

The Modeler's Journal

A Free Journal for Today's Modeler

VOLUME II

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All Aboard Hawkesbury Station

Be Sure To Check
Out Columns From
Harry M. Haythorn,
The Track Planner,
and Jack Hykaway



Cover Photograph Courtesy of Lloyd Henchey



Editor's Note...

In this fall issue of *The Modeler's Journal*, we feature the amazing work of Lloyd Henchey and his custom-built Hawkesbury Train Station. Lloyd has leveraged his background in civil engineering to scratch-build this beautiful station and you can find exactly how he built it in our feature piece simply entitled "Hawkesbury Station."

The Track Planner (Bill Beranek), discusses the use of CAD software versus the use of pencil and paper for designing model railroad layout plans. He outlines some popular track planning software and provides helpful tips to keep in mind when using any of them. He also reminds us that it is not the software, but also the knowledge of how actual railroads work and experience that matter in properly conceptualizing and designing a fully operational layout.

In his column "UP-Hub," Harry M. Haythorn continues his UP car build series and shows us how he scratch-built *Idaho* - another one of Union Pacific's theater inspection cars. If you read his last article on UP's Theater Car 420 *Fox River*, then you will surely want to read this one.

And finally, in his column "Jack's Junction," Jack Hykaway provides some tips and the lessons he has learned about capturing amazing photographs of trains, even in the most mundane of venues with little photographic appeal such as the open prairies of Manitoba, Canada. Follow Jack's tips and enjoy photographing trains in your backyard, wherever that may be.

Happy holidays and happy modeling!

– **Loggin' Locos**
Editor-In-Chief



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About the Cover

Passengers eagerly await with tickets in hand as the local train arrives at Hawkesbury Station.

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The Modeler's Journal.*

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Hawkesbury Station

By Lloyd Henchey

All photographs by Lloyd Henchey.





Most people have a train station on their layouts, and I am one of them. Four years ago, I bought the City Station kit from Walthers and it was one of the first kits that I had completed - and I had a perfect spot for it on the layout. All was set for the building's final installation when I accidentally dropped the model on the floor. It exploded into its components and I was left to pick up the pieces and contemplate buying another.

Having a background in Civil Engineering, I decided to have a go at scratch-building the same structure with basswood and using the existing windows and doors.



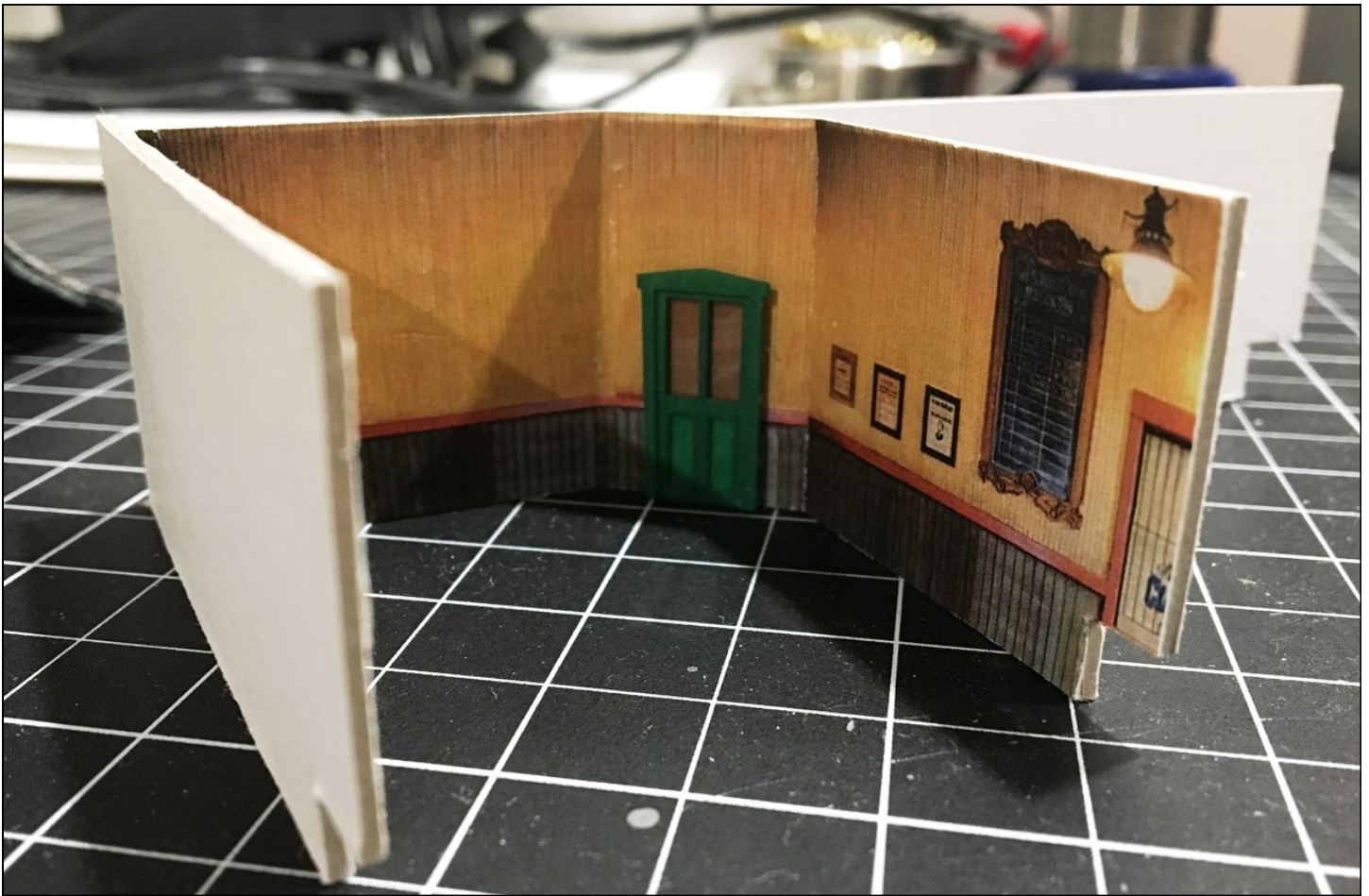
The first step was to measure and trace each part on rigid cardboard, such as matting board, making sure that they all fit together. This template would give the strips of basswood a solid backing. I then glued the windows and doors to the cardboard and painted them.

The next step was to cut strips of basswood $1/8^{\text{th}}$ of an inch wide (to represent wood planks), then stain them. The stain is just acrylic paint diluted with water, about 1 part paint to 20 parts water. I then soaked the basswood strips in the stain for a few minutes. You have to be fairly careful with this process, as strips left in the solution for even a few extra minutes will come out visibly darker than others. Sometimes this is a desired effect, and at other times, not so much.

Once the basswood had dried, I started gluing them one-by-one to the cardboard. Once this step was completed, I started the assembly of the







walls, ensuring that the insides were well-framed so that all my walls were square.

Once all the walls were assembled, it was time to work on the roof. I had kept the roof parts from the old kit, but I decided to cover the molded details with shingles from Laser-Art, which I had in stock. The sheet of shingles was randomly painted with three different shades of brown acrylic paints. I separated each row of shingles and I mixed them up so that it would look even more random. I then started on the long task of gluing each row to the roof's surface, one by one.

Now that the roof was done, I needed a break, so I decided to do some interior work. This is something I do with all my buildings where the interior is easily visible because they are set close to the front edge of my layout. I find that it adds an extra level of detail.



I first decided on what areas I would like people to be able to see inside. I settled on the interior locations of the ticket counter, the waiting area, and a part of the baggage storage area. Next, I built the walls from the foam-core board, which I then solidified with 1/4 inch basswood. I then looked on the internet for pictures of walls, floors, and interior decors that I could use and saved them to my computer. I worked on each area using Photoshop to edit the images I had saved, to bring everything to scale; I adjusted the photos, colors, and removed any unwanted items, and added small details such as picture frames. Once satisfied, I printed them and made sure the scale fit each area. Finally, I glued the paper to the foam-core board.





Another thing I do to all my buildings is to add lighting to the outside and the inside where details can be seen. I planned all the lighting before assembling the walls, so I knew exactly when and where to install it. For this station, I decided to add lighting to the outside of each exterior door, under the open area, and all three interior sections where there are details.

For the station platform, I drew the outline I needed and used a piece of 3/8th inch plywood for the base. I used more basswood strips to complete the platform's decking - this time the strips were cut 3/16th of an inch before being soaked in acrylic paint diluted with water. The mix was mainly grey with brown and black added, with a ratio of about 1 part paint to 40 parts water, as I wanted to keep their natural wooden look.







Next, I needed to cover the sides of the platform with rock/brickwork. I simulated this look by using an embossed printed paper from a gentleman in Greece who was selling it online (on eBay).

I used the same embossed paper for the pillars of the open waiting area and finished the wiring for all of the lights before gluing everything into their respective places.

Before gluing the roof in place, I tested all the lights to make sure they were properly functioning; I added people to the interior sections, added horizontal blinds on all the windows, and glued the station onto the base.

Now I had to hide all the imperfections, add paint to worn areas, and add small exterior details such as eaves-troughs (rain gutters), benches, people, signs, and other detail items.

With all of the details installed, I now had a functional Hawkesbury Train Station in place for day and night activity.

All Aboard, Hawkesbury Station!

About the Author

Lloyd is a financial advisor with a background in Civil Engineering and is now semi-retired. Lloyd has been in the model railroading hobby for about five years and has been working on his current layout for just under four years. His main modeling focus is the Canadian Pacific railroad in the mid-70s. One of Lloyd's proudest modeling moments was receiving the Golden Spike Award from the NMRA in the year of the Golden Spike's 100th anniversary.

You can follow Lloyd's work on: [MHO Junction \(on Facebook\)](#) and [MHO Junction \(on YouTube\)](#).



Gain A New Perspective With The Track Planner!

Follow Bill Beranek's column "A Perspective on Track Planning" in every issue of **The Modeler's Journal**.

Topics include:

- ✓ Principles of Track Planning
- ✓ Designing for Operations
- ✓ Proper Benchwork Design
- ✓ Dissecting Track Plans

And much, much more!



A Perspective On Track Planning



By William (Bill) J. Beranek - The Track Planner

Software vs. Pencil and Paper

The Ability to Conceptualize Your Design

A few months after activating my website (TheTrackPlanner.com), I got a call from Mr. James Adams, the owner of [Model Railroad Construction \(MRC\)](http://ModelRailroadConstruction.com). During the initial conversation, James mentioned, he had been on my website and was impressed with my designs - specifically, how I'm able to conceptualize railroad operations while keeping the overall plans visually interesting. James stated that an increasing number of his clientele were requesting operations to be built into the designs. He also mentioned that this was a recent change from the traditional "display layouts" that many of his clients request. Previously, clients wanted layouts on which they could run their extensive

motive power and rolling stock inventory, traveling through realistic scenic vistas. Today, a significant number of modelers are requesting designs that include some degree of prototypical operations.

Besides being the owner, James is also the company's lead designer. He advised me he was quite good at designing and building visually stunning layouts, but admitted he was not as well versed when it came to conceptualizing and designing layouts where prototypical operations are a focal point. James felt I had a greater understanding and more talent in conceptualizing an operations-based layout than he did. After a couple of additional phone calls, James and I came to a working agreement and

Model Railroad Construction (MRC), is the premier layout design and construction company in the United States. They design and build all types, sizes, and scales of model railroads for all income levels, with a small portion of their clientele defined as "significant high net worth" individuals. While the majority of their clientele are probably not "significant high net worth" individuals, many are willing to pay for a well-designed, well-thought-out, and well-built custom layout.

today, I design many of his builds where prototypical operations become a focal point.

During our initial conversation, James said something I had never thought about. I had commented that I appreciated the compliments on my designs, and yes, the designs were primarily based on what I understood about prototypical operations and that the current crop of track planning software was one of the keys to being able to conceptualize and design well-thought-out track plans. The software makes the job easier.

James came back with, “You’re not giving yourself enough credit. At today’s prices, most individuals can afford to buy track planning software. If they apply themselves, after some period of time, most will learn the software, but the difference between them and you? You know how to **use** the software!”

After thinking about what James had said, I realized he was right. You can purchase the best software money can buy, but if you do not have a good working knowledge of how real railroads work and you are unable to conceptualize real railroad operations, the software can’t make you a professional designer.

Watching YouTube videos where modelers were using track planning software, in some cases, the same software I use, I realized that many plans might look good on a computer screen, but when studied in greater detail, they were poorly thought out and if built, would not operate as the modeler envisioned. Being unable to conceptualize seemed to be

the common thread running through the videos.

For this issue of *The Modelers Journal*, I would like to discuss the advantages of using track planning software vs. the old pencil and paper method and how being able to conceptualize can be more important than what you use to draw your plan. This will not be a tutorial on how to use track planning software. Instead, I will focus on the common mistakes modelers make when using a pencil and paper.

Track Planning Software

Today, there is a track planning software for everyone’s budget. Picking the right software for your situation is important. If you want to build a relatively simple single-level tabletop layout, almost any package on the market will work. But, if you’re progressing to the next level of layout design, i.e. a multi-level point-to-point transportation system, you’ll want to choose the right software. Below is a shortlist of the more well-known packages. Some are free and others cost anywhere from a few dollars to a few hundred dollars.

- **Atlas Track Planning Software (free)** – One of the more popular free products but somewhat limited in design capabilities. Because it’s free and developed by Atlas you are limited to using only Atlas track products. If you do use Atlas products and want to design a relatively simple layout, this product will work.
- **XTrkCad Track Planning Software (free)** – A very popular free product. It has a good inventory of track templates and

has additional features not offered with the Atlas product. A step above Atlas but still somewhat limited in scope.

- **SCARM (Simple Computer Aided Railway Modeler) (free)** – A product developed in Europe which has gained wide acceptance in the U.S. For a time, it was the choice for many modelers. SCARM will allow you to create slightly more complex designs; the learning curve is relatively low but it still lacks some of the advanced features.
- **Railroad - Professional (\$34.95)** – This pay-for product allows you to download the program for free but limits you to fifty objects per design. It offers many features not found in the free products but also comes with a higher learning curve.
- **AnyRail (\$59.00)** – AnyRail (my personal choice), has been around for a long time and is a mature program. It offers numerous advantages over the free products and has an easier learning curve than the high-end products. AnyRail also allows free downloads and limits each design to fifty objects as well. It was developed in the Netherlands and unlike other products, the free download does not disable any of the program’s features. Every feature works, allowing you to experiment with all of the program’s capabilities, assuming you stay within the fifty-object limit.
- **3rd PlanIt (\$174.95)** – A full-blown, very capable computer-aided design product. If you

have worked with professional-grade CAD software, you will be much more comfortable using 3rd PlanIt. This design software will do just about any type of design you ask it to do. If you have had little or no experience with professional CAD software, the learning curve is very steep. This is a product where the average model railroader would probably use only 25% to 30% of the product's features. For some, it would be overkill.

Why AnyRail?

For my business, AnyRail satisfies 90% of my needs. Like any software, the more I use it, the more features I wish it had. From my experience, David, the developer of AnyRail, is very responsive to his customer base. Every time I have contacted David, he has gotten back to me quickly - sometimes within a couple of hours, but never longer than a couple of days. David is always open to customers' suggestions. If he feels a suggestion is worthwhile and would improve AnyRail, he will add the suggestion to future upgrades.

David is constantly upgrading and refining AnyRail. Major upgrades happen about every two years, with minor upgrades and bug fixes happening on an as-needed basis. Minor revisions happen numerous times throughout the year.

AnyRail's biggest weakness is its 3D representation. David is promising this feature will improve as the program matures. AnyRail has a very active online forum, in which David regularly participates. AnyRail is not 3rd PlanIt and was never intended to

be. For me, how I conceptualize designs and how AnyRail works, fit well together. That's not to say other packages wouldn't work as well. The way AnyRail performs certain tasks, at least for me, is intuitive and doesn't get in the way when I'm conceptualizing and trying out those concepts inside the software.

Common Pencil and Paper Mistakes

I'm old enough to remember when all track plans were designed using graph paper, a compass, a ruler, and a pencil. Back in the dark ages, before computers, it was the only way. Today's younger generation, having grown up with computers, might ask, "Was that before or after the horse and buggy!" Ha-Ha!

I have clients who send me hand-drawn track plans wanting to know if I can duplicate them into a digital format. In most cases, the easy answer is yes. But I have to let them know that the final product, in some areas, is not going to resemble what they've drawn. When using pencil and paper, people tend to overestimate the amount of layout they can fit into a specific space and underestimate the amount of space certain elements will need to properly fit and operate.

Below are the four biggest mistakes people make, in my opinion, when designing track plans using the pencil and paper method. The biggest drawback with using pencil and paper, again my opinion, is letting you make major design errors that many times don't show up until construction is well underway. Track planning software will certainly let you

make mistakes, but many of the mistakes will show up early enough in the design process, so they can be corrected before construction starts.

Yard Ladders

At the top of my list are yard ladders. I frequently see hand-drawn plans where the modeler did not allow enough linear length for yard ladders. Unless the designer used turnout templates, almost all hand-drawn yard ladders are drawn 50% shorter than what the actual linear space will require. Where you may need five or six linear feet, clients will draw ladders within two or three-feet of linear space. When I advise the client of this serious error, a common response is, "Do what you can to make it fit." Many do not realize how compressed the yard storage tracks will be if I "make it fit."

Most of the hand-drawn yard ladders are straight-line ladders; seldom do I see compound yard ladders. If designed properly, compound ladders can save many feet and not just inches. I also see very few hand-drawn plans where the client has used double-slip turnouts. Just one double-slip turnout positioned properly in a yard ladder can save upwards of 12 to 18 inches of linear space!

All good quality track-planning software packages include turnout templates from the popular track manufacturers. These templates are designed to be accurate to within a hundredth of an inch or less. When you start dropping templates onto a plan, it quickly becomes obvious whether the client has allowed enough linear space.

Curves and Easements

Number two on my list is curves and easements. What looks good on paper might not translate to a CAD drawing. I have seen cases where the client wants a minimum radius of 24 inches, but on paper has drawn turn-back curves at 20 to 22 inches. When confronted, the client's common response is, "Well, it looked okay on paper."

When clients want easements, more times than not, it's because someone told them that they needed easements; they don't understand all the ramifications easements cause, both on the positive and the negative side.

For real railroads, easements are super important in reducing wear and tear on equipment and for the riding comfort of passengers. On model railroads, easements are used to improve the "look" of the layout. The look is long pieces of rolling stock smoothly traversing curves. On model railroads, easements have nothing to do with wear and tear. There may be some specialized equipment that requires easements, but I'm not aware of any. If a client wants easements, then they have to understand the ramifications. They are adding two to four inches to each end of a turn-back and in most cases have widened the turn-back enough that it may end up running off the edge of the benchwork. The additional two to four inches can seriously affect track design once past the easement section. The simple fact is that many layout rooms are not big enough to consider easements being built into every curve.

The better track planning programs will help you design easements into

the plan. But like everything else in model railroading, an action in one area, like easements, usually causes a re-action somewhere else and the reaction is very seldom positive.

A track laying tip that I seldom see promoted is to never connect a straight piece of flex track directly to the start of a curved section. When using flex track, if you allow the connections to take place eight to twelve inches on either side of the start of the curve, the flex track will then automatically create its own easement.

Grades & Vertical Clearances

Number three on my list is not accurately calculating grades and vertical clearances. With a pencil and paper, this is hard to do. I've seen many drawings where the mainline criss-crosses over itself multiple times. With a hand-drawn plan, it's hard to know what your grade and vertical clearances are going to be. A lot of pre-calculating needs to be done. You can't figure it out on the fly. For example, if you forget to include the thickness of the sub-roadbed into the vertical height calculation, you then have big problems.

With a CAD system, you can draw your mainline crossing over itself as many times as you want. Once you have the track looking the way you want it, click on one end of the mainline and set the vertical height, then go to the other end and set its vertical height; the program will instantly calculate the clearance between the tracks and your grade percentage. If the numbers don't work, you can adjust the vertical heights and get a new result. All this takes is a few seconds or a couple of

minutes at most. In some cases, what you want to do may not be physically possible or will be outside the range of your minimum standards. Either way, the software will let you know.

S Curves

S curves are number four on my list. With hand-drawn plans, modelers tend to get carried away, including too many curves, thinking the more curves a track plan has, the better looking the plan will be. In the real world, railroads try to avoid curves whenever possible. Take any class one or class two railroad, you'll have many more miles of pure straight track than curved track. The problem is that straight track on a model railroad, for many, is boring.

With hand-drawn curves, and for that matter, even CAD-drawn curves, the designer needs to be careful with including S curves that are too tight. An S curve is when one section of track curves in one direction while the next section curves in the opposite direction, thus creating the "S" look. The tighter the curves the more problems S curves create. If you're designing large broad radius curves, in the 36" to 40" range, you won't have to worry as much about the S curve. But, if the radii are tight and you're trying to run long wheelbase equipment through a tight S curve, then:

1. The equipment will not look prototypical running through the S curves, and
2. You'll risk derailments since the couplers will fight each other for the direction of travel.

Correcting the problem is easy, as long as you have enough linear space to add a short section of straight track between the two opposing curves. The length of the straight track is determined by the length of your longest piece of rolling stock. If I don't know what the longest piece of rolling stock is, my general rule of thumb is:

1. For HO scale, I use approximately 12 inches of a straight section,
2. For N scale, I use 6 to 7 inches of a straight track as the minimum, and
3. For O scale, I use 20 to 24 inches of straight track.

Conceptualizing: Only the Beginning

Can you design an “**accurate**” track plan using only a pencil and paper? My opinion is **no!** Accurate track plans in my world mean being accurate to under a 1/32nd of an inch.

Can you “**guarantee**” the hand-drawn plan will fit within the space you have? Again, my opinion is **no!** In my world, I have to guarantee my designs will fit within the client's allotted space. I would never guarantee a hand-drawn plan unless the numbers are so obvious there is no question.

Does track planning software solve these concerns? Yes, but track planning software is not infallible; unfortunately, it too **will** let you cheat on the most important parts of the layout design: your minimum standards. Some programs will let you override

the minimum standards, and that's never a good idea.

Whether you use a pencil and paper or software for designing your layout, three things have to be in place before starting any design:


1. You have to have a good working knowledge of how real railroads operate,
2. You cannot stray from your minimum standards. Here, hand-drawn plans make it way too convenient to fudge minimum standards, and most importantly
3. You must be able to conceptualize and transfer those concepts into a viable design.

With all of that said, hand-drawn plans have a place - they let you play with the concepts. Maybe it's a new branch line or a new section you want to add to your existing layout. Conceptualizing on paper creates a physical copy of your thoughts and ideas. That may be all it takes to determine if your idea or concept has merit.

If the paper copy looks promising, you need to move your thoughts to the computer. With the proper minimum standards, having a good working knowledge of the software, i.e. being able to “use” the software, and conceptualizing, it shouldn't take long before you will know if your design is viable.

In my business, I review many “conceptualized” plans. When I inform the client that their conceptualization won't work as drawn, many become disheartened. They've put all their emotional energy into a con-

cept that a professional designer is now telling them won't work. But, isn't it better to learn ahead of time that your dream concept won't work as drawn than to discover it later on after you've spent hundreds or thousands of dollars trying to make it work?

Please remember a concept is “only” an intention. It's a conceptualization of your thoughts. It's the beginning of a long, hopefully, productive journey. Even if your initial concept doesn't work out, it is not the end of the journey but rather just the beginning. 

About the Author

Bill Beranek - The Track Planner has over forty years in the model railroading hobby. Bill enjoys golfing, traveling, and of course designing “prototypical operations” focused track plans. He has been a member of a local 135+ member model railroad club since 2003 and has served twice as the club's president, twice as a board member, and is currently serving as the club's treasurer.

Bill is currently working on his latest triple-deck HO scale layout depicting the SP&S (Spokane, Portland & Seattle Railway) in southern Washington and the OTL (Oregon Trunk Line) on the upper level in northern Oregon in the mid-50s.

You can find out more about Bill—The Track Planner at www.thetrackplanner.com.



Idaho

Union Pacific's Own Theater Inspection Car

All Photographs Courtesy of Harry M. Haythorn, unless indicated.

Idaho's motto "Esto Perpetua - It is Perpetual", was adopted in 1891, twenty-two years after the Union Pacific (UP) laid its tracks through the state. As the Wild West became more inhabitable, thanks in large part to the UP, Idaho's population grew rapidly. The railroad began to build more stations, complexes, railyards, locomotive facilities, and other large shops. The railroad and the state share a long relationship and the railroad's presence in the lives of thousands of Idahoans is undeniable; no doubt that is why the state's name is stenciled on the flanks of this theater car.

In this installment of the UP Hub, I will discuss UP's *Idaho* car and its history. I know that many of you have been waiting for this one for a while and I am excited to share this article with you!

Car History

The car that we know as *Idaho* was originally built by American Car and

Foundry in 1949 as a 12-roomette, four double-bedroom sleeper. At the time, it was called *Western Mountain*. The car was rebuilt by Pullman Standard in 1965 as an 11-bedroom sleeper and was renamed, *Sun Lane*. The car was again rebuilt, this time in 1980. It was then that it became the theater inspection car No. 203, and renamed as *Idaho*.

Following this rebuild, the back window still had two upright posts which were originally part of the car's safety structure. The last five windows on each side were the same height as the rest of the windows on the car. This was changed in the early 1990s when the car was rebuilt into its current configuration that we are familiar with today.

The first known inspection car on the Union Pacific was used by E. H. Harriman in the early 1900s but it was very rudimentary. It was a modified flatcar, with a few benches and a roof, and it was pushed by a locomotive. It is a far cry when com-

A Bit of UP History:

Idaho's baked potatoes slogan originated with Union Pacific, as the potatoes used in the dining cars were sourced almost exclusively from Idaho.

pared to the *Idaho* car today, and most of the other amazing cars that we see on the rails with heating, air-conditioning, Wi-Fi, and some of the most comfortable seats in the fleet.

Let's Build This Thing

This one has been a long time coming; I had the plans and elevation drawings on my laptop. Unfortunately, the dogs or the kids (neither group is admitting to any wrongdoing), pulled the laptop off the desk and all of my important information left the hard drive with a final puff of magic smoke. Finally, I got everything needed and sent off to my laser cutter ([Union Station Products](#)), and they got the car sides ready for pro-



UPP 203 Idaho sits on the end of an inspection train a few years ago. Photograph courtesy of my friend Dillon Goble.

duction in just a few days. I'd like to convey a huge thanks to the crew at [Union Station Products](#) for their services.

Now that we have the car sides, it's time for the actual build of this amazing car. I use, (surprise, sur-

prise), a Walthers ACF 44-seat coach as it very nicely lends itself to becoming the *Idaho* car. The first thing to do is to strip the sides and the roof off of the car. This is very easily done using the "twist" method: grab the car at the ends, and then gently twist the car in a wring-

ing fashion and the roof will usually pop right off. Once this is complete, the car sides can be removed. Usually, I slide a flat-blade screwdriver between the skeleton of the car and the car sides to help them to pop off. The only surgery required is to cut the car body at the theater end of the car. I use the piece that will be the theater window endcap to exactly measure how much of the end to cut off – just enough to make it open enough for the endcap to fit. This is far less cutting than the significant amount of cutting required for the *Fox River* car body.

The next step involves removing the interior. This is done by first removing the screws that go through the bottom sill of the car and then pulling the interior out. Once separated, we can modify it so that it becomes usable as the interior of the *Idaho* car. There is not much modification needed beyond cutting out the bathroom and the waiting room



Left: The car end is cut for the large theater window.



The interior cut and refit are shown above. The sides are loosely held with masking tape as the glue dries overnight.

from the interior of this Walthers car - they are located on the end the seats face. This provides an area where the theater seating can be placed so they butt up against the theater window. The end you cut off from the interior, with the bathroom and the waiting room, is then moved back to the opposite end of the car, thus keeping the car balanced and square. This minor rearrangement makes the car look very close to the interior arrangement of the real car.

Most of you know that I paint and detail my car's sides before I attach them to the skeleton of the car, and this car is no exception. I also add details to the car's sides and ends before the paint goes on. The theater end of the car gets three details added before I paint. First, I add the coupler buffer above the coupler box cut out. I then add the box above the window which accommodates the roll-up door that protects the glass when the car isn't occupied. I make both of these details from

sheet styrene that I cut to fit. Finally, I drill a hole for the red marker light which will go into the top center of the theater end. So that the red light doesn't flood the car, I add a one-inch piece of 1/8" brass tube for housing the LED.

The car sides only need two modifications: the left-hand side gets two kitchen vents (I use Harriman Roof vents that I get from Precision Scale), and the windows on both sides get installed using canopy cement and

The Idaho car looks pretty good so far. It is almost ready to go with just a few things remaining to do including spinning the roof around as it is on backward.





Left: The red marker light is tested before finalizing the build.

window tinting. Once all the details are in place, masking and painting can be completed.

Once the paint has dried, I populate the interior and add it in place. It is then time to install the lights. To complete this installation, holes must be drilled in the floor where the wires will be fed through to the decoder. Once the holes are drilled, the car sides can be mounted. I use a mixture of glues in this process; I use superglue at the four corners and canopy cement on the rest of the car's sides. The superglue provides an almost instant bond whereas the canopy cement maintains the flexibility of the sides. The flexibility is preferred so that you can still remove the roof for maintenance or to install a decoder. The other advantage is that the canopy cement will not craze the glass (cause the glass to fog over). This is a typical side effect of using super glue.

Now that the sides are on and have dried overnight, I remove the roof to work on some final details. The roof details include a few plates along the roof walk (made from .010 sheet styrene), a few small vents provided by Hi-Tech Details, and of

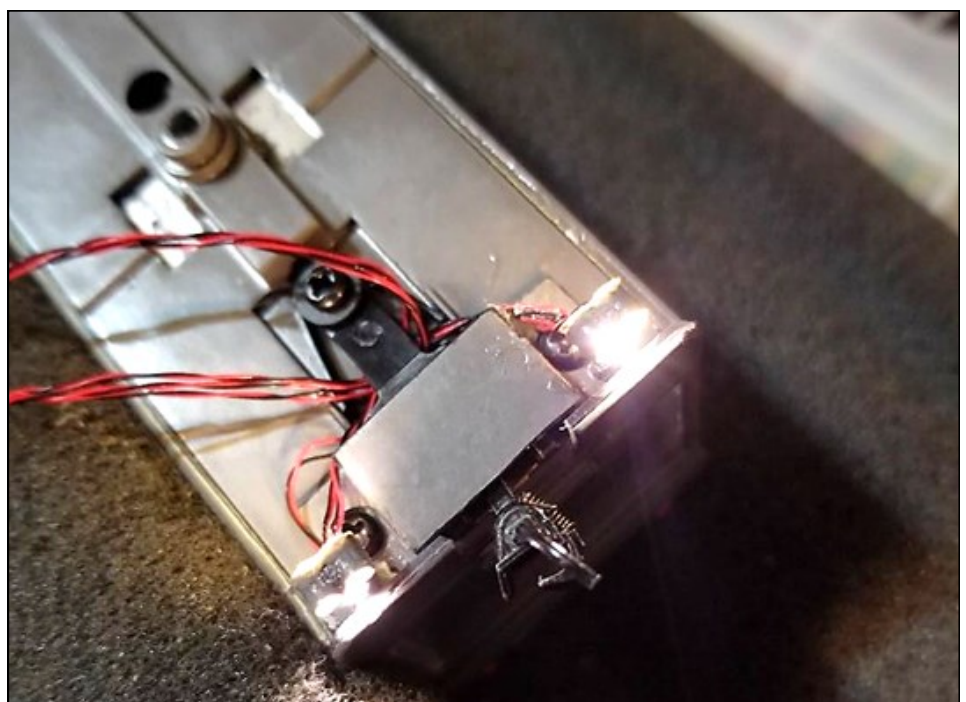
course the GPS domes (also from Hi-Tech).

After those parts are on and the paint has dried, it is time to install a pair of "Alien Eyes" - track inspection lights that are mounted below, at the end of the car. I build these using 1/8" brass tubing. I cut six pieces of this tubing, each about 1/8" long. I put three pieces together, forming a triangular/pyramid shape, and then I add a 3/16" square of

brass on top of the triangle. This assembly is then glued to the bottom of the car and painted gray. I add an LED in each of the tubes and then I run all the wires from the LEDs to the decoder inside the car. Once the lights all check out, I put a drop of canopy cement on the back of each light tube to keep the LEDs in place.

The final thing to complete is the decal work. After the decals have

All of the LEDs work and soon the wires will be hidden.



Above: The car interior has



Here we see Idaho with power car 208 (another car that will soon be featured).

dried, the roof can be put on and the decoder programmed. The car is then ready to run at the end of an inspection trip or a steam excursion on your layout!

That wraps up this build of the *Idaho* – UP’s theater inspection car. There are a few things for you to think about before embarking on this build yourself. First off, planning is the key - especially if you are going to add lights and a decoder. Second, and I cannot stress this enough, use super glue (CA) sparingly when attaching the car body sides or the glass. Finally, this car is in my “catalog of car builds,” but it will not be available until after Thanksgiving as I have many ongoing projects and family commitments.

*ve: The
terior
been*

I’m glad you came along for the ride with me on this build and I’m happy you all are enjoying this passenger car build series. I look forward to the next issue, where I will help you assemble a reasonable business train, a steam excursion train, or a special trip train made up from the cars that have been built and ones that most of us UP modelers have in our fleets. Until next time, may your signals be green, and your tracks smooth.



About the Author

Harry is a rancher in Nebraska who works with his father and grandfather to help run their 22,000-acre,

1,500-head of mother-cow, ranch.

Harry has been model railroading for over 20 years and models the Union Pacific Steam era from the 1930s to the 1960s, in central and western Nebraska.

Harry is a Sustaining Member of the Union Pacific Historical Society and a member of the UPHS Streamliner 100 club. He is a National Model Railroad Association member currently working on his Master Model Railroader Certificate.

Harry regularly posts videos on his YouTube page. You can follow Harry as he works on his 7th layout at <https://www.youtube.com/channel/UC6-MPHmYU3Cc2uEVfjZDlcQ>.

as-



The lights look great bringing up the rear of a train.

Backyard Potential





By Jack Hykaway

All photographs by Jack Hykaway.

A BNSF DPU moves swiftly by the elevator in Thompson, ND. The locomotive is pushing on the rear of a southbound tank train.

Beggars can't be choosers, and nor can photographers. A good photographer will work with what they're presented with – they can't change the elements outside of their control, and no amount of skill will bring the sun out from behind the clouds. Good photographers will use their skills to best capture the moment in the conditions they have in front of their lens. They're crafty – much like modelers in all disciplines – and come up with a method to obtain a final frame of passable quality.

There's a misconception among modelers and railfans alike that good railway photos need to be shot from the sunny side of the tracks in broad daylight and at a specific three-quarters wedge angle without anything obstructing the subject. Add

mountains and interesting scenery, and you've got a prize-winning photograph no matter how it was taken.

I'm here to propose a new way to shoot trains out on the high-iron, a method with more variety. I live in an area with some of the flattest prairies anywhere and with some of the most mundane topography in the country. I learned very quickly that once you've shot one three-quarter wedge here, you've shot them all. And so, to keep things interesting, I started looking at railway photography in a different light; as an art. As I experimented with new angles and situations, I began to realize that there was an incredible array of subjects and photographs to be captured right in my backyard – there's no need for rugged topography to make a good photograph if

you know where to look in your own backyard!

Winter

Prairie winters are known for their length and their incredible, almost unbelievable cold. Temperatures well into the -40s with the wind chill are commonplace – these extreme conditions add to the atmosphere of a photograph. At these temperatures, diesel exhaust condensates and the snow and kicked-up ice cake the rearward faces of the freight cars and DPU locomotives.

Typically, I would have shot the photograph in Figure 1 at a different location, perhaps one with a more photographic appeal or an eye-catching detail. But, since I knew that a layer of fresh snow fell the

Figure 1. CN 3064 oversees a typical container train on an overcast winter day on the prairies.





Figure 2. The swirling drifts of snow in the foreground are highlighted by the sun and make for an interesting photograph of a train passing through the prairie.

night before, a speeding train would disturb the powder, and sure enough, the train's passing created an isolated blizzard, and I captured the moment. The contrast of the bright red locomotive and the stark white background makes this shot.

Sunny days in the wintertime also work for photography, and they can produce some truly magical images. The sunlight catches sparkling snowflakes and highlights swirling drifts. The cold and ever-present winter winds can sculpt artistic snowdrifts across prairie farmland. This makes for an eye-catching foreground as seen in this photograph of a mid-train locomotive pushing and pulling a container train through the prairies. (See Figure 2.)

Interestingly, these two wintertime photographs were captured at the same location. This goes to show

how changing your angle, even just slightly, can completely change your photograph.

I've shot a lot of images at this location, including this one of a VIA passenger train roaring through the lush fields of bright canola blooms in early July. (See Figure 3.) In this shot, the snow has long melted away, yet the foreground is just as captivating. In other words, as each location changes with the season, so do your photographs. Admittedly, some shots are better in the summertime than they are in the wintertime – the angle of the sun will be much different from season-to-season – but each season brings new potential to any location.

Look Up

The prairies have the most dynamic and spectacular skies. From crystal-

clear cobalt-blue to threatening black – or even green – storm events, these ever-changing skies provide some of the most captivating photo backdrops. (See Figure 4.) They're hard to capture; photographing fast-moving storms and fast-moving trains together requires some planning and some luck – something I haven't quite yet mastered.

It's obvious to anyone that both sky conditions and cloud-cover affect lighting. You've probably heard that you should never shoot into the sun and I'd like to argue that seemingly-concrete statement. It turns out there's a little bit more wiggle room there than you may have previously thought. If you choose the right times of the day, shooting into the sun yields a very dramatic effect. In the golden hours of the morning and evening, one can silhouette the train



Figure 3. VIA 692 rockets through the canola fields in White Plains, MB

against a gorgeous orange or pink sky, and if the sun angle is just right you might end up with a spectacular orange glow (or “glint”) on the sides of the freight or passenger cars. (See Figure 5.) This lighting completely changes the dynamic of the

image and gives it a completely new atmosphere.

The skies can be just as interesting at midday, especially when a hoard of puffy white clouds march across the blue skies. These types of days

are tricky to photograph because your sunshine can disappear and reappear at any time. Sometimes, everything comes together and you manage to capture a train in a pocket of sunshine. In Figure 6 you can see how the freight cars to the left

Figure 4. A prairie storm cell tracks away from the CP mainline near Meadows, MB. Where’s the train when you need it?





Figure 5. A post-sunset silhouette captured at Dufresne, MB. Look at how the orange sky reflects off of the shiny railheads.

of the frame are just being engulfed by the shadow of a passing cloud; meanwhile, the locomotive is still in full sunlight. Conditions change quickly on the prairies!

Think Details

Waiting is a large part of this hobby of railway photography, and to pass the time I like to take a look around

my location. There is plenty to photograph while the train is nowhere to be seen. Shoot whatever catches your eye: a bird on a pole, a plane in the sky, or maybe the golden sun-

Figure 6. Cotton ball skies over Elie, MB.





Figure 7. CN 2713 idles on the backtrack at Gladstone, MB. The lettering on the elevator here is a detail which provides a sense of place.

light reflecting off of the side of a piece of rail. (See Figure 8.) Be creative and explore your location photographically – this is the best way to know what shots work there and which ones don't.

Don't let the size fool you – details aren't always small. Details give a sense of place and a sense of size to your subject. Here on the prairies, the right-of-way is littered with details of all scales – from wayside signs to huge grain elevators (see Figure 7), and everything in-between; they can all be used as



Figure 8. Sunlight glints on the mainline rail at Dugald, MB.

photo props and at the end of the day they will ensure an interesting image. Next time you're trackside, keep an eye out and try including that building or landmark, and work around those lineside signs to include them artistically into your composition. One day, when the landscape changes, you'll be glad to have captured the scene around the tracks too!

I have one last remark – sometimes details are the subject of the shot itself. These shots are not easy to come by for those with an untrained eye. Photographers who are experienced will see these shots and they will realize the potential for an artistic image, whereas many people would continue on and miss the opportunity. It takes time, practice, and patience, but this sixth-sense can

be mastered by any photographer who puts their mind to it.

Enjoy Your Backyard

Wherever you live, as long as the train traffic is flowing, these tips apply to you. The prairies are beautiful, and I wouldn't want to live anywhere else – it's a beautiful area to photograph and to explore and there is still so much for me to see. I invite you to realize the potential in your area. Experiment with your photography and develop your own photographic style. Learn about your own backyard in a way you have never seen before, discover hidden compositions, and then share your photographs online to inspire other photographers. Enjoy every moment trackside and learn from your mistakes – it's all part of the fun of photography!



About the Author

Jack Hykaway is a student, currently attending a post-secondary institution in his hometown of Winnipeg, Canada. He is an amateur videographer and writer and enjoys exploring and documenting nearby railroads and railroad operations in both written and visual formats of his work.

Jack's main focus of late has been producing his column *Jack's Junction* for *The Modeler's Journal*.

Follow along with Jack's videography on his YouTube channel at <https://www.youtube.com/user/WinnipegRailfanner1>.

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