MRG, Inc. (Maine Rail Group)

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http://mainerailgroup.org

A volunteer group working to enhance rail services in Maine

January / February 2022

New Year's Greetings - 2022

Thanks to more than 50 members who have already renewed their MRG. Inc. memberships for 2022, and especially to those who have included additional contributions. We're grateful for your loyalty and for your generosity.

Congratulations Downeaster!

The Amtrak Downeaster celebrated its 20th year of operation last December. During that time its annual pre-pandemic ridership expanded to more than 550,000 people and is now recovering. It's Maine terminal has advanced from Portland to Brunswick, with five daily round trips to Boston North Station instead of the original three daily trips, and train length is increased to five coaches

Congratulations to NNEPRA, Downeaster staff, Amtrak, Pan Am Railways, Massachusetts Bay Transportation Authority (MBTA), TrainRiders Northeast, onboard and station volunteers, public officials, traveling public, public officials and others unmentioned who have worked so diligently and cooperatively to make the Downeaster succeed!

Vermont & CSXT resolve PAS merger objection

The State of Vermont and Vermont Rail System have entered into a Settlement Agreement with CSXT, NSR and GWI which resolves the concerns of the Vermont Parties to the CSXT acquisition of PAR. VTrans and VRS notified the Surface Transportation Board on 1/3/2022 that they have withdrawn their objections to the merger.

(Jack Madden)

Reduce Maine's carbon footprint – restore rail

MAINE COMPASS – Dec. 11, 2021, John D. Koons

Is Maine serious about reducing its carbon footprint? Let's restore the existing rail right-of-way from Brunswick to Bangor and power rail service with now available battery or hydrogen-fueled equipment.

Rail advocacy groups such as Trainridersne.org and Mainerailgroup,org have soldiered on for years largely out of the public eye with the hope of restoring efficient rail service on existing right of ways. Now is the time to take action.

Vehicular traffic is Maine' single largest producer of greenhouse gases, accounting for 35-40% of its carbon footprint. Maine transportation has been stuck on cars and trucks for far too long. Two years ago, Maine Department of Transportation spent about 86 cents per person on public transit. The national average was about $5 per person – Vermont is about $12 per person. Maine lags way behind in its

development of public transit.

Restoring passenger rail service – moving potentially millions of bodies in the course of a year between Maine's cities and towns – would help shrink Maine's carbon footprint to a pawprint. Expanding broadband together with passenger rail service would be a economic juggernaut.

Imagine rail service that connects Brunswick to Bangor and cities and towns in between. The Opera House and Lockwood Hotel in Waterville, Reny's in Gardiner, Cushnoc in Augusta, Liberal Cup in Hallowell, a beautiful and safe ride along the mighty Kennebec River, visits with friends and family members, and hundreds more possibilities. People with disabilities, the elderly, and those who don't drive could get along without a car.

College students from Bowdoin to Colby to University of Maine and more would be connected by rail.

Maine is often described as being one small town. With rail service it truly would return to being as connected and accessible as it was over half a century ago.

Nearly every city and town along this rail corridor has been trying to revitalize their downtowns for years. The overlooked common denominator in their midst is the dormant, deteriorating rail line that could be revitalized using very green battery or hydrogen propulsion.

There is strength in numbers of communities linked by this wasted asset and it is way past time to use this existing infrastructure as designed for the common transportation good. Rail naturally links cities and towns together, which have existing infrastructure to handle it. Travel and tourism would increase in-state and attract may more out-of-staters to inland destinations.

The state recently acquired the dormant Madison rail line. This is tremendous news for trail enthusiasts and would provide a substantial economic boost to central Maine. Trails add value to communities as has been demonstrated by individuals and organizations around the state. I'm one of them, having spearheaded the development of Quarry Road Trails in Waterville over a decade ago. I agree with Jeremy Cluchey of Merrymeeting Trails and the Maine Trails Coalition who asserts in his Aug.28 column that "these corridors are languishing public assets, and it's time to use them for the highest community benefit." We disagree on the use. Not all unused rail corridors should be converted to trails.

Yes, pursue a trail for the Madison line, but in the case of the Brunswick/Augusta line, rebuild this as a modern train or tram line as originally designed with adjacent trail access where practical. Trails, while enhancing value in communities, serve one small slice of the population pie, while rail serves the entire population 365 days a year. Rail is at least an order of magnitude greater in economic multiplier effect. The question is how to do it reasonably and serve Maine's markets to their fullest potential. There are answers:

The Maine Legislature authorized a study of rail service along the Portland – Bangor corridor (L.D. 227), with a report due in 2023. This is essential but slow to happen. Why wait? Much can be extrapolated from a several-year-old Lewiston study.

Maine DOT has its hands full dealing with such a huge state full of deteriorating highways. It's unlikely to wave the banner for rail as Governor Mills focuses on electric cars as a solution. We need more options. Fossil fuels enabled us to get where we are and we are thankful for that, but we've obviously over done it. It's now our responsibility to go back to the future with battery – and hydrogen powered passenger rail service.

Talk to your state and local representatives. Let's make this happen for our economy, our towns, our people and our planet.

John D. Koons is a resident of Waterville

Alternative Railroad Propulsion

Recognizing worldwide societal focus on need to curtail greenhouse gas emissions (GGE) including the emerging transition to electric vehicles (EVs), MRG, Inc. follows developing technologies to reduce or replace diesel fuel for future train propulsion. The most likely technologies appropriate to Maine, where passenger densities and freight rail traffic will remain relatively low, are electric with rechargeable on-board batteries, hydrogen fuel with water the by-product of combustion.

Thus it's eresting to note that the Transportation Infrastructure Durability Center (TIDC) at the University of Maine in Orono is engaged in the design of hydrogen production with

power produced by future wind farms off the coast of Maine.

Recent developments with battery-operated trains are reported in the following two articles of Massachusetts Bay Railroad Enthusiasts, Inc. **The Callboy, November, 2021:**

Hitachi battery fleet saves 2.7 million kg of CO_2 emissions in five years

Edited from IRJ NEWS WIRE, October 19, 2021, by Richard Clinnick, and further edited here for brevity.

HITACHI says its Dual Energy Charge Train (Decha), the world's first battery-powered train charged by ac overhead lines, has reduced CO emissions by 2,700 tonnes in the past five years. The 18 two-car, 39 m-long, 120km/h BEC819 series trains began operating on the 11km Wakamatsu-Orio line in October 2016 for Kyushu Railway Company (JR Kyushu) and have completed 5 million kilometers in passenger service in the northern Kyushu region. Nearly 80% of the distance covered is on non-electrified sections of the route.

The trains draw power from the 20kV ac 60Hz electrification system to feed an on-board bank of batteries, which give the train a wire-free range of up to 90km. There is also a low-energy loss main circuit system fitted to the BEC819 fleet which uses

regenerative energy from braking and fast charging while stopped at stations.

Vivarail shows off battery train at COP26

Edited from RAILJOURAL.COM, by Richard Clinnick , and further edited here for brevity.

VIVARAIL, Britain, says its battery-operated trains offer a cheaper option to other alternative power as it demonstrates the smart technology to people from around the world at COP26 which opened in Glasgow on Oct. 31.

On October 29, a demonstration trip for invited guests operated on the 11.8km Glasgow Central-Barrhead line, during which Vivarail design director, Mr. Neil Bates, explained that using assumptions for a two-car train operating on a 160km line, battery technology will cost £1.37 per kilometre compared with £2.49 for diesel and £2.58 for fuel cell hydrogen.

The three-car former London Underground class 230 D-Train used to demonstrate battery power in Scotland is fitted with six batteries, with three fitted to each driving car. During operation four batteries are in use with two as resilience. Should two batteries fail, the train can still reach its destination Vivarail chair, Mr. Adrian Shooter explained, saying that the train could also keep to its planned timings.

The battery train is limited to 96km/h. However, Bates explained that studies have been conducted in comparison with DMUs operating at 120km/h maximum speed on journeys of around one hour, which showed that due to better performance of the battery train when accelerating, combined with the fact that the train has four doors per coach meaning boarding and alighting is quicker, the battery train can complete the journey around five or six minutes faster than the DMU.

When in traffic, the train would be fully charged at the start of the day's operation and would be recharged through the day using Vivarail's Fast Charge system which can fully recharge the train in 10 minutes….

Future of the trains

Shooter explained that the Fast Charge technology is transferable to other manufacturers. He said discussions have taken place with operators of EMUs that would see them fitted with batteries supported by Fast Charge technology which would enable them to operate on non-electrified lines. Negotiations are also underway regarding fitting the technology to locomotives for shunting operations. The technology can be supplied to manufacturers for brand new trains as well. "We're not just a rolling stock supplier," Shooter said.

Bates also said that because of the situation in Britain regarding the reforms recommended in the recent Williams-Shapps review, Vivarail was taking the opportunity to support the Pop-Up Metro concept in the United States where Railroad Development Corporation (which is a shareholder in Vivarail) plans to use class 230 trains to help restart urban passenger services in a cost-effective way. Bates confirmed to IRJ that a second train was currently being prepared for export, and that it could soon be in use in the northeast of the US.

Network Rail's (NR) View

There is huge potential for battery trains says Mr. Martin Frobisher, NR group safety and engineering director who was speaking via Zoom onboard the battery train.

"This is not some prototype in a laboratory," he said. "This is a real train that you're travelling on right now." He suggested branch lines would be far better served by battery trains instead of investing huge sums in electrification. Frobisher also suggested that battery technology could offer a last-mile solution for freight trains in terminals and would reduce the cost of electrification by offering the opportunity to introduce partial electrification on certain routes, helping to avoid expensive demolition or modification of structures.

Editor's opinion: Full electrification of Maine railroads by overhead catenary is not a practical consideration, at least until connecting rail overhead electrification is in place from Boston through Massachusetts and New Hampshire. On board hydrogen or battery-power supplied from non-greenhouse gas emitting sources offer more likely options to displace diesel power in the foreseeable future.

<u>Project to fix critical Northeast Corridor choke point gets go-ahead</u>

High Speed Rail Alliance, December 09, 2021

A project to build and repair tunnels and tracks that run under the Hudson River has been approved by the US. Army Corps of Engineers. The work is part

of the broader Gateway Program, which will double the rail capacity between New Jersey and Penn Station in New York City. It also includes new bridges and repairs to bridges between New York and New Jersey.

These projects are pivotal to Amtrak's plans to enhance and expand its service throughout the Northeast Corridor (NEC) – and the nation – over the coming years.

The permit for the $12.3 billion Hudson Tunnel project clears the path for work to move forward on the first phase, which involves building two new tunnels. In the second phase, the two existing tunnels will be repaired. Those tunnels, built in the early 1900s, were flooded by Superstorm Sandy in 2012. Their systems are being corroded by saltwater. The repair work will begin once the two new tunnels are built. Work is slated to begin in the summer of 2023 and is expected to be completed by 2035.

The Gateway Program, which received strong support from the Obama administration, was expected to launch in the late 2010's but was blocked by the Trump administration. The program focuses on repairing and upgrading a 10-mile stretch that is one of the most heavily used rail corridors in the nation, handling roughly 200,000 riders and 450 trains each day, pre-pandemic. The 30 billion program will receive substantial funding from the infrastructure bill passed by Congress last month, which includes billions in potential funding streams for the project.

Amtrak will implement new Acela trainsets that can run 160 mph in the NEC next spring, as part of a broad expansion and upgrade of its services over the next few years. But the deteriorating Hudson River tunnels have become a serious choke point in the system.

The new Acela vehicles can accommodate nearly 400 passengers, or about a fourth more than older Acela models. The NEC – which encompasses eight states plus Washington, D.C. – handled more than 2,000 trains and 800,000 passenger trips daily, pre-pandemic.

Mass Bay RRE Preservation Grants

Mass Bay Rail Road Enthusiasts awarded $30,000 to fourteen New England organizations in 2021 to support railroad preservation projects. Here's a sampling from The Call Boy, December 2021:

Boston Street Railway Association	**$2,000**
Greenville, ME Junction Depot Friends	**$4,000**
Sandy River & Rangeley Lakes Railroad	**$3,000**
WW&F Railway Museum	**$3,000**
470 Railroad Club (H. Albert Webb Awd)	**$10,000**
Seashore Trolley Museum	**$2,000**

Maine Transportation Conference – December 2, 2021 - CANCELLED

The Maine Transportation Conference, sponsored by Maine Better Transportation Association (MBTA), Maine DOT and Maine Chapter, American Society of Civil Engineering (ASCE) was cancelled due to Covid concerns.

Amherst Railway Society Show – 2022

As of January 4, MRG, Inc. has cancelled our participation in the 2022 Amherst Railway Society Show due to Covid concerns.

Mark Your Calendar

Regular meetings will be virtual, by Zoom, starting at 6pm unless otherwise advised. Please check in advance for changes if you plan to participate. President Russ Barber (rustyrailsis@gmail.com) will send links to virtual meetings by request.

Jan. 19, 2022 - MRG, Inc. meeting

Jan. 29 & 30, 2022 – Amherst Society Show, W. Springfield, Mass. **(Cancellation watch)**

Mar. 16, 2022 – MRG, Inc. meeting

For the MRG, Inc. Board, Jack Sutton

MRG, Inc. a volunteer non-profit corporation, is dedicated to railroad education and enhanced rail services in Maine and New England. Membership is open to those sharing our goals and interests. Dues $40 /yr. (effective 1/1//2022). Meetings are bi-monthly. Inquiries welcome.