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## CHAPTER TWO

# “Industries” within yard limits

Four “industries” within yard limits that we’ll discuss are visible in the scene above: a track scale and diesel fuel unloading cranes in the foreground, and a car inspector’s shanty and petroleum distributors at top right. All of them contribute to yard switching operations while taking very limited amounts of precious yard space. The barned building in the foreground has a removable roof for storing waybill clips, pencils, etc.

We have defined an “industry” as any place a car can be spotted, even for a brief period of time. By that reckoning, a track scale is an industry, as is a car inspector’s shanty, the latter because it represents a job function that can cause numerous cars to be routed to the repair-in-place (RIP) track for fixing during or between operating sessions.

## The “car knocker”

Back in the days before roller-bearing journals were required, the portion of each axle that extended into the truck sideframe—the journal—rode on a solid brass bearing. Journal boxes bolted or cast into the truck sideframes contained lubricating oil plus cotton batting (called “waste”) to help distribute the oil evenly over the journal surface.

If the waste caught on the turning axle, it could overheat, resulting in a “hotbox.” Smoke and fire could easily result, and this all too frequently led to an overheated journal. The end of the axle could actually melt off, often causing a derailment.

Engine and caboose crews kept a wary eye out for the telltale smoke and smell from an overheated journal, but the goal was to avoid such incidents out on the road by catching the problem before a train left the yard. That’s why the job of the car inspector—known as a *car knocker* because of the noise he made opening and closing journal-box lids and testing other critical parts for looseness by rapping on them—was so critical.

It follows that a car inspector’s shanty, **2**, is one of the most important structures on your railroad in terms of the operating potential it creates. Yardmasters should be asked to watch for defects—missing coupler springs, broken-off steps, missing brake wheels, etc.—and coached to make out a Bad Order Slip, **3**, documenting each defect. The slips can be inserted in the car’s waybill holder, and ticketed cars are then switched to a repair-in-place, or RIP, track for repair.

Either during or between operating sessions, I repair the car, remove the Bad Order Slip from the waybill holder, and return the car to the RIP track for pick up by the yard switcher during the following session. That in effect creates another lineside industry for the railroad, and my rolling stock fleet is in better condition than it might otherwise be.

## Inspector’s shanty

I modeled the car inspector’s shanty at the Nickel Plate Road’s busy yard

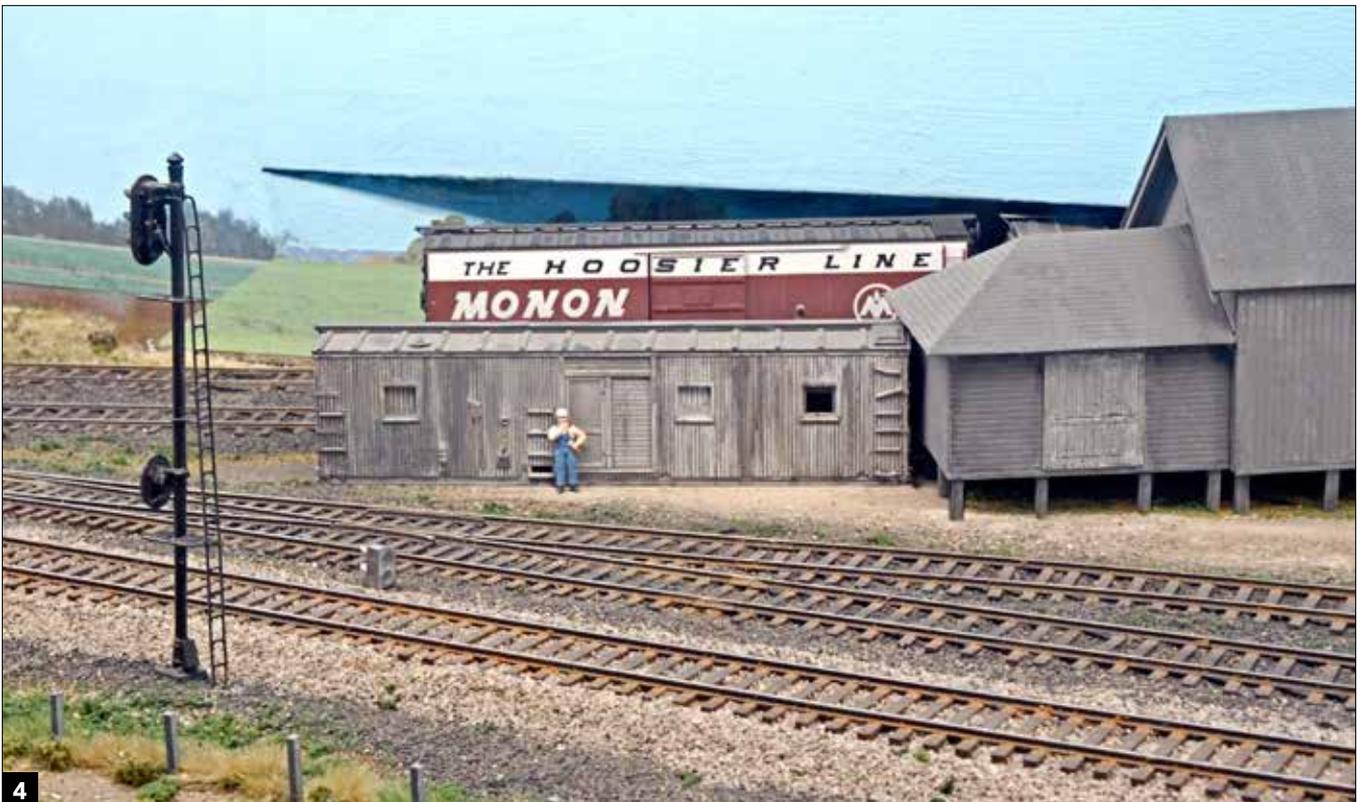


**2**

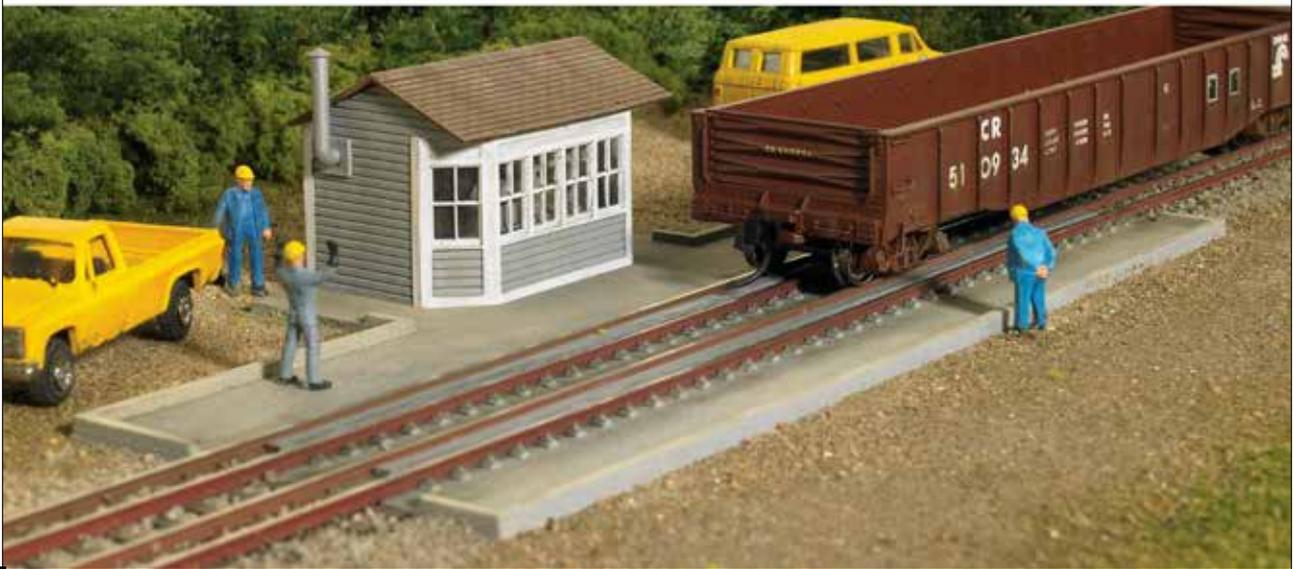
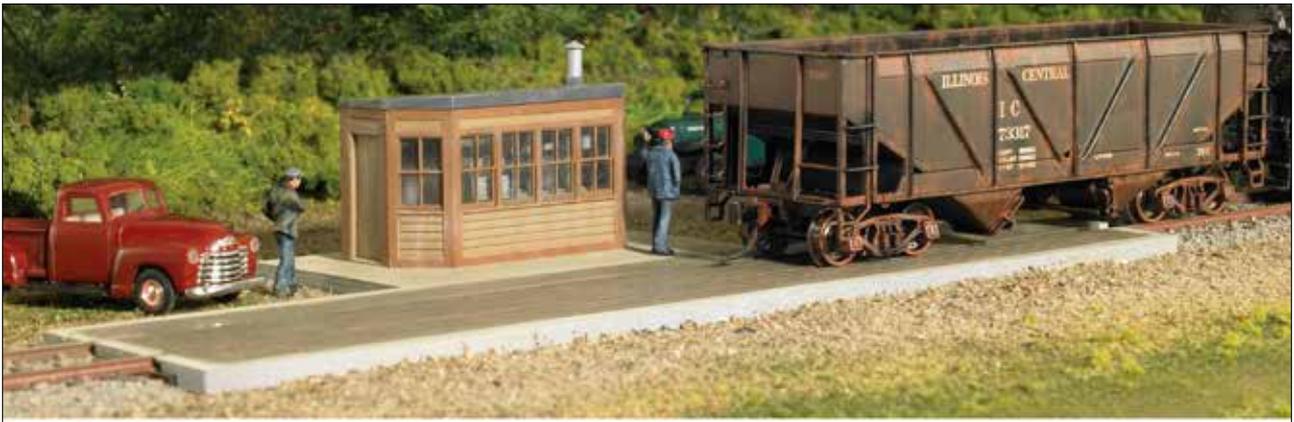
The Nickel Plate Road’s westbound yard office at Frankfort, Ind., was an important facility, but the more diminutive car inspector’s shanty (at left in the top photo) represented an equally important function: the close inspection of every car that entered the yard. Cars with defects were switched to a repair-in-place (RIP) track, a task that is equally valid for a model railroad and thus creates another “industry” destination. The prototype photos, which date to 1971, show all four sides of the 12’-4” x 16’-3” car inspector’s shanty I modeled using Evergreen styrene, Pikestuff roofing, and Grandt Line doors and windows. For details, see *How to Build Realistic Layouts: Freight Yards*, a special 2007 issue of *Model Railroader*.



“Bad Order” slips are available in yards and along the main line so crews can easily write down precisely what’s amiss with a car or locomotive. Bad-order cars are usually sent to a RIP track for repair; they are returned to that track for pickup once repairs have been completed. Model cars with low couplers, missing coupler springs or brake wheels, and so on can similarly be routed to a RIP track for repair between, or even during, operating sessions and then returned to that track for pickup by the yard engine.



Cars received in interchange were also inspected prior to acceptance. At a busy location such as the NKP-Monon interchange in Linden, Ind., a shanty or old boxcar body would be provided for shelter.



5

Walthers makes an HO track scale, including two shanty versions in one kit (933-3199). Scales comprise live rails for weighing cars and bypass rails to allow a locomotive to pass by the scale without damaging the mechanism. *Courtesy Wm. K. Walthers*

in Frankfort, Ind., 1. I used Evergreen clapboard siding for the walls, Pikestuff 541-1015 roof shingles, and Grandt Line windows and doors I had on hand. (I keep a generous supply of Grandt Line, AM Models, and Tichy doors and windows in my parts box.)

To replicate the NKP's two-tone gray paint scheme, I painted the main structure with Polly Scale Milwaukee Road Gray and the trim with Model Master 1732 Light Gray. Movable window sashes and the door were painted Grimy Black. The shingles were painted with Polly Scale Depot Olive.

Thanks to styrene parts, fast-drying solvents such as Tenex-7R and Plastruct Bondene, and water-based paints, this is an easy one-afternoon (and maybe an evening) project.

### Interchange inspections

Car inspectors also checked cars received in interchange for mechanical defects. They could refuse cars that were found to be in poor condition. At busy interchanges, there was often a shanty, perhaps an old boxcar body with doors and windows added, 4, where the car inspector could keep his records and wait out of the elements between deliveries by a foreign railroad.

### The RIP track

Despite the ominous-sounding name, freight cars aren't ripped apart on the RIP—repair-in-place—track, 3. This is where minor repairs are made to quickly return a car with missing or damaged parts to service. The railroad that owns the car is typically billed for the work unless the repairing railroad

caused the damage.

RIP tracks are usually bracketed by concrete platforms or pads so that one end of a car can be jacked up to allow a truck to be rolled out for wheel replacement if the car inspector has spotted dangerously worn wheels or flanges. Trackside Details makes HO scale car jacks (235-450) to add some visual interest.

Consider having a car permanently being repaired as a sort of fancy end-of-track bumper.

### Track scales

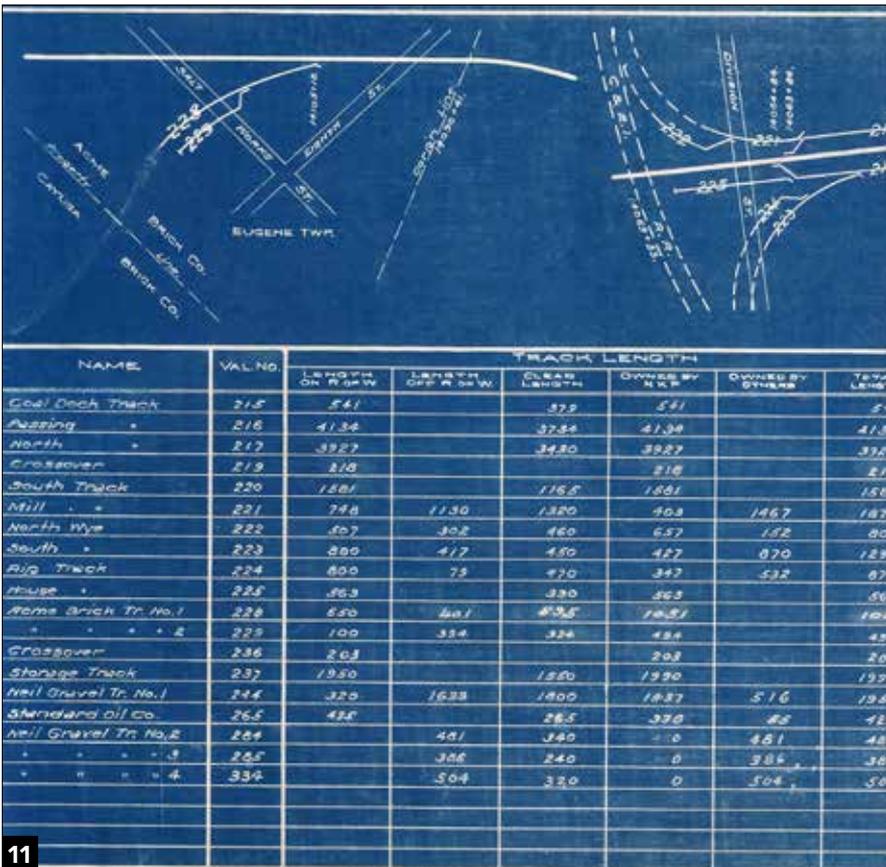
Efficiency is the bread-and-butter of full-size railroading, but it's actually counterproductive on a model railroad. The last thing we want to do is to finish all of the work during an

*(continued on page 24)*



10

If there's room for a hidden staging track, an interchange can be worked "live" by a crew. On the author's Nickel Plate Road layout at Metcalf, Ill., the westbound Baltimore & Ohio local picks up a few to-B&O cars, then shoves to-NKP cars onto the adjacent interchange track before continuing into hidden staging. Later, the NKP picks up those cars and sets off more cars for the B&O.



11

Railroads issued track diagram books, more recently known by acronyms such as CLIC, that showed and named every track. This Nickel Plate Road diagram book for my 1950s hometown, Cayuga, Ind., shows the interchange track in the northeast quadrant of the crossing with the Chicago & Eastern Illinois ("North Wye" 222, right) and the spurs serving my dad's brickyard (tracks 228 and 229, left).

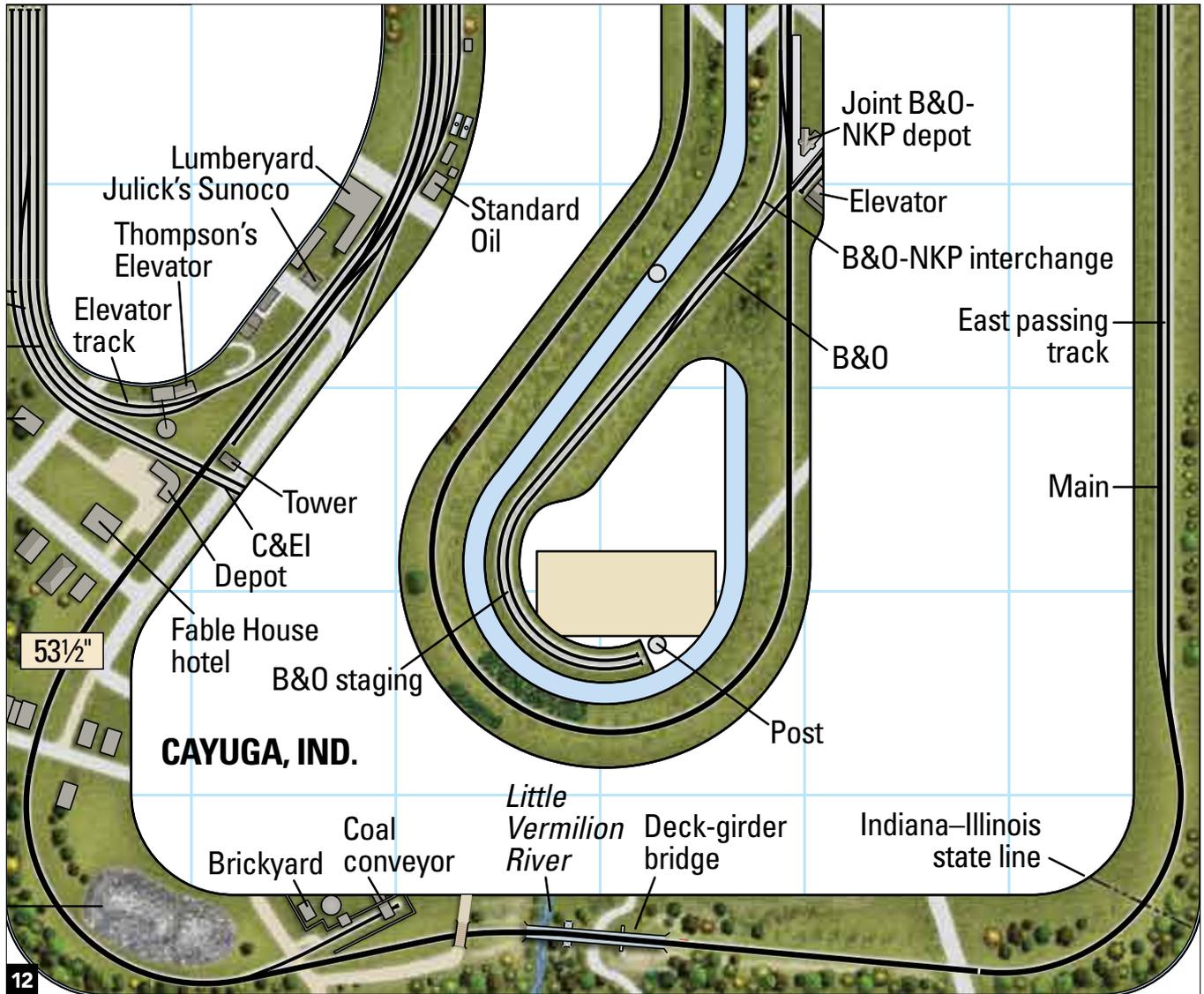
uncovering the IR sensor activates a 23-real-minute timer.

I wired an SPST toggle switch into both circuits to cut out the time delay. This allows me to back the Milwaukee or Monon units to the end of the to-NKP interchange track when I stage the interchange for the next session.

In both cases, there is a second track where cars to the foreign railroad are delivered. The Milwaukee delivered to the NKP in the southwest quadrant of the crossing, so I simply ran a long siding along the fascia. The east end of it is visible in photo 6; the 1950 Mercury sedan serves as a bumping post where the track curves off the benchwork.

### Crew-worked interchanges

At Metcalf, Ill., where the NKP interchanged with the Baltimore & Ohio, 10, and at Cayuga, Ind., where the NKP and Chicago & Eastern Illinois, 1 and 11, swapped cars, I decided to build "live" interchanges that are worked by an interchange crew. This was feasible because I had alcoves into which B&O and C&EI staging tracks could be tucked away. I have included a portion of the NKP track plan from the December 2014 *Model*



This portion of the author's track plan (see December 2014 MR) shows the hidden staging at Metcalf (center on peninsula) and Cayuga (left) that allow real-time interchange moves. B&O staging wraps around the inside of the dispatcher's office; C&EI staging runs along the wall behind the Charleston yardmaster's alcove. *Track plan by Rick Johnson*

*Railroader* that shows both hidden interchange staging areas, 12.

The B&O (which received 95 loads from the NKP and delivered 413 in 1953) has yet to be activated, but Cayuga (910 and 3,514, respectively) is now being switched by the nearby Charleston roundhouse foreman during lulls. He first switches the local grain elevator, then the adjacent NKP interchange. He may later discover that the NKP has picked up the to-NKP cars and set out cars for the C&EI, requiring more switching.

This means the interchange tracks are industries-sans-structures in terms of switching potential and hence operating interest.

### "Unconnected" interchanges

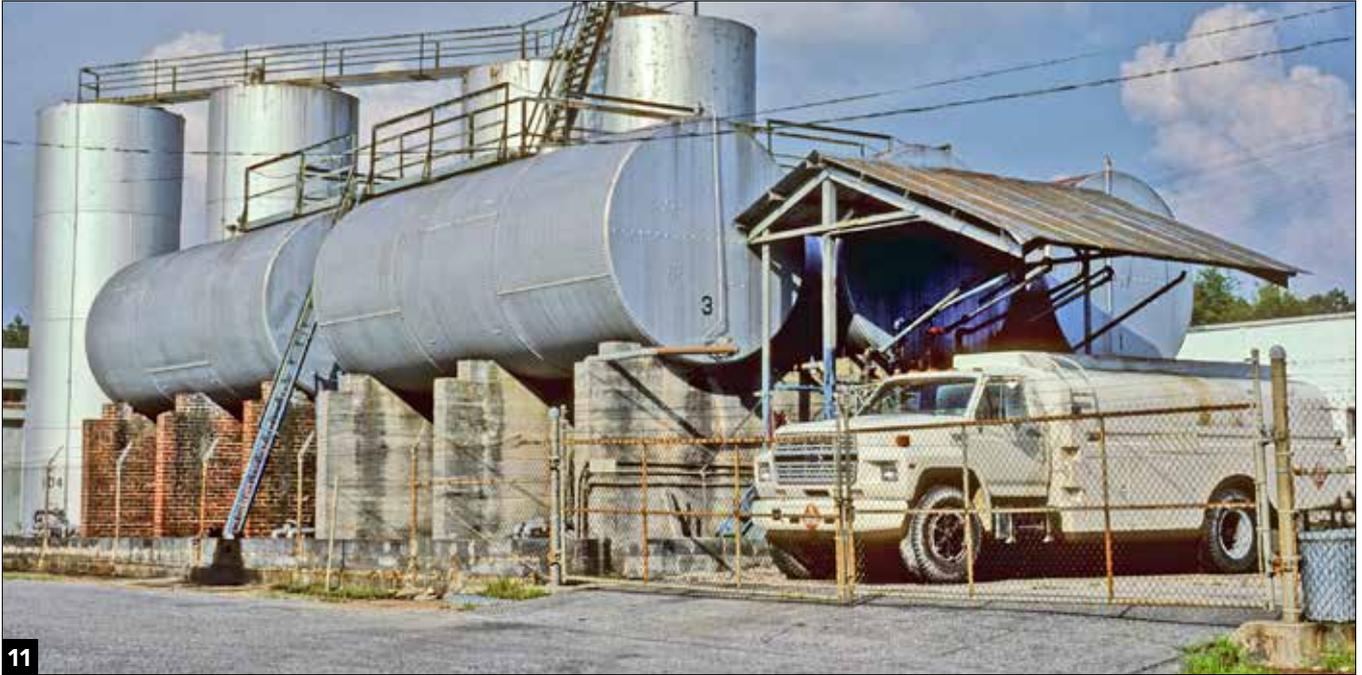
Industry tracks that are not physically connected to "live" tracks, described in Chapter 7, are a form of interchange: Cars are delivered to an actual interchange track and then moved by hand to the unconnected industry track, or vice versa.

So if the NKP has a car for the Monon freight house at Frankfort, Ind. (photo 4-5 in Chapter 4), the car is shoved into the stub-ended Monon interchange track. Between sessions, I move that car to the freight house track by hand. After another session, it is placed back on the NKP-Monon interchange track as a load for the NKP to pick up.

### Planning ahead

I doubt that you can find a more versatile and productive use of space than the narrow strip of real estate required to accommodate one or a pair of interchange tracks. Interchanges can accommodate every type of car you can think of—giraffe car, gold-bullion-bar car, aquarium car, hoppers and gondolas heaped to overflowing with unobtainium ... you name it!

Interchanges are still the most under-represented tracks on the typical model railroad. Take a hard look at your current model railroad or the plan for your future empire for opportunities to add one of more of these universal industries.



11

A little visual variety is afforded by this bulk plant in Aberdeen, N.C., as it appeared in August 1997: It has three brick piers supporting a tank. The angled walkway above the vertical tanks suggests a rail siding angled into the plant. *Paul Dolkos*



12

The truck loading pipes and platform at this Conoco dealer in Olathe, Kansas, in March 1982 were out in the open. They apparently refilled the delivery trucks' fuel tanks from the pump next to the loading stand. *Paul Dolkos*

*(continued from page 55)*

pump house, and other components are typical of those seen across the continent. It usually requires several of these kits to model one facility.

Walthers has helped to fill the gap with several HO kits. The latest offering is the Trackside Dealer with Storage Tanks (933-4059), **5**. Also check McGraw Oil Co. (933-2913) and Interstate Fuel & Oil (933-3006). Walthers also makes a piping kit (933-3105) that will come in handy.

You can certainly build these kits per the instructions or combine two or more to make a larger bulk plant. But I recommend obtaining photos of an actual oil dealer and using the components from one or more kits to model it to a reasonable degree of accuracy, **2**.

Some petroleum products dealers had retail gas pumps positioned out front. Some of the best are made by JL Innovative Design. JL also makes barrels, all labeled for a variety of oil companies, many of them fallen flags.

Bill Darnaby used Grandt Line components to model several bulk plants on his Cleveland, Indianapolis, Cincinnati & St. Louis, the Maumee Route, **6**.

To keep the various grades of gasoline, heating oil, and kerosene



The small bulk plant in Farmville, Va., photographed in June 1998, has seen better days but looks like a 12"-scale version of the Grandt Line kit. Note the steel supports on the tanks at left. *Paul Dolkos*

segregated, the various piping or valves connected to the unloading crane and storage tanks were color-coded. Bill has done this on his models.

Mont Switzer listed the coding used by the American Petroleum Institute:

- Red: premium 92 or 93 octane
- Blue: mid-grade 89 or 90 octane
- White: 86 or 87 octane
- Yellow: diesel fuel
- Brown: kerosene

He also notes that American had its own code: blue, silver, and gold rather than the standard red, blue, and white.

I had almost no space (and no spare Grandt Line kits) to model a small bulk plant at Oakland, Ill. So I downloaded a photo from the Internet, cleaned it up a bit using Photoshop Elements, and glued a print to the wall, **7**. Total space required: one car length of track.

Chicago Great Western modeler

Jason Klocke has included several bulk plants on his HO railroad, **8**. Being a prototype modeler requires doing more due diligence, but the rewards of seeing something from the past come back to life are commensurate.

In larger towns and small cities, the bulk plants had more tanks to handle the greater capacity needs. Two adjacent plants in Frankfort, Ind., **9**, are typical of such installations. This is also an excellent example of the need to look not only at the main subject of a photograph but beyond it into the background of the photo. The two photos shown here, portions of which have been enlarged, nicely complement information gleaned from a railroad drawing of the same area.

The former Clover Leaf freight house in Frankfort, Ind., became a Pure Oil and then a Union 76 dealer in its senior years, **10**. I used readily available

kits to model a condensed version of this plant sandwiched near the Nickel Plate and Monon crossing.

Paul Dolkos always keeps a wary eye open for interesting structures to use as modeling inspiration or illustrations for magazine articles—and books! He spotted a pair of bulk plants not far from his D.C.-area home in North Carolina and Virginia, **11** and **13**, that have considerable modeling appeal. A trip to the Kansas City area found a simple truck loading platform at a local Conoco bulk plant, **12**.

I saw a similar bulk plant that looked like a refugee from the 1950s when taking a back way home from the airport. This was before everyone carried a good camera that incidentally lets you talk to people. So it pays to look for modeling candidates even when model railroading is not your primary focus for the day.



## CHAPTER EIGHT

# Salvage yards

A high-side utility gon is loaded with scrap at Miami Iron & Metal on an HO layout built by custom layout builder Lance Mindheim ([shelflayouts.com](http://shelflayouts.com)). Miami Iron & Metal doesn't grind its steel prior to shipment. It consistently uses high side gons. Clearly, Lance spends as much time making junk as he does any other aspect of his modeling.  
*Paul Dolkos*

Junk (or salvage) yards are interesting places. For starters, you can usually meet some very large representatives of the canine species there. For those on a limited budget or who enjoy being thrifty, one can find parts for even late-model vehicles. For those concerned with recycling—and who isn't these days—salvage yards are the places where items that have seen better days are separated into their basic components and shipped off for reuse in steel, plastic, and rubber products of all types.



2

Yard job Y120, out of CSX's Hialeah Yard (Miami), pulls two loads of scrap from Ferrous Process & Trading. FP&T accepts truckloads of scrap steel from local businesses, grinds them into baseball-size junk (making a tremendous racket in the process), and loads them into low-side gons. FP&T owns a Trackmobile, which it occasionally uses to take empty gons spotted on the adjacent storage track and swap them for the loads in the plant. These photos were shot on Lance Mindheim's HO railroad. *Paul Dolkos*

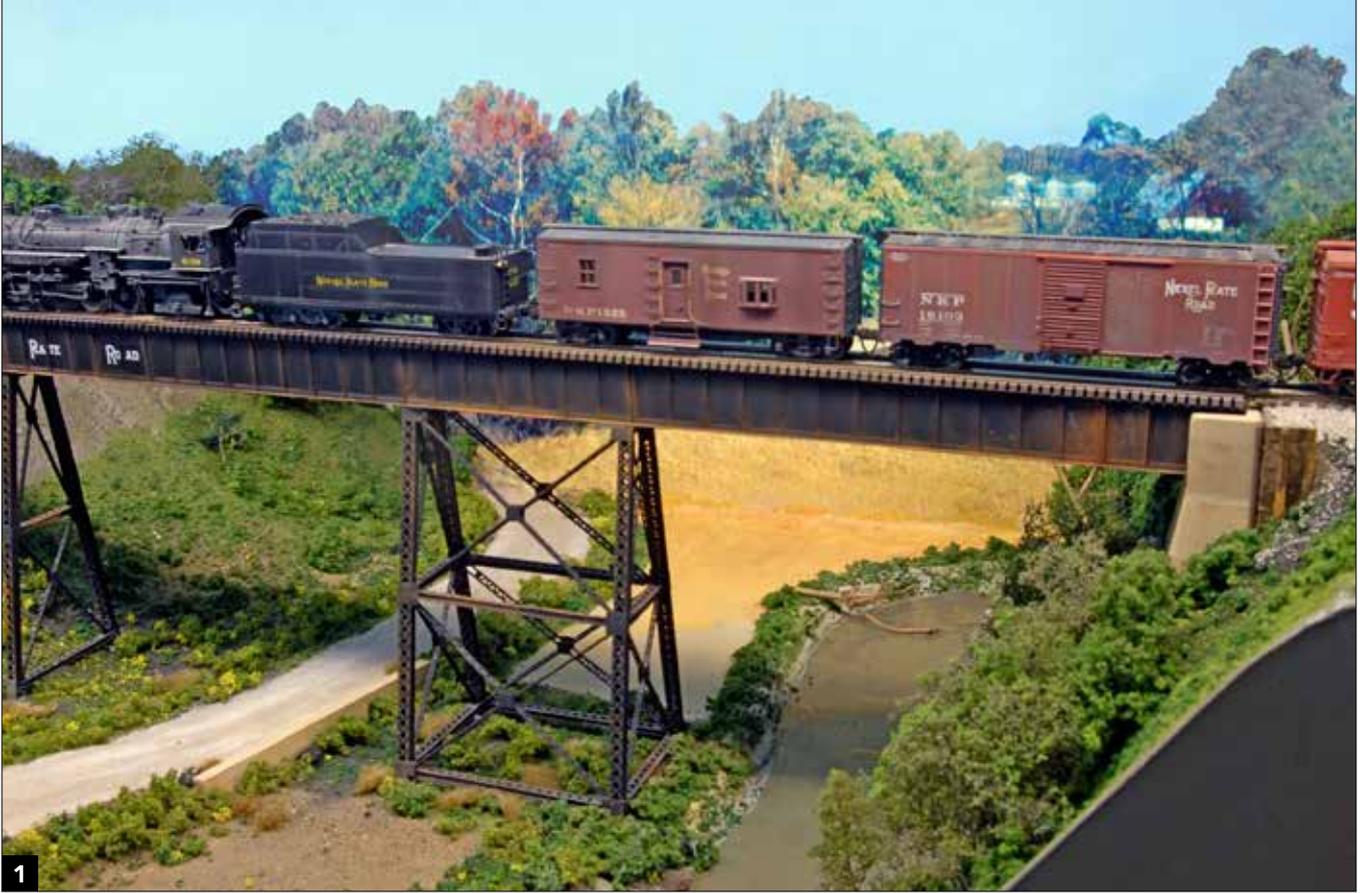
Modeling what we used to call a junkyard is sort of like modeling a coal preparation plant: There's no such thing as "junk" or "coal" when it comes to producing and selling a usable product. Coal is grouped by its chemical properties and size for various uses—steam locomotives, coke ovens, steel mills, power and steam plants, furnaces, etc.

Similarly, one of the main functions of a salvage yard is to separate materials. Cranes have claws that would make even a Maine lobster envious, **1** and **2**, or big electromagnets that allow the ferrous metals to be separated from aluminum and copper.

It follows that what we ship from a salvage yard shouldn't simply be "junk,"

but rather groups of various types of salvaged materials. Most of us don't have enough room to model a major salvage yard, **3**, but we can still make some assumptions about what the yard does and how it ships recycled materials to various customers.

When we think of scrap, we tend to think of rust. Not so, especially today,

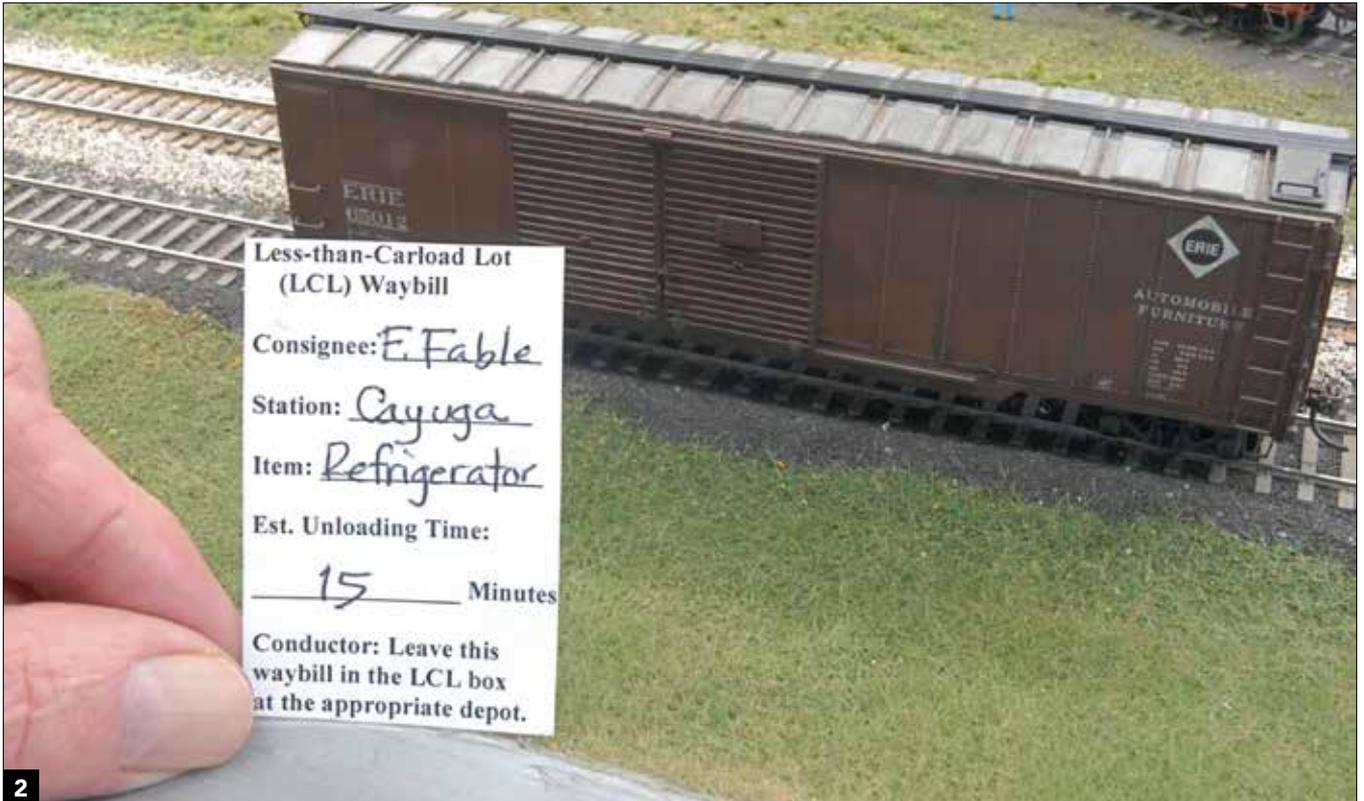


## CHAPTER TEN

# Compact industry potpourri

Local freight No. 45, crossing the Little Vermilion River bridge on the author's railroad, represents a switching opportunity at every small-town depot: The rider car behind the locomotive handles Railway Express shipments, while the boxcar behind it carries LCL (less than carload lot) packages— together, the UPS and FedEx trucks of their day.

Remember that we are defining anything that causes a train to stop and “work” as an industry. To that end, consider the UPS and FedEx of the steam era: Railway Express Agency and less-than-carload lot (LCL) shipments.



LCL shipment slips inserted into the car card or envelope for the LCL boxcar can specify any heavy or bulky cargo to be unloaded at a specific station and how long that should take.

Documenting how REA and LCL shipments moved is well beyond the scope of this book—see Jeff Wilson’s *Express, Mail & Merchandise Service* (Kalmbach, 2016). But modeling some of the basic infrastructure that supported them, especially in towns and small cities, is worth a closer look.

For most small towns, you don’t need any structure beyond the depot and a baggage wagon. Just stop the train by the freight door of the depot for unloading LCL from a standard boxcar, which was usually located directly behind the locomotive. REA shipments arrived on passenger trains.

In some parts of Indiana and Illinois, the Nickel Plate Road did things a little differently. According to the late Don Daily, a retired NKP engineer, the NKP put a rider car—typically a converted wood boxcar complete with a bay window—directly behind the engine, **1**. The rider car was manned by a Railway Express employee, whose salary was paid half by the NKP and half by REA. No one other than the REA employee was allowed in the rider car; it was not used

on the St. Louis Division (Frankfort, Ind., to Madison, Ill.) to carry an extra NKP crewman, Don reported. A 40-foot boxcar behind the rider car contained LCL shipments, which the railroad unloaded.

Your guess is as good as mine as to how long it took to unload LCL and REA packages. When someone ordered a new refrigerator from Sears, it could have been a wrestling match. You could even create “situation cards” that are inserted in front of the waybill to show what LCL is being unloaded at each station. On the card for each bulky item could be a time interval needed to unload that item, **2**. The extra work meant that for a certain amount of time, the main line served as a team track—in other words, it was temporarily a “spot,” and that handsome little depot you took some time to build has suddenly become a small industry!

### Ammonium nitrate

Ammonium nitrate is used as a fertilizer but, as we learned tragically, it is also an ingredient in some types of explosives.

Long before it made headlines, it was shipped as fertilizer in covered hoppers without any special placards.

Coal mines used explosives to blast away the rock that surrounded the seams of coal. One mining operation along a former Baltimore & Ohio branch in West Virginia, now operated as the South Branch Valley, received carloads of ammonium nitrate, which was dumped into a pit and then elevated into small storage silos alongside the track, **3**. I assume it was then transported by truck to the mining site.

I made a serviceable model of this operation by putting a kit of long-forgotten heritage (perhaps Kibri or Vollmer) alongside a short spur at Gap Run on the HO Allegheny Midland. But kitbashing it, perhaps using a Kibri cement works (405-39804) or a Walthers sand tower (933-3182) or grain surge bin (933-2935), or scratchbuilding this compact “industry” wouldn’t be difficult. Paul Dolkos found a similar bulk-unloading device at Beaumont, Calif., **3**.

*(continued on page 95)*