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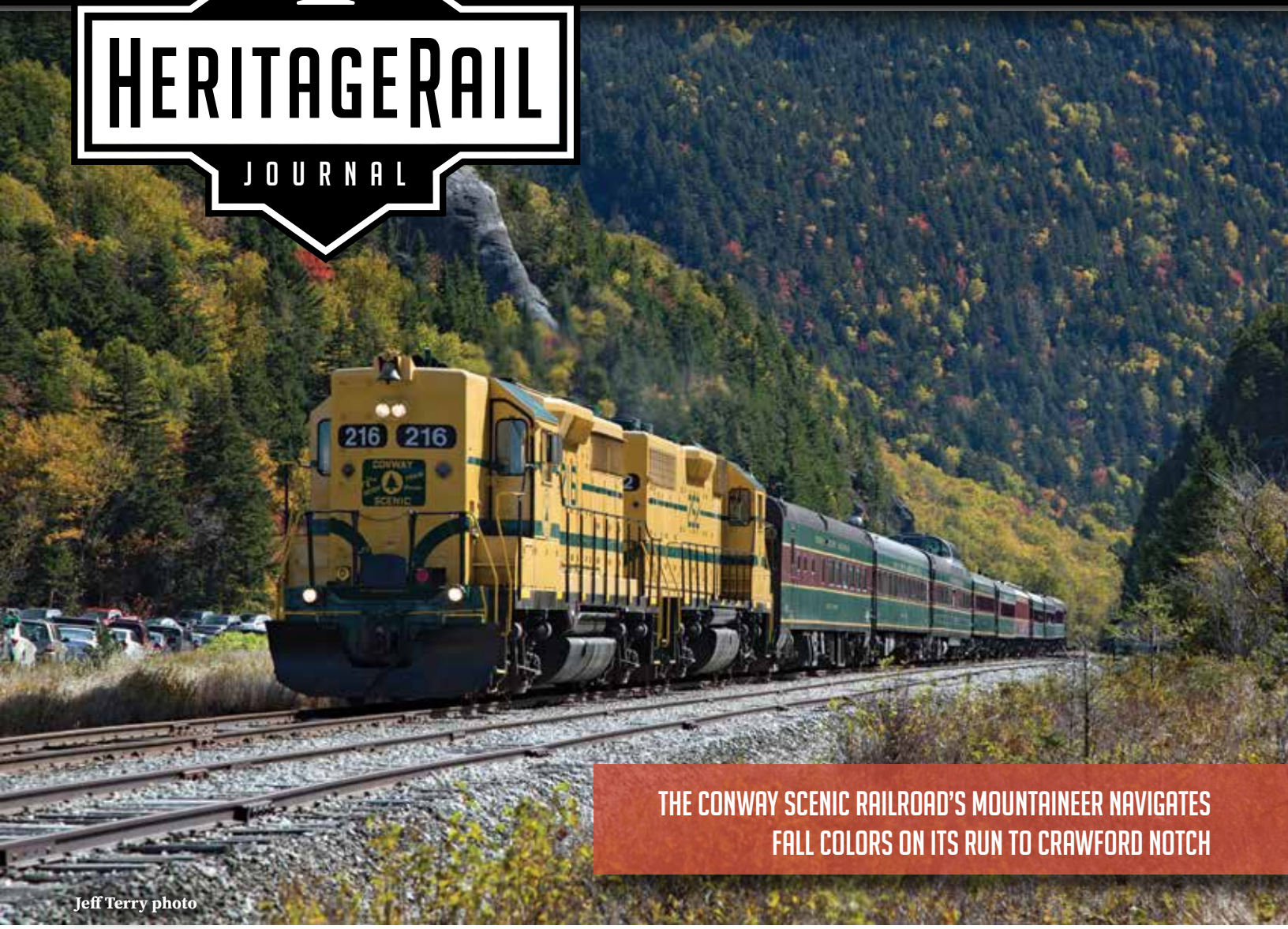

THE CONWAY SCENIC RAILROAD'S MOUNTAINEER NAVIGATES FALL COLORS ON ITS RUN TO CRAWFORD NOTCH

Jeff Terry photo

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FROM THE HEAD END

By G. Mark Ray, President, HeritageRail Alliance

What's our economic impact?"
Every Spring members of the HeritageRail Alliance travel to Washington, DC, to participate in Museum Advocacy Day. This is our opportunity to interface directly with Congress as granted by the First Amendment ("to petition the Government for a redress of grievances.") These meetings with members of Congress are all about one thing – a request for funding in the form of a "Ask," e.g. "we are asking Senator Snort to support full IMLS funding for Fiscal Year 2022." Normally supporting the ask are data on how the funding was used to promote the cause and the outcome of that spending. Sitting in these meetings is an eye opener to me because I hear people from museum fields talking about the number of visitors to Art Museums, Science Museums, History Museums, etc. and the amount of economic impact the visitors to those museums provided to their respective communities. Why is this an eye opener? It's because WE, the railway preservation community, do not know what our combined economic impact is.

Let's take this a bit further. How many organizations know what impact they have on their local communities? Why should you know? The answer is simple and it's important. If you're seeking any sort of funding from a foundation, government program, or an estate, then you're going to need this information. All of these groups will want to know what impact their investment will have. While you may be focused on putting a unique diesel back into service or restoring a local depot, the funding source wants to know how many jobs or how many more visitors this investment can bring to the community. Knowing this can add credibility to your funding request.

If you're one of the unlucky organizations that's had to fight off a Rails-To-Trails right-of-way takeover, then you know the importance of knowing your economic impact. In fact, as HRA Director Randy Gustafson points out, the impact of a heritage railroad on the local economy is multiple times more than a walking trail. Why? Events like Day Out with Thomas or Polar Express coupled with your regular ridership have multipliers attached to them that can't be matched by a trail. These multipliers factor in overnight stays and restaurant visits for your out-of-town visitors which many trails do not attract.

Another factor to consider is the value of the goods and services used by your organization. Providing this information can add much more to your economic impact (Note – after a trail is built, the value of goods and services used by the trail is practically $0). Many years ago, using 2010 data pulled from Form 990 reports, the estimated value of goods and services alone was calculated to be $400,000,000!

Do an economic impact survey
Creation of your economic impact does take some work. It begins with visitor surveys. See below Randy Gustafson's guidance on how to perform these surveys including a sample questionnaire. These are basic impact questions that have been used for previous surveys, but if you're taking a ridership survey, you may want to ask more questions that specifically help your organization's decisionmaking. This may include pricing, trip duration, motive power, etc. Please note the number of surveys is important to ensure you have a valid survey. The best part of this is it's something your organization can do. Once the surveys are complete, then the answers need to be compiled and then you're ready for your economic impact determination.

The Alliance is looking for organizations (both static and operating) willing to collect survey data. Using this data, the Alliance will retain Stone Consulting & Design to process the data and generate the economic impact for the organizations that submitted results. Stone's plan is to use the results to create the total economic impact of our industry. Start with the enclosed economic impact survey.

RUNNING THE ECONOMIC IMPACT SURVEY

By Randy Gustafson, Stone Consulting

My survey form (enclosed in this issue) is multiple choice - and the reason is for easy and rapid tabulation. When we are entering survey data from paper forms, it has to be really fast, and easy. That's what set the format. I suggest a comment area at the bottom of the form, makes for great reading and insight.

To get around 2-3% margin of error you have to have at least 200-300 responses for a typical operation. More is better. If you're doing stratified analysis (say a spending analysis of NON LOCAL zip codes) that subset should have at least that same count to be meaningful. You also want to hit a variety of dates, and batch-separate the surveys by date.

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SPRING 2022 CONFERENCE AT PHILMONT SCOUT RANCH

The Spring 2022 conference will take place over April 22-23. Plenary sessions on youth involvement will run all day on Friday April 22. They will be available online as well as in-person. Saturday April 23 will be in-person only, with a field trip to Philmont Ranch's Metcalf Station, where Scouts are building an actual railroad on an abandoned grade. The visit will be followed by a dinner and campfire

Who should attend the on-site session at Philmont?
Members of organizations committed to developing hands-on volunteer and educational programs that attract, engage and motivate older youth and younger teenagers to become the next generation of railway preservationists.

All attendees will be responsible for their own lodging and travel to Philmont. Philmont offers rooms and luxury shared tents (shared bathroom facilities) on property at the Philmont Training Center, and additional accommodations are a short drive from Philmont, including the St. James Hotel, Casa del Gavilan Historic Inn (bed & breakfast), and Blue Dragonfly Inn (bed & breakfast).

To view the conference program, and to register for either or both events, please go to the website (www.heritagerail.org) and click on the conference tab.

We'll be monitoring the spread of the Covid Delta variant, to determine if the on-site sessions should be canceled. Please monitor www.heritagerail.org for the latest updates.

Your summer crowd is different from Santa trains. Again, your date batches have to be significant size, and ideally, more or less in proportion to your ridership (i.e. if 60% of your riders are Polar, 60% of the surveys should be too).

Here are some rules that have to be enforced on passing out and collecting surveys.

1) For paper forms, don't distribute the survey until the RETURN trip leg, so that riders have seen the entire operation. Pass it through the cars, or if a static site, near the end but before they are completely out the door. Include a pencil. Pick up when visitors are detraining and being assisted down steps or out car doors.

2) When possible, only get one survey per party, and target the moms in families - they are usually the decision makers here.

3) DO NOT allow your own people to fill out the survey for them.

4) Don't bias the responses. Brief your staff on why this is being done, and caution them to refrain from 'save the railroad' speeches, etc.

5) If you are 'rewarding' riders for survey completion and turn in, recommend a coupon in your gift shop. And track those coupons if you can in your cash system.

RECOMMENDED PRACTICES FOR RAILWAY MUSEUMS 2.0

By Aaron Isaacs, HRA editor

Part 3 Institutional Code of Ethics

Based on the American Alliance of Museums' code of ethics, the intro to this section of Recommended Practices says, *"Museums and their holdings exist for the benefit of society and are held in the public trust. It is important that a museum's leadership act as a corporate body and not individually to uphold that trust and maintain a sanctuary for its holdings."*

Of course museums should be run ethically, but what does that really mean? One could copy the Ten Commandments and create a list of Thou Shalt Nots, but murder and coveting thy neighbor's wife don't seem relevant to a museum setting. However, greed and theft can injure a museum and this section of Recommended Practices addresses those issues.

Recommended Practices emphasizes stewardship as a public trust, hence the admonition to act "corporately", not "as individuals" towards the artifacts and the museum itself. This is the difference between a private collection that calls itself a museum and the real thing.

Further quotes from this section put in place the foundation for ethical behavior:

"• Working relationships among trustees, employees and volunteers are based on equity and mutual respect.
- Professional standards and practices inform and guide museum operations.
- Policies are articulated and prudent oversight is practiced."

These statements are designed to clarify how the individual staffer or Board member will treat the artifacts. They increase the likelihood that the museum will be governed by rules and policies, not individual whims. Distractions from the museum's mission are minimized.

Mundane management policies help to ensure that stewardship and ethical behavior are the rule for the long haul. To quote further:

"• Collections in its custody are lawfully held, protected, secure, unencumbered, cared for and preserved.
- Collections in its custody are accounted for and documented.
- Access to the collections and related information is permitted and regulated."

If everything is on the books, properly documented and access is regulated, artifacts are less likely to walk off or be mishandled.

The closest thing to Thou Shalt Nots tries to head off the exploitation of the collection for inappropriate uses or individual gain. To quote further:

"• Acquisition, disposal, and loan activities are conducted in a manner that respects the protection and preservation of natural and cultural resources and discourages illicit trade in such materials.
- Acquisition, disposal, and loan activities conform to its mission and public trust responsibilities.
- Disposal of collections through sale, trade or research activities is solely for the advancement of the museum's mission. Proceeds from the sale of non-living collections are to be used consistent with the established standards of the museum's discipline, but in no event shall they be used for anything other than acquisition or direct care of collections.

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McRAIL

Client Showcase:

Western Maryland Scenic Railroad gives back BIG to the community

By Ehrin Harrison for McRail

Desire and drive for history, and a commitment to the community is what it takes to succeed as a heritage railroad, according to Wes Heinz (Executive Director of Western Maryland Scenic Railroad). He believes in "keeping talent in the community" by creating a sustainable network of craftsmen, volunteers and staff that share a passion for the history and the people they serve.

Raised in Tennessee, Wes fondly recalls being surrounded by trains as a child, especially when his grandparents would drive him past the Norfolk Southern Railyard. Later in life Wes moved on from Tennessee, working for large corporations such as Microsoft, P&G, Walmart and Samsung. Eventually he became Executive Director at Maine Narrow Gauge RR, (Based in Portland.) Wes came to WMSR as a project manager for the rebuild of the 1309. After the rebuild was complete, Wes entered into the role of Executive Director on June 8, 2021.

Built by Baldwin locomotive works (Phila PA), the 1309, an articulated Mallet type, H6 (2-6-6-2) steam locomotive was delivered to Chesapeake & Ohio RR in 1949. The 1309 ran for 7 years hauling coal through the mountains of West Virginia and Ohio until being retired in 1956. Eventually, in the mid 70's the 1309 was put up for static display at the B&O museum in Baltimore before it was purchased by WMSR in 2014. Now after 7 long years and nearly $4 million, the 1309 is ready to grace the rails once again. At a length of 99.7 ft., height of 15 ft. and total weight of 643,100 lbs., the 1309 will be the largest regularly scheduled steam locomotive in North America, beginning in spring.

Founded in 1988 by Jack Showalter (an icon of the industry), WMSR began with 16 miles of track and two (4-6-2) Canadian Pacifics. Jack might have been proud to know that the WMSR has made a $10 million economic impact on Allegheny County and continues to believe in the history and the culture of this community.

McRail would like to congratulate Wes, his team, and everyone involved at WMSR on the rebuild of the 1309. Thank you for your commitment to community and heritage. It's an honor to serve you as our client. Godspeed.

- Collections-related activities and programs promote the public good rather than individual financial gain.
- Competing claims of ownership that may be asserted in connection with objects in its custody should be handled openly, seriously, responsively and with respect for the dignity of all parties involved.
- Revenue-producing activities and activities that involve relationships with external entities are compatible with the museum's mission and support its public trust responsibilities."

Some railway museums have the ethical challenge created by housing privately owned railcars, locomotives or other artifacts on their property. Sometimes private individuals fronted the acquisition on behalf of the museum, then retained ownership. In other cases the private individual just needs a place to store his/her pieces. In any event, it sets up an ethical dilemma. Who gets to decide how the artifact is used? Is the private owner paying a fair share of overhead costs? Is the private artifact diverting volunteer resources from other museum projects? There have been some big fights over the control of private pieces, and some museums have outlawed them. Doing so removes the ethical grey area.

Programming:
Once the museum opens for the public, some sort of programming will happen. Now the issue is how the artifacts will be interpreted. There's an ethical element to this, because historians are capable of slanting history. One need look no further than Southern antebellum plantations to see how societal norms have compelled change in recent decades. What were once interpreted as gracious country estates must now confront the reality of the slavery that created them. There are skeletons in the closet of railroad history and ethical programming requires exposing the bad along with the good.

Recommended Practices says:
"• Programs are founded on scholarship and marked by intellectual integrity.
- Programs are accessible and encourage participation of the widest possible audience consistent with its mission and resources.
- Programs respect pluralistic values, traditions and concerns."

When creating programming—or running museums, honesty is the best policy.

To download Recommended Practices, go to heritagerail.org and log into the Members section.

HRA SAFEGUARDS VINTAGE AIR BRAKES

Editor's note: Railway museums and tourist railroads operate vintage—which is to say obsolete—rolling stock. We'd all be out of business if we couldn't run it. The Federal Railroad Administration is charged with regulating safety across the national system and it soon became clear that applying all the general system rules to our rolling stock would have the unintended consequence of shutting us down. Therefore the FRA has agreed to create accommodations for historic equipment. It chose the Rail Safety Advisory Committee (RSAC) as the forum for determining how best to craft these accommodations. HeritageRail Alliance has a seat on RSAC. Working with FRA staff and other preservationists, HRA has now scored a major achievement that safeguards vintage air brake systems. All of the old types work when properly inspected and maintained, but the information on how to do it was not readily available. HRA has pulled together all the original technical manuals and packaged them as Recommended Practice RP-001-21 Maintenance, Inspection and Testing of Car Air Brake Equipment. RSAC member Eric Armpreister explains it.

Summary of Project 232, and HRA Air Brake Recommend Practice
By Eric Armpreister, Strasburg Rail Road

A primary purpose and mission of many heritage railroads and museums is to preserve the technology and skills of the railroad transportation industry from a bygone era. The opportunity may exist to substitute old technology with new, but we often choose not to do so for various sound reasons. To name a few of those reasons:

First, it is often cost prohibitive to consider changing an entire component or system from an existing form of technology to something newer. While some savings may be affected in the long run, it often takes many years to recoup and see a return on the up-front investment of installing newer technology.

Second, older components were often "overbuilt", and constructed to be very rugged and reliable when operating in harsh environments, where new equipment is often

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designed to be compatible with adjacent systems that have been refined over the years to operate in a cleaner environment with less periodic attention.

Third, continuing to operate historic systems or appliances helps to preserve the overall historic integrity of a given piece of equipment, and arguably more importantly prompts the preservation of the skill with which to operate and maintain this equipment.

Nowhere are these points more apparent than in the old air brake systems in use on many pieces of rolling stock operated by heritage railroads and museums. This older air brake technology still operates as reliably today as it did 100 years ago. However, continued improvements in modern railroad air brake technology and the difference in railroad operating metrics and environments were appropriately reflected in governmental rulemaking over the years, and eventually the disparity between modern and old technology necessitated the separation of the rules that govern air brake inspection and maintenance.

Modern interchange freight and heritage railroad brake maintenance and inspection is governed by 49 Code of Federal Regulations (CFR) Part 232. As of the year 2001, the "core portion" of Part 232 was structured to properly govern modern interchange freight practices, while as of that year heritage railroads were now governed by what was termed Part 232 "Appendix B" – or, Part 232 as it existed prior to May 31, 2001.

Further changes were made to Part 232 as of December 2020. During the rulemaking process of upgrading the air brake rule to incorporate many long-standing waivers and to consider the Association of American Railroad's petition to permit air brake inspections to extend to 24 hours off-air before expiring, the Federal register (keeper of the CFR) informed the FRA that primary regulatory text could no longer be included in an appendix.

Therefore Appendix B is now titled "Subpart H – Tourist, Scenic, Historic, and Excursion Operation Braking Systems". There were a number of minor rule changes in conjunction with the retitling of old Appendix B, though one of greatest significance for operators of historic railroad rolling stock was the elimination of the silence that previously existed when considering the maintenance of older freight braking equipment. Prior to the language published as of December 2020, Appendix B referred an operator to the current Field Manual of AAR Interchange Rules for guidance on the intervals and methodology by which to test freight brake equipment. That passage seemed straightforward enough, until one stopped to consider that K-type freight brake equipment hasn't been included in the AAR Interchange Manual since 1948, and AB-type freight brake equipment hasn't been included in the Manual since 1994. Therefore, to provide some direction as to what an owner or operator should do when it comes to maintaining historic – or as it is termed in Subpart H, discontinued (in AAR interchange) – brake equipment, Subpart H now requires a railroad to develop a written maintenance plan for regularly servicing and testing this equipment.

It was primarily this passage that prompted a few folks from the HeritageRail Alliance – past and present – to come together to draft a maintenance standard that could be distributed to and used by any operation in the heritage railroad industry that is governed by these rules. Soon termed "Project 232", this committee was comprised of HRA-related members G. Mark Ray, Jason Lamb, Linn Moedinger, David Wilkins and Erich Armpriester, and they were joined by the very knowledgeable and experienced individuals Brad Black of the Railroad Passenger Car Alliance, and Steve Zuiderveen of the FRA. It was the intent of these individuals to draft a maintenance standard that took into account appropriate manufacturer standards, regulatory standards and precedent, and proven best practice over the course of many years in the heritage rail industry, such that a standard could be published that was known to be sound and reliable, and would not require operators to develop their own maintenance plans from scratch. Though prompted by the change in language regarding discontinued freight braking systems, initial discussions within this committee led them to also include passenger braking systems for the sake of making the standard comprehensive; providing plain language guidance that could be applied to all rolling stock.

The Recommended Practice covers periodic attention schedules for various air brake equipment, modification of those periodic attention schedules – if a railroad so desires, and can support that modification with recordkeeping and sound evidence*, single car test devices and test codes, and related standards and information.

***Note that as of the writing of this article, the extension schedules called out in the maintenance standard have yet to be approved by the FRA; therefore, until approved, railroads are required to follow the rigid maintenance/ COT&S schedule as called out in applicable standards.**

In addition to incorporating and referencing Original Equipment Manufacturer – or OEM – standards and codes, the Project 232 committee decided to develop a freight brake equipment single car test device that can be assembled in a mechanical shop of minimal capability. It was understood that the new "discontinued" freight brake maintenance requirement of Subpart H may impose a burden on some railroads as they are now required to single car test this historic equipment. While older single car test

devices are still available, they are somewhat scarce, and can be somewhat costly even if they are available. So, the committee developed a device constructed of standard pipe fittings, but which replicates the performance of an OEM device in every practical way. (This device was based on the OEM freight device concurrent with the January 1950 code, as this is the most recent revision of the freight device that omits the Flowrator leakage measuring device, and integral regulating valve – features that, though desirable were deemed practically excessive for testing historic equipment used in captive heritage railroad service.) Additionally the January 1950 freight single car test code was adapted to be used directly with this device. As of the writing of this article, the pipe fitting device test code and device has yet to be finalized, formally adopted, and published by the committee and HRA.

Designated RP-001-21, the initial draft of the document "Maintenance, Inspection and Testing of Car Air Brake Equipment" was adopted by the HRA on October 6, 2021. The RP will be available for reference and download on the HRA website. There will likely be occasional updates to this RP, so do keep watch for successive revisions as information is refined and added. Lots of informative and useful air brake technical information can be found on the website of the HeritageRail Alliance, and the Railroad Passenger Car Alliance. The applicable "benchmark" single car test codes – those codes that are the most recent revision for a given type of braking equipment – were published as a compilation around the early 1990's by the predecessor to HRA; TRAIN. It is planned to be make an electronic version of this document available on the HRA website, but if needed in the near term, this document can be obtained by contacting a member of the Project 232 committee.

The air brake maintenance standard will join a similar document that is the already-published Recommended Practices for Railway Museums, available on the HRA website. It is hoped, and it is the intention of HRA, that this air brake maintenance RP will only be the first of many technically-centric recommended practices to be drafted in the future that may cover any subject related to keeping our historic railroad equipment running. Hopefully these documents will promote safe, sound, and efficient practices, and will help ensure the operation and preservation of our beloved equipment for many generations to come.

2021 HERITAGERAIL AWARDS

At its Fall online conference, the HeritageRail Alliance presented awards to these projects that were completed in 2021.

Significant Achievement-Steam
Because the purpose of these awards is to recognize major efforts, we're quite happy to select multiple notable projects, rather than trying to tease out which was incrementally more difficult than another. That was definitely the case in the Steam category. Two big engines, Chesapeake & Ohio 2-6-6-2 #1309 (Baldwin 1949) and Santa Fe 4-8-4 #2926 (Baldwin 1944) were under restoration by the Western Maryland Scenic Railroad and the New Mexico Steam and Railroad Historical Society for many years and are major accomplishments. That said, it would be a real oversight to not recognize the return of Nevada Northern 2-8-0 #81 (Baldwin 1917) by the Nevada Northern, and Northern Pacific 0-6-0 #924 (Rogers 1899) by the Northwest Railway Museum. All had been out of service for many years and required a major restoration effort.

Built for predecessor St. Paul & Duluth, Northern Pacific 0-6-0 #924 has been restored by the Northwest Railway Museum.

Jeff Terry photo.

Significant Achievement-Diesel
The B&O Railroad Museum is being recognized for its beautiful cosmetic restoration of an art deco icon, the first E unit, Baltimore & Ohio #51 (EMC 1937).

Significant Achievement-Electric Car
We featured Chicago, North Shore & Milwaukee interurban #761 (Standard 1930), restored by the East Troy Electric Railroad, on the cover of our July magazine issue. Among other challenges was the renewal of the difficult "shadow lining" paint scheme that imitates stainless steel fluting.

Significant Achievement-Passenger Car
The Whippany Railroad Museum accomplished a top to bottom rebuild of Delaware, Lackawanna & Western suburban club car #2454 (Barney & Smith 1912). Shortly after the restoration was completed, vandals broke most of the windows and the museum had to replace them.

Significant Achievement-Freight Car
The Central of Georgia Railway Historical Society has rebuilt C of G flatcar #10746 (Tennessee Coal, Iron and Railroad 1925). The car was donated in 2011 by Georgia Power, after sitting for years outside the company's plant near Rome, Georgia. A down-to-the frame rebuild, it was the society's first rolling stock restoration. It's now displayed at the Georgia State Railroad Museum in Savannah. See photos in the article on page 21.

Significant Achievement- Non-revenue Car
The Fort Wayne Railroad Historical Society has restored Wabash wood caboose #2543, one of only two in existence. After decades of outdoor display there was a great deal of water damage and rot. Its steel underframe and trucks were reconditioned and the wood deck replaced.

Significant Achievement-Infrastructure
Usually we don't give awards to large, well-funded corporate projects, but one must applaud the decision of the Broadmoor Resort to completely rebuild the Manitou & Pikes Peak cog railway, a $200 million project. They could have given up on it and abandoned it, but chose not to.

Significant Achievement-Archives
Across North America rail preservationists are expanding their archival holdings and making them available to the public. An outstanding example is the Lake States Historical Society in Baraboo, Wisconsin. A spinoff of the Mid-Continent Railway Museum, it has assembled a major collection of over 100,000 photos and other archival materials with an emphasis on the upper Midwest. In 2015 they constructed a new purpose-built archive building. In 2021 they upgraded their website, are digitizing photos as fast as they can, and are presenting those online.

Friend of Railway Preservation
As chairman of Railroad Development Corporation, Henry Posner runs the Iowa Interstate Railroad. He has long been a friend of railway preservation, purchasing and operating a pair of Chinese 2-10-2s. Now he is the Chairman of the East Broad Top Foundation, which has purchased the EBT and is bringing it back from the dead.

Lifetime Achievement
Ross Rowland formed the High Iron Company in 1966 to operate main line steam excursions. That led to the Golden Spike Centennial Limited in 1969 and the American Freedom Train in 1975-76. He restored Chesapeake & Ohio 4-8-4 #614, ran it in freight service to demonstrate modern steam technology, and almost returned it to passenger service on the stillborn Greenbrier Presidential Express. His efforts did much to keep railway preservation in the public eye.

Boiler Specialist Bob Yuill's steam locomotive career began in 1972 when a group near his hometown in Pennsylvania was restoring a locomotive to operation for mainline excursions. By 1975, Bob was a contractor with a company that was restoring steam locomotives including mechanical work for the Adirondack Railway that operated during the Lake Placid 1980 Winter Olympics. In 1980, he headed south to the Southern Railway Steam Department. Bob became General Foreman, a position he held until the end of the program in 1995. He saw to the day-to-day repairs on the fleet of locomotives, performed all the purchasing of materials and supplies, machining and boiler work. He also was responsible for the design work of new parts from drawing board to machine shop. In 1996, Bob struck out on his own forming Historic Machinery Services Corporation (HMS) and built a dedicated facility specializing in steam locomotives and period restoration for specialized equipment and industrial machinery. HMS received a National Trust for Historic Preservation Honor Award for its work on the Schroeder Saddletree Factory.

Robert Yanosey is the most prolific publisher of railroad history books ever. He founded Morning Sun Books in 1986 after a 15-year career with Erie-Lackawanna, Penn Central, Conrail and New Jersey Transit. To date he has published over 900 books on every aspect of railroading across North America. The large majority are in color, which was unheard of when he started. Altogether they contain over 200,000 photos. Yanosey has authored about 75 of them himself. Morning Sun publishes around 50 new titles of hardcover, softcover, and eBooks each year.

TWO NEW TOURIST RAILROADS

By Aaron Isaacs, HRA editor

Azalea Sprinter

Who starts a tourist railroad during a Covid pandemic? In this case, it's people who love running trains, specifically Jamie Cater and Christopher Parrotte. Together they own CaterParrotte Railnet, which operates freight on state-owned track in south Georgia.

I asked why they wanted to start a tourist train. Both men are railfans. Before they got into the freight business, in 2000 they were part of the Tifton Terminal Railway Museum in the Tifton, GA Atlantic Coast Line depot. Parked outside are two cabooses and Southern lightweight 10-6 sleeper #2005 Flint River. Cater says, "We always wanted to pull passengers". They also want to bring tourist dollars and commercial development into south Georgia and felt this was a good way to do it.

The Azalea Sprinter tourist trains run on the 44 miles of track of the former Georgia & Florida connecting Valdosta, Nashville and Willacoochee. There are a number of different trips that vary in length, plus dinner trains. The three-car consist includes two stainless steel lightweights, a coach and a table car, plus a steel bay window caboose. Trains run only part of the year, in order to give their freight crews, which staff the trains, a break.

Sugar Express

In one of the bigger surprises in railway preservation, the US Sugar Company is creating a steam powered tourist railroad from scratch. The initiative came from company CEO Robert Buker, Jr. He's always had an interest in history. A few years ago that led the company to create tours of the process from sugar cane to the finished product. They were well received.

US Sugar owns 158 miles of railroad that circles the east, south and west sides of Florida's Lake Okeechobee. It uses the railroad to transport its cane from the fields and the finished products elsewhere. Buker's desire to educate the public about the sugar industry and its history led to the decision to create the Sugar Express.

It might not have happened had 4-6-2 #148 been unavailable. Built by Alco for the Florida East Coast in 1920, it served the FEC until 1952. #148 was sold to Sam Freeman in 1969, who moved it to the Black River & Western, where it ran from 1971 to 1973. It was overhauled and saw excursion work in New Jersey. After Freeman died in 1982, #148 was donated to the Connecticut Valley Railroad Museum, then sold to a private party in 1988. It was sold again and ended up in Monte Vista, Colorado in 2005. US Sugar bought it in 2016 and returned it to service in 2020.

This year a second steamer has been acquired. Atlantic Coast Line #1504 (Alco Richmond 1919) is a USRA light Pacific that pulled both freight and passengers. After retirement, it was placed on display at the railroad's Jacksonville headquarters. In 1986 it was moved to the local convention center and received a cosmetic overhaul in 2013.

US Sugar purchased three lightweight coaches from United Railway Historical Society of New Jersey. Originally built for the Great Northern, they were bought by New Jersey Transit for commuter service. There is also a baggage car to house head end power and concessions, and an ex-Pennsylvania coach. All the coaches had considerable rust and corrosion and are receiving a thorough rebuild. The current goal is a train capacity of about 200 passengers.

The US Sugar railroad is based in Clewestoń, Florida. There are two shop facilities, dubbed the North Shop and the South Shop, located half a mile apart. The passenger train has moved into the North Shop, and all the diesel operations and maintenance have shifted to the South Shop by the main sugar refinery.

A Wabash turntable from St. Louis has been acquired. The sugar railroad has a number of wyes available, including two in Clewestoń. They're still deciding where to locate the turntable. That will probably depend on the most frequent train destination, perhaps Moorhaven.

I spoke to recently hired operations manager Scott Ogle. He's a veteran of tourist railroading at Dollywood and Three Rivers Rambler. He's looking forward to running trains at respectable speeds. The railroad is good for 40 mph, which will make possible trips of up to 60 miles through flat country doable.

RESTORING AN EX-AMTRAK DINER

by Al Dykes, Gulf Coast Chapter NRHS. Photos by author unless noted.
Reprinted with permission from the Gulf Coast Railroading newsletter.

The chapter's latest acquisition, ex-Southern Pacific Sunset Limited "Audubon" diner No. 10212, eventually arrived in the Austin Steam Train Association's (ASTA) Cedar Park yard in early January 2020. Several chapter members and I set to work to clean and evaluate the car with the goal of leasing it to ASTA for use in their excursion services. I worked up a spread sheet to list items needing attention, rating them in four categories:
1. Essential for safety or operation
2. Highly desirable
3. Desirable
4. Long term to complete car

The present goal is to take care of category 1 items to permit the car to start earning its keep. The remaining items will be worked on when the car is not operating, much as we have been doing with the New Braunfels. I feel it is appropriate to provide a more detailed account of what has been done and what needs to be done, along with some of the challenges of getting the car to a state fit for service.

A note on terminology: I refer to the A and the B end of the car. The B end has the hand brake, which is usually located in the vestibule. Our diner has no vestibule. The hand brake is located next to the dining room entrance. The car had operated for twenty years on the SP before Amtrak took over, and ran for another thirty years until Amtrak decided to extend its life for a further seventeen years by subjecting it to a heavy rebuild in 2000. The interior was gutted; nothing now remains of the "Audubon" interior. The interior is all modern in terms of fixtures and finish. The dining room was reduced from 48 to 40 seats. The window size and locations were changed, and the loading doors relocated. The exterior sheet metal on the window band was removed and replaced. The replacement sheets were welded in place and the attachment points ground off. The Amtrak color scheme was done using blue vinyl film applied to the window band. The replacement window band presents a rather rough appearance once the blue vinyl film is removed. Obviously, this film helped to cover over these blemishes. Since the original Sunset Limited scheme was a bare metal window band, we will have to give some thought as to how to make the window band presentable without vinyl film.

While it is unfortunate that there is no way to restore the interior to its former glory, from an operating point of view we have a modern dining car with an all-electric kitchen and a large volume of refrigerated and freezer storage. The large serving counter with the adjacent side loading door will be ideal to load food and drink for a dinner train or similar enhanced rail experience. Bringing an original heritage dining car kitchen up to modern food hygiene standards can be an expensive proposition.

The re-build by Amtrak resulted in a feature unknown to previous generations of dining car crews: a fully air-conditioned kitchen. Diners from the lightweight era had extractor fans to exhaust air from the kitchens, leaving the crew to work in what cool air was pulled in from the dining area. 10212 as rebuilt has two HVAC systems. One supplies the dining area from an air handler in the ceiling above the B end door. The air is supplied through a long, central diffuser panel with small holes in it that has fluorescent lights above. This is what I have termed the "Starlight Ceiling." Air is returned through a filter grille in the ceiling just inside the door. The other air handler is mounted in the ceiling above the cash register and supplies the kitchen, serving counter and passageway through registers in the ceiling access panels. The air is returned via a filter grille at the A end of the car. For some reason the rebuild used two 10" diameter flexible ducts to return the air to the mid-car air handler, which failed. The additional cooling capacity meant that all the refrigerators and freezers could be fully contained inside the car, rather than having external condensing units.

January 11, 2020: Kitchen side of the car as it first arrived at the ASTA Cedar Park yard. "Artwork" was acquired in Beech Grove. One of the sale conditions was that the car could not operate with Amtrak branding. The Amtrak branding consisted of a thin blue vinyl film overlaid with red and white striped vinyl. We want to put the car back to the original Sunset Limited scheme anyway.

During the rebuild, the roof above the kitchen and serving area had been reinsulated with foil-faced fiber-glass which was inadequately secured in place, and had fallen down. Residential grade flexible a/c ducts had been used, and these had disintegrated, too. By far the worst problem was that the exhaust duct from the fan over the griddle had failed as well, allowing greasy smoke to permeate the ceiling plenum (space between ceiling and roof) in this area. There was no screen on the smoke jack in the roof and the smell of cooking grease had attracted a family of raccoons into the car while it was in storage at Beech Grove. It was, in a word, disgusting!

In the two-month period between first setting eyes on our new diner on January 11, 2020 and the COVID pandemic shutting things down in mid-March, chapter volunteers made some great progress. We were able to peel the red and white vinyl stripes from the window band and make a good start on stripping blue vinyl film. We also attacked the spray paint by brushing with paint stripper and then pressure washing. Unfortunately, several of the windows had been partially painted, too. Despite carefully trying to remove the paint, the surface of the polycarbonate glazing is irreparably damaged. I had hoped to get a few more years out of the windows, but we are faced with having to replace them sooner rather than later.

On the inside of the car, we discovered that several of the banquettes or booth seats were no longer securely attached to the floor. They were originally attached via relatively small steel bolts through the floor. Water from mopping the floor had rusted these bolts out. We have been working to replace them with stainless steel bolts, but it can be hard to remove the rusted-off bottoms of the old bolts which are below the floor level.

Given the state of the light fixtures in the kitchen, we removed them and transported them to my house. The top sides and interiors were covered in greasy residue and the paint was peeling off the external frames. The plastic light diffusing panels were filthy, too. There were two under-counter light fixtures that were quite rusted from exposure to the humidity from the nearby steam tables. The fluorescent lamp tubes above the "Starlight Ceiling" have sockets with securing collars to hold the tubes in place. These only fitted a T8 or one-inch diameter tube. Maintenance crews must have been short of T8 tubes at times and replaced defective tubes with T12 or 1 ½ inch tubes, and discarded the collars. Additionally, some of the actual lamp sockets had burned out. I have been able to source and purchase replacement parts. I used the summer of 2020 to work on cleaning up the kitchen light fixtures. I had these light fixture frames powder-coated and located new light diffusing sheet plastic cut to fit. I replaced all the lamps in the soffits above the tables with LED units. The lamps in the passageway are on battery back-up, 78 volts dc. Incandescent lamps work fine, but less brightly on the emergency supply. Not so for LEDs!

Similarly, the a/c supply registers were rusty and not in the best of shape. Given the relatively young age of the interior, I was able to source identical replacements. They were cheaper than having the originals refinished. The return air filter grilles were also another example of poor material selection. They were of a flimsy aluminum construction, not up to the rigors of railroad service. They were literally falling apart, and beyond repair. With some effort, I was able to find replacement units made of stainless steel.

February 7, 2020: Chapter member Mitch Burk is pressure washing the passageway or the north side after an application of paint stripper to the graffiti. It took up to five applications of stripper followed by pressure washing to remove the spray paint.

March 13, 2020: Here is chapter member Tom Marsh on the passageway side peeling the blue vinyl film from the window band after soaking it in acetone to soften the adhesive.

The first task in putting the car back in a usable condition was to clean the ceiling plenum. It was decided to engage professional help. This was not a job that I felt able or wanted to take on. I was able to locate a remediation company in Cedar Park that was willing to take on the job, although it was two months between first contact and work commencing in mid-August. It took a crew of two about ten man-days (working mainly in the cool of the mornings) to remove the remaining insulation and get the surfaces to pass the "finger test." That is where one can run one's finger along the surfaces and not pick up any dirt. I removed one of the windows while the contractor was cleaning the ceiling plenum to investigate how the glazing system goes together. I covered the hole with a piece of plywood and had to remove the window curtains in the process. As an experiment I had one of the two curtains dry-cleaned and was quite happy with the result.

Now that the ceiling plenum is as clean as can reasonably be achieved, the next task will be to reinsulate the underside of the roof and the main a/c supply duct. This too will be outsourced to a suitable contractor. With new insulation in place, new flexible ducts will be installed. There are short flexible drops from the main supply duct to the registers in the ceiling panels of the kitchen and passageway. The two 10" return air ducts from the return air filter grille above the A end door to the mid-car air handler need replacing. Last, but not least, there will be a new exhaust duct from the griddle extractor fan to the roof jack, including a small animal screen. We can then have a commercial HVAC company clean the air handlers, evaporator coils and condensing units. The HVAC system will need to be checked for proper operation along with the refrigeration equipment.

August 19, 2021: This is the passageway side after removal of the last graffiti and blue vinyl film.

August 20, 2021: The kitchen side was much more problematic. The blue vinyl film was very weathered and had numerous cracks. Coupled with this is the fact that this is the sunny side and gets hot. Soaking with acetone was not practical. It evaporated immediately. I had to resort to scraping with a razor blade. This method left adhesive residue behind. It will need some cooler winter days to clean it off. At last the remaining blue vinyl film is gone, but not all the adhesive.

January 11, 2020: The interior of the car provided a great shock. Upon initial inspection it seemed to be in good shape, albeit a little worn and dirty. However, when I opened the ceiling access panels in the kitchen I received a major surprise: large quantities of fiberglass insulation fell out. Also see the next photo. Tom Marsh photo.

September 9, 2021: This is a view inside the ceiling plenum above the passageway looking toward the A end after the clean up was completed. The underside of the roof was coated with asphalt when built. The main a/c supply duct is on the left and the three holes in the bulkhead are (L to R) the griddle exhaust and two return air duct connections. New insulation will be inserted between the ribs and secured with wires.

The next tasks will be to reinstall the light fixtures in the kitchen, repair the "Starlight Ceiling" fixtures, replace the a/c supply registers and mount the new air return filter grilles. Interestingly, these return air grilles have some temperature sensors mounted directly above them. The raccoon family had used the one at the A end as a commode!

When the car arrived, it was almost impossible to open the A end sliding door. The door track had sagged enough to cause the door to bind in its guide in the threshold. It proved quite challenging to access the mounts to re-adjust the track. The B end door had similar, but not quite such bad problems. Both doors have operating mechanisms that are electric, rather than the classic pneumatically operated ones. When we powered up the car neither would work, but at least the doors slide open easily by hand.

The flooring in the car is a continuous sheet of commercial grade vinyl with welded seams. At the A end it was torn, presenting a trip hazard. Upon closer inspection it was apparent that the sheet flooring was no longer glued to the sheet stainless steel underneath. This stainless-steel sheet was no longer attached to the plywood subfloor. The reason we noted: carbon steel screws had been used to secure the stainless-steel sheet and they were rusted out.

There seems to be a common theme here – the choice of inferior materials, a pet peeve of mine! Repairing the flooring will likely require the services of a knowledgeable contractor.

With the above listed tasks complete I will arrange for the remediation contractor to do a deep-clean from ceiling to floor on the whole interior. Putting the car in service will depend to a certain extent on ASTA's progress with activating their power car. The diner is fully HEP equipped, but has no generator. There is really insufficient space under the car to mount a generator without a major re-arrangement of under-car equipment. It would also be a major expense.

The replacement of the glazing in the windows is a problem that I am still researching. The present design has a vertical divider or mullion, so that each window opening has two sealed glazing units in it. It also uses a complicated rubber gasket to hold the window frame into the car's side sheet. This has special T pieces to join the piece that covers the mullion to the part that goes around the frame. As a result, to replace these gaskets would require finding the original manufacturer, rather than cutting a piece to fit.

Finally, Tom Marsh and I are working to re-letter the car in the original Southern Pacific and Sunset Limited scheme. Likely this will be printed on vinyl and applied to the exterior, rather than painting.

WHEN RESTORING A RANCH CAR GALLEY, FIRST YOU CLEAN

By Henry Baum, Niles Canyon Railway

Reprinted with permission from the Club Car newsletter

I am continuing to work on the cleaning of the galley in Great Northern Ranch Car #1241 (ACF 1951). It is not a big space, but I am slowly working my way around the room, first degreasing, then cleaning, and then polishing the stainless steel walls and cabinets, repairing items as they are discovered to be broken. The kitchen is really a marvel of functionality and is capable of turning out a vast array of delicious comestibles that would make your local coffee shop or greasy spoon jealous. It will probably never be returned to that kind of service while on the Niles Canyon Railway, but given the right chef, it will be possible to do so. The galley has a huge stove with 12 burners, ovens, and a broiler. That restoration has not been tackled yet but it will be soon. It also has that most unusual item for a railroad galley, a small commercial deep fryer. The deep fryer was an upgrade made to the kitchen, early in its career, replacing a steam table. Not sure if all six of the Great Northern Ranch Cars received this upgrade, but I know the one up at Roots of Motive Power in Willets also has a deep fryer.

Above the deep fryer there was a shelf that originally held a very tall commercial vertical conveyer toaster, which you may have seen at a hotel breakfast buffet. In our car the toaster was removed, possibly because the shelf itself was damaged and a truly awful attempt to repair it was made by someone unfamiliar with welding stainless steel. Another shelf was added above the now vacant toaster shelf that held a small commercial water heater like you would find in an RV or camper. Originally the car was designed to make hot water (and heat) using the train steam line, but with the loss of a ready source of steam, things began to be converted. Our Ranch Car had a plumbing upgrade that replaced the original water system and resulted in all new surface-mounted copper lines and a drop-down sink for hand washing (not sure why), and now needed the water heater. This new custom shelf was designed to fit in the space but was made of extremely heavy gauge regular steel and painted white. This looked out of place in an all-stainless kitchen, and with the poorly repaired toaster shelf, really made the whole section of the galley look like hell.

When I started this project (way back before the pandemic hit) I began with the deep fryer, ended up taking it home and completely rebuilding it. The restored deep fryer has been reinstalled, and it really made the rest of the kitchen look shabby. I was able to remove the toaster shelf and clean up the damage from the bad welding, which incredibly hadn't damaged the stainless steel wall behind it. The shelf was cleaned up and reinstalled using the mounting upgrades made to the shelf when the welding repairs failed. The shelf is securely back in place.

Compare the latches before and after cleaning.

I found it a nice touch that all the cabinet door latches and drawer pulls in the car were made of brass, which would be a nice accent when restored. I removed all this hardware so I could take it home for degreasing, cleaning and polishing. There was something very odd about all of this hardware. After soaking in degreasing solution, I discovered the truth. The 'brass' was not plating, it was old dried up dirty rancid grease that was cooked onto the stainless steel hardware from years of service. After degreasing the hardware is cleaned using various techniques, mostly fine grit sanding and wire brushing. Then the hardware is polished using a buffing wheel and green polishing compound.

While all this was going on, our master restorer Howard Wise has been repairing hidden damage to the exterior shell of the car. I pulled Howard away from this task long enough to work out a plan to fabricate a new stainless steel shelf for the water heater to replace the painted one. Howard DOES know how to weld stainless steel, and he fabricated a beautiful replica of the shelf that looks like it belongs in the car. He even added a bit of Art Deco flair to it with a wire railing to keep things from sliding off the shelf. That 3-foot section of the car had the most modifications and the most damage, but the restoration has been completed in that area from floor to ceiling. Even the water heater itself has been restored to service for when the car is put back online. My thanks to Howard for jumping in and saving the PLA a ton of money in the process.

The fryer and shelves after restoration.

NEVADA STATE REBUILDS ITS TURNTABLE

By Wendell Huffman, Nevada State Railroad Museum

Reprinted with permission from the Sagebrush Headlight

The railroad at the Nevada State Railroad Museum has a wye, a balloon track, and a turntable. All three are conventional facilities for turning locomotives or cars. While the wye and the balloon can turn an entire train at once, the turntable is undoubtedly the most interesting of the three tools. The turntable may be interesting simply because it is more compact than the wye or the balloon track and, thus, easier to absorb. But it presents the seemingly impossible spectacle of humans subduing an obviously large and heavy locomotive. The steam locomotive seems most tamed by humans when it is corralled onto the turntable and pushed around by muscle power alone.

Not only does NSRM's turntable turn locomotives or pieces of equipment end-for-end, but it connects with the various shop and Annex tracks, and for several tracks provides the only avenue into the building.

The turntable is a visual lesson in physics. In the first place, it is a bridge. Unlike a conventional bridge, which spans a void between its abutments, the turntable bridge extends outward over empty space in opposite directions from its central support. This is because the turntable must rotate, and its central support rests on a large pivot. But extending those bridge sections outward from the turntable's central support is an engineering challenge. In the case of the NSRM turntable, the ends are suspended from a central tower. Our turntable is copied specifically from plans developed by the Southern Pacific Railroad about 1900, but its design is fundamentally the same as wooden turntables built half a century earlier. The advantage of a turntable built to this design is that it is composed primarily of wood, which was readily available. Also, because the bridge structure is primarily above the track, it requires only a shallow excavation to clear the portion of the turntable below the track.

The center pivot with side sills.

As it happened, the first turntable proposed for the Nevada State Railroad Museum was acquired from the Amador Central Railroad in 1979 and was of a wholly different design. Its bridge structure was entirely below the level of the track, like the turntable at the California State Railroad Museum, or like the V&T's Mound House and Steamboat turntables, which can be seen in the abandoned Brunswick Canyon Road bridge across the Carson River. Being below the level of the track, that turntable was deeper, and thus required a deeper excavation and pit. This presented a problem due to the shallow water table at the museum's site.

Turntables like the Amador Central turntable are known as "deck" tables since the track is essentially built on the turntable's deck. The turntable eventually built at NSRM is a "through" turntable, since the track runs through the bridge structure. There are other kinds of through turntables, with the extended bridge ends supported with trusswork. They look more like conventional bridges, yet are still supported at the center, so they can pivot.

Rebuilding the turntable deck.

Another way in which the turntable is a visual physics lesson is the means developed for turning it. The entire weight of the turntable and any piece of rolling stock that is being turned must somehow be overcome so that it might be swung around on its pivot. This is done by applying leverage. In a common lever and fulcrum, a relatively small force applied to the long end of a lever can lift or move a heavy weight placed closer to the fulcrum. In the turntable, this lever is placed on its side, so the weight is not being lifted, but simply moved sideways. The weight of the table and its load is concentrated on the pivot, which is the fulcrum, and thus it can be moved by a much lighter force applied at the ends of the table. In the case of NSRM's turntable, the pivot, or fulcrum, is the small ring-rail under the center of the turntable. Its diameter is the width of the turntable to provide stability. It would be far easier to turn the turntable if it was a mere point at the center, but there would be nothing to keep the table from falling over sideways, and the friction on that pivot would be immense.

Until recently a second ring rail extended around the perimeter of the turntable pit. There were castors at the corners of the table which contacted this rail when the table was being loaded. The impression was that the wheels at the end of the turntable were supposed to rest on that outer ring rail, but this was only true in a limited case. The outer ends of the turntable were expected to settle down on that rail only while the table was out of balance—while

Hoisting the A frame into place.

a locomotive or car was moving onto or off the table. Early examples of gallows tables show only a fixed shelf for the turntable to settle onto during loading. The purpose of the rail and wheels was to support the ends of the table so that the rails on the table remained at roughly the same level as the adjacent track. If those wheels remained in contact with the ring rail under load, it was difficult—if not impossible—to turn the table.

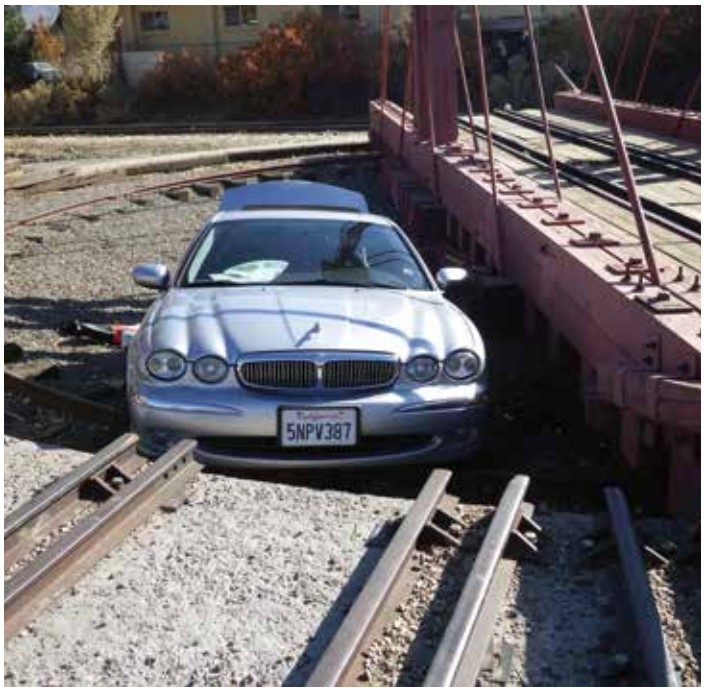
Since the Amador Central's deck-style turntable was rejected because the water table was expected to interfere with its deep pit, Short Line Enterprises built NSRM's wooden gallows turntable in 1982. It is called a "gallows turntable" because the central tower, from which the ends are suspended, is reminiscent of gallows. It is also sometimes called an A-frame turntable. With the passage of time and frequent loading and unloading of locomotives weighing up to 90,000 pounds in operational condition, the wood turntable weakened and collapsed. The ends sagged as all the adjustment was taken up which allowed the table to remain in contact with the outer ring-rail even when the load was properly balanced, making it very difficult to turn the table. Thus, after 28 years of service at the museum, the original NSRM turntable was rebuilt in 2010. New timbers were specially cut by the Hull-Oaks sawmill in Monroe, Oregon. The longitudinal timbers that comprise the horizontal structure run the turntable's full 56-foot length and are 18" x 8".

After placing the McKeen car in service a new problem arose with the turntable. The wheels of a locomotive are generally evenly spaced the length of the locomotive, distributing the load over the length of the turntable. Furthermore, the general design of our locomotives is such that the locomotive's weight is placed closer to the center of the turntable than at the ends. The McKeen, however, is supported on trucks at the ends, much like a conventional freight or passenger car. In fact, the wheel base of the McKeen car is just a few feet shorter that the length of the turntable and the ends of the car hang over the ends of table.

The McKeen car on the table.

The McKeen is a heavy car, and with the trucks much farther apart the weigh is concentrated at the extreme ends of the table. When loaded onto the turntable, the McKeen forces the ends of the turntable downward and makes contact with the outer ring-rail unless there is constant attention given to adjustment of the truss rods. If the table is adjusted too tightly, loading is problematical as the loading end rises up into the air as the front truck crosses over the center and tips the table. This situation requires a run at the end to get the rear truck over the high rail and a sudden stop to prevent running off the end. The entire situation is getting out of hand.

Early in November 2020, a high-speed car chase between the Carson City Sheriff's Department and a late model Jaguar ended with the suspect's car trapped in the NSRM turntable pit. After a foot chase and drug sniffing dogs the offending car was dragged unceremoniously out of the pit. The outer ring rail was damaged, by virtue of the car going in and the car coming out. This presented an unexpected opportunity to do something different. The original S.P. design called for landings at each rail lead. The landings could be stacked timber or big rocks. We chose to install landings and chose concrete for the project. The outer ring rail has been replaced with a fixed shelf (placed at a lower level than the former ring-rail) such that the table will set down onto the shelf during loading and unloading.



Jaguars do it. A high speed police chase ended here.

The landings appear to be a viable solution. Also, as with anything new, some adjustment is warranted. The concept works and the fine tuning ensues. Hopefully this will provide a long-term solution of a nuisance item at NSRM.

RESTORING A CENTRAL OF GEORGIA FLATCAR

By Stephen Syfrett, Central of Georgia Railway Historical Society

The car was built in 1925 by Tennessee Coal, Iron and Railroad Company (TCI), Fairfield, AL for the Central of Georgia Railway, car series 10701-10800. It is a 41-foot (over end sills) flatcar having a fabricated steel frame and wood deck. The planked trucks are Andrews with Simplex bolsters, and the car retains its original New York Air Brake type K brake system.

After being discovered at Georgia Power Company's Plant Hammond in Rome, GA by a CGRHS member, Georgia Power donated the car to the Society in 2011, and it was moved by truck to Savannah, GA on December 15-16, 2011. A Memorandum of Understanding agreement between the CGRHS and Coastal Heritage Society for restoration and eventual display of the car in Savannah had been signed prior to the move. Restoration space was provided at the Georgia State Railroad Museum.

After the old wooden deck and stringers were documented and removed, a more thorough evaluation of the frame was made. There was substantial wasting of the top chord of the fabricated center sill and body bolsters. All of the badly wasted steel was removed and replaced to restore some of the structural integrity. Although hot riveting was not possible, the overall appearance of riveted connections was maintained. Most of this is not generally visible without getting under the car, but the effort was made to maintain an appearance of originality.

Volunteers remove bad metal from the flat car frame.

The Andrews trucks were similarly evaluated, and badly wasted components were replaced with new steel. Castings were repaired where possible, or replaced with fabricated steel parts. The wood truck parts were also replaced. The journal brasses were not renewed due to the cost associated with re-babbitting and machining them. In consideration of the car's future as a static display, the considerable expense of renewing the journal brasses and machining the journals, while considered and originally budgeted, was not warranted.

Missing or badly damaged grab irons (half of them on the car) were replaced while the four stirrup steps and remaining, salvageable grabs were straightened on the car. Coupler cut levers were also straightened and support castings repaired. The coupler carrier plates on each end were removed, straightened and reinstalled to remove the excessive coupler droop that had developed through decades of use.

Cosmetic repairs were made to the brake pipe and angle cocks for display. There was no consideration of making the air brakes operable, so the K-brake system was not removed and rebuilt. A pair of CofG-marked air hose assemblies were donated for installation on the car, adding a bit more authenticity.

A new brake wheel staff and cog were fabricated to replace those parts that were missing when the car was donated. An original TCI/CofG drawing was followed for producing the staff, with measurements of a donated, period-appropriate brake wheel made to make sure everything would mate up properly. Installation of the brake staff, cog and brake wheel completed the metal work necessary to restore the car, and provide the car with a functioning hand brake.

The last restoration work done was installation of a new, rough-sawn oak deck, with the work being complete in late February 2020. The original decking materials (deck boards and stringers) had been determined to be too deteriorated and damaged from decades of exposure to the elements and rot to be salvaged for reuse. The new lumber for the deck structure was sawn from a select white oak log harvested in the Athens, GA area, and air dried for approximately 2 years prior to installation. Dimensions were based on CofG drawings and specifications as well as measurements taken from the removed deck materials.

Stenciling of the car was done between completion of the metal work and installation of the new wood deck. Stencils were made following original CofG stenciling diagrams. Most of the stencil masks were applied and painted in early November 2019, with the rest being painted in December 2019.

The finished product with the start of a simulated load at the Georgia State Railroad Museum.

We planned to have a formal dedication ceremony at the Society's 2020 spring meeting, but the pandemic put everything on hold. It took place during our annual membership meeting on November 6-7, 2021.

REPAIRING A WOOD PASSENGER CAR TRUSS

Reprinted with permission from the Northwest Railway Museum blog

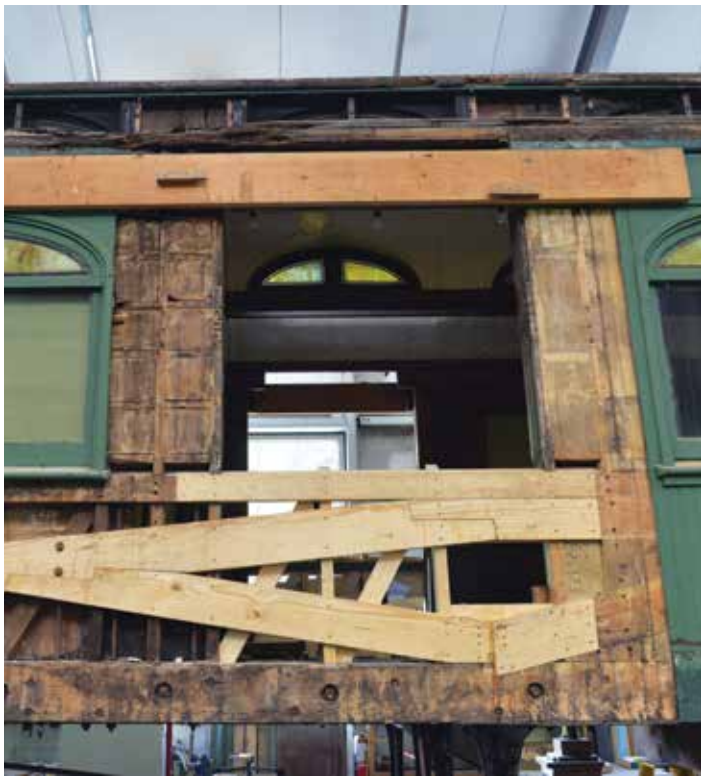
Pullman builder's photo, courtesy of the California State Railroad Museum library.

Parlor car 1799 is a Pullman Company product constructed almost entirely of wood in 1901. It was built for first class service on the Northern Pacific Railway's Lake Superior Limited serving between Minneapolis/St Paul and Duluth. Later, the car was transferred to Washington State where it operated on the North Coast Limited between Seattle and Spokane. It was retired in 1940 and sold for use as a cottage on Whidbey Island. It was donated to the Northwest Railway Museum and moved to Snoqualmie in 2018.

During the cottage era when it resided on Whidbey Island, two entry doors were cut into the carbody in the center of the car, one on each side. The key objective of the rehabilitation and restoration is to return to the car to its period of significance when it operated on the Northern Pacific Railway. So the doorways had to be removed and the missing components in the truss restored.

Floyd V. took the lead on this part of the project and fabricated in kind replacement sections of compression truss from southern yellow pine. Next, the truss plank was replaced in kind using two large planks of Douglas fir. Then the inter truss blocking was replaced with Douglas fir planks, though they were originally yellow poplar heartwood, which is not currently available to the Museum. New sections were attached to old with lap slices, wood screws, and marine epoxy. A replacement window sash set will be fabricated and installed later; new exterior cladding will be applied soon.

The cottage-era doorway is no more; a window will be placed in the opening.



Rehabilitation and restoration of parlor car 1799 is continuing inside the Northwest Railway Museum's Conservation and Restoration Workshop. Funding for this phase of the parlor car project has been provided by individual contributions, the **Washington State Historical Society Heritage Capital program**, the **Washington Trust for Historic Preservation**, and by the Nysether Family Foundation.

HERITAGERAIL NEWS

B&O Railroad Museum, Baltimore, MD
The museum has been officially designated a National Park Service's Network to Freedom Underground Railroad Site. Additionally, the National Endowment for the Humanities (NEH) has awarded the Museum a $200,000 Sustaining the Humanities through the American Rescue Plan (SHARP) grant for the Rails to Freedom: New Research and Interpretation on the B&O Railroad's Role in the Underground Railroad. The exhibit will share the stories of the freedom seekers' ingenuity as well as the role the physical railroad played in the Underground Railroad, examining in particular the actions of the B&O Railroad. The museum has documented that at least eight freedom seekers traveled through the B&O's 1851 Mt. Clare Station. It is the oldest surviving building on the Museum's grounds and is a national historic landmark. The freedom seekers included Henry "Box" Brown from Richmond, Virginia, and William and Ellen Craft from Georgia. Brown was shipped in a box as "dry goods" with holes cut for air and endured a 27-hour journey from slavery. Ellen Craft dressed as a white male planter disguising both her race and sex and traveled with her husband, William, who posed as her enslaved servant. Their escape was widely publicized, making them among the most famous of the freedom seekers.

Danbury Railroad Museum, Danbury, CT
Reading coach #1547 (Bethlehem Steel 1925) recently received a new exterior paint job, Reading green with the lighter green window band, plus a re-tarred roof. The lettering was provided by the Reading Company Technical and Historical Society. Reading coach #2015 (Harlan and Hollingsworth 1922) is also being repainted.

Joe Alves photo

Golden Gate Railroad Museum, Schelleville, CA
On October 6 Southern Pacific 4-6-2 #2472 was fired up for the first time at the museum's new Schelleville yard. It had not run in six years, during which the museum made the difficult move from its temporary home at the Niles Canyon Railroad.

Halton County Radial Railway, Milton, ON
When the museum acquired the recently retired Canadian Light Rail Vehicles from Toronto Transit Commission, it also had to take the entire spare parts inventory. To accommodate them, eight 53-foot containers were purchased and storage pads laid down. 200 storage bins were acquired to organize the parts within the containers. A new smaller forklift is being purchased that can maneuver inside a container. Receiving the new parts triggered a house cleaning and reorganization of old parts. That led to a scrap sale that raised enough to pay for the containers, grading and new forklift.

Hoosier Valley Railroad Museum, North Judson, IN
It's been a busy year at HVRM. They've acquired three diesel locomotives, an operational steamer, painted a bunch of cars and renegotiated their trackage rights agreement. The museum signed a new track lease with the Chesapeake & Indiana for the 5 miles from North Judson to English Lake, route of its passenger trains. The adversary relationship with C&I turned positive when the railroad was purchased in 2020 by Midwest & Bluegrass Rail. From the Iowa Pacific's equipment sell-off they bought ex-Bangor & Aroostook BL2s #52 and 56 (EMD 1949) that were on the Saratoga & North Creek. More recently, the Chesapeake & Indiana Railroad donated ex-Elgin Joliet & Eastern SD-M #818. The unit was built as Duluth Missabe & Iron Range SD9 #172 (EMD 1959). It was repowered with a 645 engine

The pair of BL-2's from Saratoga & North Creek, now at Hoosier Valley Railroad Museum.

in 1990. Steam operations are coming with the acquisition of Bock Lumber Company 0-4-4T Forney #1 (Baldwin 1908). After about one year in service to its original owner, it was subsequently sold to the Hanbury Lumber Company and later to the Maddox Foundry & Machines Works, both of Archer, Florida (dates unknown). In 1965, the locomotive was sold to a private individual. By the 1980s, the locomotive found its way to Maryland. At some point, the locomotive had been disassembled and was awaiting its final fate in a scrapyard in Pennsylvania. Fortunately, it was rescued and found a temporary home in California until it was finally purchased by Fred Haberkamp of Chicago, Illinois. Haberkamp hired Dave Kloke to undertake the restoration. The locomotive has a brand-new modern boiler designed by Chris DeWitt, Chief Mechanical Officer of the Nevada State Railroad Museum.

Nevada Northern Railway, East Ely, NV
Northwest Railway Museum, Snoqualmie, WA
In 1983 Kennecott Copper retired RSD4 #201 (Alco 1951) and donated it to Northwest Railway Museum, where it pulled trains for 20 years. Now #201 is back on the Nevada Northern in East Ely, thanks to a cooperative effort by the two museums. The effort was initiated by NN Executive Director Mark Bassett. In exchange for sending #201 south, Northwest finally gets delivery of Northern Pacific HH660 #125 (Alco 1940), which it purchased in 2004 from owner Port of Longview but never was able to bring home. It was the NP's second diesel and worked the Seattle docks. In 1949 it was sold to interurban Walla Walla Valley Railway to dieselize it. Both locomotives had to be trucked, and move was coordinated by HRA member Morton Locomotive & Machine.

Kennecott Copper #201 on the road to Nevada, and at the Nevada Northern.

Northern Pacific #125 awaiting shipping at Longview, WA.

Southern California Railway Museum, Perris, CA
Santa Fe SD45-2 #5704 (EMD 1973) has been donated to SCRM by BNSF. It's being overhauled at Mid-America Car in Kansas City and will arrive at SCRM repainted in its 1976 Bicentennial paint scheme. Originally blue and yellow, it got its bicentennial dress in January 1976 and accompanied the *American Freedom Train*. It was also often seen on the Super C, a.k.a. The World's Fastest Freight Train, before the schedule was canceled in May 1976. The unit wore the bicentennial scheme the longest of any of the five Santa Fe bicentennials, finally reverting to blue and yellow warbonnet again in June 1978. After 13 years on the road, the 5704 was remanufactured in-kind at Santa Fe's San Bernardino, CA shops, emerging as the 5834 in September of 1986 still in blue and yellow warbonnet. Following the BNSF merger, the former ATSF 5704/5834 was renumbered BNSF 6484 in September 2000. It last turned a wheel under its own power some time in 2008, and for the next decade and change sat in deadlines. The unit was spotted in storage at Temple, TX by January 2009, and it was there that it

received its final identity as GN 6484 in late 2012 to clear its BNSF number slot. The unit and others were moved to another deadline near the company shops in Topeka, KS in September 2013. It lingered there until April 2020 when it was sent to Progress Rail in Memphis, TN for scrapping. The happy ending is that it was recognized for what it was and donated.

Western Pacific Railroad Museum, Portola, CA
Fire prevention has taken on a whole new urgency given the museum's proximity to the latest California wildfires. Thus in 2019 work began to remove brush inside the museum grounds and build a 100-foot wide firebreak around the perimeter. In addition, wood pieces of rolling stock have been moved to the center of the property.

Narrow gauge steam gatherings
This year saw two extraordinary gatherings of narrow gauge steam locomotives.

Stewart Rhine photo.

All five surviving Maine two-footer locomotives gathered in the Wiscasset, Waterville & Farmington's Sheepscot yard on July 1. Left to right are Bridgeton & Saco River 2-4-4T #8 (Baldwin 1928) from Maine Narrow Gauge Museum, Bridgeton & Saco River 2-4-4T #7 (Baldwin 1913) from Maine Narrow Gauge Museum, WW&F 0-4-4T #9 (Portland 1891), Monson 0-4-4T #4 (Vulcan 1918) from Maine Narrow Gauge Museum and Monson 0-4-4T #3 (Vulcan 1912) from Maine Narrow Gauge Museum. B&SR 7, WW&F 9 and Monson 3 were under steam.

Jeff Terry photo.

The Cumbres & Toltec Scenic Railroad hosted the Victorian Iron Horse Roundup August 21-29. Present and under steam at Antonito were (left to right) Denver & Rio Grande 2-8-0 #425 (Baldwin 1895) owned by Durango Railroad Historical Society; Denver & Rio Grande 4-6-0 #168 (Baldwin 1883) owned by C&TS; Rio Grande Southern 4-6-0 #20 (Schenectady 1899) from Colorado Railroad Museum; privately owned Eureka & Palisade 4-4-0 #4 (Baldwin 1875) and Virginia & Truckee 2-6-0 Glenbrook (Baldwin 1875) from the Nevada State Railroad Museum. The 425 and 20 were built for the Florence & Cripple Creek.

New homes for the Iowa Pacific fleet
The bankruptcy of Iowa Pacific flooded the market with over 100 passenger cars and quite a few vintage passenger diesels. Trustee Tom Connolly's mission is to maximize financial recovery for IP's creditors, and that means selling the equipment, hopefully for more than scrap prices. As this is written in early November, he has sold 88 of the 108 pieces.

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