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## CHAPTER ONE

# An “economical” approach

The Denver, South Park & Pacific was one of Colorado’s more spectacular if short-lived narrow-gauge ventures. Andrew Dodge accurately modeled its equipment and scenery in On3. As this photo of No. 1, the *Fairplay*, bringing a passenger train into Deansbury shows, the railroad used sharp curves and tight rights-of-way to negotiate the mountain valleys. *Andrew Dodge*

Throughout this book, my goal is to provide the information and inspiration you’ll need to continue the journey that we will begin here. And I do mean *begin*: Even the small portion of prototype railroading that narrow-gauge lines represented has warranted tomes upwards of 500 pages, most notably George W. Hilton’s *American Narrow Gauge Railroads* (Stanford University Press, 1990).

*Fair warning: Even a cursory review of Hilton’s book is likely to change your concerns from **whether** to model a narrow-gauge railroad to **which one** to model.*

## Our objectives

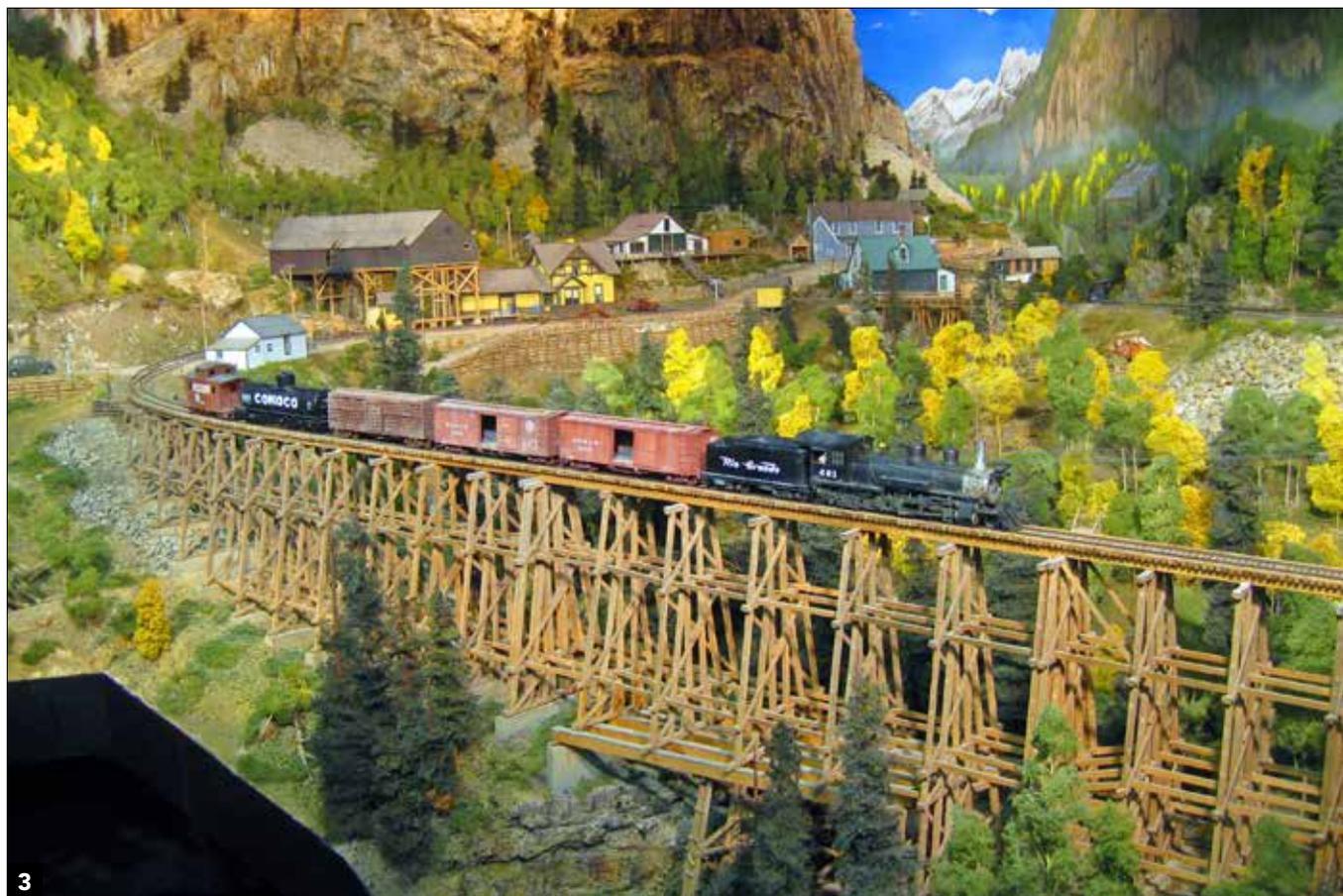
As model railroaders, we're interested not only in learning about prototype railroads but also how to depict their appearance and function in miniature. Either knowledge goal is clearly a massive undertaking. Fortunately, we live in a time when an online search will uncover incredible amounts of data on obscure topics. Kalmbach's online railroad and model railroad magazine index ([index.mrmag.com](http://index.mrmag.com)) will guide you to an amazing number of articles about almost any narrow-gauge railroad you can think of.

Every journey begins with a first step, however, and it usually helps to gain a high-level perspective before we start focusing tightly on a particular subset of topics. So let's take a wide-angle view of the narrow-gauge railroads of North America and then zoom in on a few of them as well as some creative ways to model them.

My goal is to spend less time on



2 Like the prototype Rio Grande Southern, Bob Walker moves cattle north over his On3 edition of the RGS to the interchange with the Denver & Rio Grande Western at Ridgway, Colo. From there they continue to the Rio Grande's standard-gauge lines and on to market. *Bob Walker*



3 One of the more spectacular model railroads depicting the ever-popular Rio Grande Southern was built by Dennis Ferguson in On3. Here K-27 No. 461 leads a pair of boxcars, a stock car, a Conoco tank car, and a caboose across the iconic trestle just north of Ophir, Colo. *Dennis Ferguson*

White Pass & Yukon in Alaska (8 in Chapter 9). It begins (note present tense—see Chapter 9) its trek northward at the port of Skagway, Alaska, enters British Columbia, Canada, following the Gold Rush route through White Pass, continues north into Yukon Territory to Carcross, and then ends at Whitehorse, south of Dawson City.

The railroad is especially interesting from a modeling standpoint because several of its steam locomotives are still in service (one near Boone, N.C.) and the railroad was fully dieselized, uncommon for a narrow-gauge line. As such, it survived through World War II as the U.S. prepared to repel an invasion of Alaska. Seven D&RGW K-28 Mikados (2-8-2s) made their way north by barge to the WP&Y, as did some 2-8-0s from the Silverton Northern and Colorado & Southern. Even some East Tennessee & Western North Carolina Ten-Wheelers sailed north to augment 11 War Department 2-8-2s.

Dieselization began in the 1950s with shovel-nosed General Electric units, followed in the 1960s by some mini Alco Centuries from the U.S. producer's Canadian subsidiary. The railroad also pioneered in container traffic and owned a container ship, the *Clifford J. Rogers*.

In the early 1980s, metal prices plunged, which severely affected the mines that were the WP&Y's main customers. The Faro lead-zinc mine, among others, closed down. By 1982, the railroad also closed its doors.

The railroad's salvation came by ship, but not in containers. Tourism to Alaska was on an upswing as the 1980s drew to a close, and the railroad reopened from Skagway to Carcross in 1988 primarily as a tourist line (see Chapter 9).

## Western lines

Several Western narrow-gauge railroads had similar advantages because of end-to-end hauls. Moving timber to a sawmill or ore from a mine to a stamp mill, 6, didn't require a transfer of lading between gauges; reliable transportation in the era before good highways and trucks was the key.

Moreover, the narrow-gauge railroads' ability to mimic a mountain goat—swinging around incredibly sharp curves and surmounting steep grades with short trains—proved to be an advantage, until the ore or timber, and hence their monopoly, gave out.

Speaking of timber, one of the most fabled and best-documented of all three-footers was the West Side Lumber Company Railroad in California, 7. It used diminutive Heisler and two- and three-truck Shay geared locomotives to haul timber over the 70-mile-long “main line” to the West Side Lumber Mill at Tuolumne, which is located east of Stockton and Modesto, northwest of Yosemite National Park, and just east of the famous Sierra Ry. at Jamestown.

The railroad's promoters had grand visions of hauling passengers to the national park and to extend the line over Sonora Pass to reach isolated Bodie, itself now a tourist attraction, and the Carson & Colorado narrow-gauge railroad. The lower 35 miles was designated a common carrier and so listed in the *Official Guide* until 1910, but passenger service, such as it was, ended in 1904.

The West Side has been well supported by model manufacturers and importers. Its history has been carefully documented down to the last tie and spike. Well-known Yosemite Valley Railroad modeler Jack Burgess told me that several individuals collectively know everything there is to know about the West Side. The chief challenge for those who'd like to model the railroad is to find those people and wring out their knowledge.

As the West Side's fortunes declined in the early 1960s, an era came to an end as the last American narrow-gauge logging railroad ceased operations. Efforts to revive the line as a tourist hauler came to naught, but several West Side locomotives and other equipment have survived, with several of the Shays used on other tourist lines as far away as Iowa.

## Maine two-footers

On the other side of the continent were the so-called “Lilliputs,” the

Maine two-footers, which also enjoyed a monopoly in the rural territory they collectively served.

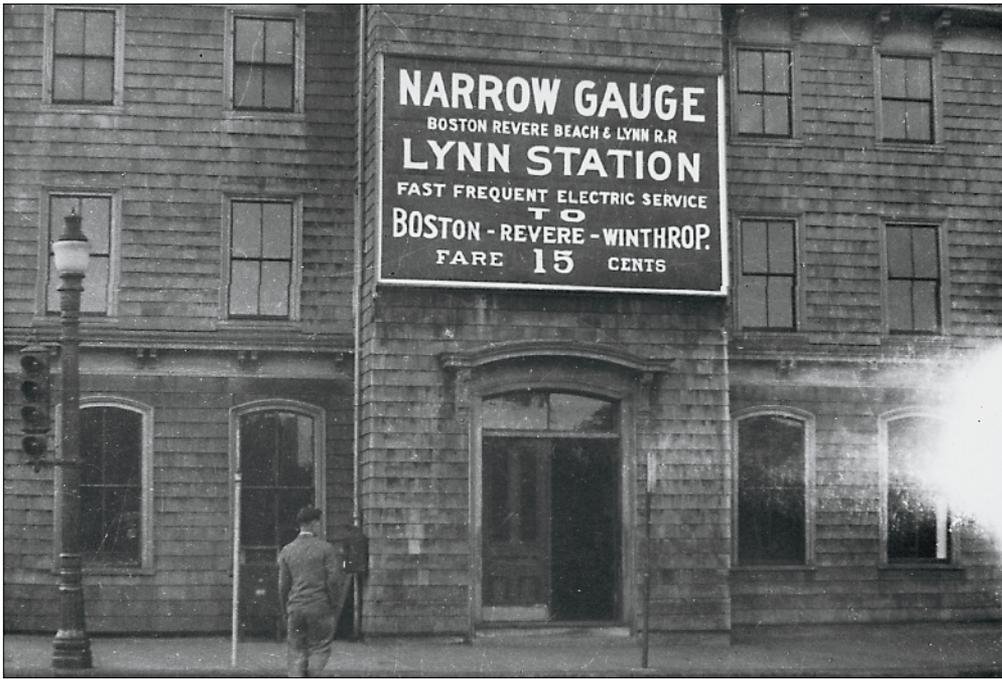
The Wiscasset, Waterville & Farmington, for example, emerged from the Maine woods and ran along the Atlantic waterfront on a wood pier in Wiscasset, where lumber products could be off-loaded directly onto sailing ships. But even the king of the two-footers, the mighty (relatively speaking) Sandy River & Rangeley Lakes, ended its southward push far inland at Farmington, Maine, where it interchanged via the manual transfer of lading with the Maine Central. The more modestly proportioned Bridgton & Harrison also had to endure the time and expense of breaking bulk. As we'll illustrate in Chapter 6, what was a pain for the prototype is a bonus for modelers to illustrate just how diminutive narrow-gauge equipment actually is.

## Electric narrow gauge

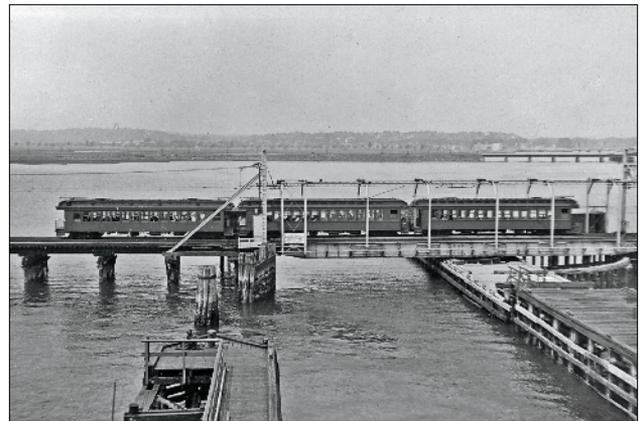
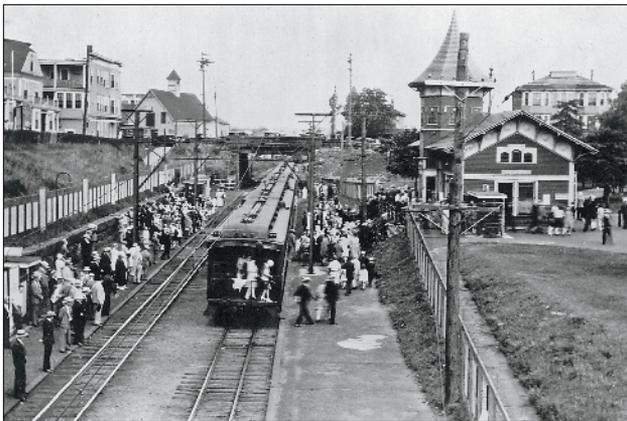
I'd be remiss in not mentioning one of the most unusual narrow-gauge systems: the Boston, Revere Beach & Lynn in Massachusetts, 8. As a self-contained commuter railroad, it was easy to “break bulk”: The passengers just got on or off the cars at their pleasure!

The railroad operated from 1875 until 1940. A ferry connected the terminal at East Boston with downtown Boston via the Atlantic Avenue Elevated. Service began with Mason Bogie steam locomotives, but the cars were fitted with electric motors and trolley poles by 1928. Increasing use of autos and the Depression severely hurt patronage, and the railroad filed for bankruptcy in 1937 and then abandonment in 1939. It ceased operations in January 1940. The Massachusetts Bay Transit Authority used part of the right-of-way for its Blue Line.

Some of the BRB&L coaches made it west to the East Broad Top and are on the property today. Others went south to help transport workers to the critical rayon plants in Elizabethton (“lizz-a-BETH-ton”), Tenn., during World War II.



The Boston, Revere Beach & Lynn began as a steam railroad but soon electrified its wood cars. Its pride in the gauge is evident on the Lynn depot entrance sign (left). "Breaking bulk" was easy as passengers got on and off the trains at Crescent Beach station (below left). The water-hugging line included a swing bridge at Point of Pines (below). The East Boston Terminal ran into the ferry slip (bottom). Wm. Butler Jr.; GE; Wm. Butler Jr.; GE





16

Surry, Sussex & Southampton 2-6-0 No. 6 sees service in Mt. Pleasant, Iowa, at the Midwest Old Threshers Reunion around Labor Day each fall. A sister SS&S Mogul is at Allaire State Park in New Jersey. *Paul A. Knowles*



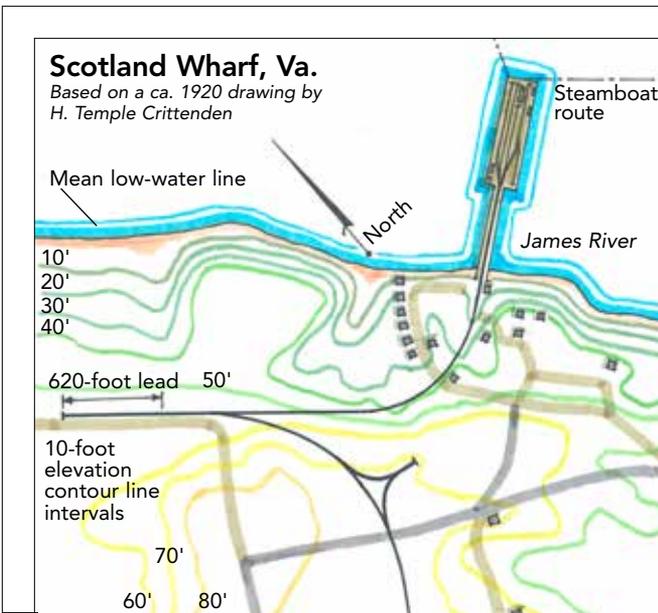
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The Norfolk & Western tired of having Surry, Sussex & Southampton narrow-gauge trains rattle across its busy main line at Wakefield, Va., so it constructed a concrete underpass, which still serves as a one-lane road.

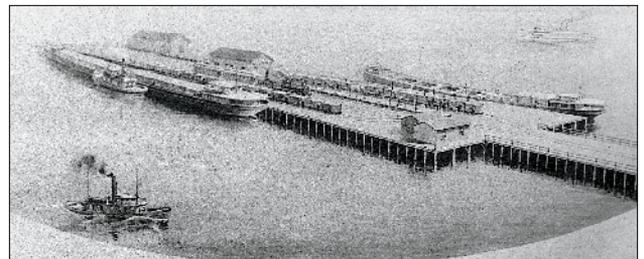
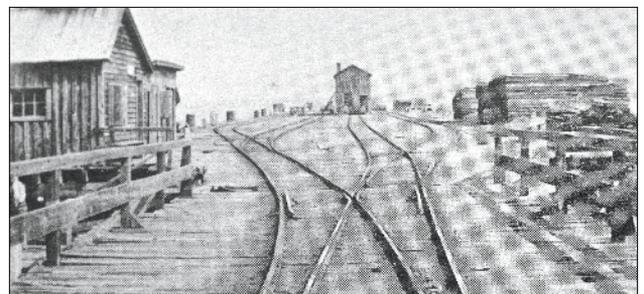


18

What was said to be one of the largest sawmills in the East was located at Dendron, Va., and served by the SS&S. Logs came in from the southwest and lumber was shipped out, much of it east to Scotland Wharf on the James River.



19



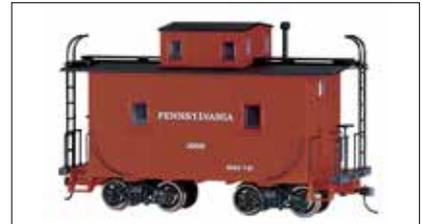
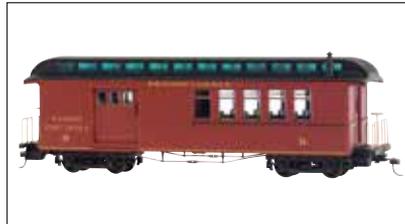
Freight and passengers traveling east over the SS&S reached the pier at Scotland Wharf on the James River via a switchback. Pilings are still visible today alongside a vehicle ferry's pier.



20

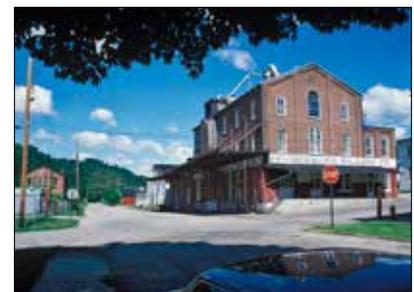
David met Goliath daily at Washington, Pa., as Pennsylvania Railroad narrow- and standard-gauge trains exchanged passengers. The imposing brick depot still stands and is used for storage.

*Black-and-white photo, Cornerstone Genealogical Society collection courtesy of Jim Weinschenker*



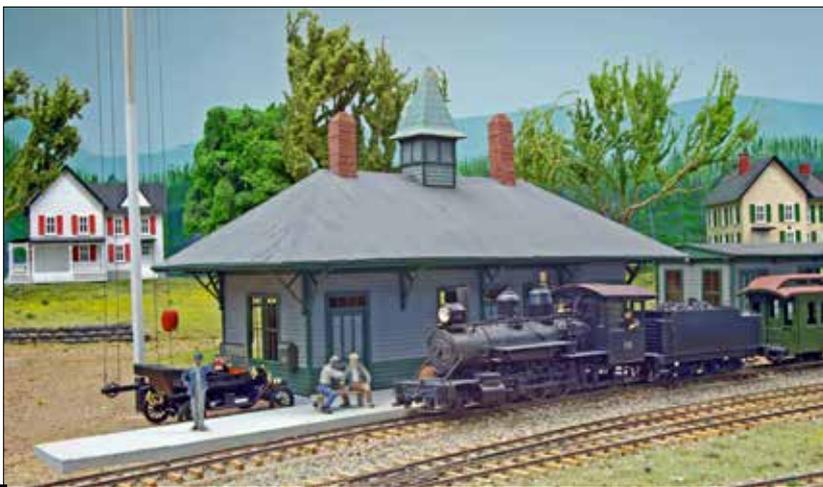
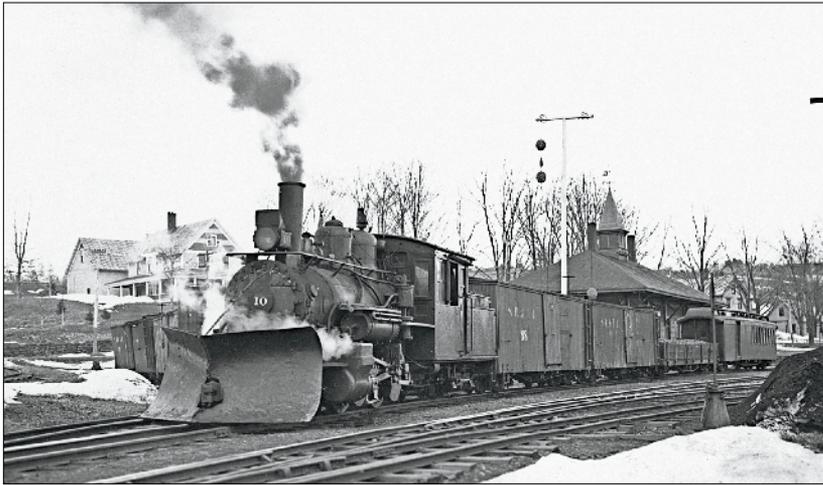
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Bachmann, a pioneer in the commercial support of On30 modeling, has offered several passenger and freight cars lettered for PRR and hence suitable for use on a post-1921 Waynesburg & Washington or Ohio River & Western On30 layout. *Bachmann*



22

The W&W brick depot and a three-story mill building at Waynesburg are visible behind the passenger train in January 1907 (left). Both structures were still standing when the author visited in June 1989. The yard was nestled between the town and the south fork of Ten Mile Creek. *Ed Bond; B&W photo Waynesburg University Museum collection courtesy Jim Weinschenker*



3

The Y-shaped SR&RL main line divided at Strong, Maine, but northeast-bound engines from Farmington had to swing around on the turntable and back their trains past the junction switch to head up toward Kingfield and Carrabasset on the line visible at far left (top). John Rogers built an accurate model of Strong for his basement-size SR&RL On2 layout (above). *Tony Koester collection; Tony Koester*

H. Temple Crittenden's *The Maine Scenic Route* (McLain Printing Co., 1966) and L. Peter Cornwall and Jack W. Farrell's *Ride the Sandy River* (Pacific Fast Mail, 1973). But there are many more tomes awaiting the budding SR&RL fan and modeler.

You can still ride over a portion of the long-gone SR&RL on a section of relaid track just north of Phillips, Maine. The Phillips depot still stands, 4, as does the paint shop that once abutted the roundhouse. Other remnants of the SR&RL remain, including the brick MEC-SR&RL depot in Farmington, but with each passing year the opportunities to reach out and touch the past diminish.

### Wiscasset, Waterville & Farmington

The premier two-foot-gauge ride is over a restored section of Wiscasset, Waterville & Farmington main line from the depot and re-created shops in remote Alna. Like the SR&RL, the WW&F was a Y-shaped railroad that ran from a trestle-pier along the Wiscasset waterfront up to the split at Weeks Mills, then north to Albion or northwest to Winslow (like many railroads, they never quite made it to the other namesake towns). Principal freight lading was outbound potatoes and lumber to schooners on the Sheepscot River estuary and inbound feed, grain, and coal.

A glance at a map showing the SR&RL and the WW&F suggests that the two railroads could have been linked by building across a river (a major obstacle) and through Waterville to Farmington. That idea wasn't lost on WW&F predecessor Wiscasset & Quebec (the name suggesting other expansionist plans), and a right-of-way was graded in 1888–89. But this effort was blocked when the MEC refused to allow the slim gauge to cross its tracks in Farmington.

The railroad never was a profitable enterprise and entered bankruptcy more than once. By 1916, the left fork was abandoned. A roundhouse fire in 1931 wiped out the better motive power, so the WW&F bought out the entire Kennebec Central and put its two Forneys and some salvaged rails to good use. Even last-minute efforts to move the remaining lumber down to the harbor at Wiscasset were literally derailed when Forney No. 8 hit a broken rail, turned sideways, and—along with the entire railroad—was abandoned in place in June 1933.

But the WW&F story was not over after all. In 1999, No. 10, a tiny Vulcan Iron Works 0-4-4 Forney from a Louisiana sugar-cane plantation—ironically, 30"-gauge when built—and a close cousin to the original WW&F engines, brought steam railroading back to the WW&F, 5. It was re-gauged by Edaville, which operated it on its two-foot-gauge museum and tourist line at the neck of Cape Code in (appropriately) Massachusetts through the late 1900s, 6. It was restored in the late 1990s and acquired by the WW&F Museum in 1999, which began operating it in 2000.

Flatcar 118, dating back to 1912, and WW&F-predecessor Wiscasset & Quebec boxcar 309 and coach 3 (both graduates of the class of 1894) are in service along with more recently built rolling stock.

After riding behind No. 10 a few years ago, I can attest that this is as close to an authentic Maine two-footer train ride as you're likely to have the privilege of experiencing. For more information, see the WW&F museum webpage ([www.wwfry.org](http://www.wwfry.org)).

## The Monson Railroad

The Monson Railroad was dubbed the “2 x 6” because of its two-foot gauge and six-mile length. The Monson hauled slate from a quarry to a standard-gauge connection with the Bangor & Aroostook at Monson Junction. The railroad used beefy Forneys, and it did so relatively late in the game in the early 1940s. That’s why most of the operating two-foot steam locomotives are ex-Monson.

## Kennebec Central Railroad

Even more modest in scope than the Monson was the Kennebec Central at a mere five miles in length. This J-shaped railroad ran from a coal wharf alongside the Kennebec River in Randolph, Maine, briefly southward before hooking to the north to haul coal from barges and schooners to heat its *raison d’être*, the National Soldiers’ Home in Togus. On Sundays and some holidays, it also hauled visitors to hear band concerts that honored the vets.

The KC enjoyed a relatively long life, from 1890 to mid-1929 when the government awarded the coal-hauling contract to a trucking firm. Locomotives 3 and 4 later went to the WW&F and were renumbered 8 and 9 to replace engines damaged in a 1931 fire.

## Modeling the two-footers

Since modeling one of the Maine two-footers or building a freelanced railroad closely based on them is a unique approach to scale model railroading, we’ll review how several modelers have approached that challenge here rather than in Chapter 6. Let’s start big, relatively speaking, and work our way south.

Modeling in On2 is not what I’d call a beginner’s project. With the exception of Bachmann’s On30 version of Sandy River & Rangeley Lakes No. 9, **11**, a typical Forney or “rear-tank” locomotive, and Bachmann’s close-to-Maine-prototypes rolling stock, there is very little in the way of O scale two-foot-gauge ready-to-run equipment. And converting the Bachmann Forney to exact two-foot gauge is not an easy task. So modeling



4

The SR&RL depot (top) and part of the car shop still stand at Phillips, Maine, but the roundhouse and turntable are gone. Al Churella has brought the scene back to life on his On2 SR&RL (above). The depot is a Banta Modelworks kit and the Forney a Custom Brass No. 18 modified to match No. 15. *Tony Koester; Al Churella*

in On2 is primarily for those who enjoy and are good at building kits and scratchbuilding.

One of the first to tackle a prototypical scene (a Layout Design Element, or LDE) for a Maine two-footer was *Narrow Gauge and Short Line Gazette* founder, publisher, and editor Bob Brown. In the August 1969 *Model Railroader*, and again in his editorial in the January/February 2013 *Gazette*, Bob described his On2 model of the waterfront in Wiscasset, Maine, complete with a schooner, **7**. But this LDE was never extrapolated into an On2 railroad.

(Bob’s early On3 Tuolumne Forks Lumber Co. was featured in August 1975 MR.)

Over the decades, there has been a wide variety of On2 locomotives and rolling stock produced starting with imports from NJ International (Custom Brass) in the 1970s. More recently, Train & Trooper imported several On2 locomotives with excellent detail. The Car Works (thecarworks.com) has offered several On2 locomotives. But the list of active importers and available models changes frequently, so Web searches and chat groups embracing the Maine two-footers are your best bets.

On2 locomotives are small, so there is little room for adding weight. Those nice-looking brass passenger cars are very heavy and often roll poorly. Result: A locomotive’s pulling ability may



10

Steve Fisher's On30 Deep Run Railroad displays the fine detail typical of most narrow-gauge railroads regardless of scale. The 4-4-0 is a Bachmann model with a new cab. It's equipped with a battery and is operated by radio control. That operator-friendliness is also evident from the numeral 6 on the switch stand in the foreground, which makes it easy to correlate a fascia control with a specific switch. *Mark Chase*

radius curves," Dave reported. "It's meant to operate little 0-4-0 engines, and they run just fine, round and round. If I were running longer wheel-base or Forney-type engines, I'd use 18" as the minimum radius. MiniTrains sells an HOn30 oval of flextrack with a

9.5" radius. The little engines run great on the oval. I ran one for 24 hours to see if it would fail. It didn't.

"On my home On30 sugar-cane-railroad layout," Dave continued, "I'm using 24" and 32" radii. The engines are all small Porters and HO diesels

with O scale cabs added."

Bob Hayden added to Dave's comments: "Larger rolling stock, especially Maine two-foot prototype rolling stock, is another matter. For HOn30, which was called HOn2½ when typewriters still had fraction keys, the minimum radius for large, Maine-style equipment is 18". This is what I used on the Milwaukee edition of the HOn30 Carrabasset & Dead River. For the largest 0-4-4 and 2-4-4 Forney types, 22" radius would be a better choice. The big 2-6-0 and 2-6-2 tender engines will go around tighter curves, similar to HOn3 2-8-0s.

"For On30," Bob continued, "the news is about the same. The little engines will turn on a dime, but the Bachmann Forneys need a 26" or 30" radius if they are to be run with anything coupled to the rear coupler. The ones I have will negotiate the 18" radius curves of my On30 Elk River Line, but the rear coupler swings out too far to stay coupled to anything. I'd say 15" minimum radius for industrial lines, 18" for the common Bachmann



11

Diesel power takes the form of several diminutive "critters" that Dave Renard kitbashed for Steve Fisher's Deep Run Railroad. They fit on Bachmann Spectrum diesel chassis. *Steve Fisher*



12

That Steve Fisher has been modeling in On30 for more than three decades is evident in the amount of detail he has incorporated into his railroad. Nothing like a boat yard alongside the railroad to get the modeling juices flowing! *Mark Chase*

engines with separate tenders, and 26" or 28" for Maine-prototype Forney engines and passenger cars.

"Modelers should be aware that most of the Maine passenger cars were significantly longer than those used by many three-footers," Bob concluded. "The Sandy River's parlor car *Rangeley* was 45'-11" over the end sills, and most of the other coaches and combines were roughly the same length. To run well and look good, this equipment probably needs On3 minimum radius curves in the neighborhood of 42" radius."

### A good place to start

Summing up, just as veteran modelers can take advantage of what's available in or easily converted to On30, this scale and gauge is an ideal place to start for a boomer only vaguely familiar with scale model railroading.

The models run well; an extensive selection of high-quality ready-to-run equipment is available; laser kits complement the RTR models; On3 rolling stock is easily converted to On30; and key structure kits are available.

Those inexpensive plastic structure kits offered to "O gaugers" such as the Rico depot (7-6) may in fact be accurate models of actual narrow-gauge prototypes—in this case, a depot that once graced the three-foot-gauge Rio Grande Southern in Colorado.

A good way to explore the potential of On30 is to buy a copy of the *On30*

*Annual*, formerly published by Carstens Publications. Carstens also offered the *HOn3 Annual*.

You may also want to check out a chat group for those interested in modeling the Maine two-footers, primarily in On2 but with several On30 participants: [maineOn2@yahoo.com](mailto:maineOn2@yahoo.com).



13

Steve Fisher's Deep Run Railroad shows an important dimension change that those "upgrading" from HO to On30 need to be aware of: The tracks, with rails still spaced to HO gauge, have centerlines spaced an inch farther apart than HO's typical two inches to accommodate the wider O scale car bodies. The numbers on the chart pins mark the location of future harp-style switch stands. *Steve Fisher*