but some have been taken from the pages of *Model Railroader* magazine. I thank the authors for completing these projects, and their names are listed at the end of each project.

I hope you enjoy the book and are inspired to try some new ideas and techniques for improving the appearance of your model railroad.

# Detail an industrial loading dock



Adding interior and exterior details around a loading dock greatly improves the appearance of any structure. This is an HO warehouse built with DPM modular wall sections.

Adding details to the loading docks of industrial structures provides viewers with a clue regarding the products handled or produced, and also helps you set the theme and purpose of a layout.

Many models include the loading dock itself, but I added one to an HO scale brick building made from Design Preservation Models modular wall sections. I built the loading dock using .040" sheet styrene and painted it Polly Scale concrete. It's sized to match the height of the bottom of the door openings on the building and

long enough to serve two freight cars on a rail spur.

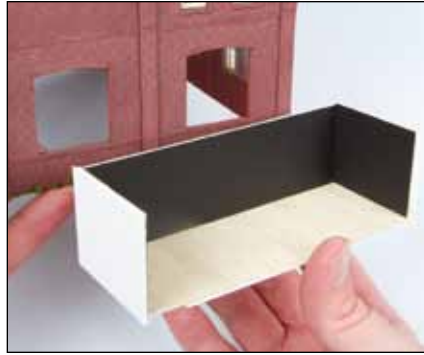
Consider what the business is handling and what the likely loads would be. Too many modelers add a random mix of wood crates, barrels, and sacks, without considering what would logically appear. Since the 1930s, most consumer products have been shipped in cardboard boxes.

My structure represents a grocery wholesaler in the 1960s. This means that the trackside loading dock will primarily serve inbound cars (mainly insulated and standard boxcars) of

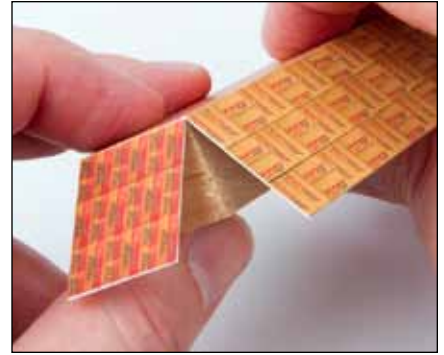




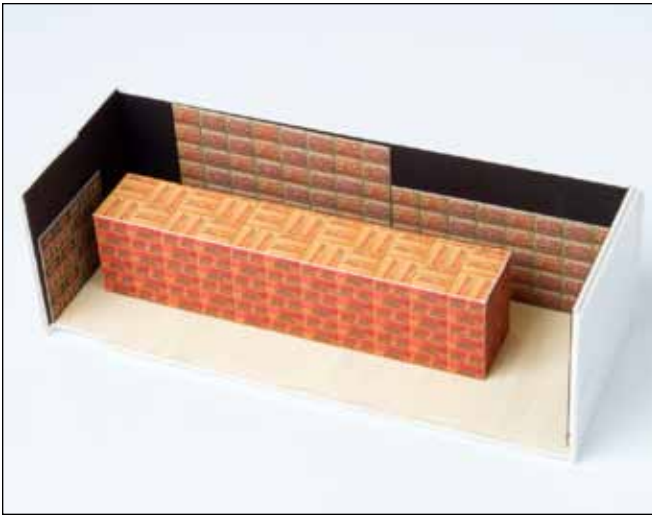
The roll-up doors are simulated by gluing pieces of corrugated sheet styrene inside the door opening.



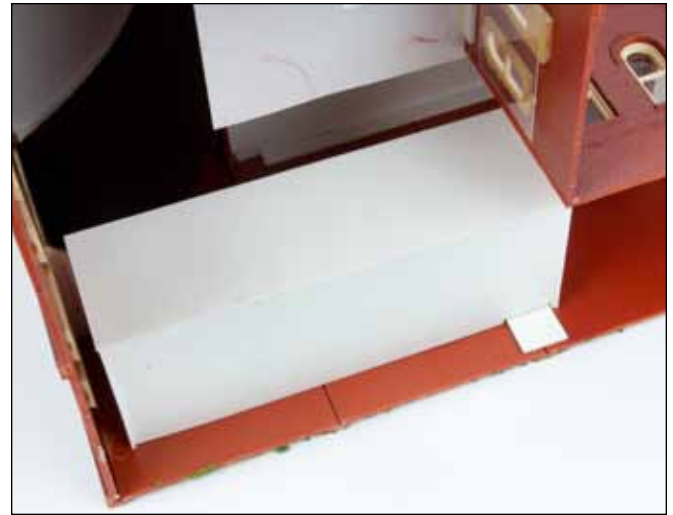
The shadow box is made from .060" styrene. Make it large enough to fit behind the openings in the structure.



The artwork for the Campbell's cases was made as described on pages 8–9. The printout is glued to a wood block.



The finished shadow box has a mix of 3-D stacks of cases as well as other case artwork glued to the walls.



Here's the shadow box from behind, glued in place in the structure.

products, most of which will be shipped in cardboard cases. By the 1960s, pallets were commonly used, making it easier for crews to handle loads with forklifts and hand trucks. If you model an earlier period, you can feature hand-stacked piles of cases.

Opening the structure doors at the dock and adding some interior details make a huge impact on the appearance of a building. You don't need to add interior detail to the entire structure. By fitting a small shadow box behind the doors, you can give the appearance of a lot more detail than is actually there. This is a technique you can use with any type of structure including store-fronts, railroad stations, and houses.

The original DPM building had heavy cast doors. I replaced these with corrugated roll-up doors, simulated by gluing pieces of corrugated styrene in each opening.

Build a shadow box to fit your structure. Mine spans two entrance doors. It's made from .060" styrene sheet. The floor is painted Polly Scale concrete, and the walls are black mat board glued into place. (The black walls help hide the lack of depth.) The walls should be tall enough so viewers can't see over them.

I made the stacks of cardboard boxes as explained on pages 8–9. I wound up with cases of Del Monte vegetables, Campbell's Pork and Beans, and Sunshine Krispy Crackers.

I made large sections of the Campbell's cases and glued the resulting printout to a wood block. This provided a 3-D appearance directly behind the doors. I glued the block in place and added flat printouts of the Del Monte and Sunshine cases to the walls of the shadow box. I then glued the box in place behind the door openings.

You can finish the dock itself with additional stacks of cases and other details. My scene has a Kibri forklift, a hand cart from an old Con-Cor detail set, and several Preiser figures.

In addition to making your own cases and loads, you can use commercial items. Bar Mills, Preiser, Heljan, JL Innovative Design, Kibri, and others make a huge variety of cases, barrels, and other items.

# Roadway striping and weathering



Road markings on this HO scene include white dashed stripes, a yellow no-passing stripe on the road (at left), crosswalks, and parking lines.

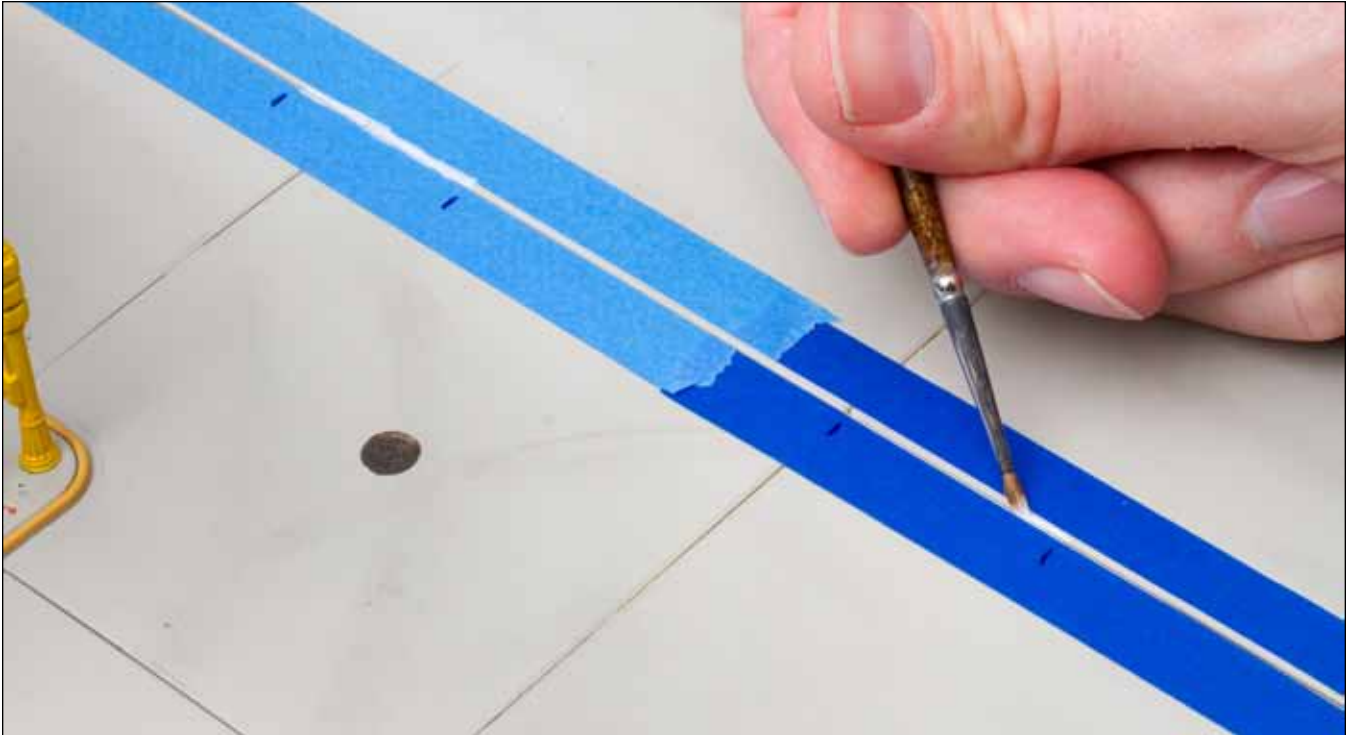
Adding road markings improves the appearance of your streets and highways and also helps set the era of your model railroad. You can apply these with dry-transfer or decal stripes, but I chose paint for my 1960s city scene.

Which markings are appropriate depends upon the era you model. Today's yellow dashed center line (single or double solid yellow for no-passing areas) and white stripes for divided highways date to 1971. Before that, white dashed stripes were used, with solid yellow lines

on either side for no-passing zones. Solid striping along the road edges (fog lines) came into use in the 1950s.

The best source for information on markings is the *Manual on Uniform Traffic Control Devices* ([mutcd.fhwa.dot.gov](http://mutcd.fhwa.dot.gov)), published by the U.S. Government. Links to past issues of the MUTCD (dating back to the 1930s) can be found at [trafficsign.us/oldmutcd.html](http://trafficsign.us/oldmutcd.html).

Most dashed lines today on highways are about 10 feet long with 30-foot gaps; the 1961 MUTCD recommended 15-foot stripes with 25-foot gaps. Lines are 4" or 6" wide,



Place tape a scale 6" apart and mark dashed-line spacing on the tape. Brush-paint white or yellow paint smoothly to create the lines.



Crosswalks, parking lines, and other markings can be completed using the same techniques.



Chalk works well for weathering streets and highways. You can apply it with a brush or simply use your finger.

and the wide stop bars now used at intersections and railroad crossings are 24" wide.

To add, start by applying one piece of masking tape to define the edge of the stripe. Place a second piece of tape a scale 6" from the first. Press the tape edges firmly to avoid paint bleeding under. For dashed lines, mark the spacing on one piece of tape. Use a brush to paint the stripe—I used Polly Scale reefer white and reefer yellow. One coat is fine for older lines that are fading, but use two coats for new lines.

To paint multiple lines (such as the white stripes with a yellow no-passing line), use thin strips of tape between the lines. You can cut your own tape to width or use thin masking tape such as 3M Fine Line. Narrow tape also works well for curves.

Crosswalks and other markings are done in similar fashion. If any paint bleeds under the tape, touch it up with the pavement paint color.

Weathering roads also adds realism to a layout. I use either powdered chalk, applied with a stiff brush, or chalk rubbed on with a finger. To do

this, touch a finger to the chalk and then rub (begin lightly) along the road. A general gray streak down the middle of each lane looks good, with more-concentrated areas to simulate oil and fluid drippings where cars pause (intersections and parking spaces).

An advantage of weathering with chalk is that the chalk can be wiped off with a damp cloth if you don't like the effect. There's no real need to seal the chalk with a clear overcoat—as long as the initial paint on your streets is flat, it will hold the chalk just fine.



# Model weed-grown track



**An overgrown, weedy stretch of track makes for a more-believable industrial spur than does one with finely manicured ballast.**

**N**ot all actual track features carefully maintained ballast. Especially along industrial spurs and seldom-used lines, you'll find weedy track with just the rails poking out. Modeling a stretch of this track helps capture the authenticity of that location.

I suggest finishing the surrounding scenery first. For this example, I added an industrial spur on a section of an HO diorama that was already scene-icked, and the techniques are the same regardless of scale. You can also

do this directly on top of track that's already been ballasted.

Start by mixing ballast with fine ground foam. Many spurs, sidings, and branch lines, especially in the steam era, had cinder ballast. To capture this look, I mixed Woodland Scenics fine cinders ballast with green blend fine ground foam. Note that the track is already painted.

Sprinkle the mix over the track as you would with ordinary ballast. However, when spreading it with a soft brush, don't be afraid to completely



Mix ballast with fine ground foam and spread it between the rails and along them as well.



Use a soft brush to spread the material, covering some of the ties completely.



Soak the foam/ballast mix with rubbing alcohol applied with a pipette or eyedropper.



Saturate the track with diluted white glue. An old saline-solution bottle makes for a handy applicator.



The bumper is made of two pieces of stripwood, stained and cut at angles, and then planted in the ballast mix.

cover the ties in some places. Add more ground foam as needed to get the appearance you're looking for. Keep the inside of each railhead clear so that wheels can roll freely.

Soak the ballasted area with 70 percent rubbing alcohol to allow the glue to penetrate the material. Applying it with a pipette provides a great deal of control. You can also use water with a few drops of dish detergent added, but I prefer using alcohol. It doesn't disturb the scenery material as much as water does, and it evaporates quicker.

Add a mix of one part white glue and four parts water to the area. I use an old contact-lens container as a dispenser; you can use an eyedropper or pipette as well.

I added the railroad-tie bumper shown before gluing the ballast. The ties are lengths of stripwood cut at an angle to make them look like they're deeply buried. Press them in place before gluing the ballast.

Once the glue dries, clean the rails and run a car along the track. Remove any stray ballast or scenery

material that rubs the wheels. You can further detail the track by gluing bits of coarse or extra-coarse ground foam in place, or by adding weeds or grass tufts (see pages 60–61 for some ideas)—just make sure that the materials don't get in the way of operations.

You can also use this technique to model passing sidings, branch lines, and secondary lines, varying the amount of grass and weeds to suit. Look at photos and real railroads and let prototype examples be your guide.



# Model an open boxcar



The wide doors of this Accurail HO boxcar provide a good view of the car's stripwood interior walls, painted and weathered floor, and old packing scraps on the interior.

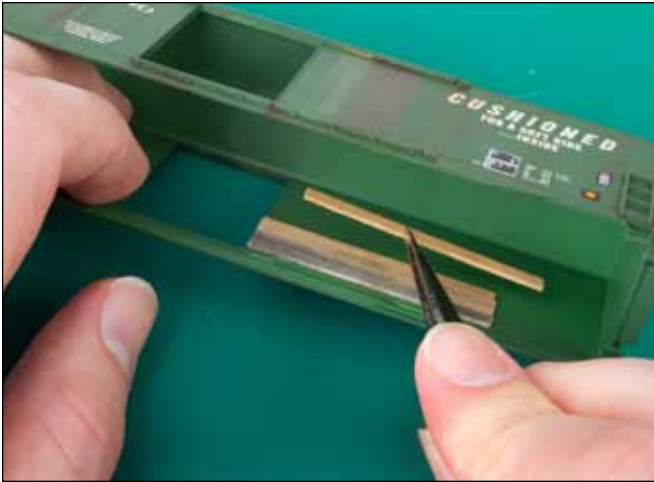
**B**oxcars can often be seen rolling along with doors open—either slightly cracked or slid all the way open. Modeling cars in this manner provides an interesting look for a boxcar when in a train or on a siding, but doing it well is a bit more than simply gluing a door in the open position.

You can use any sliding-door (not plug-door) boxcar. I started with an HO Accurail 50-foot boxcar lettered for Gulf, Mobile & Ohio.

Seeing into an open car means you'll be able to view the interior

walls and floor. Most general-purpose boxcars have wood interior walls, either plank or plywood. Red Caboose offers several HO and O scale laser-cut interior wall kits with peel-and-stick backing; you can use one of these, but since I didn't have one on hand, I simply used thin stripwood ( $\frac{1}{32}$ " thick) stained with thinned grimy black paint (one part Polly Scale grimy black to eight parts Polly S Airbrush Thinner).

I didn't apply the strips all the way to the end, figuring it would be difficult to see more than a scale 15 feet



I stained stripwood pieces and glued them to the boxcar's interior walls with CA.



The interior walls don't have to extend to the end—just make sure they cover the normal viewing range.



Paint and weather the floor where it will be visible. The A-Line peel-and-stick weights will be out of sight on each end.



This InterMountain HO boxcar received a Jaeger grain door. Its torn appearance means the car is ready to be cleaned out and reloaded.

or so into the car. I added drops of cyanoacrylate adhesive (CA) along the length of a board and then placed the board on the wall. I started at the bottom at the floor. Keep applying boards until you reach the top.

I painted the floor to represent wood in the same way Lou Sassi paints a flatcar deck on pages 92–93: first painting the floor grimy black and then painting individual boards various shades of brown and light and dark gray.

To replace the floor-length, sheet-metal weight that came with the kit, I

used 1.5 ounces of A-Line peel-and-stick weights at each end of the floor, which will remain well out of normal viewing range.

I finished the car by adding some scrap material to the floor that might have been left after unloading: a couple of wood scraps and a few cut-apart cardboard cases.

As another example of an open-door car, I modeled an InterMountain boxcar to represent a recently unloaded grain car. I used a Red Caboose interior in this car, painted the floor, and then weathered it with yellow chalk to

represent dust remaining from a grain load.

The Signode grain door is from Jaeger (2000). I glued the door in place inside the door opening with CA and then tore it fully along one side and partially along the other, wrinkled it, and pushed it back inside. It could be waiting to be cleaned on a yard track or waiting to travel back to grain country for reloading.

To find other examples of how you can model open-door cars, watch for real-life cars and look at prototype photos.