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## LARGE SCALE vs. SMALL SCALE

By [Ed Kelley](#)

When you begin to think about building a miniature railroad, your first question might be, "Which size should I go with?" In general, these "sizes" are divided by gauge (distance between rails), and again by scale to determine standard or narrow gauge. Generally, the two divisions are Small Scale (3.5 - 7.5" gauge) and Large Scale (12" - 30"), also known as the "Grand Scales". Indeed, this is a tough decision. By reading this article, I am hoping you will be able to decide what is best for your railroad.



7.5" gauge

The earliest miniature railroads could be found in amusement parks. Companies such as Cagney and Armitage-Herschell pioneered the "Park Train" industry. Beginning with the unique gauges of 8 and 9 inch, these trains grew in popularity. They needed to develop a larger train that could carry more people. 10" gauge and 12" gauge were introduced. Like the 8" and 9", the 10" never caught on, but the 12" gauge models prospered. Running at large amusement parks such as Coney Island and popular attractions such as New York's Central Park, and the great expositions of the time, even larger trains were in demand. This was the beginning of 15" gauge, one of the most common of the larger gauges today.

While Armitage-Herschell lead the way, they were soon followed by Cagney with its introduction of the Class D around 1904. The Class D was an immediate success and became the most widely produced Cagney of all. House of David in Benton Harbor, Michigan purchased a fleet of several. Coney Island replaced its old 12" gauge line with 15". But then, there was a demand for a larger gauge.

Eighteen inch gauge was first seen at the Eastlake Park Scenic Railroad, built and operated by master-machinist John Coit. When Abbot Kinney was in need of a light railway system for his Venice Pier resort area in Southern California, he contracted Coit to do the work. Coit ordered two 2-6-2 Prairie locomotives from Johnson Machine Works in Los Angeles, built to the blueprints he designed. In 1905, the Venice Miniature Railway began operating with steam locomotives #1 and #2. The popularity of the railway at Venice and the state of the not-so-popular Eastlake Park Scenic Railway prompted Coit to move the slightly smaller 2-6-0 Mogul #1903 and the ELPSRY's rolling stock to Venice. Renumbered #3, the Mogul

will glide through the air. Instead of a little bell, you will be able to ring one with a deep tone. You will feel like you are at the throttle of a full-sized steam locomotive. You can pull more passengers, who are comfortably seated in roomy gondolas or passenger coaches; not a small load of uncomfortable passengers with their legs crunched just to fit in. You can ride under the roof of your cars in some cases. The advantages are endless.



15" gauge

In some cases, a large-scale train is not the answer. The locomotives, especially steam, can get quite expensive. Are you willing to make such a big investment, or are you able to afford it? Also, the turning radii of these trains can get pretty large. Do you have enough space for one of these trains? These are some of the questions you must ask yourself before you make the decision. There are also solutions; if you are a skilled machinist, you can build from a kit or build your own locomotive from scratch to save costs. You can purchase a smaller 2-4-0 or 4-4-0 rather than that 4-6-4 or 4-8-4 to make the turns.

If you don't think large scale is right for you, than maybe small-scale live steam is the size for you.

Pioneered by companies such as Basset-Lowke in England and by Dick Johnson in the U.S., small-scale live steam fascinated millions. Disney animator Ollie Johnston built a 4-3/4" gauge line at his Southern California home, and Walt Disney ran the 7-1/4" gauge Carolwood Pacific around his Holmby Hills estate.

Small-scale live steam hasn't been around as long as the larger scales, but it is equally as popular. 7-1/2" is the most common, and the largest of the smaller gauges. And there are the smaller gauges including 4-3/4 and 3-1/2. Most live steam clubs have all of these.

There are several companies that build in 7-1/2". Maxitrak, Roll Models Inc., Allen Models, Little Engines, Mammoth Locomotive Works, Meg Steam, and more all build in this

ran for many years along with the #1 and #2 until the closure of the pier in the late 1920's.



15" gauge

Impressed by the larger gauges, mechanically minded Louis M. MacDermot of Oakland, California decided on a unique 19" gauge for his Overfair Railway to run at the Panama-Pacific International Exposition of 1915. Four magnificent Pacifics, an 0-6-0 switch engine, and more than 60 wooden coaches were constructed. They meandered the exposition grounds until the exposition ended, where they were then confined to sheds on the MacDermot estate.

With the popularity of these two railways, Cagney introduced its Class E in 22" gauge. With only 6 locomotives built, the less-than-successful Class E was discontinued. Cagney was going bankrupt. Cagney's last attempt was a series of steam-outline locomotives, such as the Commodore Vanderbilt. With even less success than the Class E, Cagney went bankrupt.

The new name in the miniature railroad industry was the Miniature Train Company. The 3-car articulated model of a streamlined F unit in 12" gauge, known as the G-12, began showing up in the newer parks and replacing the older Cagneys in others. The larger and more authentic G-16 in 16" gauge was the next success from MTC. MTC then experimented with a single G-20, but its unusual gauge prompted MTC to focus more on 16" gauge. Park guests liked "real, authentic steam trains", but the parks could not afford to keep them up. MTC's solution was the S-16, a steam outline locomotive powered by a gasoline engine but with all the characteristics of a steam locomotive. Unlike Cagney's earlier attempts, the S-16 was a great success.

Then came Chance Rides. With a steam-outline in 24" gauge known as the C.P. Huntington, they almost monopolized the industry. The details on this nearly exact replica of the Central Pacific's original were incredible, and the larger size could carry more passengers. MTC then introduced the Iron Horse, basically a 24" gauge version of the S-16 except with a diamond stack. It was not as successful as the C.P. Huntington, and MTC was purchased by Chance Rides soon after.

Other popular builders of the day included Wagner, Sandley, Crown, and Thornton. Though not as popular as Cagney and MTC, these trains were faithful replicas of "the big ones" and many still survive today.

Unfortunately, the companies mentioned no longer exist. However, new companies were formed making not just amusement park trains, but down-to-the-bolt replicas. Companies such as Uhrich Locomotive Works, Mammoth Locomotive Works, and Merrick Light Railway Equipment Works can produce a custom or replica locomotive for you.

There are many advantages to a larger-sized train. You can sit in, not on, the tender; giving it a "big train" feel. You are able to comfortably operate the controls, and comfortably fit your feet into the locomotive. In some locomotives, you may even be sitting

scale. There is an extremely large selection of locomotives and rolling stock in 7-1/2. They are far less expensive than 15", ranging from \$5,000 for a diesel to about \$30,000 for a nice new Little Engines Pacific. These trains have smaller turning radii than the larger sizes, and take up less space, but still have their disadvantages. The engineer must sit on the tender, resting his legs not in the cab but scrunched to reach small un-realistic footrests protruding from the locomotive. The controls are harder to reach, making it necessary in some cases for a removable or liftable cab roof. Far fewer passengers can be hauled, and they are crunched into tiny gondolas. Although fun to ride, it may get uncomfortable after a while. The comfortable alternative is for un-realistic bench riding cars, which ruin the authentic look. You cannot ride under the roof of the cars, and in most cases if you are burning propane you will need an additional fuel car.

One solution to the smaller scale problems listed above; purchase a roomy 2-1/2" or 3-3/4" scale narrow-gauge train. This allows you to have all the advantages of the larger trains on a smaller track. You can fit your feet in the cab comfortably, you can reach the controls comfortably, and your passengers can even ride under the roof of the cars. So if you can't fit a larger gauge train but you want the size, 7-1/2" narrow gauge might be for you.



7.5" narrow gauge

Again, ask yourself, are you willing to make such an investment? Steam locomotives still may seem pretty expensive to some. Maybe you may want to start with a small diesel locomotive to see if you can really get into the hobby.

The possibilities are endless in miniature railroading. Whether large or small, these trains are fascinating little machines that keep steam railroading alive. Now, before you make the big decision, be sure to go with what is right for you. Walt Disney, who could have had a 36" gauge railroad like fellow animator Ward Kimball, chose 7-1/4" because he was fascinated with miniatures. The decision is totally based on what you want your railroad to be.

Good luck with your project. Live Steaming is a great hobby and I'm sure if you are a newcomer, you will certainly enjoy it.



## About the author

[Ed Kelley](#) is a volunteer at the 18" gauge Billy Jones Wildcat Railroad, Los Gatos, California. Ed has contributed articles for the Grand Scales Quarterly and hopes to contribute to Live Steam and other publications. Ed has also volunteered at the 19" gauge Swanton Pacific Railroad, Davenport, California and is in the process of building a 7-1/2" inch Narrow Gauge railroad.

inside the cab. Instead of a small, high-pitched whistle piercing the air, the beautiful sound of a deep and authentic whistle

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