

M&K Junction Model Railroad

The History of the Baltimore & Ohio Railroad's "West End"

The Baltimore & Ohio Railroad reached Cumberland, MD in November 1842 after construction of the East End, today's Cumberland Subdivision. For the next seven years, the B&O contemplated routes to the west, to fulfill the promise in its name: "& Ohio". The preferred route would have crossed southwestern Pennsylvania, reentered Virginia (there was no West Virginia yet), and run due west to Wheeling, following the old National Road fairly closely. Political pressure by both the state of Virginia and the Pennsylvania Railroad precluded this solution, however.



In 1848, the B&O's newly appointed president Thomas Swann and Chief Engineer Benjamin Latrobe sent surveyors to chart a route through the mountains west of Cumberland, for a railroad to Wheeling that was located entirely within Virginia. They would follow the North Branch Potomac River to Piedmont, Savage River to Backbone Mountain, up Crabtree Creek to the summit at Altamont, across the Glades, down Briery Mountain to the Cheat River Valley, up Laurel Mountain where the Kingwood Tunnel was bored through the summit, and finally down Racoon Creek and Three Forks Creek to the Tygart River Valley at what today is Grafton, WV. The complete line to Wheeling was operational in January 1853.

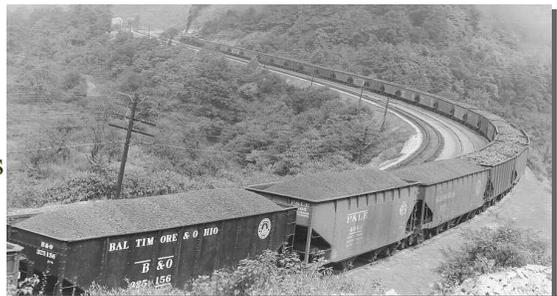
Part of this "double humped" crossing of the Allegheny mountains, the grade on Briery Mountain (Cranberry Grade), the crossing of the Cheat River at Rowlesburg, WV and the grade up Laurel Mountain (Cheat River Grade), is depicted in condensed form on this layout.

Rowlesburg was a helper station as trains needed to be pushed up the grades in both directions out of Rowlesburg. The Morgantown and Kingwood Railroad (merged into the B&O after 1922) interchanged with the B&O at Rowlesburg, ergo the railroad's name for Rowlesburg – M&K Junction.

The time period is late 1949 through early 1952 – the period when diesels and steam co-existed at M&K. Seven, four-unit F7 diesel sets arrived in 1949 and were used as helpers, while steam was still used as road power – an unusual situation. The diesels were so superior in heavy mountain railroading that the subdivision was dieselized in 1952 and relatively new and modern steam locomotives were displaced.

Scenic Features of the Layout

The track arrangement is designed to create the feel of the prototype with heavy grades and very little tangent (straight) track. Furthermore it was the owner's desire for the layout to be "*scenically sincere*", that is, trains pass through a scene only once. There are few on-line industries on the prototype and few will be included on the model (although a couple have been added for some scenic/operational interest).



Multiple-track main lines are a desired feature of the track plan and Cranberry grade is intended to duplicate the look that you see in the picture on the right.



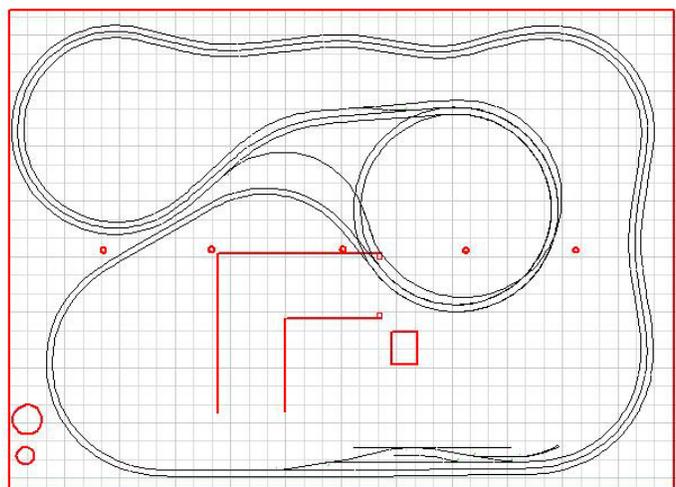
A model of the B&O's huge 4 stone-arch Tray Run Viaduct is planned. The model will be 2/3 full scale size and over 6 feet long.

The B&O's crossing of the Cheat River is represented. Unfortunately, space only permits one span of this two span bridge to be included.



The Track Plan

The basement is approximately 25 ½ x 36 feet. This size space would have been perfect for a track plan akin to John Armstrong's "*Canadaigua Southern*". However, during this time period in history, the B&O ran their largest steam locomotives on this subdivision, including 2-8-8-4, 2-8-8-0 and 2-10-2 locomotives. Models of these locomotives require larger radii. Minimum mainline radius is 60", and that is only on the inner track on one curve. The minimum radius elsewhere is 62" or larger. With these large radii, a 2-lobed *Canadaigua Southern*-style track plan could not be made to fit.



The layout is 2-rail, "O" scale (1/48) standard gauge (1¼ inches between the rails). The layout runs on a Digital Command Control (DCC) system using a combination of Lenz power/command stations; Java Model Railroad Interface (JMRI) software and computer control; JMRI WiFi throttles running on Android devices; and

locomotive and accessory decoders from many different manufacturers.

Track is flex track from many manufacturers, but predominately current Atlas production. There are some commercial track switches (turnouts) on the layout; but most turnouts are hand-built by the owner, including several curved turnouts and curved crossovers.

Layout Operation

The operational concept of the layout is designed around helper operations. Like the prototype, helper locomotives are required on the model to move all but the shortest trains over the grades. To that end, grades on the layout are 2% everywhere except the Graveyard Curve where the grade is 2³/₄% to make the final ascent to Terra Alta really challenging. A large helix dominates the center of the layout and is necessary to connect the tops of the Cranberry and Cheat River grades to allow for continuous running. The helix can also serve as serial staging for two typical trains in each direction. Additional stub-ended staging under the Cranberry grade will source up to 4 Eastbound trains and double-ended overhead staging will source 4 westbound trains.

Eastbound trains (including loaded coal trains) enter the visible portion of the layout through the Kingwood Tunnel and proceed down the 2-track Cheat River grade. Crossing the Cheat River on a single-span, double track through truss bridge (reduced from the prototype's double span bridge) they enter a very condensed representation of M&K junction before beginning the 3-track Cranberry Grade. Helpers are attached at M&K and the train begins the climb up Cranberry grade towards Terra Alta, MD. Reaching the summit at Terra Alta, the helpers cut off to return to M&K, while the train enters the helix (and eventually staging).

Westbound trains appear from the helix at Terra Alta and proceed down the Cranberry Grade to M&K Junction, where they pick up helpers for the ascent of the much shorter Cheat River grade. Upon reaching the Kingwood Tunnel, helpers cut off while the train enters the helix.