THE SANDHOUSE

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THE SANDHOUSE

The Sandhouse is the official publication of

THE CANADIAN RAILROAD HISTORICAL ASSOCIATION
PACIFIC COAST DIVISION

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Press Date — May 21, 2020

Front cover: *West Coast Railway Association 2-8-2 steam locomotive No. 16 crosses the through-truss span over Furry Creek on the PGE near Britannia Beach with a railfan trip in August 1964. The bridge span is at its third location, having begun life as part of the CPR's crossing of the Pitt River in 1907. In this issue, retired civil engineer and long-time PCD member Barrie Sanford tracks the multiple lives of the span and its sisters. (Photo by Barrie Sanford)*

Back cover: *The stout through-truss spans of the current Pitt River Bridge are seen in this view looking eastward from the rear of a West Coast Express excursion train hauled by restored CPR H1b-class Hudson 2816 on May 4, 2002. Positioning of a cab car at the east end of the special train made this rare view possible. Author Sanford describes this 1914 structure as "by far the largest double-track bridge of any railway in B.C." (Photo by Ian Smith)*

To Our Readers

When the previous issue went to press on February 18, the term COVID-19 was mostly associated with distant events, such as the cruise ship marooned in Yokohama harbour with its quarantined passengers aboard.

On that date, only five cases had been recorded in British Columbia, all of them associated with travel to the part of China where the novel coronavirus had made the jump from animals to humans.

But since then it has spread like wildfire, dominating the lives of people around the world.

As this is written the day before publication, the number of cases worldwide has just passed five million. That figure is accompanied by a death toll of some 325,000.

In Canada, the statistics amount to nearly 80,000 cases and almost 6,000 deaths, with about 2,500 and 150, respectively, of those in B.C.
Reading the contents of this issue won't help you to escape thinking about the virus because its tentacles reach deep into the subject that fascinates us – railways.

Passenger rail travel in Canada – whether urban transit, inter-city or long-distance – has mostly ground to a halt, and that is reflected in news reports throughout these pages. There has been an impact on freight operations too, as slowing markets for lumber have proved to be the last straw for some B.C. mills, and a slump in foreign trade has created the spectacle of long strings of empty container cars plugging the sidings of mainline railways.

Please take all necessary precautions with your health — one statistic I'd like to report in future is that not one reader of The Sandhouse has had to suffer the illness, or worse, brought by this scourge.

Ian Smith, Editor

Correction

On page 11 of the previous issue, Blairmore, Alta., was incorrectly described as being "some 15 miles west of the B. C. border." It is, of course, east of the border.

Dates to Remember

ALL MEETING DATES MUST BE CONSIDERED TENTATIVE

September 18 — PCD Meeting, Renaissance Room, Place des Arts, Coquitlam, 19:00.
(Entertainment TBA)

October 16 — PCD Meeting, Renaissance Room, Place des Arts, Coquitlam, 19:00.
(Entertainment TBA)

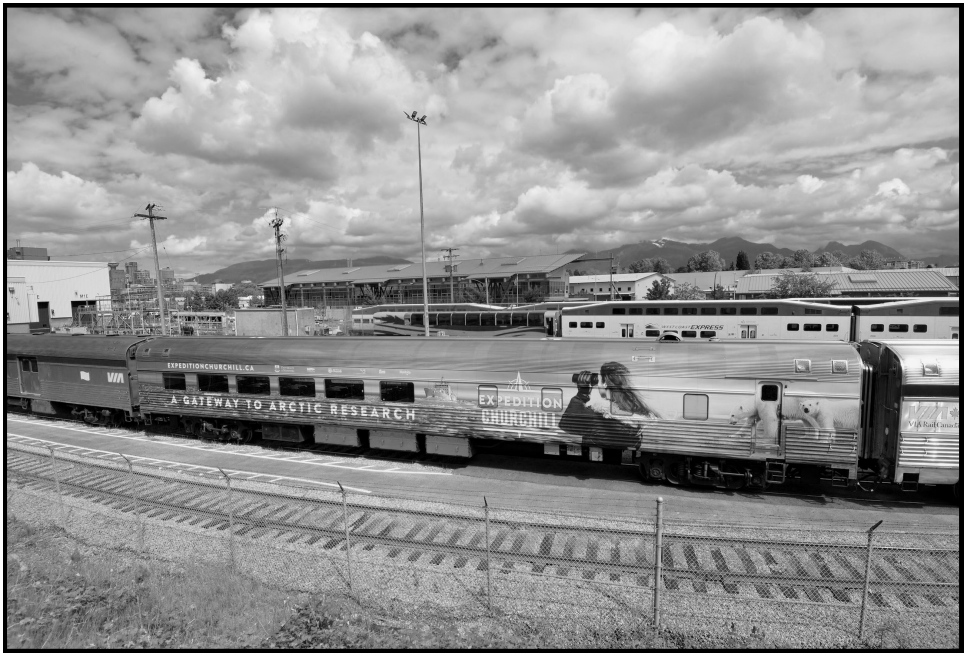
Division News

The Division's only meeting since November was held on February 21, featuring a slide presentation by Ken Storey on his railfanning highlights of early 2019, with scenes in B.C. and Alberta.

Since then, the COVID-19 pandemic has severely disrupted our activities, forcing the cancellation of the Annual General Meeting on March 20 and the meetings slated for April 17 and May 15. The Division was all set to participate in the Western Rails show on March 15, but that too was cancelled.

As social distancing protocols remain in effect and our meeting place at Place des Arts is officially closed until June 30, the meeting scheduled for June 19 is also cancelled. Should there be any change in the time remaining before that date, members will be advised by e-mail.

The Annual General Meeting will be rescheduled for a date in the autumn and formal notice will be given in a future issue of The Sandhouse.



The COVID-19 pandemic has affected all forms of public transport, with VIA Rail's western services being cancelled. Dining car Emerald*, wearing a vinyl wrap to promote travel to Churchill, Man., is seen on May 15 in a special deadhead train departing Vancouver to transfer rolling stock to Toronto. (Photo by Corwin Doeksen)*

YEARS AGO IN THE SANDHOUSE

40 Years Ago (April 1980 issue)

— A derailment along Seton Lake on February 29 claims the life of a BC Rail engineer.

35 Years Ago (April 1985 issue)

— 36 native bands seek court injunction against CN double-tracking projects in B.C.

30 Years Ago (March 1990 issue)

— VIA runs the *Canadian* on the CPR transcontinental route for the final time in January.

25 Years Ago (March 1995 issue)

— BC Rail cuts summer passenger service to Prince George to three times per week.

20 Years Ago (March 2000 issue)

— VIA's *Canadian* makes its last stop at Port Coquitlam on January 17.

15 Years Ago (Spring 2005 issue)

— VIA celebrates the *Canadian's* 50th anniversary on April 24.

10 Years Ago (Spring 2010 issue)

— British Columbia Railway personnel are transferred to the B.C. Ministry of Transportation.

5 Years Ago (Spring 2015 issue)

— May 27 marks 20th anniversary of Amtrak restoring Vancouver-Seattle service.

— CP closes Cranbrook yard on April 19, leaving only a siding and another track.

— Bridge damage in Ontario limits the *Canadian* to Vancouver-Winnipeg runs for five weeks.

— CPR locomotive 374 is featured on a $100 gold coin, which retails for $600.

— Rocky Mountaineer will cancel the North Vancouver-Whistler day trip after the 2015 season.

Bridging the Pitt by rail: Third time lucky

by Barrie Sanford

The author wishes to point out that records and reports on bridge dimensions and weights vary considerably. Statistics cited in this article should be regarded as approximate.

We tend to think of bridges as being permanent structures, but many have served in more than one location.

Perhaps the best known railway bridge relocated within British Columbia is the cantilever structure over Niagara Gorge on the Esquimalt & Nanaimo, which began its life as the Canadian Pacific Railway's crossing of the Fraser River at Cisco, between Lytton and North Bend. Built to carry the locomotives of its day when it opened in 1884, the bridge was disassembled and moved to Vancouver Island when the CPR wanted to use heavier locomotives on its mainline.

In its new role the bridge was quite adequate for the smaller locomotives used on the E&N. Indeed, it still stands more than a century after its move. Likewise, many bridges on the CPR's now abandoned "Southern Route" through B.C. originally saw service on the CPR mainline and remain in their second homes today for pedestrians and cyclists. Another bridge came all the way to B.C. from the Maritimes.

The prime subject of this article is the CPR's Pitt River Bridge of 1907, which served that railway for a surprisingly brief period, but went on to new careers elsewhere, both road and rail. Adequate for its time when opened, the single-track bridge of 1907 was overtaken by a growth in traffic not even the most optimistic forecasters of the early twentieth century had predicted, and it was replaced by the present double-track bridge in 1914.

The first railway crossing of the Pitt River was completed in late 1883 by American contractor Andrew Onderdonk. He had earlier entered into an agreement with the federal government to construct a railway from Yale, the upper limit of navigation by steam-powered sternwheelers on the Fraser River, to Savona, the lower limit of navigation on the Kamloops Lake-Thompson River system. The rail line was essentially a portage railway paralleling the unnavigable sections of the Fraser and Thompson rivers.

When the CPR was incorporated shortly afterwards, the federal government promised to give it the Yale-Savona trackage, when completed by Onderdonk. This was one of several inducements the federal government offered to make the CPR's risky transcontinental venture more attractive to investors.

The CPR subsequently entered into separate contracts with Onderdonk for construction of the line from Savona to Eagle Pass and from Yale to Port Moody. The Pitt River Bridge was part of the latter contract. The last spike on the Yale-Port Moody section was driven just west of Deroche on January 22, 1884, almost two years before the more famous "last spike" at Craigellachie.

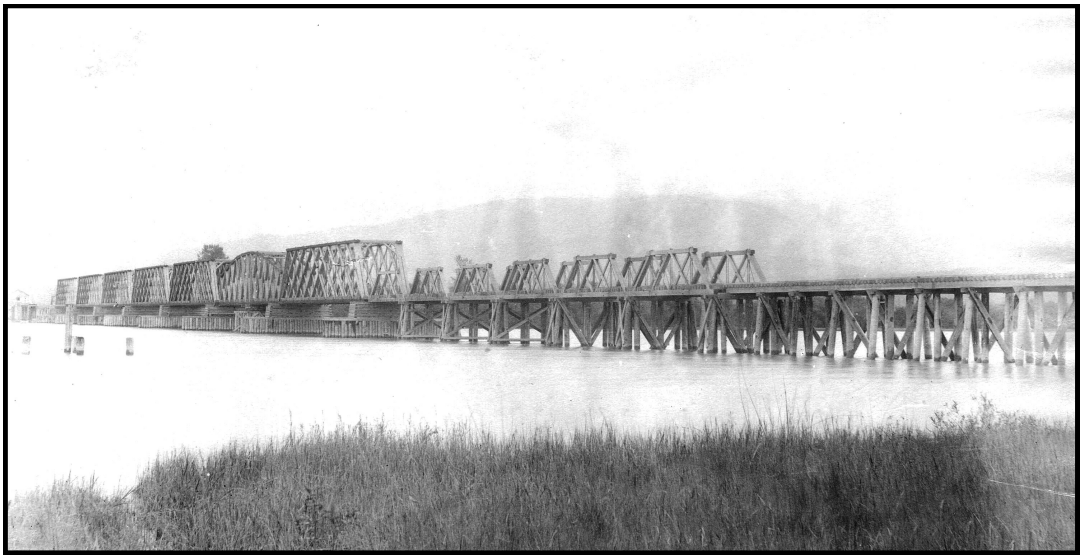
The first Pitt River railway bridge was a basic wooden structure held together with steel tierods, bolts, flanges and gusset plates. The perilous financial condition of the CPR at the time dictated maximum economy of construction, and few bridges anywhere on the CPR transcon-

tinental line were initially built with permanent materials. Wood piles and sawn timber predominated. Steel trusses on concrete piers would have to wait until operations were providing sufficient revenue for improvements.

The bridge's official location was Mile 109.7 of the Cascade Subdivision, crossing the Pitt about two miles northeast of its confluence with the Fraser. It comprised short pile trestles at each end, six short through-truss pony spans, six full-size through-truss spans and a full-size through-truss swing-span. The swing-span was required because the Pitt River was deemed navigable.
A similar swing-span was needed in the bridge over the Harrison River at Mile 68.2, also deemed navigable. Swing-spans were not required across Norris Creek (Mile 79.9), Stave River (Mile 93.5), Kanaka Creek (Mile 101.5) and Coquitlam River (Mile 112.3), the other major tributary streams crossed by the CPR in the Fraser Valley, as these were considered unnavigable.

A ferry for horse-drawn wagons and pedestrians operated on the Pitt River from landings upstream of the bridge, sailing between the infant municipalities of Pitt Meadows on the east and Coquitlam on the west (the latter area was later hived off into Port Coquitlam, incorporated in 1913). The rudimentary road approaching the ferry ultimately became the Lougheed Highway.

Marine traffic on the Pitt River was significant, consisting mostly of barges carrying stone and aggregate from Pitt Lake for construction in New Westminster and Vancouver. Thus, the swing-span saw frequent openings. Riverboat captains regularly complained that the channel offered by the open swing-span was dangerously narrow, allowing only 45 ft. of clearance. Minor scrapes and impacts of vessels against the bridge occurred, but none of these seriously disrupted rail operations.



The first rail crossing of the Pitt River was this wooden pile and sawn timber structure completed in late 1883. The view is from the east bank, slightly downstream of the bridge, looking northwest. The swing-span is flanked by five through-truss spans on the west side and a through-truss span and five pony-truss spans on the east end. (City of Vancouver Archives CVA 3-37)

About the only "incident" – a railway management euphemism for a wreck – involving the first bridge occurred on October 16, 1902, when a freight train failed to start braking in time for a stop signal while a short section of track on the bridge was being removed for repair.

As reported in the *British Columbian* newspaper the next day: "The engine plunged among the ties, smashed through the first trestle and took a header onto the riverbank, some 20 feet below, followed by the three trucks. Fortunately, the engineer and fireman escaped injury, but the conductor and brakeman were severely shaken and bruised."

Untreated wooden pile structures have a lifespan of about 15 to 20 years, and occasional news reports reveal that by 1900 the CPR was aware of the impending necessity of replacing the wooden bridge. Several earlier news reports in 1891 cite work being underway on the bridge, but it is unclear what was actually carried out at that time. Official records from that age are hard to find, if indeed they have been retained, and newspaper reports are often skimpy, vague or contradictory.

The CPR opted to replace its wooden bridge with a steel bridge on reinforced concrete piers consisting of: five through-truss fixed spans, each 128 ft., 9 in. long; one through-truss swing-span, 250 ft. long; one deck-plate girder span, length not specified; nine concrete piers including one pivot pier; and lengthy pile trestles at each end, particularly on the west end.

The author was unable to determine the name of the civil engineer who designed the bridge. The structure was rated as E55 using Theodore Cooper's universally recognized standards – known as "The Bible" to railway bridge engineers – meaning safe for an eight-driver locomotive with 55,000-lb. axle loading.

This was stronger than most railway bridges of the era. The fact that three of the former CPR spans from that second bridge still carry trains – in other locations -- is evidence of the virtue of their design and the quality of materials used in their construction.

A newspaper report on May 6, 1905, recorded that the CPR had called for tenders for construction of concrete piers for a new bridge. The contract was subsequently awarded the British Columbia General Contract Co. of Vancouver. Reports are unclear on whether the new piers were to be constructed between the wooden piles of the existing bridge or on a different alignment for an adjacent new bridge.

The start of construction was delayed by an appeal made by tug and steamboat operators to the Board of Railway Commissioners, seeking wider clearance in the swing-span channel. After considerable discussion, the federal government agreed to contribute funds toward a 250-ft. swing-span offering a 100-ft. wide channel on either side of the pivot pier, thus placating the river captains. The delay resulted in only six piers being completed during 1905, with the remaining piers built in 1906.

Early in 1907, the CPR signed a contract with the Canadian Bridge Co. for placement of the steel, and installation began that spring. Falsework piles were driven to support the new spans as they were assembled. The final piece of steel was placed October 23, 1907, and trains started using the new bridge the following day.

The new structure was a decided improvement over the original bridge. However, the growth in rail traffic in western Canada at the time quickly overtook the addition to the railway's infrastructure. The CPR was adding one locomotive and 25 freight cars per day to its system, yet was struggling to accommodate the traffic presented to it.

In 1910, the CPR announced plans to double-

track its entire mainline from Montreal to Vancouver. Within B.C., construction priority would be given to helper districts in the mountains and between Vancouver and Ruby Creek. All existing bridges between Vancouver and Ruby Creek were to be replaced with double-track structures, including the just-completed 1907 Pitt bridge.

(At the time, eastbound freight trains arriving at Ruby Creek from Vancouver were consolidated into longer double-headed trains for the undulating route through the Fraser Canyon. The plans called for further double-tracking east of Ruby Creek to await completion of the Kettle Valley Railway line through Coquihalla Pass, so that trains could be diverted over the KVR while upgrading work on the mainline in the Fraser Canyon progressed.)

Initial plans for the third Pitt River railway bridge called for a bascule span to accommodate the prospect of deep-sea freighters loading grain at elevators planned for the riverbank above the rail bridge. However, it was later announced that a conventional swing-span would be used instead. The grain elevators never materialized, and neither did a planned ship canal between the Pitt River and Port Moody.

After an extensive program of river soundings, the CPR opted to construct the new double-track bridge about 200 ft. downstream of the 1907 bridge. That separation was necessary because the existing swing-span had to remain able to open for river traffic without fouling the new swing-span while the two co-existed.

Moreover, the new swing-span was to be longer than the swing-span on the existing bridge and was to be placed closer to the middle of the channel. This called for detailed planning and careful co-ordination with river traffic during construction.

This photo taken in the spring of 1913 illustrates the location of the third bridge in relationship to the 1907 bridge. The view is looking west from a partly-built falsework trestle that will support the steelwork of the double-track bridge as it is being assembled. The 1907 bridge is at right. (Author's collection)

The double-track bridge would consist of (east to west): eight through plate-girder spans, each 85 ft., 4 in. long; one through-truss swing-span, 273 ft., 6 in. long (clear channel 116 ft.); two long through-truss spans, each 257 ft., 9 in. long (curved top); one short through-truss span (flat top); one through plate girder-span, 85 ft., 4 in. long; 13 reinforced concrete piers; and two reinforced concrete abutments.

Contractor for the substructure was the Foundation Co. of Montreal, with E.G. Matheson the engineer in charge. Contractor for the superstructure was the Dominion Bridge Co., with J. Findlay in charge. H. Vindal, CPR Division Engineer at Vancouver, had overall responsibility for the entire double-track project between Vancouver and Ruby Creek.

Construction of the double-track bridge began in the autumn of 1912.

The abutments and some of the piers close to the river banks were excavated with simple cofferdams. The piers in the deeper part of the river were excavated using open caissons, basically giant cylinders, open at the top, with clam shovels scooping out the river sediment from the centre of the caisson as it was pushed downward. Upon reaching desired depth, the water was pumped out and replaced with concrete.

Most piers were sunk 40 ft. into the riverbed, with wooden piles driven an additional 30 ft. As long as the wooden piles remained saturated, they would last indefinitely. Falsework was built to support the steel spans while they were assembled.

Logic would suggest that the CPR should have simply continued assembly of the steel for the new bridge on falsework until completed, and then close and demolish the 1907 bridge and any falsework. But for reasons then not apparent, the

In this view, taken at the same time in the spring of 1913 as the photo on page 9, the photographer is standing on the 1907 bridge, looking east across the river, with the falsework trestle for the new bridge at right. Work on a temporary bypass trestle farther to the right has yet to be started. (Author's collection)

CPR built a new temporary bridge immediately downstream of the falsework for the future double-track bridge.

This temporary crossing consisted of a pile trestle nearly 2,000 ft. in length and a single steel span, the latter being the obligatory swing-span. For this purpose the CPR delivered, in pieces, a surplus swing-span bridge from Manitoba and assembled it on its new trestle. It was no wonder the *Daily Province*, in an article on July 15, 1913 (one of the best newspaper reports on the entire project), titled its report: "Building Pitt River Bridge is Work of Magnitude."

On July 9, 1913, the Board of Railway Commissioners for Canada authorized the CPR to use the temporary bridge over the Pitt River, subject to trains being restricted to a speed of 6 mph.

Less than two weeks later, the B.C. government confirmed what had been a poorly-kept secret for several weeks – the Province had agreed to purchase the CPR's 1907 single-track bridge for a road and tramway crossing of the same river.

Compounding the perplexity of the CPR's decision to build a temporary crossing of the Pitt River, the provincial government did not simply take over the CPR's 1907 bridge, plank the deck and – voila – have a bridge of its own. Instead, it decided to remove the steel spans of the 1907 bridge and set them on new piers 1,000 ft. upstream of their existing location.

A tramway, running between Mission and Vancouver via the road bridge, was proposed by the Burrard, Westminster & Boundary Railway & Navigation Co., a subsidiary of the Western Canada Power Co., which in turn was constructing a hydroelectric power plant at Stave Falls, just west of Mission.

With trains now able to use the temporary bridge, the provincial government took action to remove the spans of the 1907 bridge as quickly as possible. However, there were no foundations for the road bridge ready to accept those spans, so they were placed on temporary piles near the riverbank on the west side.

On August 21, 1913 – barely a month after the announcement – the swing-span was floated off the pivot pier on four barges. Other spans followed. That ended use of the 1907 bridge by trains, at least for most of the next half-century.

Assembly of the new spans on the double-track rail bridge progressed from the east bank to the west bank. A newspaper report on July 27, 1914, reported the swing-span on the new bridge had been completed, as was the first of the major fixed spans.

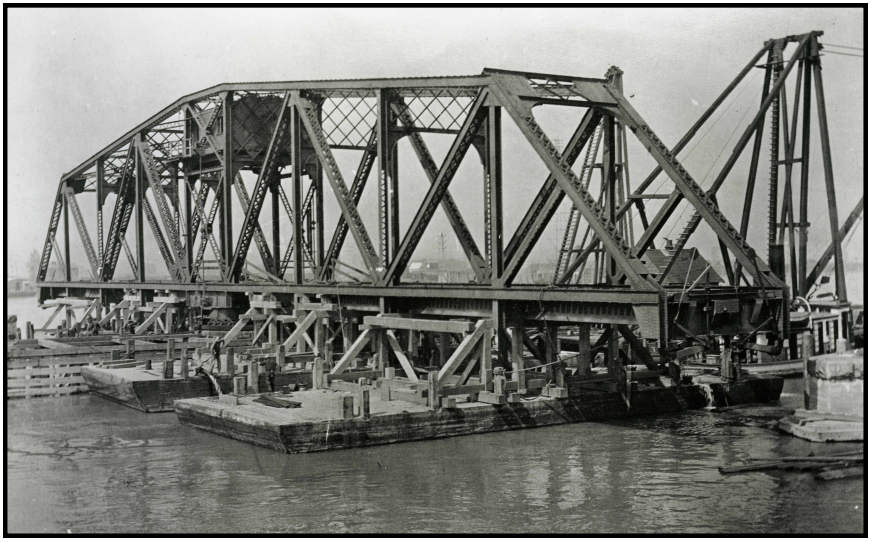
On September 26, 1914, a test train was run over the bridge. The test was deemed entirely satisfactory and the following day both freight and passenger trains began using the bridge.

Completion of the bridge eliminated the last remaining section of single-track on the mainline between Vancouver and Ruby Creek. A news report noted the bridge was 1,749 ft. long, contained 60,000 tons of concrete, and cost about $1 million to build.

The bridge's design and construction were superb, and its longevity – now approaching 106 years -- is evidence of that claim. In fact, it remains one of the largest bridges in the entire CP system and is by far the largest double-track bridge of any railway in B.C.

But one shortcoming has affected the bridge since the beginning – its low vertical clearance above high water, a mere 18 ft.

This means the swing-span has to be opened for almost all river traffic, including slow-moving log booms, often using two or more tugs dispersed throughout the boom. This shortcoming was recognized by the provincial government and the upstream road bridge was built with substantially higher clearance, clearly visible in



The original use of the 1907-built structure as a CPR rail bridge was short-lived. With a temporary bypass trestle for rail traffic opened in July 1913 while the new double-track bridge was still under construction, the 1907 bridge could be disassembled in preparation for its next life as a road bridge. First to be removed was the swing-span, shown above on August 21, 1913, being floated off its abutments on four barges. Below, the single deck-plate girder span was removed soon afterward. (Author's collection)

the photo below.

On May 28, 1914, the B.C. government awarded a contract for construction of the substructure and placement of the spans for the road bridge to Armstrong, Morrison & Co. of Vancouver. The work went speedily and the bridge opened for traffic on March 3, 1915.

As the *British Columbian* newspaper editorialized the following day: "The completion of the steel bridge over the Pitt River at Port Coquitlam is an event only equalled in importance by the spanning of the Fraser River by the New Westminster Bridge a decade ago. By this splendid structure, erected at a cost of some $800,000, uninterrupted highway communication has been obtained along the north shore of the Fraser River, through fertile and well settled districts, whose development will be greatly promoted by a public improvement, which will provide a crossing for a north shore electric tram line in the future."

One unforeseen impact of the road bridge was on the CPR's Fraser Valley train informally dubbed the "Agassiz Local". This train had begun operation in 1907, running from Agassiz

This photo, looking west from a railcar on the east side of the river on June 18, 1914, shows the double-track bridge starting to resemble its ultimate shape. The spans of the 1907 bridge are now completely gone. The eight deck-plate girder spans on the east approach to the swing-span have been completed and the swing-span is just over a month from being finished.

On the left is the temporary bypass bridge, with its own swing-span in the distance. The temporary swing-span relocated from Manitoba is peaked at its centre, unlike the nearly flat tops of the swing-spans of the 1907 and 1914 bridges. This is evidence that the temporary bridge did not use either the old or the new swing-spans. The curved alignment of the temporary bridge was evidently to take advantage of shallow spots in the riverbed. (Author's collection)

to Vancouver in the morning and back in the late afternoon for the benefit of Fraser Valley farmers shipping their milk and produce to market in Vancouver.

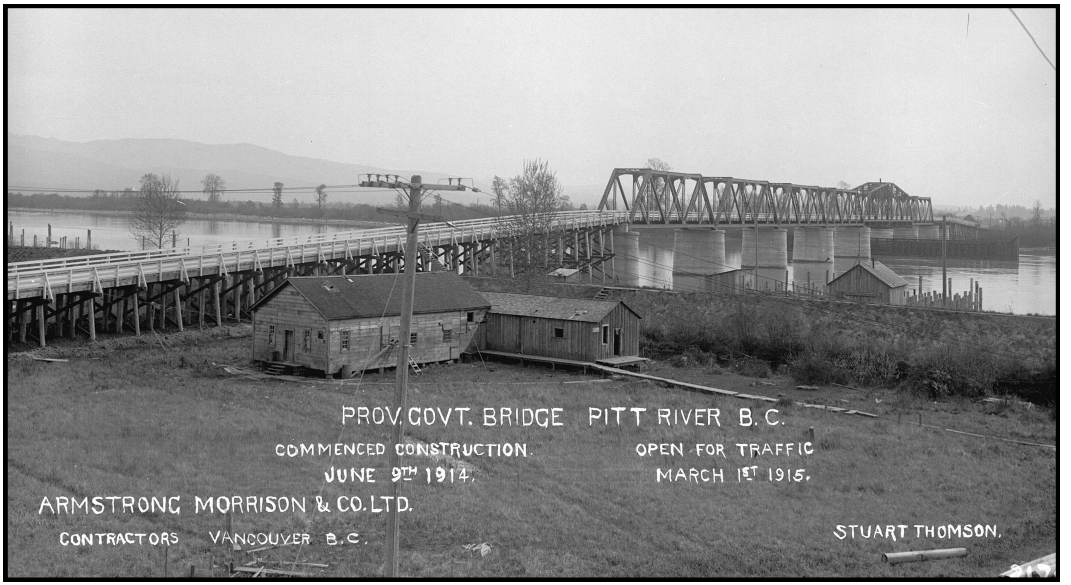
But with a road bridge now available across the Pitt River, farmers found shipping their produce by truck became a viable alternative to both the "Agassiz Local" or a long wait for the ferry that had operated across the river up to that time.

With the start of World War II in September 1939, an 18-man detachment of the Duke of Connaught's Own Rifles was assigned to guard the railway bridge against potential sabotage. Guards were similarly assigned to New Westminster Bridge, Second Narrows Bridge, the Ioco oil refinery, and the Ruskin power plant, among other important facilities.

The threat was real in the early years of the conflict -- when Canada was at war but the United States was neutral -- because potential saboteurs in northwest Washington could prepare attacks on nearby Canadian infrastructure with relative impunity. Guards were removed late in the war, when its final outcome seemed assured.

With the war over and gasoline and tire rationing ended, citizens cashed in their war bonds to buy long-deferred goods unavailable during the war. Chief among these were automobiles, and the flood of personal automobiles in the post-war years strained the road infrastructure to accommodate them.

One of the principal bottlenecks in the Fraser Valley's road system was the Pitt River Bridge of 1915, carrying what was now called Highway 7. The lateral clearance between trusses was a mere 16 ft., 6 in., fine for the single-track rail-



The completed road bridge of 1915 is seen looking eastward from a point slightly downstream of the structure. Clearly visible is the increased height of the bridge piers for its second life, which will avoid having to open the swing-span for smaller vessels. (Photo by Stuart Thomson, City of Vancouver Archives, CVA 99-315)

way the bridge had originally accommodated, but hardly enough for two automobiles to pass, let alone trucks. Successive politicians promised to build a replacement bridge.

Finally, in November 1955, the provincial government of Premier W.A.C. Bennett committed to build the long-promised bridge.

But what was committed was not actually a new bridge. Rather, a detailed engineering assessment of the existing structure suggested that it would be quite feasible to widen and reinforce the existing piers and replace the existing steel spans with new spans of ample roadway width. As a bonus, the seven spans of the existing bridge could be salvaged relatively easily and their sale would make a positive cash contribution to the finances of the project.

By ingenuity bordering on the brilliant, engineers developed a plan to carry out all the work with no serious delay to road traffic. On October 21, 1957, a formal opening ceremony was held on the bridge.

Another new swing-span road bridge on Highway 7, this one over the Harrison River, was opened the same day. By that time, oversized vessel movements on both rivers had become rare and the swing-spans were seldom required to open. In fact, the Pitt River had been closed to oversized vessels during the entire time the bridge rehabilitation was underway, with no significant hardship.

The opening of the new Pitt River bridge left the B.C. government with seven surplus bridge spans in its possession.

Late in 1957, the swing-span and two of the fixed spans were sold to Western Canada Steel, which was expanding its steel plant in south Vancouver on to Twigg Island in Richmond, across Mitchell Channel from Vancouver.

The steel company wanted access to the North Arm of the Fraser River on the south side of Twigg Island for shipping finished products by barge. Its Vancouver plant already had a rail connection with the B.C. Electric Railway's Marpole to New Westminster line.

The company's development plan seemed implausible, as the only access to Twigg Island, other than by water, was by the Fraser Street Bridge. This was an ancient swing-span bridge, opened in 1905, with severe weight restrictions. Twigg Island seemed an unlikely site to locate a steel industry, with its heavy vehicle loads.

After Western had secured a 140-acre property on Twigg Island at a modest price, it revealed plans to build its own bridge linking Twigg Island with Vancouver, using the three spans from the Pitt River Bridge it had purchased. (The small channel between Twigg Island and Mitchell Island was filled in during the 1960s and the combined island has since been known as Mitchell Island.)

In March 1958, the company moved its three spans from the Pitt River to Mitchell Channel.

The *Vancouver Sun* reported on the unusual movement in its edition of April 5, 1958, as follows: "To get the bridge down the river, crews had to wait for the right combination of wind and tide. 'We finally got rolling early in a Sunday morning. It took just four hours to make the voyage,' an official said. At the Twigg Island end, piling and supporting piers were prepared in advance and now crews are working to get the spans permanently located."

To make the journey from the Pitt to Mitchell, the spans had to pass through five other swing-span bridges – the 1914 Pitt River Bridge, New Westminster Bridge, BCER's Lulu Island Bridge, CNR's Lulu Island Bridge and Fraser Street Bridge.

The swing-span was set on a new pivot pier in the middle of Mitchell Channel, and the two

fixed spans were set flanking the swing-span. All three spans had rails installed to carry locomotives and freight cars. They were also decked with planks to allow trucks to cross, thereby avoiding the weight restrictions on the Fraser Street Bridge.
Western Canada Steel did not reveal the purchase price of the spans, but reported the total cost of the bridge project at just under $500,000.

For the next 16 years, the bridge spans served well in their new location. Western Canada Steel even had its own locomotive for switching cars around its plant or interchanging with the BCER (and its successor, the BC Hydro Rail division of the British Columbia Hydro & Power Authority) on the Vancouver side. BC Hydro attached towers for its high-voltage transmission lines to the fixed spans.

Railway historian Roger Burrows, whose father was a Western Canada Steel employee, learned to drive by going back and forth across the planked bridge in dad's car while the latter was at work.

In April 1968, Premier Bennett announced that the provincial government was planning to build a new bridge connecting Mitchell Island with Vancouver and Richmond. Closure and removal of the 1905 Fraser Street Bridge was part of the plan. An alignment with Vancouver's Knight Street was ultimately chosen, and on January 15, 1974, the Knight Street Bridge was opened, with intermediate ramps to and from Mitchell Island.

The new bridge had no weight restrictions, so Western Canada Steel opted to close its combined rail-truck bridge, thereby eliminating the need to maintain the structure or to pay for a small crew of bridge tenders to operate the swing-span. A retired Western Canada Steel employee informed the author that the swing-span was scrapped following its removal. The pivot pier in the centre of the channel was also removed, but the two fixed spans flanking the swing-span were left in place.

They have since become the focal point of a small public park called Mitchell Island Pier Park. The City of Richmond website promotes the park as offering "a fishing pier and scenic view point with excellent views of the North Arm of the Fraser River and related river activities."

However, a recent visit by the author revealed access to the span on the south side has been blocked by a fence. The picnic benches formerly installed on the span have been shifted on to the grass approach. Access to the span on the north side of the channel is totally blocked.

The two remaining spans have been in their present location for 62 years. After their 50-year service for both rail and road over the Pitt River, more than half of their lifetime has been spent on the banks of the Fraser River's Mitchell Channel. Likely they will continue to "reside" there for many more years.

The three remaining through-truss spans from rail and road service on the Pitt River were sold to the Pacific Great Eastern Railway directly after the second road bridge was opened in 1957. All three remain in service on former PGE trackage, now leased to CN.

As illustrated on this issue's cover, one was installed over Furry Creek (Mile 27.92, Squamish Subdivision), just south of Britannia Beach, where a temporary bridge had been built in time for the opening of the PGE line between North Vancouver and Squamish the previous year. The span might have been disassembled for the move to its new "home" or it may have been simply winched intact up the slope from the shore of Howe Sound.

The second span became Pine River Bridge 2 at Mile 613.60, Chetwynd Subdivision, in time for Premier Bennett to make a triumphant trip over the line and drive the last spike at Dawson Creek on October 2, 1958. This span most certainly

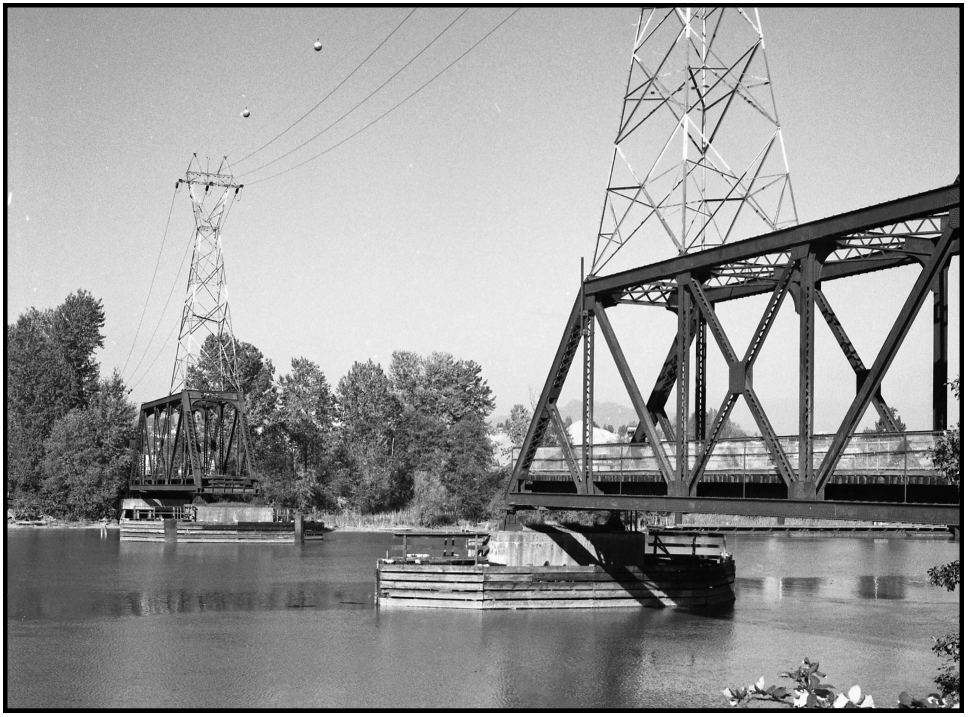
was partly disassembled prior to transport in order to clear the many tunnels and bridges encountered on its lengthy journey.

The third span was stored at Squamish until 1962 when it was installed over the Mamquam River at Mile 41.4, Squamish Subdivision, following numerous mishaps to previous crossings of the river at that point.

A seventh span from the 1907 CPR bridge -- a short plate-girder span -- had been incorporated into the 1915 road bridge (see the bottom photo on page 12). However, the author was unable to determine its fate after it was salvaged from the road bridge in 1957.

As with most industrial infrastructure, the 106-year-old double-track bridge rarely makes the news. Probably most passengers on West Coast Express trains don't even pay attention to the river crossing, despite the noticeable clank as the wheels pass over the gap in the rails between the swing-span and the adjacent fixed span. Likely no one recognizes that the clank is louder in winter, when the rails on the swing-span shrink, than on hot summer days, when the gap in the rails is negligible.

Perhaps some glance to the north as they cross,



The central swing-span has been scrapped and its pivot pier removed, but two fixed spans from the 1907 Pitt River Bridge remain in place on either side of Mitchell Channel, their location since 1958 when they were put into service there by Western Canada Steel Co. The scene has changed little since this photo was taken in 2003, looking north from the south shore. (Photo by Barrie Sanford)

where today they would see a prominent cable-stayed bridge that opened in 2009 to replace the second and third road bridges that had opened in 1957 and 1978, respectively. Traffic had grown in the two decades since the second bridge had been opened, to the point that a parallel bridge had been built on its north side, opening in 1978 to accommodate the westbound traffic.

The 1914 railway bridge those commuters are crossing is essential to the smooth operation of their train. Indeed, marine traffic is prohibited from requesting to have the swing-span opened during the hours that West Coast Express operates, a departure from the normal practice that gives water-borne traffic priority over rail movements pursuant to the federal Navigable Waters Protection Act.

The operating contract between CPR and WCE even notes that, if the federal authorities ever revoke the special permission to keep the bridge closed to give priority to WCE trains, either party can give 10 days' notice to terminate the commuter rail service if it then interferes with CPR's freight operations.

One thing those commuters don't have to worry about is the prospect of the third Pitt River railway bridge following its predecessor to a new location. As an essential element of CPR's infrastructure, its future seems well assured.

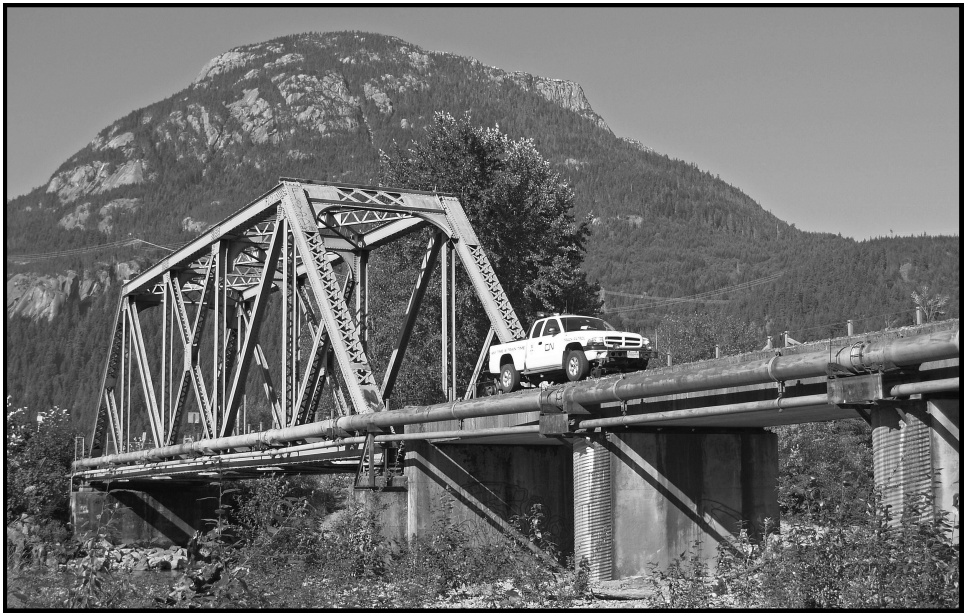
With all the twists and turns in the story of the Pitt River's many bridges, there may be yet another to come, albeit well into the future.

On May 31, 1957, soon after their 42-year life as part of a road bridge had ended, two truss spans of the 1907 Pitt River railway bridge sit on barges tied up at the Arrow Transfer Company dock on Vancouver's False Creek, awaiting yet another relocation, this time to the Pacific Great Eastern Railway. One of these spans went to Furry Creek near Britannia Beach and the other to the Pine River crossing in the Peace River District. (Photo by Bob Harris)

The 380-metre-long cable-stayed bridge that opened in 2009 is currently configured with seven road lanes -- four eastbound and three westbound – plus a bicycle and pedestrian lane on the north side.

But as the government's news release stated when the structure opened: "the bridge is engineered to accept light rail transit at a later date."

Perhaps there will be yet another metamorphosis in the Pitt's crossings, with rails coming to the road bridge this time.



Another truss span from the 1907 Pitt River railway bridge found a new home on the PGE after its days as part of the 1915 road bridge were over. After five years in storage at Squamish, it was installed over the nearby Mamquam River in 1962. Following flood damage in 1976, the truss span was flanked by eight pre-stressed concrete box girders, as seen here on September 2, 2006, with a CN hi-rail pickup truck making a northbound track patrol ahead of a train. (Photo by Ian Smith)

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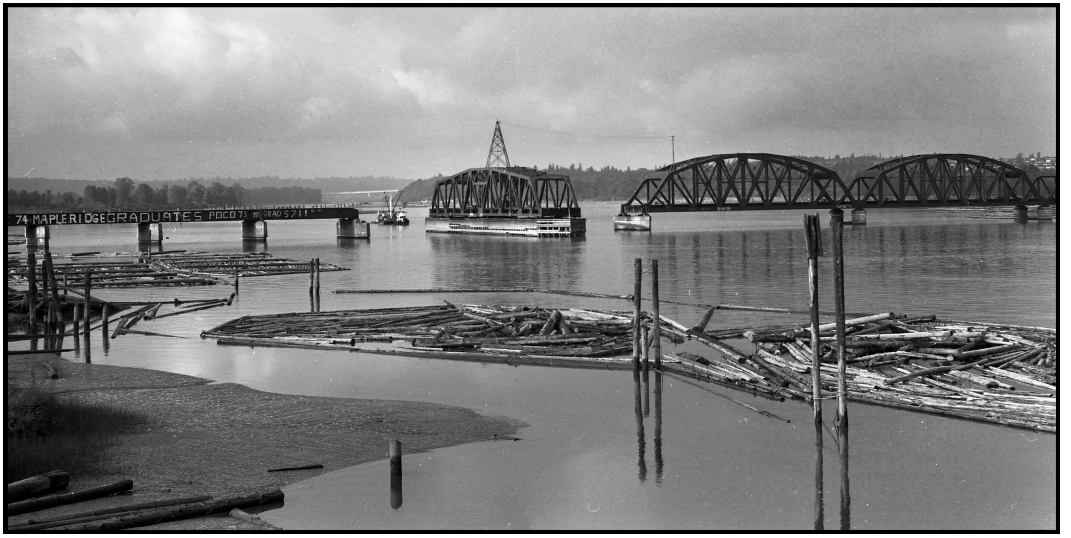


The low vertical clearance of the 1914 double-track bridge means the swing-span has to open for river vessels that could clear the upstream highway bridges. Above, on September 28, 1974, the span has opened for a tug and oil barge bound for Pitt Lake. (Photo by Barrie Sanford)

In its first four decades of existence, the 1914 bridge would have been traversed by steam locomotives tens of thousands of times. Below, in a scene reminiscent of that era, restored Class H1b Hudson 2816 leads an excursion train for employees eastward across the bridge on July 10, 2005, emerging from the swing-span in fine sunlight. (Photo by Ian Smith)

CN suspends freight between Williams Lake and Squamish

Canadian National has suspended through freight service between Williams Lake and Squamish service on the former BC Rail mainline, bringing an end to the daily Trains L570/L571 between Prince George and Squamish.

The last train, southbound L570, reached Squamish on April 7. The last northbound Train L571 had departed a day earlier.

Since then there has been no through freight service in the 273 miles between Williams Lake (Mile 312.9) and Squamish (Mile 40.4), a distance that represents most of the 345 miles of the early Pacific Great Eastern Railway, which had stretched from Squamish to the northern terminus at Quesnel from 1921 until 1952.

CN cited the continued closure of industries along the route as the reason for its decision.

In a statement sent to the mayor of Williams Lake on March 31, a CN spokesman wrote:

"At times of diminished customer demand, as is the case in the Williams Lake to Squamish corridor, it is normal for CN to make changes to our service. Over the last few years of global market uncertainties, this corridor has been impacted by curtailments and closures at our customers' facilities.

"Many of our customers' employees have been impacted, some to the point of job losses. On the heels of another round of customer curtailments and closures, it is no longer feasible for CN to maintain the current service profile in the area.

"Effective April 3-8, 2020, and in conjunction with our employees' change of card process, CN will suspend train service between Williams Lake and Squamish. The remaining customers on this corridor will now see their traffic routed via the Prince George-Kamloops-Vancouver corridor. We advised all the affected customers of this change in advance.

"This is not a decision we have taken lightly. While we are sympathetic to the disruption of this change on the lives of our employees, particularly in the current environment, these employees may have an opportunity to remain with CN in other locations. Based on collective bargaining agreements and depending on employee seniority, they may elect to work at other CN locations such as Quesnel, Williams Lake, Prince George, and other locations in Northern BC."

Prior to the CN take-over in 2004, BC Rail ran three trains daily between Prince George and Squamish or North Vancouver. CN shifted the traffic pattern to a single daily train as of January 14, 2005, routing other traffic via McBride and Kamloops. Although the Kamloops route is some 150 miles longer and involves an extra crew change, it has minimal gradients, making train operation more fuel-efficient than on the undulating BC Rail route, which has grades as steep as 2.2% in various places.

Interior sawmill operations – the main source of freight traffic along the route -- have been severely hit in recent years by factors such as pine beetle devastation of the forests and extensive wildfires, both of which reduce the timber supply, while lumber prices in the major U.S. market have been declining since 2018.

Impacts have ranged from reduced operations with fewer shifts to outright closures.

The COVID-19 pandemic has been the last straw for some, as the effects of the public health crisis have dramatically slashed demand for lumber in the U.S. housing construction sector. Bloomberg News reported on April 20 that 25% of Canadian sawmill capacity had been idled, citing West Fraser Timber and Canfor among B.C. firms that had curtailed operations.

Interestingly, CN's statement did not refer specifically to the COVID-19 impact on its lumber shippers, instead addressing the "last few years of global market uncertainties." This could be interpreted to mean that CN has for some time prepared for this suspension.

Certainly, there is little business left along the line south of Exeter (100 Mile House), itself some 53 miles south of Williams Lake at Mile 259.5.

Last September, West Fraser Timber permanently closed its lumber mill at Chasm (about Mile 213), owing to the dwindling local timber supply.

Farther south, the Graymont lime plant, which had once shipped product from a loading spur at Pavilion (Mile 177.9), closed in 2017 after 43 years in operation. One factor was CN's decision not to handle this product on the BC Rail line, requiring it to be trucked to Ashcroft for transloading.

Three ES44AC units with CN 3847 leading powered the last run of Train L571 from Squamish to Prince George on April 6, seen here crossing Haylmore Creek at MP 122.3 just south of D'Arcy. (Photo by Chris Wasney)

The large Ainsworth Lumber mill at Lillooet (Mile 157.6) once shipped product south by rail to U.S. markets, but was closed and sold in 2009. Two years later it was re-opened by the company that owns Savona Specialty Plywood, and its entire output now consists of veneer that is trucked 78 miles to Savona for use in making concrete forms.

South of Lillooet, the line runs for more than 30 miles along Seton and Anderson lakes, without any sources of freight traffic, and then passes its next customer at Mount Currie (Mile 99.7). Continental Pole ships utility poles by rail, but its traffic is minimal, described as "one or two cars every couple of months." This is the only remaining customer on the line in the 220 miles between Exeter and Squamish.

Two locomotives ran north from Squamish on April 30 with a train of just two empty bulkhead flatcars to be spotted at Continental Pole.
From Mt. Currie it is nearly 60 miles to Squamish, where the major customer is Squamish Terminals, served by rail from North Vancouver.

This, then, is the state of freight business for well more than 200 miles of mainline.

Traffic from Exeter and points north will be routed via Prince George (Mile 462.4), one example being the copper concentrate shipped by Taseko Mines Ltd. from Gibraltar (Mile

IC 2458/CN 8939 led the last Train L570 running all the way through from Prince George to Squamish, passing Creekside siding on April 7 with a short train consisting mainly of copper concentrate loads from Gibraltar Mine north of Williams Lake. This location still sees regular train activity as the siding is being used for storing empty cars. (Photo by Corwin Doeksen)

344.3) to Vancouver for overseas export. A mine spokesman said there would be no change in freight rates and noted the routing via Kamloops was used during the wildfires of 2017.

Ironically, the very south end of the BC Rail line has seen ramped up activity since the end of through freight service from Prince George.

The daily North Vancouver-Squamish turn, Train L546, has emerged from the shadows of nocturnal operation to make its run in daytime, departing North Van sometime after 14:00. And on occasion trains have run several times per day, as CN is now using the sidings along the line for car storage.

All five sidings in the 65 miles north of Squamish – Cheakamus, Garibaldi, McGuire, Mons and Creekside – have been used to store cars, along with Porteau and Brunswick to the south. A 133-car train with a midtrain slave locomotive ran from North Van on April 29. Some trains have included long strings of "baretable" empty container wellcars, a type not ordinarily seen on the ex-BC Rail lines.

This does not appear to be long-term storage, as sidings are filled and emptied regularly.

There was also a southbound move from Prince George on May 18 to store baretable cars at Lillooet, so most of the rails are still getting polished occasionally. The train had originated at Prince Rupert.

Container wellcars are a most unusual sight on the former BC Rail lines, but are now being stored at various sidings north of Squamish following the suspension of through freights. On April 26, this string of "baretables" is crossing Mamquam River Bridge at Mile 41.4 southbound after being retrieved from Cheakamus siding. (Photo by Chris Wasney)

CN's suspension comes at a time when Rocky Mountaineer is not operating its weekly luxury tourist trains between North Vancouver and Jasper, owing to the pandemic.

The Kaoham Shuttle serving the native community at Seton Portage with a daily round-trip to Lillooet operated on a six-days-on, six-days-off schedule in March owing to a staff shortage, but it's not known whether this has since been curtailed in light of the pandemic.

But whether it's Rocky Mountaineer or the humble shuttle, CN does have contractual obligations to provide access for these services.

CN's public statements on the suspension do not point to a firm conclusion about its long-range intentions, particularly in light of these passenger service obligations, which are embedded in the "Revitalization Agreement" between CN and the province that underpin the take-over of BC Rail in 2004.

Under that agreement, now that five years have passed since the take-over date, CN may discontinue or sublet its operations on all or a portion of the ex-BC Rail system, or assign the lease to a third party. In no case will it receive a refund of any part of the $150 million it paid for the 90-year lease.

If it intends to discontinue (the official term for "abandon"), it must follow the discontinuance procedures set out in the Canada Transportation Act, after first advising its landlord, the British Columbia Railway Co. It has done exactly that in the case of the northernmost 193 miles of the

Two empty bulkhead flatcars are the sole business of this train heading north near McGuire on April 30, en route to a shipper at Mount Currie, the last freight customer between Squamish and Exeter. (Photo by Sean Zwagerman)

Takla Subdivision, as reported in the Summer 2019 issue (p. 43).

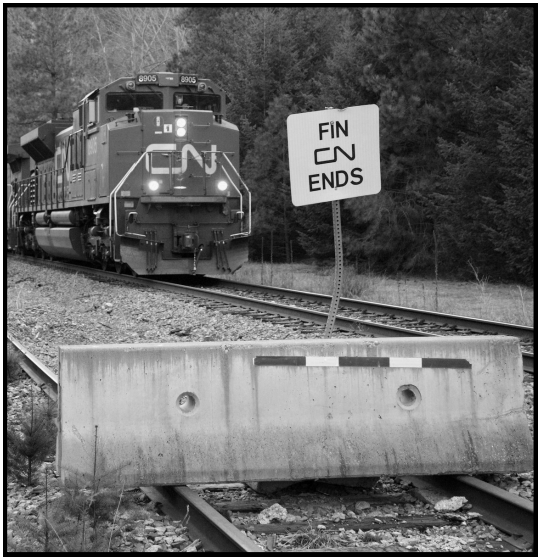
Such an intention would become public when CN updates its Three-Year Rail Network Plan, which federally-chartered railways are required to publish, stating which sections of their networks they intend to keep active or discontinue. But that does not set a deadline – Canadian Pacific listed the Arbutus Corridor section of the Marpole Spur for discontinuance in its three-year plans from 1999 through 2014, suspending service in 2001, but did not dispose of the line until 2016, when it was sold to the City of Vancouver.

As the BC Rail rights-of-way are still owned by the province, the matter of ownership would be academic in this case. So, unlike CP in the Arbutus case, CN has no opportunity to realize money from selling the land, but could benefit financially if it were relieved of the obligation to maintain 200-plus miles of track.

That assumes, however, that CN would be able to sidestep its obligations to offer access to passenger train operators and to operate the Kaoham Shuttle, both of which are clearly spelled out in the Revitalization Agreement.
And official discontinuance would deprive CN of a key diversionary route for freight traffic, which was used as recently as February when landslides blocked its Fraser Canyon line in late January (see previous issue, pp. 33-34). A more extreme example came in 1979-80 when the Second Narrows Bridge was knocked out of commission by a ship, and as many as five trains to the North Shore terminals were diverted via the BC Rail mainline every 48 hours (see Autumn 2019 issue, p. 22).

The availability of such a diversionary route might well be the deciding factor in CN's plans for the line's future.

(Thanks to Corwin Doeksen, Brian Kelly, Trevor Mills, Ken Storey, Chris Wasney and Sean Zwagerman for observations and other information.)



Is this a prophetic sign on the backtrack at D'Arcy? The second-to-last through running of Train L571 passes on May 4. (Photo by Corwin Doeksen)

New prices set for revival of Island rail services

New price-tags have been applied to reinstating service on Vancouver Island's Esquimalt & Nanaimo Railway corridor, with the release on April 28 of a consultant's study commissioned last year (see Spring 2019 issue, p. 45).

The study updates a similar investigation conducted in 2009/10 and a specialized analysis in 2012 that examined the condition of the bridges on the Victoria Subdivision (see Summer 2010 issue, pp. 29-30, and Summer 2012 issue, p. 41).

Since 2006, the E&N lines have been owned by the Island Corridor Foundation, a non-profit society whose members are the five regional districts and 14 First Nations groups with territories along the routes. ICF contracts with Southern Railway of Vancouver Island to operate the freight service.

Carried out by the consulting firm WSP Canada Group Ltd. on behalf of the B.C. Ministry of Transportation and Infrastructure (MoTI), the research project assessed the condition of the railway's track, grade crossings, bridges and rockfall activity, and estimated the costs of upgrading the infrastructure to resume normal rail freight and passenger service, and starting a commuter service between Victoria and Langford.

Summarizing their ratings on a scale of Good, Fair and Poor, the consultants appraised the condition of the 140-mile Victoria Subdivision mainline between Victoria and Courtenay as follows: roadbed and track, poor to fair; bridges, poor to good; and grade crossings, fair. Their overall rating of the line is poor to fair.

Condition of the 39-mile branch from Parksville to Port Alberni was rated as poor.

The main track deficiencies are: uncontrolled vegetation; an excessive number of decayed ties (45% of total); and outdated rail hardware in the form of single-shoulder tie plates (60% of total) and angle joint bars, both of which impair performance.

The consultants outlined three levels of track rehabilitation that could be carried out in separate stages to meet actual traffic requirements as the need arises, calling these Initial, Intermediate and Ultimate.

The Initial level involves restoring the track to railway industry Class 2 standard, with maximum track speeds of 25 mph for freight and 30 mph for passenger trains.

Track upgrades would consist of replacing 55% to 70% of defective ties, replacing shoulder plates and anchors, adding ballast, and removing vegetation. Other work would include turnout upgrades, bridge rehabilitation, grade crossing upgrades, and rockfall remediation.

On the Victoria Subdivision, this level of rehabilitation would permit two to four passenger trains per day and two to four 10-to-20-car freight trains. It would not allow for sustained use of freight cars loaded to a gross weight of 286,000 lb., the current industry standard.

With the line restored to Class 2 standard, a passenger train could run from Victoria to Courtenay in 5 hr., 11 min., which is 26 minutes slower than the scheduled journey time when VIA Rail service using Budd RDC trains was suspended in 2011.

The cost of restoration to Class 2 standard is estimated at up to $227 million (all figures rounded and in 2020 dollars), including $126 million for construction, $14 million for engineering, and a contingency of $58 million. Other costs within the estimate are for project management and First Nations consultation.

Cost to rehabilitate the Port Alberni Subdivision to Class 2 standard is estimated at up to $99 million. That line last saw revenue traffic in January 2002, with the final shipment from the Port Alberni paper mill.
The Intermediate level of upgrading would bring the line up to Class 3 standard, with track speeds of 40 mph for freight and 60 mph for passenger trains, and allow sustained use of freight cars weighing 286,000 lb.

Work would include new and heavier rail (most current rail is 85 lb./yd.), vegetation maintenance, tie replacement, new rail joints, additional ballast, and new turnouts.

At this level, the line could handle from four to eight passenger trains daily and four 10-to-20-car freight trains daily, carrying up to four million tonnes per year (current freight loads total just 110,000 tonnes per year).

Class 3 track would permit the Victoria-Courtenay passenger run to be made in 3 hr., 8 min., compared with the 4 hr., 45 min. in the 2011 timetable.
Upgrading to this level would add as much as $178 million to the estimated maximum cost for the initial level, including a $45-million construction contingency.

For the Port Alberni Subdivision, the estimate of additional spending for an upgrade to Class 3 ranges up to $47 million.

Island sees 1,200 freight cars annually

The state of rail freight traffic on Vancouver Island is summarized in WSP Canada Group's recently published report for MoTI.

About 1,200 railcars are shipped between the mainland and Island annually, landing at the barge slip directly adjacent to the railway's Wellcox Yard in Nanaimo. Commodities include animal feed, forest products, aggregates, fertilizer and propane. But aside from propane, the cargoes are transloaded to or from trucks at Wellcox.

Tank cars containing propane are hauled by Southern Railway of Vancouver Island (SVI) to Superior Propane's facility in the north end of Nanaimo, typically making two or three runs per week to deliver, reposition or lift cars. Annual volume ranges from 250 to 300 cars.

SVI's parent, Southern Railway of British Columbia, keeps two GP9 locomotives at Wellcox for switching operations.

To put today's freight volume into context, at the time of the 2009/10 consulting study, Southern Railway estimated it would take 20,000 carloads a year to support a sustainable stand-alone freight operation on the Island, and 30,000 carloads to recover the costs of rehabilitating the line to freight-only standards. CP hauled 7,900 carloads in 1997, when the Port Alberni paper mill still used rail.

The Ultimate level of rehabilitation involves full reballasting of the line, with new ballast and in greater amounts than before. It assumes the two earlier levels of upgrading have already been carried out. The consultants recommend this be considered when passenger traffic reaches or exceeds eight trains daily or freight loads top four million tonnes per year.
Estimates of additional cost beyond the Intermediate upgrade range up to $143 million for the Victoria Subdivision and $34 million for the Port Alberni Subdivision.

Viewed in conjunction, then, the estimated cost of upgrading the lines through all three stages could be as much as $548 million for the Victoria-Courtenay mainline and $180 million for the Parksville-Port Alberni branch.

The most expensive option in the 2009/10 study was to rehabilitate both subdivisions to allow for more freight, three VIA trains daily and the Victoria-Langford commuter service, at a cost of $216 million (including upgrades of passenger cars), plus up to $120 million on bridge repairs and upgrades.
The E&N line is known for its numerous and sometimes spectacular bridges, and these received considerable attention from the consultants.

The 48 bridges on the Victoria Subdivision would require $4 million in immediate repairs to restart passenger service. That figure balloons to $19 million if the aim was to institute freight service with 286,000-lb. cars, since the bridges at Mile 39.3 (Cowichan River), 47.9 (Chemainus River) and 125.5 (Tsable River)

This view looking south at Nanaimo's Wellcox Yard on May 6 captures much of the Island's active rail scene. Both of SVI's GP9 locomotives, Nos. SRY 110 and 128, are on hand, as is caboose A5 and various maintenance-of-way equipment. At left is privately-owned ex-VIA/CN cafe-lounge car 754. (Both photos by Robert D. Turner)

would require replacement.

The tall steel viaducts at Mile 14.0 (Niagara Canyon) and 14.9 (Arbutus Canyon) would need $118,000 and $98,000, respectively, in immediate work to restart passenger service, and the Niagara bridge would need another $300,000 immediately for freight service. In the long run, full replacement costs for each would be $22 million and $13.75 million, respectively, at current dollar values.

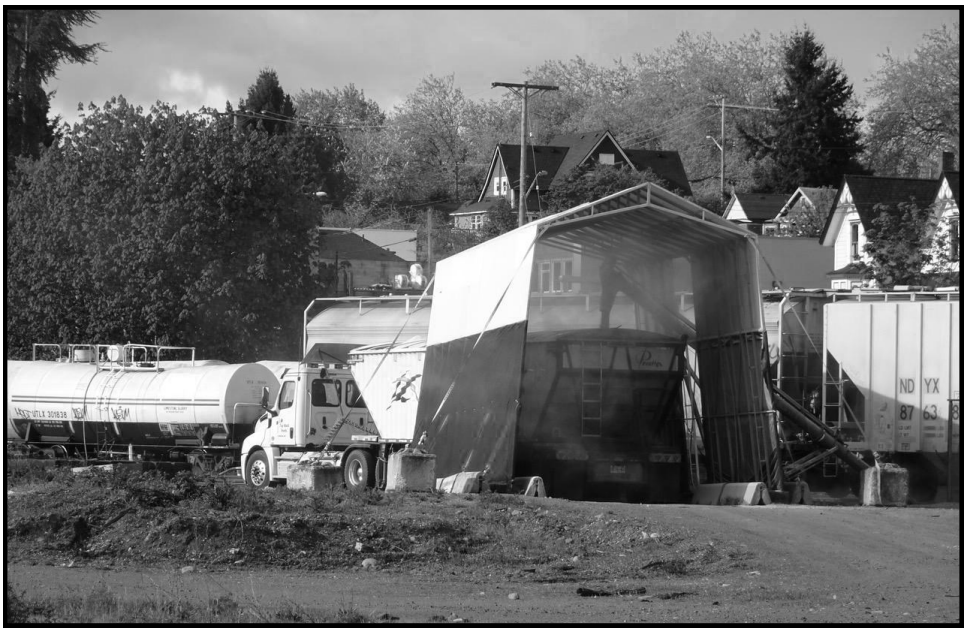
The consultants put the likelihood of having to replace those bridges within 50 years at 70% for Niagara and 40% for Arbutus.

As well as estimating costs to rehabilitate the lines, the consultants also looked at passenger train operations in the various scenarios.

With the basic Class 2 upgrade, they suggest that the single daily VIA service be re-oriented to start from Courtenay rather than the traditional northbound run from Victoria, which was criticized for not offering any form of commuter service into the Island's largest city.

This suggestion comes with the trade-off that the Courtenay departure time would be 03:00, so as to allow for commuting from Nanaimo and Duncan into Victoria, with an arrival time of 08:28, allowing for a 15-minute contingency stop at Duncan. The northbound departure from Victoria would be at 17:00.

The upgrade to Class 3 track standard would shave some two hours off that journey time, allowing for a later start from Courtenay and an earlier evening arrival there.



Animal feed is transloaded from railcars to a truck hopper-trailer at Wellcox Yard on May 6. The shipment is en route to Top Shelf Feeds at Koksilah near Duncan, which received such cargoes by rail until service was suspended in late 2014 owing to unsafe track conditions.

There would be six intermediate stations, at Qualicum Beach, Parksville, Nanaimo, Ladysmith, Duncan and Shawnigan Lake.

Drawing from two data sources, the consultants forecast that the passenger service on Class 2 track would attract 497 riders per train, with 574 using the faster service on Class 3 track. That compares with an average of 110 per train (40,000 per year) at the time of the 2009/10 study.

A key aspect of the consulting firm's commission was to analyze the requirements to rehabilitate the line for commuter rail service between Victoria and Westhills in the Goldstream area of suburban Langford.

The result was a recommendation to rebuild that section to the "ultimate" level and add four local stations, at Westhills (10.06 miles from Victoria), Langford (7.9), Six Mile (5.5) and Admirals (2.6).

A new Victoria station could be located about 120 metres west of the replacement Johnson Street Bridge, which was opened in 2018 without provision for a railway connection into the city's downtown business district. (The line across the old bridge reached a VIA Rail station on the downtown side, which has since been dismantled and relocated).

Total journey time would be 28 minutes. In the morning, three commuter-only trains would run ahead of the train from Courtenay, which would also serve the commuter stops. In the afternoon, the process would be reversed, with the 17:00 departure for Courtenay providing the first commuter service, followed by three commuter-only trains.

At start-up, an average of 119 commuter passengers per train in the morning is forecast.

The consultants put the cost of the commuter option at $595 million, net of any spending to upgrade that section of the line as part of a mainline rehabilitation project. Some of the major expenses would be for stations ($27 million), a maintenance depot ($60 million), property acquisition ($44 million), signalling ($26 million), and rolling stock ($38 million). The estimate includes a substantial contingency amount of $255 million.

The findings of the consultant's report will be considered in MoTI's South Island Transportation Strategy, looking at all modes of transportation across southern Vancouver Island. The strategy is expected to be released in June.

SHORT HAULS

The Events of Today are the History of Tomorrow

Two Union Pacific locomotives powered a train on the Squamish Subdivision on May 1.

UP 3885-7910 (SD70M and ES44AC) left North Vancouver with 81 cars, mostly centrebeam flatcars, and set out 74 at Brunswick siding for storage, before continuing to Squamish, and then taking 80 cars north to Garibaldi. (Chris Wasney/Trevor Mills)

Eight ex-BC Rail locomotives have been retired by CN.

C40-8Mu units BCOL 4606/10/13/14/15/16/21/24 are the first to leave the roster, out of the 26 acquired by CN in the take-over of BC Rail in 2004. Built in 1990 or 1994 as follow-ons to CN orders, they were later upgraded to Dash 9 specifications, including boosting the output of their diesel engines to 4,400 hp from 4,000.

CN has also retired some of its own original 55 locomotives of this type, but these were never upgraded. Class leader CN 2400 and 18 others have left the roster.

With these retirements, CN has 32 ex-BC Rail units on its roster. It acquired 109 locomotives and 10 slugs in the 2004 take-over, at a cost of $105 million. (*Branchline*/Editor)

Prince Rupert's CN enginehouse was destroyed by fire on March 1, in a blaze that took 18 hours to extinguish. Police arrested a juvenile male for arson on the day of the fire. In the past decade, the structure had been used for storage, including flammable materials. (*National Post*/northernview.com)

CN has returned 25 leased ES44AC units to their owner, CitiCorp. These were numbered CREX 1501-1525. (*Branchline*)

UP 3885-7910 are seen from the 26th Street footbridge in West Vancouver at Mile 5.2 of the Squamish Subdivision, working north with Train L546 to Squamish on May 1. (Photo by Chris Wasney)

Canadian Pacific

CP's newly rebuilt SD70ACU units have been restricted from operating west of Calgary, while various electrical issues are sorted out.

Concentrating them at operating bases at Winnipeg and St. Paul, Minn., will enable the remanufacturer's engineering staff to keep a close watch for problems.

The first such unit, CP 7000, made its first appearance in the Vancouver area on August 26 last year, and the last to be seen was CP 7011 departing for Calgary in mixed freight Train 400 on May 13.

CP 7011 is one of 10 locomotives painted in a maroon-and-grey heritage livery (7010-7019) and CP 7020-7024 and 6644 are painted in military tribute designs (see Autumn 2019 issue, pp. 6-15).

As of the press date, CP had received 51 of the 60 locomotives being rebuilt to SD70ACU specifications by Progress Rail Services at Mayfield, Kentucky.

CP has bought six SD80MAC units from Norfolk Southern to serve as parts sources for the remanufactured SD70ACU locomotives in its fleet.

Numbered NS 7206, 7215, 7218, 7225, 7226 and 7227, these 5,000-hp locomotives are a unique type acquired only by Conrail in 1995-96. When Conrail was split up and sold to NS and CSX in 1999, the 30 units of this type (CR 4100-4129) were allocated between the two railways, with NS getting 18. (Conrail Cyclopedia)

A third yard track is being added in the interchange yard between Booth and Sapperton on the Westminster Subdivision in Coquitlam. This will add capacity for staging 8,500-ft. trains destined for the North Shore via transfer to CN at Sapperton.

The current layout consists of a mainline track and two yard tracks on its north side, plus the Fraser Mills Passing Track on the south side, which once provided access to several locations within the former Fraser Mills complex.

The new track is being built on the alignment of the passing track.

The northernmost yard track, designated Track 2, was extended in 2012 by some 3,000 ft. to match the 8,000-ft. length of Track 1 on its south side. That extension was made possible by the replacement of the King Edward Avenue grade crossing with an overpass (see Autumn 2012 issue, pp. 24-25). (Dan Brewster/Editor)

CP set an all-time monthly record for grain hauling in April, moving 2.8 million tonnes, topping its previous high-mark set in November 2019 by more than 100,000 tonnes. That came after a record first quarter, in which CP hauled 6.35 million tonnes of Canadian grain. (CP)

An ex-CN/VIA diner has joined CP's business car fleet.

Now numbered CP 89, the car was purchased from the National Railway Historical Society, BC Chapter, which disposed of its large collection of heritage passenger cars last year (see Spring 2019 issue, pp. 52-53, and Autumn 2019 issue, p. 48).

It was built by Pullman-Standard in 1954 as CN 1347, and carried that number during its life with VIA from 1978 to 1995, when it was acquired by NRHS-BC. (*Branchline*)

Fire-damaged locomotive CP 5014 returned to service in April, some two years

after it was heavily damaged in a blaze at Port Coquitlam Yard on January 22, 2018.

The SD30C-ECO unit collided with a tanker truck full of ethanol at a crossing in the yard, with its nose stuck between the two trailers hauled by the truck (see Winter 2017/18 issue, pp. 40-41).

Three months after the incident, CP 5014 was sent to Progress Rail in Tacoma for repairs, after being shipped to Calgary for an assessment of its damage.

Rail Industry

CN and CP did not exceed their "maximum revenue entitlements" for western grain shipments during the 2018-2019 crop year, according to a ruling by the Canadian Transportation Agency.

This marks the first time in a decade that neither railway exceeded the MRE cap, even though they hauled 13.4% more grain than in the previous crop year, amounting to 46,060,737 tonnes.

That is the result of a change in the MRE calculation formula as of the 2018-2019 year that gave the railways an incentive to make capital investments that boost their grain-hauling capacity. The change was introduced in the overhaul of the Canada Transportation Act that took effect in 2018.

The railways responded quickly with a pledge to upgrade and expand their grain-hauling fleets.

CP said it would acquire up to 5,900 new high-capacity hoppers over four years, and to date has added more than 2,500. CN said it would purchase 1,000 hoppers of the same type, built by National Steel Car of Hamilton.

In both cases, the railways squeaked barely under the wire to stay within their MREs for 2018-2019.

CN earned $933,357,710 from hauling Canadian grain, just $371,116 below its MRE. CP brought in $862,734,965, which was $764,101 below its MRE.

Under the Canada Transportation Act, the agency sets an MRE for each railway for a specific crop year (August 1-July 31), and at the end of the year it determines whether the maximum has been exceeded. This functions as a form of rate protection for western farmers.

The railways are required to pay the amounts above the maximum, plus a 5% or 15% penalty, to the Western Grains Research Foundation, which funds research that benefits Prairie farmers.

For example, in the 2017-2018 crop year, CN exceeded its MRE by $1,047,285 and therefore paid $1,099,649 to the foundation, while CP was $1,500,513 over the MRE limit and paid $1,575,539.

In total, the railways have paid $106 million to the foundation since 2000, when the MRE process was established.

The agency describes the MRE "as a limit to the average revenue per tonne, for a given length of haul that CN and CP can earn, adjusted for the level of inflation of railway input prices." It replaced a system of maximum freight rates dating back to 1983 when the Western Grain Transportation Act superseded the 1897 Crows Nest Pass Agreement. (CTA)

White Pass & Yukon Route

Four MLW diesel locomotives have been sold by White Pass & Yukon Route to the Durango & Silverton tourist railway in Colorado.

Two of the WPYR's unique RSD-35 locomotives were loaded in to a barge at Skagway on April 11 for their voyage southward. Numbered 101 and 107, they were built in Montreal in 1969 and later were among a group of five units of this type sold to a Colombian railway in 1992, then reacquired in 1999. No. 101 received a Cummins QSK45L diesel engine in 2015, but No. 107 retains its Alco 6-251D engine.

A further two locomotives will be selected later by Durango & Silverton and shipped to Colorado in 2021.

Prior to the sale, WP&YR had eight MLW units of this type, plus a single wide-cab version built by Bombardier in 1982. (*Trains NewsWire/ Canadian Trackside Guide*)

VIA has cancelled the *Canadian* "at least" through November 1, as the COVID-19 pandemic continues. The discovery of structural problems in the car fleet is also a factor in the lengthy and indefinite suspension (see next item).
Long-distance services were initially suspended from March 13 onward owing to the risk of infection by the virus. By that date, 176 people in Canada had been infected, 53 of them in B.C., and there had been one death.

Of those cases, 75% involved travellers and another 10% were close contacts of travellers.

The initial suspension of the Toronto-Vancouver *Canadian* and Montreal-Halifax *Ocean* was for two weeks through March 27, but within days that was extended to May 1 inclusive. On April 6, that was further extended to June 1, and on May 6 VIA announced that suspension of both services would continue through November 1.

By then, there had been 63,367 confirmed cases across Canada and 4,223 people had died.

When the suspensions began, the *Canadian* had only just returned to service after three weeks of cancellations owing to blockades by natives (see item pp. 38-39). Only two eastbound and three westbound trains ran during the nine days between the two prolonged closures. The last arrival at Vancouver was on March 15.

Two days after the initial long-distance suspensions, VIA announced it was cutting service by 50% in the Quebec City-Windsor corridor for the same period and reducing meal and snack service on the remaining trains.

As of March 31, corridor service was reduced further to one train daily in each direction between Toronto-Montreal, Toronto-Ottawa, Quebec-Ottawa-Fallowfield, and Toronto-Windsor. That is set to continue until June 18. (VIA)

VIA's stainless-steel fleet is undergoing rigorous inspections after "new structural issues" were uncovered during a program to modernize 42 coaches.
In a message to employees on May 6, VIA's chief executive, Cynthia Garneau, said:

"Regrettably, in recent weeks, rigorous inspections have revealed new structural issues in some of these cars, which have travelled many kilometres since they were built. These unfortunate setbacks mean that we need to scale up the inspection program and quickly carry out structural repairs on a greater number of cars than originally planned."

Garneau noted that, as a result of the COVID-related service suspensions, "a reduced number of HEP cars are currently in service. This will allow our maintenance centre teams in Montréal, Toronto, Winnipeg and Vancouver to focus and complete the required inspection and repair work . . . so that the upgraded cars can be reintegrated into the network as soon as possible and so that we can be ready in time for the 2021 peak season."

While the May 6 public news release on the structural and COVID issues cited the service suspension lasting until November 1, the employee memo is more explicit, with Garneau saying: " . . . we are extending the suspension of the *Canadian* and *Ocean* operations *at least* until next November. Until then, and depending on the results of our inspections, we will evaluate our options to offer *a reduced service* starting in November 2020." [emphasis added]

The $100-million modernization program that began in 2018 involves 17 coaches originally used by U.S. railways, which are being rebuilt to provide full accessibility for disabled passengers, and 25 coaches from the 1954-55 build for CP (see Spring 2018 issue, pp. 42-43). Both types are classed as HEP-I, having been converted to head-end power in 1990-94.

However, Garneau's statement implies that the

Observation-dome car Glacier Park brings up the rear of VIA Train 12 at the west portal of Yale Tunnel No. 4 on the CP Cascade Subdivision, on May 15. That's right, Train 12, not the Canadian. It's a transfer of stainless-steel cars from Vancouver to Toronto for inspection work. (Photo by Corwin Doeksen)

inspections could involve the entire HEP-I stainless-steel fleet, which includes 69 sleeping cars, 13 dining cars, 15 Skyline dome cars, 14 Park-class observation-dome cars, and 18 baggage cars, as well as the coaches undergoing modernization. Altogether, the HEP-I fleet comprises 171 cars.

VIA owns another 10 club-galley cars and 23 coaches in the HEP-II category, all purchased from U.S. operators and converted to head-end power in 1995-96. It is not clear whether these cars are implicated in the announcement of structural issues. (VIA/*Canadian Trackside Guide 2020*)

VIA Trains 5/6 have been cancelled until July, owing to the COVID-19 outbreak and what VIA describes as "continued infrastructure issues" as CN makes track upgrades.

As the Jasper-Prince Rupert service was also affected by native blockades along the route (see item below), it appears that the last westward run was made from Jasper to Prince George on February 12, with the train turning around at that midpoint and returning to Jasper the next day.

There were no VIA trains between Prince George and Prince Rupert on those days, with the last train from Prince Rupert having departed on February 7. (Tom Box/Tim Stevens)

With the western trains sidelined, VIA ran a 20-car deadhead train across the country to its Toronto Maintenance Centre in mid-May. F40PH-2D locomotives 6453-6456 departed Vancouver on May 15 with 14 stainless-steel cars from the *Canadian's* fleet, and picked up locomotive 6459 and six more cars at Jasper the next day, the latter representing two three-car consists from Trains 5/6.

With a Park-series observation-dome car at the rear when leaving Vancouver, the train looked like a proper *Canadian* at first glance, but on closer inspection was formed of an odd amalgam that included five dining cars, three regular Manor-series sleepers, three Prestige-class Chateau sleepers, one coach and a baggage car, all intermingled (photos, p. 4 and 37).

The deadhead train ran as VIA Train 12, but was numbered P01251 15 in CN's system.

The move might have been made to distribute the equipment among VIA's maintenance centres for inspections related to the structural issues with these cars, as noted above. (Corwin Doeksen/Tim Stevens)

Disruptions from native blockades in various parts of the country saw the *Canadian* and other VIA services cancelled from February 13 into early March.

As reported in the previous edition, the eastbound *Canadian* was annulled at Portage la Prairie, Man., on February 12, after leaving Vancouver on February 10 (not on the 11th, as incorrectly reported).

The westbound *Canadian* that had departed Toronto on February 12 only made it as far as Winnipeg.

Following that, six eastbound departures from Vancouver were cancelled from February 14 through March 2. Five westbound departures from Toronto were cancelled from February 16 through March 1.
Service on the *Canadian* resumed with Train No. 1 leaving Toronto on March 4 and No. 2 departing Vancouver on March 6.

The latter was the annual Moonlighters' train, heavily booked by current and retired American and Canadian railway managers making the pilgrimage during a full moon (see Spring 2019 issue, p. 46). Once again accorded priority treatment, the 20-car train reached Toronto 47 minutes ahead of schedule on March 10.

Those Moonlighters making the turnaround

westbound trip from Toronto on March 11 weren't as lucky with that train's performance, as it departed some three hours late and arrived at Vancouver almost 12 hours late on March 15, owing mainly to equipment failure (its defective baggage car had to be switched out and marshalled behind the Park observation car).

They were lucky in one sense through – their train was the last to leave Toronto before VIA cancelled all of its services effective March 13 owing to the growing risks posed by the COVID -19 virus.

Altogether, the blockades across the country by militant natives and their supporters played havoc with VIA services. VIA reported on February 28 that 940 trains had been cancelled, affecting 164,000 intended passengers. Services gradually resumed starting March 3.

At one point, some 1,000 VIA employees had been laid off.

The only routes not affected were the Sudbury-White River train in northern Ontario and the service between The Pas and Churchill in northern Manitoba. Neither of those services run on CN tracks, which were the target of most protests. (VIA)

Amtrak suspended service to Vancouver on March 16, citing the closure of Pacific Central Station owing to the threat of COVID-19 infection.

A statement on Amtrak's website, posted at 15:00 that day, said: "Pacific Central Station in Vancouver, BC is closed. As a result, Amtrak Cascades service north of Seattle is suspended until further notice. Daily thruway bus service between Seattle, Everett, Mt. Vernon and Bellingham will still operate."

In fact, Pacific Central was not closed at that point. Although service on VIA's *Canadian* was suspended as of March 13 (the last arrival was on March 15), bus services from the station were still operating, run by Wilson's Transportation and Ebus; both were later suspended.

Amtrak service remains suspended.

Trains through July 31 were cancelled owing to the COVID-19 pandemic that had broken out before the season began.

Rocky Mountaineer announced the cancellation of April trains on March 17, acknowledging that the delay to opening the season could "potentially be longer." But on March 30, cancellation to the end of June took effect, and on May 14 that was extended to July 31.

The season was to have opened with trains from Vancouver to Banff/Lake Louise and Jasper on April 13 and 14, respectively, and from North Vancouver to Jasper via Quesnel on April 25.

Those whose departures were cancelled will receive a credit valued at 110% of the original booking price to be used for travel by the end of 2022 season, but cash refunds were not offered.

In early April, the company said it had laid off or reduced hours for half of its 300 year-round staff, the majority in Vancouver, but about 60 in Kamloops as well. Hiring of about 450 seasonal staff had been postponed. (Rocky Mountaineer/*Vancouver Sun*)

The last of 10 German-built bilevel cars for Gold Leaf service was delivered in December, completing an order placed in 2015.

The first car was delivered in June 2018 (see Summer 2018 issue, pp. 46-48). The 10 cars are odd-numbered RMRX 9541 through 9559.

Rocky Mountaineer has 16 older bilevel cars built by other manufacturers from 1995 through 2007. (Rocky Mountaineer/*Canadian Trackside Guide 2019*)

COVID-19's impact on ridership resulted in service being reduced in several stages.

Capacity was cut to four trains in each direction as of March 26 and then three trains as of April 8, which were then shortened on April 22, with only eight cars operating in total.

Starting March 26, the second morning departure from Mission City (at 05:55) and the second afternoon departure from Waterfront (at 16:20) were cancelled, as ridership had plunged by 80% from normal levels.

WCE said the sharp drop in ridership would be balanced with the need to maintain "social distancing", so all other trains would remain on their regular schedules for the time being.

With the first frequency reduction, a 10-car consist was removed from service. The four remaining trains had consists of four, eight, nine and 10 cars, respectively, for a total of 31, with a seating capacity of about 4,550.

The reduced ridership amounted to about 1,100 passengers in each direction, allowing for about 25% occupancy of the cars to provide for social distancing. Trains were also being disinfected during their cleaning every evening.

Then, as of April 8, the fourth morning departure (at 06:55) and fourth afternoon departure (at 17:30) were also cancelled. As a result, there would be a one-hour interval between each of the three remaining morning trains. In the afternoon, the gap would be one hour between the first two departures and then 90 minutes until the final train.

This reduction saw the 10-car consist of Trains W4/E4 withdrawn, reducing the active fleet to 21 cars in three sets, with a seating capacity of about 3,100. These were formed into consists of eight, seven and six cars, working the 15:50 (E1), 16:50 (E3) and 18:20 (E5) homeward runs, respectively.

The consist rebalancing had taken place on April 7, with the nine-car set used for E3 giving up two of its cars, which were added to the four-car set used for train E5. An eight-car consist remained in service.

April 22 saw those three consists reduced to a mere eight cars altogether, as TransLink embarked on a wide range of service cuts to all modes of transit, as ridership and revenues plunged (see item in SkyTrain section).

That day, Train E1 ran with just two cars (down from eight), E3 had three cars (cut from seven), and E5 also had three cars (rather than six). On the following day, the two-car consist was switched to trains E5 and W5, with E1 getting a three-car set.

The three trains had a combined capacity of about 1,160 seats. Assuming the same ratio of four seats to one passenger that was applied earlier, this implies that fewer than 300 people were riding the trains. Under normal circumstances, about 5,000 ride WCE trains daily.

The use of a two-car train has only one precedent in WCE's history, dating back to 1999. On January 14 that year, westbound train W1 consisting of three cars leased from Miami Tri-Rail hit a small mudslide along Burrard Inlet and derailed. The truck of the leading cab car was damaged, resulting in that train running with just two cars for the ensuing two weeks, as the Miami and WCE cars were not compatible to be operated together. (TransLink/Editor)

A native protest blockade at Haney on February 24 caused the cancellation of the afternoon's homeward runs.

Protestors with awnings and camping chairs set up a blockade at about 16:00 on a private crossing at Mile 102.5, just east of Port Haney Station, which brought freight traffic to a halt. All five WCE trains were annulled at Waterfront. By 18:45, police had dispersed the protestors and trains began running, with four eastbound freights passing in the next 75 minutes. Then, all five WCE trains ran eastbound in a fleet to Mission City, deadheading empty in the correct sequence of their usual departures.

F59PHI locomotive WCE 902 hustles homeward with a two-car Train E5 at MP 100.4 of the CP Cascade Subdivision at Albion on April 23, the second day of shortened consists owing to the COVID-19 ridership drop. (Photo by Ian Smith)

The five trains passed Albion east of Haney in a 35-minute window from about 20:25 to 21:00, averaging nine minutes apart.

That afternoon's passengers had been advised to take SkyTrain to Coquitlam Central. A bus bridge had been organized to take them to stations from Port Coquitlam to Mission City.

Later that day, CP obtained an injunction from the B.C. Supreme Court against any similar future action anywhere in B.C. Among other things, the injunction forbids any protest action within 50 ft. of either side of CP tracks. (TransLink/Editor/*Maple Ridge News*)

VIA 6426 was pressed into service on West Coast Express for several days in early March, presumably because WCE was unable to provide its own spare locomotive.

The F40PH-2D unit was assigned to the four-car consist that normally forms the first morning and last afternoon train, and was seen on those trains from the March 3 afternoon run to the March 5 morning trip. (Editor)

SkyTrain service was reduced in stages as the impact of the COVID-19 virus greatly changed commuting and social travel patterns, and severely cut into TransLink's revenue sources.

As of April 22, Expo Line capacity was reduced by a further 20% during peak hours and the Millennium Line saw an extra 15% cut in that period. On both lines, capacity was cut by 20% to 40% during middays, early evenings, and weekends.

In both cases, those cuts were in addition to a 17% drop during peak hours and a 20% reduction on Friday and Saturday evenings that had been instituted in March.

Announcing the later cuts on April 20, TransLink said that with current passenger loads, it should be possible for riders to maintain the "social distancing" required by the public health authorities, but advised them to wait for another train if they felt such distance could not be achieved.

In that announcement, TransLink said it was losing $75 million per month, with ridership down by 83%, while still providing transit services for essential workers.

Bus fares had been eliminated in March to avoid close contact between riders and drivers, with only the rear doors used for boarding and alighting. By way of signs placed on seats, seating capacity was reduced to provide added space between passengers.

As of April 24, service on 12 bus routes and six night bus routes was suspended, to be followed by another 47 routes in May, along with frequency reductions on many other routes. But when the time came, 41 route suspensions slated for May 18 did not take place, as the first easing of COVID restrictions took effect.

TransLink was also losing money as gasoline and parking tax revenues had dropped, as car use plunged with many people staying home from work indefinitely.
In conjunction with the service cuts, TransLink said it was laying off 1,492 employees in SkyTrain, SeaBus and bus operations, and head-

quarters functions, and senior executive staff was taking a 10% salary cut. But with the cancellation of the May 18 reductions, the layoff notices were withdrawn.

Starting May 14, more full-length trains were gradually added on the Expo Line. On May 19, service was restored to 90% of pre-pandemic levels by increasing frequency during peak periods, middays, and early evenings.

TransLink said Expo and Millennium Line service would be operating at 100% of pre-pandemic levels by May 25. (TransLink)

CANADA LINE

Service capacity was cut by 18% during peak hours in March, as the Canada Line's operator adjusted to lower ridership resulting from the COVID-19 impact on both commuting to work and trips to and from the airport.

The cut was not intensified when SkyTrain service on the Expo and Millennium Lines was further reduced as of April 22.

As of press time, service was operating at 92% of normal levels, with 18 trips per hour during peak periods. (TransLink)

Port News

Roberts Bank Superport has reached the half-century mark.

The first test train of coal hauled by CP Rail from southeastern B.C. reached the new port on April 30, 1970, an event soon followed by the departure of the first ship, *MV Snow White*, sailing for Japan with a load of 24,289 tonnes.

The grand opening took place on June 15, attended by both Prime Minister Pierre E. Trudeau and B.C. Premier W.A.C. Bennett, representing the governments that had poured large sums of money into the project.

Deltaport container terminal was added in 1997, as the "pod" of land at the end of the 2.5-mile causeway had been expanded to four times its original size in a 1983-84 project in anticipation of the port's future growth.

A brief story of Roberts Bank's growth was told in the Spring 2010 issue (pp. 22-23) on the occasion of the 40th anniversary. A feature in the next issue will look at the multiple expansions of the railway layout at the "Bank" over the past 50 years.

Neptune Terminals will not ship coal for a five-month period starting in May, while work to complete the capacity expansion is accelerated.

Teck Resources, a co-owner of Neptune, needs that expansion to be completed by March 31, 2021, the expiry date of its 10-year shipping contract with Westshore Terminals at Roberts Bank (see previous issue, pp. 6-13). Teck slowed its coal production in the run-up to the temporary shutdown of Neptune. (Teck Resources)

British Rail diesel multiple unit 142049 takes a rest at Abbotsford on July 30, 1986, after a run from New Westminster over BC Hydro Rail tracks. (Photo by Ron Keillor) Below, near 21 years to the day later on July 28, 2007, the unit was spotted at Manchester Piccadilly station, now in a yellow-and-white livery and operated by private company Northern Rail. It wore no commemorative sign or plaque to recognize its stint in Canada. (Photo by Ian Smith)

Overseas

The British Pacer "railbus" that visited Expo 86 was scrapped in January, as that type of vehicle nears its end of service owing to lack of facilities for disabled passengers, which are now required by regulation.

Fresh from the factory, the two-car unit numbered 142049 spent several months in Canada in 1986, which included a test run between North Vancouver and Squamish on BC Rail.

That railway's shops added some equipment essential for operation in Canada, including air horns, a bell (in the form of a fire alarm) and two-way radios in each cab.

Its main purpose was to provide a non-stop demonstration service between New Westminster and Abbotsford on BC Hydro Rail tracks, which operated from June 25 to August 10, making three round-trips daily (see Summer 2006 issue, pp. 23-28).

For the record, 142049 met its demise on January 28 at the EMR (European Metal Recycling) scrapyard at Kingsbury in the West Midlands. (Editor)

Preservation

Ex-CP wide-vision caboose 434371 will be returning to Vancouver Island after donation to the CHRA's E&N Division.

This means the caboose has come full circle in the past 20 years, as it had been restored and painted by the Division in 1999 while in the ownership of RailAmerica, which operated the Esquimalt & Nanaimo lines from 1999 through 2006.
RailAmerica had sent it off-Island in 2002 for service on one of its Alberta shortlines, the Mackenzie Northern Railway, and it eventually ended up on the Alberta Prairie Railway tourist operation at Stettler.

The APR decided last year to donate the caboose to the E&N Division, which will once again restore and repaint it. At press-time, the caboose had yet to be shipped from Alberta (photo, p. 50). (*Canadian Rail*/Jim Sturgill, Jr.)

Obituary

Harry Home, the driving force behind the restoration of CNR locomotive 6060, passed away on March 30 at the age of 86, in Jasper, Alta.

A CN engineer by trade, Home was instrumental in seeing the U-1-f class 4-8-4 locomotive restored at Jasper in time to play a starring role at SteamExpo in Vancouver in 1986, running under its own power to reach the event on the second-to-last day.

After further work at BC Rail's North Vancouver steam shop over the next two years, and two guest doubleheader trips on the Royal Hudson excursion in May 1988, No. 6060 made a triumphant return to Jasper in October that year on a multi-day mainline special, doubleheading with ex-CPR 2860.

After a 49-year career with CN that started at Boston Bar, Home retired in 1998 but remained active in railway preservation as a co-founder of the Rocky Mountain Rail Society, which took ownership of No. 6060 from the Alberta government in 1992. He was inducted into the Canadian Railway Hall of Fame in 2002. (Phil Mason/ *The Jasper Fitzhugh*)

Index of SANDHOUSE features: 2016-2019 (Issues 161-176)

The following index lists all the feature content in Issues 161 (Spring 2016) to 176 (Winter 2019/20). Not included are the usual sections at the front and the Short Hauls current news items. In most cases the listings are the article headlines, sometimes with additional wording for clarity of reference.

Previous indices can be found in the Spring 2007 issue (covering issues 101-124, March 2001 to Winter 2006/07); the Summer 2013 issue (covering issues 125-148, Spring 2007 to Winter 2012/13) and the Spring 2016 issue (covering issues 149-160, Spring 2013 to Winter 2015/16). Copies of most issues are still available — please contact the Editor for information.

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THE SANDHOUSE

THE SANDHOUSE is normally published once each quarter, in Spring, Summer, Autumn and Winter, and mailed to paid-up members. Copies can also be purchased from the following retail outlets:

Central Hobbies, 2825 Grandview Hwy., Vancouver, BC (604) 431-0771
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All contributions are gratefully received, but are subject to editing. Please send all news items, photos and articles to the Editor, care of the Division address (see page 2).

Ian Smith — Editor

Parting Shot

Then owned by RailAmerica, this ex-CP Rail caboose was in transit to an Alberta shortline from service on Vancouver Island when it was caught on camera at CP's Coquitlam Yard on March 9, 2002, wearing a special livery applied by members of CRHA's E&N Division. Now, after 18 years in Alberta, it will soon be coming home, after being donated to that division (see p. 45). (Photo by Ian Smith)

Canadian Railroad Historical Association, Pacific Coast Division

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WE INVITE YOU TO JOIN US

Get together with fellow railway enthusiasts and take part in the varied activities of the CRHA's Pacific Coast Division.

We meet nine times a year on the 3rd Friday of the month (see below)

- Meetings feature slide shows, video programs, talks by railway officials and writers on railway subjects, and the opportunity to socialize with other railway enthusiasts.
- We publish **The Sandhouse**, a quarterly journal on B.C. railway matters. Membership dues include a subscription.

We hope you'll join us. Please send your address details (name, full address, phone number, e-mail), together with your payment, to our postal address or bring it to one of our regular meetings.

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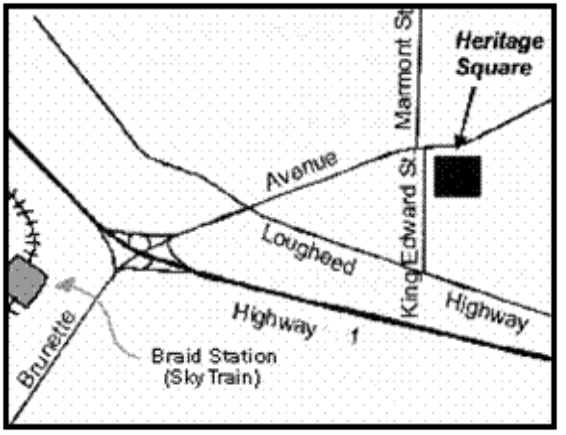

Pacific Coast Division's regular meetings are held on the third Friday of each month (except July, August and December) at

Renaissance Room, Place Des Arts
Heritage Square
1120 Brunette Avenue
Coquitlam, B.C.

Presentations begin at 7:00 p.m.

Bridgework