



▲ Metra CEO and Executive Director Jim Derwinski presents *My Metra* to the media at Western Avenue Coach Yard (WACY) on September 15, 2020. All people in *My Metra* photographs, videos, commercials and radio announcements are Metra employees.

Metra 2020: *My Metra*, Major Construction Projects and New Car Procurement

Edited by Norman Carlson
Photos by Mark Llanuza Unless Otherwise Noted

My Metra Commute with Confidence

Covid-19 has caused transit agencies across the United States to rethink the future of commuter rail. Commuter rail generally serves a suburban market of people who work in downtown offices. Getting people to their desk has two transportation challenges; horizontal transportation and vertical transportation. Automobiles, buses, boats and trains provide the horizontal trips. Elevators provide the vertical trips, both in high rise residential buildings as well as office buildings. With social distancing requirements, it may take hours to move people in office buildings via elevators to and from their

offices. This could spread out rush periods which would level the peak requirements of moving commuters.

Rail safety has a new component in its definition. In addition to the traditional definition of physical safety there is now a need for health safety. How many times have we heard people say in 2020, please be safe and healthy? Health safety in transportation has four major elements; wearing masks, physical distancing, deep cleaning of the transit vehicle and high exchange rate and filtration of the air inside the vehicle. What will it take for people to return to a shared transit vehicle while being surrounded by unknown persons,

including, perhaps, one seated immediately next to you? This is the challenge that Metra and other transit agencies face; convincing the riding public that you can travel with confidence in a safe manner in a shared vehicle.

In what the press described as a bold move, Metra Executive Director and CEO, Jim Derwinski publicly launched *My Metra* on September 15, 2020. This campaign included a \$1 million media spend on radio and television messages, billboards, posters, and social media. Considerable emphasis is placed on disinfecting and sanitizing the coaches. “That expanded definition of cleanliness is now our new priority,”



◀ Cleaning supplies, disinfectant and the machines used for deep cleaning, disinfecting the coaches and wiping down high touch surfaces were displayed to support the media presentations at WACY on September 15.

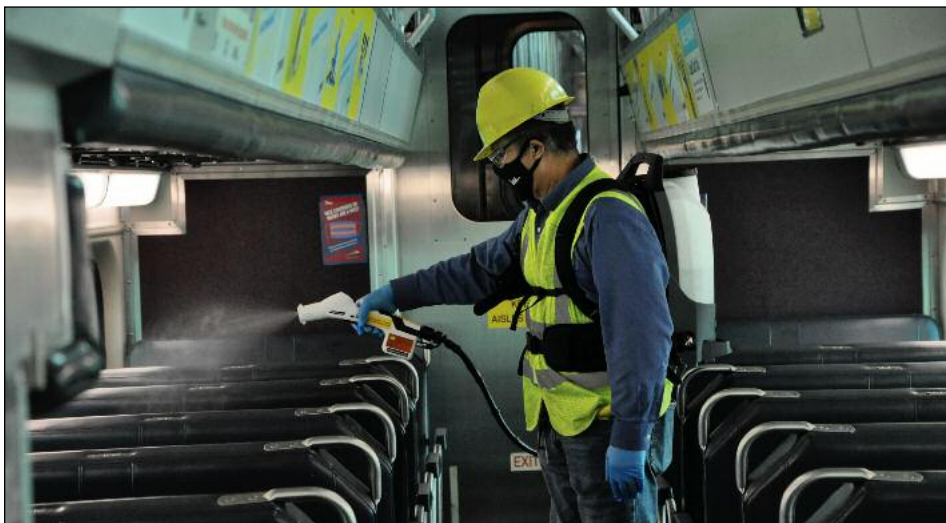
Jim told the press. Like airplanes, Metra has installed “hospital grade” air filters in coaches with air exchange systems that completely refresh the air every four minutes. The overall message is; “Riding through the pandemic and laying the tracks to a healthier brand. With Metra, you can commute with confidence”

This is how Jim describes My Metra:

“My Metra is a brand-centric communications initiative that provides riders a sense of ownership over the rail system by reinforcing the role it plays in their lives. In addition, it reminds employees of their role in the customer experience and empowers them as brand ambassadors. Launched in 2020, the My Metra message, simply stated, is that Metra plays a key role in the region for riders and non-riders.”

Before the pandemic entered the picture, Metra was already in five-year ridership decline. Some of the reasons behind this decline were a change in consumer needs regarding travel to the city center, increased numbers working at home and lower fuel prices. Metra had done very little marketing due to budget constraints and, thus, Metra allowed others to define Metra’s image. To help identify how to change this course, a local marketing firm, LKH&S was engaged to give Metra an assessment of the passengers’ and public’s point of view. Every member of that firm is a Metra rider.

Pre-pandemic rider research was undertaken, but then the pandemic hit and a big pivot was taken. Within days Metra ridership fell by 97 percent in March with the lowest monthly ridership in April 2020. We are going to share many of the details of My Metra so that you can understand the depth of the program and ask yourself when was the last time a passenger railroad did something of this magnitude? The program is the result of Jim Derwinski’s analysis of the situation and recognition that something had to be done to reverse the ridership trend and how the work was going to have to be modified when the pandemic hit.



▲ Demonstrations of spraying disinfectant ▼ and wiping down high touch surfaces were provided by Mechanical Department staff.





◀ At the Elgin Coach Yard Mark Llanuza led a team of Metra Mechanical Department people to thoroughly deep clean and sanitize coaches.—
Bruce Marcheschi photo

From March 15 to July 31, 2020, Mark and his team of five people worked six- and seven-day weeks to deep clean and sanitize 161 coaches. Cars assigned to the Milwaukee West Line, then stored cars followed by trainsets assigned to the Milwaukee North and North Central Lines were all handled. On weekends as many as 10 people, some from Metra Electric and the Rock Island Districts, were in Elgin working on the cars. Heavy cleaning of the cars continued throughout the remainder of the year. Mark and his crew developed the processes for heavy cleaning and sanitizing as well as the proper combinations of machines, elbow grease, soap, cleaners and water. The processes developed in Elgin were shared system wide. A video of the team hard at work was filmed and posted on social media.

To build an authentic message and to garner full participation, executive leadership conducted several levels of internal workshops. The results of the workshops help solidify the core values of Metra employees and the agency as a whole. After the foundation was set it was important to start to discuss the message with employees. Over 30 in-person meetings were held with employees at their work sites towards the end of summer of 2020. This high-touch communication informed staff of COVID-19 safety planning, Metra's financial position and presented a picture for the future. In the face of a growing health crisis along with significantly reduced ridership and train operations, the objectives of these meetings were open communication to dispel rumors and to share a common message of what was happening at Metra and how it would affect the employees at all levels

My Metra has been introduced both to the public and within Metra. It stands at the center of everything that is Metra. It is an initiative to build a positive attitude toward Metra externally while building a belief and philosophy within Metra to act as a compass for decision making and service delivery. Specifically, for every employee of Metra, *My Metra* is about taking

responsibility for Metra riders and for every other employee of Metra. The desired goal is to instill a new culture and increase morale. For employees *My Metra* is about telling their story about their passion, helping each other and most importantly, reminding every employee that everyone's role remains important when it comes to improving the customer experience.

Externally *My Metra* to riders, as well as to those who could use the service, is a promise to the Northeast region of Illinois that first you can depend on Metra and second Metra belongs to all of us. Metra plays a vital role in people's personal lives and as well has an essential role in serving the region. The reach of *My Metra* is internal, onboard the trains, to the consumer of the service, media, business leaders, community leaders and elected officials.

To assuage pandemic fears and build confidence among the passengers, the external launch of *My Metra* was communicated through television, radio, billboards, social media, digital advertising, public relations, publications and public services announcements. The messaging was derived from a ten-point safety strategy. Deep sanitation techniques of coaches and stations, special attention to disinfecting high touch surfaces, frequent air

exchange with hospital-grade filters, social distancing and mask wearing are among the core reasons that one can *Commute with Confidence*. The campaign, which is still in progress, has already shown to have promoted higher awareness and in total will deliver in excess of 277 million impressions — reaching the target audience 13 times.

Passengers are asked to wear masks for their entire trip. Fortunately, most passengers do so. Staggered seating limits occupancy to about 70 passengers per coach, 35 in each compartment. This is about half the normal rush load of each coach. Only one person per seat is the new policy during the pandemic unless it is family members living under the same roof. Hand sanitizer dispensers have been installed in each compartment. Signage reminding passengers of how to *Commute with Confidence* is placed in 15 places in each coach.

While cash is still collected on trains, use of the Ventra app is highly encouraged. The app has recently been updated to provide more convenience and functionality. In June of 2020 a \$10 daily pass that allows riding over the entire system has been added to the app to encourage ridership and reduce cash handling. This follows the June 1, 2019, provision that

Ridership and Train Service Adjustments

In December 2019 and January and February 2020, for the first time in years Metra ridership was showing slight increases. Fares has been held constant for a few years after a series of years with annual increases. As the pandemic spread, ridership began to drop on Wednesday, March 4. The nosedive occurred between Thursday, March 12 and Monday, March 23. This followed office closings throughout the Chicagoland region and the Governor's announced shut down of the State of Illinois to begin at 5 p.m. on Saturday, March 21.

Ridership fell by 97 percent over that 9-day period. Metra's response was to operate alternate schedules which were created to be utilized if there were service disruptions caused by factors such as weather. On March 23 the modified schedules were put in place with approximately 56 percent of normal service operated. Metra was, therefore, in compliance with the State's request to provide an appropriate level of service to meet the needs of essential workers and the ability to maintain social distancing within the coaches. The deep cleaning of rolling stock started immediately.

Service planning continuously reviews the occupancy of the trains and works with transportation to add coaches or open coaches on any consist that is reaching capacity limits under the social distancing requirements. Additional trains are added to the schedule when train length cannot be increased or when they are needed to provide service when none is currently provided. Service deletions are also considered.

On May 4 service was reduced on the Heritage Corridor (Joliet), North Central Service (Antioch) and Southwest Service (Orland Park-Manhattan) to more closely correspond with the ridership. The following day Sunday schedules replaced the Saturday service schedules.

On June 3 the \$10 All Day Pass was introduced. In a series of extensions, it is now, as this is written in January, effective through January 31, 2021. Because of its touchless attributes, being purchased through the app and displayed on a smartphone, it has become a real favorite of both passengers and conductors.

Starting in May, riders began returning to Metra with ridership growing to 7 percent

COMMUTE WITH CONFIDENCE
METRA. GOING THE EXTRA MILE TO KEEP YOU SAFE.

DISINFECTING
 Using power washers, steamers and electrostatic sprayers, Metra crews are working to disinfect our trains paying close attention to high-touch areas.

DEEP CLEANING
 From the doors to the floors, the walls to the windows, overhead and under the seats, our cleaning crews are hard at work sanitizing our cars for you.

HAND SANITIZER DISPENSERS
 Beginning this summer we are installing touchless hand sanitizer dispensers in our cars. Until then, we're handing out thousands of bottles of hand sanitizer at our downtown stations.

PHYSICAL DISTANCING
 To keep people safely separated, we're keeping the aisle clear, one person to a seat, adding extra time at the stations and extra trains as needed.

MASKS ARE A MUST
 Wrap your head around this: Masks are required on Metra trains for riders and our crews.

HOSPITAL-GRADE FILTERS
 You can breathe easy knowing Metra coach cars include hospital-grade filters to capture airborne particles and clean the air.

A BREATH OF FRESH AIR
 Our cars feature fresh air dampers that circulate the air, ventilating the cars to improve air quality and safety.

TOUCH LESS, PAY LESS
 Our \$10 All-Day Pass is good for unlimited daily rides. Buy it with the Ventra app and you reduce contact as you reduce cost.

WE'RE READY WHEN YOU ARE. CLIMB ABOARD...
my Metra

To learn more, visit metrail.com

allowed monthly ticket holders to have unlimited weekend travel. Effective February 1, 2021, the weekend pass will be changed to a Saturday or Sunday pass. The fare for the one day only pass will be reduced from \$10 to \$7 to encourage ridership. The two-day weekend pass will be maintained at the \$10 fare, but will only be available for purchase on the app. The validity period of these weekend passes will be reduced to 14 days.

People are encouraged to consult the Ridership Dashboard which tracks how

full each train is. Green, yellow, and red shading on a copy of the schedule is used to show whether plenty of space exists onboard, if the train is nearing capacity under the new rules or if the train is exceeding capacity limits. The dashboard is studied weekly for service decision making. When capacity is reached, either additional coaches are added to the consist or additional trains are added to the schedule. As a result, schedule revisions have been occurring almost monthly to meet customer needs.



▲ A Union Pacific West Line train stops in Wheaton to pick up one passenger. Ridership dropped to 3 percent of pre-pandemic levels, then slowly rose back to 10 percent of “normal” riding. With the Autumn Covid surge, ridership fell back to about 8 percent of pre-pandemic levels.

in May and ranging between 9 and 10 percent from June through October. In part this was a result of the My Metra program. With increased ridership, service was added to the Rock Island (Blue Island-Joliet) on June 15 and Heritage, North Central and Southwest on June 29. On August 3 two trains were added to the BNSF line and four trains on the Rock Island with the objectives of reducing transit times as well as insuring social distancing. Free riders for medical personnel ended on August 31.

In response to the My Metra campaign, ridership grew by approximately 10 percent in September. A new ticket type, Round Trip Plus was introduced on September 25. This is an unlimited daily pass to ride anywhere on the system that is available only on the Ventra app. Ridership grew slightly in October; however, as the month ended the surge in Covid cases caused ridership to decline in November. Ridership in September and October reached 10 percent of pre-pandemic levels falling back to 8 percent in



▲ On the first day of service of bike cars, November 7, 2020, the car is passing through Rondout on the Milwaukee North Line.—Norman Carlson photo



▲ A rendering of the new Auburn Park station on the Rock Island District at 79th Street, a short distance east of Halsted Street.—*Courtesy of Metra*

November and December. At year end, Metra was operating 392 revenue trains each weekday and 181 trains on weekends and holidays.

Metra recognizes that people's desire for reduced transit time is important and to cater to that desire, express or skip-stop trains have been added to the schedule. Zone trains are also emerging in the rush hours. For example, on BNSF there are zones between Aurora and Main Street, Downers Grove and between Fairview Avenue, Downers Grove and Brookfield. The Tinley Park expresses on the Rock Island are very popular. A few Highland Park expresses exist on UP North with Elmhurst expresses on UP West.

Keeping the needs of the passenger first, on Saturday, November 7, Metra introduced its first Bike Car as a pilot program on the Milwaukee North Line to Fox Lake. This line was selected for the pilot because of the number of reverse commuters and the number of bicycles already carried on this line. The response from the public, social media and the press was

incredibly positive. On December 10, a second bike car was placed in service on Milwaukee North. The two cars are former C&NW Pullman-built cars. The seats in one half of each car's lower level have been removed and racks for 16 bikes installed. The cars have been repainted in a distinctive blue and white scheme with a red access stripe.

Effective January 11, 2021, two-pairs of Milwaukee North Line inbound morning trains will have a skip-stop arrangement while timing of other trains is adjusted. In the afternoon and evening, the 3:55 p.m. express train is being returned to the schedule and a new inbound train is being added from Fox Lake to fill a service gap. On Milwaukee West, timing changes will be made and a few trains added to the schedule. There will also be timing changes made to the North Central and Metra Electric service.

Effective February 1, 2021, Rock Island train 400 departing Joliet at 4:30 a.m. and operating on the mainline was restored to the schedule. This train is popular with

construction workers going to work in downtown Chicago. Train 600 departing Blue Island and operating via the Beverly Branch (Suburban Line) is also being restored to the schedule. Morning and evening 80th Avenue Tinley Park express trains as well as midday service are being added. In total 10 trains are being added to the schedule.

On January 19, 2021, Jim Derwinski presented the My Metra and the new coach car procurement to Northwestern University Transportation Center's Sandhouse Group. This is a rail discussion group that has been meeting virtually during the pandemic. Jim believes that former schedules will not return. New schedules will address the needs of the new environment. Emphasis on the rush hours will remain, perhaps with shorter and less frequent service and with a focus on express service. This is the principal request of riders, shorter transit time. Density is needed to provide express service as all stations need some level of service. Jim is contemplating an experiment of what he calls



▲ The Bankers Special is headed for Joliet as it passes Blue Island's Vermont Street in July 1977. The cable on the front end of the locomotive is believed to be the communications cable for the buzzer signals from the conductor.

“regional rail.” This focuses on 15-minute frequencies in the rush hours and 30-minute frequencies off peak.

Ridership Patterns

What has been interesting to note is which line has the highest percentage retention of ridership and which lines have the greatest total ridership. Pre-pandemic BNSF (Aurora) was consistently the ridership leader with Union Pacific - Northwest, North and West following with Metra Electric and Rock Island essentially tied for fifth place. It was thought that Metra Electric would retain the highest percentage of ridership during the pandemic due to serving many essential workers.

Stations

In 2019, the Illinois General Assembly passed and the governor signed the first state capital bill in ten years. This provided critically needed funds for transit agencies, roadway projects and essential buildings. Among other state of good repair needs, the bill provided Metra with sufficient funds to address critical station needs. Funding was reinstated for construction of two new stations in Chicago; Peterson-Ridge on UPN and Auburn Park on the Rock Island at 79th Street and Lowe Avenue, a few blocks east of Halsted Street. These “in fill stations” replace the

Kenmore Station that existed in C&NW days until 1958 and an earlier Auburn Park Station located at 78th Street on the Rock Island that closed in 1978.

Auburn Park

Auburn Park is a very interesting community from many perspectives. This new railroad station project could become a classic example of how a railroad station can help revitalize an impoverished neighborhood. Many of the essential community elements are in-place.

The State of Illinois and Metra are investing \$50 million in the new Auburn Park Station and the surrounding railroad infrastructure. The project includes building the new station and related demolition and land clearance, replacing the 78th Street bridge and raising the 79th Street bridge as part of a CREATE project. A ceremonial groundbreaking was held on September 30, 2019.

A century ago, Auburn Park was principally an Irish ethnic community. Two institutions of this legacy still exist; Leo Catholic High School and the Faith Community of Saint Sabina Roman Catholic Church. The high school was created in 1926 by the Christian Brothers of Ireland reflecting the resident population of that time. The first Mass at what became St. Sabina was held on July 9,

1916. Chicago’s now famous St. Patrick’s Day parade originated at St. Sabina.

Catholic Charities of the Archdiocese of Chicago has made considerable investments in the revitalization of Auburn Park. Modern residential apartment buildings for senior citizens are along 79th Street. These residential buildings have attracted retail businesses. In January 2007, on the former site of Saint Leo Catholic Church, Catholic Charities built 141 studio apartments for veterans, plus 14 fully accessible apartments for wheelchair-bound veterans. Across the alley from these apartments is a full-service VA clinic facing Halsted Street. The church’s distinctive bell tower was preserved.

From an economic perspective, the moving force in the community is the Greater Auburn-Gresham Development Corporation (GADC). On August 6, 2020, the Pritzker Traubert Foundation announced its Chicago Prize award, a \$10 million grant to Always Growing, Auburn-Gresham. This is a consortium that includes GADC, Urban Growers Collective and Green Era Partners. Construction of the Metra station is mentioned as one of the reasons for awarding this grant. Two projects have been announced:

- 1) Converting a long uninhabited 1920s-era building near 79th and



▲ On September 30, 1950, Chicago Surface Lines “MU car” 3214 is westbound on 79th Street at Wallace Avenue, the site of the new Auburn Park station. The low-level bridge was the interchange track connecting the Rock Island with BRC. Abandoned after the Rock Island’s March 1980 shutdown, it was torn down in October 2020 as a part of the new station project. The 10-foot depression of 79th Street is evident in the photo. The Rock Island mainline bridge on the third level will be raised two feet to provide more double-stack clearance for BRC and NS trains using trackage on the middle level. September 14, 1951, was the last day of streetcar service. Buses replaced them.—James J. Buckley photo, Al Chione Collection courtesy of George E. Canary

Halsted into a healthy lifestyle medical care facility.

- 2) Building a digester that will annually convert 85,000 tons of food waste into clean energy, built on a brown-field site.

Just east of the Rock Island tracks is an enclave of historic homes surrounding a lagoon. It is quite a departure from the rows of bungalows that dominate Chicago’s South Side. On the east side of this enclave is the largest employer in the area; Chicago Transit Authority’s campus of South Shops and the 77th Street Garage. Created to serve streetcars over a century ago, South Shops is now the heavy maintenance facility for CTA’s bus operations. The 77th Street Garage is a large transportation facility with storage and light maintenance for a number of bus routes plus all the attendant transportation function.

Rock Island Railroad

On October 10, 1852, the Chicago & Rock Island Railroad operated its first train; a steam locomotive and four wooden coaches full of “living cargo.” This was a 40-mile trip from Chicago to Joliet from the original Chicago station at 22nd Street. Once the train left that station it was mostly open prairie until you reached Blue Island.

Blue Island was first settled in 1835. Its name is derived from being a ridge created as a part of the surrounding glacial moraine more prominently found in the nearby Palos area. It stood out like an island in a sea of prairie grass with a heavily wooded area on its north end. Approaching from the north, the view of this timber stand presented a blue smoke like appearance in an area that was then virtually surrounded by water. Thus, hunters called the area Blue Island.

In that era, many railroad locomotives were named rather than being assigned a number. Pulling the first train was an American Standard type steam locomotive (4-4-0) named Rocket. Like the Chicago Burlington and Quincy, the Rock Island partnered with Electro-Motive Division (EMD) for diesel-electric locomotives and the Edward G. Budd Company for stainless steel coaches. In the Fall of 1936, the railroad placed an order for six diesel-powered stream-styled trains. Like the Burlington, the Rock Island gave their fleet of streamliners a name, the Rockets, recognizing the locomotive that hauled their first train.

Suburban service on the Rock Island began on April 1, 1870, between Blue Island and Chicago with the opening of what we know now as the Suburban Line. Morgan Park and Washington Heights

were then independent suburban communities. Prior to 1870, the only stops between Chicago and Joliet were Englewood, Blue Island, Bremen (Tinley Park) and Mokena. As an interesting side note, when Bremen decided to incorporate as a village in 1892, the ceremony was held in the Rock Island depot. The community decided to honor the long-time stationmaster, Samuel Tinley, Sr., by renaming the village Tinley Park.

As built, the suburban line turned northeast at 99th Street and joined the mainline at 97th Street. Real estate developer Frank Brainerd, seeking rail service to his development, convinced the railroad to build the addition that resulted in the current alignment that joins the mainline at 89th Street. The suburban timetable effective March 16, 1879, is the first evidence of a station at Auburn Park.

Grade Separations

Being the central railroad hub of North America, vehicle traffic in Chicago was constantly being interrupted by trains. This caused the City Council, beginning in the 1890s, to enact ordinances forcing the railroads to have grade separations of their mainlines within the city limits of Chicago. The Rock Island grade separated its right-of-way from 16th Street to 89th Street in response to a series of these ordinances.

On July 13, 1908, the city issued an ordinance ordering the Belt Railway of Chicago (BRC), Chicago & Western Indiana (C&WI), Rock Island and Wabash to grade separate their respective railroads. The C&WI was ordered to raise its railroad from 70th Street, the southern-most point of the work ordered by the ordinance of October 23, 1899, south to 79th Street and then southeast to a point east of State Street near 89th Street. This is the C&WI mainline that formerly went to State Line tower adjacent to Hammond, Indiana. Grade separation of C&WI's Dalton Branch was to start at the 81st Street junction and extend south to approximately 89th Street. BRC and Wabash were ordered to elevate their railroads through what we know as Belt Junction to a point west of Damen Avenue.

Rock Island was ordered to extend its elevation from 76th Street, the southern-most point of its grade separation subject

to the ordinance of January 17, 1898 to approximately 89th Street including crossing over the top of the C&WI/BRC at 79th Street. This is what created the "double height" for both the former and new Auburn Park stations. The exact location for the junction for the Suburban Line is specified in the ordinance.

These ordinances go into excruciating detail specifying the height of and distance between points by the number of feet vertically and horizontally. The base line for an elevation's height is "Chicago City Datum" which is the level of Lake Michigan at the City's shore line, designated by ordinance as being 579.88 feet above sea level.

A triple level railroad grade crossing was built at 79th Street. Chicago Surface Lines operated streetcars on 79th Street. The C&WI, now Union Pacific (UP), which operated its own trains as well as hosting trains of the Chicago & Eastern Illinois, Chicago Indianapolis & Louisville (Monon), Erie Railroad and the BRC were on the middle level and the Rock Island, the original railroad at this location, was at the top.

An *Engineering and Cement World* magazine article described the unusual (and extensive) concrete work for the new two-story Auburn Park Station that opened circa 1913. Retaining walls with huge footings and walls with very thick bases were required. The construction consisted of building the retaining walls, then building a trestle for the tracks. Hundreds of construction trains brought lake sand and other fill, dumping the loads through the trestles to achieve the elevated rights-of-way. Bridges, called viaducts in Chicago, was constructed over almost every cross street.

To achieve the three-level crossing, 79th Street was depressed 10 feet; C&WI/BRC was raised seven feet to give a 17-foot clearance over 79th Street and the Rock Island was at 33 feet above nominal surface level giving an approximately 26-foot clearance over the C&WI/BRC. As a part of the project an interchange track between the Rock Island and C&WI/BRC was built at the level of C&WI/BRC.

We should note that due to the proximity of this three-level crossing to what was then South Shops and the 77th Street streetcar barn, there were "pull out" and

"pull in" runs moving out of service streetcars between the barn and numerous routes. There were also test runs of streetcars that had been through overhauls or heavy maintenance. Bear in mind that prior to these grade separations all this street and steam railroad traffic crossed at a level crossing.

In the design and evaluation phase in 2020 for the new Auburn Park Station, it was determined that, while safe now, the 78th Street bridge would have to be replaced in the not too distant future. As a construction site would be mobilized for the new station, it was decided that the most cost-effective alternative would be to replace the 78th bridge as a part of this project. Further, as a part of the CREATE projects concerning Belt Junction, the 79th Street bridge over BRC and NS will be raised two feet to enhance clearances for double stack trains.

75th Street Corridor Improvement Project—Belt Junction and Forest Hill

The combination of Belt Junction and Forest Hill is considered to be the most congested freight railroad intersection in the United States. A series of CREATE projects is now underway after languishing for a few years due to an absence of funding. Cook County's \$75 million grant, payable over five years, was the catalyst to bring more state, federal, and railroad funding to the projects.

Belt Junction is a big "X" at 75th Street and Ashland Avenue lying in an east-west alignment. BRC, UP, Norfolk Southern (NS), and Canadian Pacific (CP) trains approaching from the south and east enter Belt Junction's southeast quadrant. With the exception of NS moves to Landers Yard, the majority of these train movements move across the junction to its northwest quadrant en route to Clearing Yard. Metra's Southwest service trains move between the southwest and northeast quadrants. NS and BRC own the trackage at Belt Junction which BRC controls.

Adding to the complexity is that 1.5 miles west of Belt Junction, CSX (formerly Baltimore & Ohio Chicago Terminal) crosses BRC and NS in a north-south direction. This crossing, named Forest Hill is controlled by CSX. A series of CREATE projects will grade separate Belt Junction and Forest Hill.



▲ You are riding on the front end of an inbound SouthWest service train approaching Forest Hill and Belt Junction. Forest Hill is a crossing of CSX with BRC and NS. Belt Junction is effectively an “X.” Your Metra train will enter the junction’s southwest quadrant and exit from its northeast quadrant. Most freight trains operate between the northwest and southeast quadrants. The junction is a series of crossover with few opportunities for parallel moves. There are four main tracks west of the junction and five main tracks east of the junction. NS and BRC own the tracks. Forest Hill is controlled by CSX while BRC controls Belt Junction.

◀ This is Forest Hill. The photo was posed for the groundbreaking of the grade separation project that will elevate CSX trackage over BRC and NS.

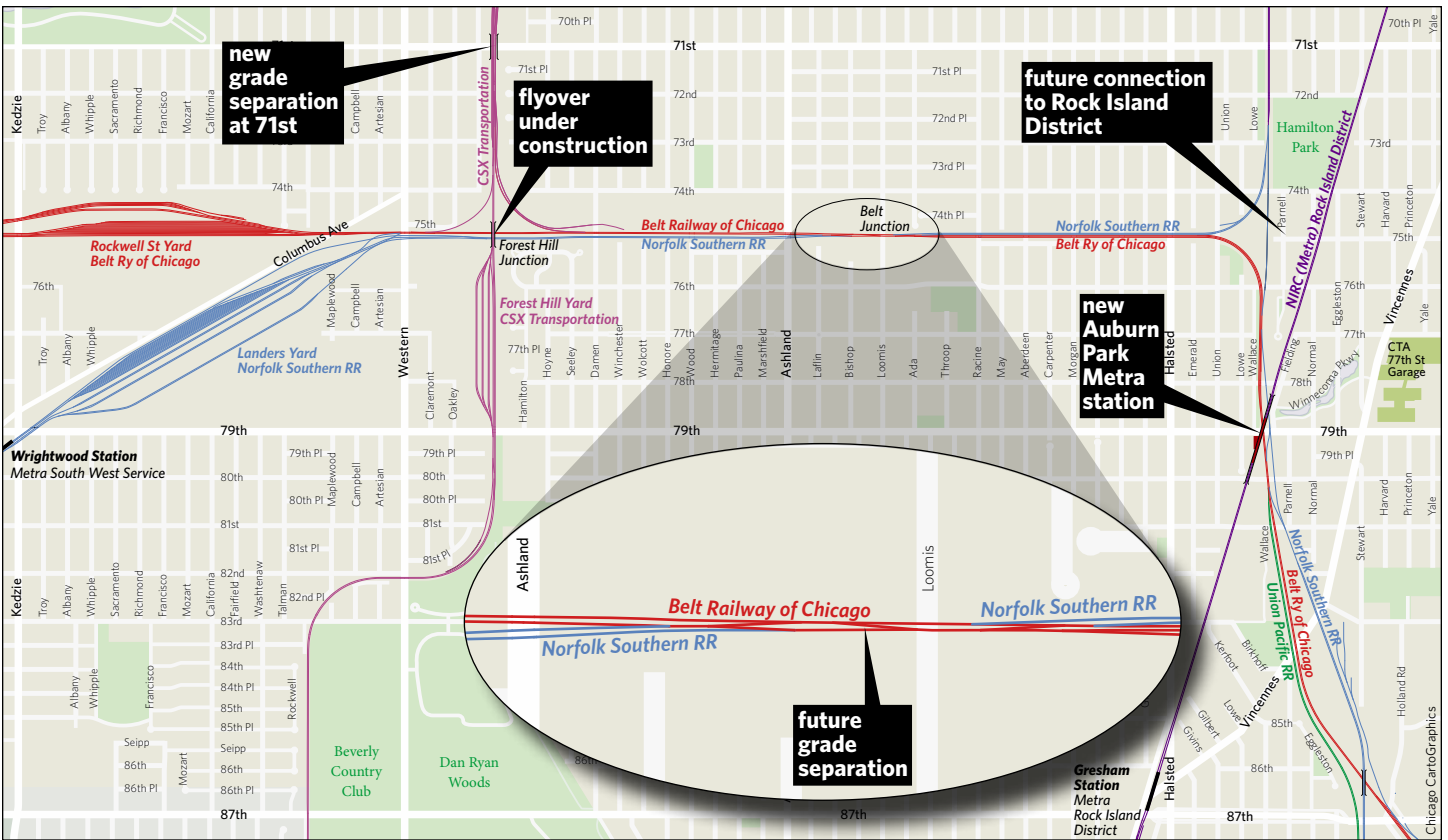
▼ This is another all too often result of the level crossing. A NS train headed for Landers Yard is waiting for a CSX train to clear Forest Hill. Belt Junction is approximately one mile east of Forest Hill.

▼ All too often this is what happens to Metra trains. Forest Hill is on the alignment of 75th Street between Damen and Western Avenues.





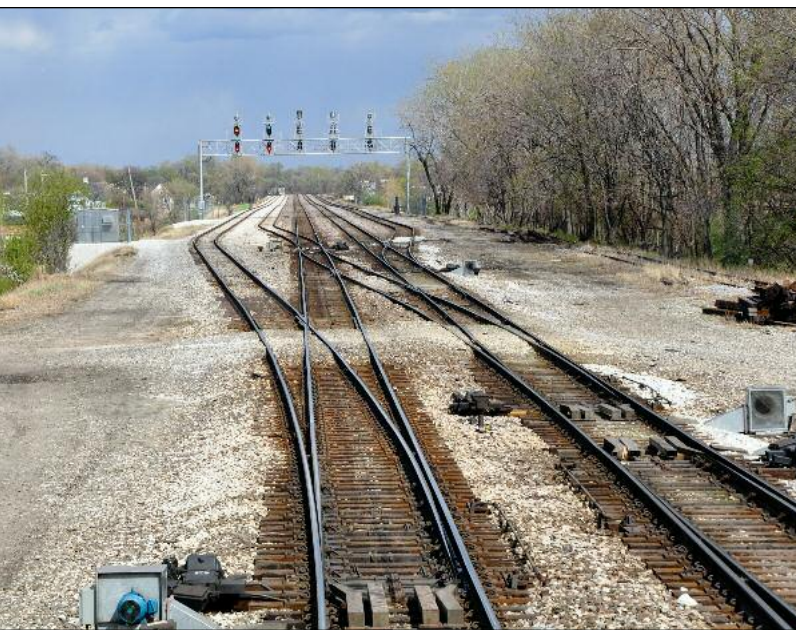
▲ Having cleared Forest Hill, your Metra train is entering Belt Junction. This view is facing east.



Map: Chicago CartoGraphics



▲ Looking west, this is your train coming east. This NS train entering Landers Yard is one of the few opportunities for a parallel move. Your train and the NS train are on NS owned trackage. The trackage on the right is owned by BRC.



▲ Looking east again, this is the view from the front end of your Metra train. At the third switch you will diverge to the left. The two tracks to the left are owned by NS and were originally owned by the Wabash Railroad. The track straight ahead is the BRC North Main. This is only track that is a relatively straight move through Belt Junction. The track to the right is BRC South Main and the track diverging to the right is BRC 3rd Track.

▼ Looking east we see your Metra train making its diverging move. Near the tree line your train will turn to the left and proceed north to Union Station. In the future, SouthWest Service trains will proceed straight ahead to connect with the Rock Island.





▲ Your Metra train has turned the corner and is headed north. Now freight trains can move. Multiple trains are a common scene. Belt Junction is the subject of a massive CREATE congestion relief program.

◀ Finally a BRC transfer run to South Chicago can proceed railroad south, geographically east.

▼ The cycle starts again. We are looking northwest at the curve near 75th and Wallace Street where the BRC will parallel the former Chicago & Western Indiana, now NS, to 81st Street Junction where trains of BRC, CP, NS and UP will separate to head east and south.





▲ Rendering of the Peterson-Ridge station that will be located between those two streets along Ravenswood Avenue on Chicago's far North Side.—
Courtesy of Metra

Southwest Service Rock Island Connection

Metra is responsible for the final engineering and design for construction of a connection from Belt Junction to the Rock Island at 74th Street. Known as the CREATE P2 project, this will further reduce congestion at Belt Junction and move Southwest Service trains from Union Station to LaSalle Street station. This will provide capacity at Union Station for additional Amtrak and BNSF service. The design phase, which began in 2020, is expected to take two years followed by a two-year construction period.

P2 project limits are from Ashburn interlocking on the Southwest Service near 81st Street, west of Kedzie Avenue, through the Belt Junction area to a proposed connection with the Rock Island at 74th Street. This is a distance of approximately four miles. Between Ashburn and Forest Hill, Metra is limited to a single track. This 1.6-mile segment will receive a second track.

East of Belt Junction, the design will pro-

vide for the beginning of a new double track flyover over the BRC and NS, on the alignment of 75th Street, to a Rock Island connection. The eastbound approach would begin, at a point west of Halsted Street, with a maximum two percent ascending grade to reach a height of 31 feet over BRC and NS. A 340-foot long bridge will be installed over those two railroads. Continuing eastward, there will be an 1,800-foot long descending grade to the elevation of the Rock Island at 74th Street.

The track alignment will be a 40-mph reverse curve taking the most direct route without taking property from Hamilton Park. On the Rock Island, a third main track will need to be constructed from 74th Street to 16th Street, while both the 51st Street coach yard and track capacity at LaSalle Street Station will be expanded. Funding for this construction is pending.

Peterson-Ridge Station

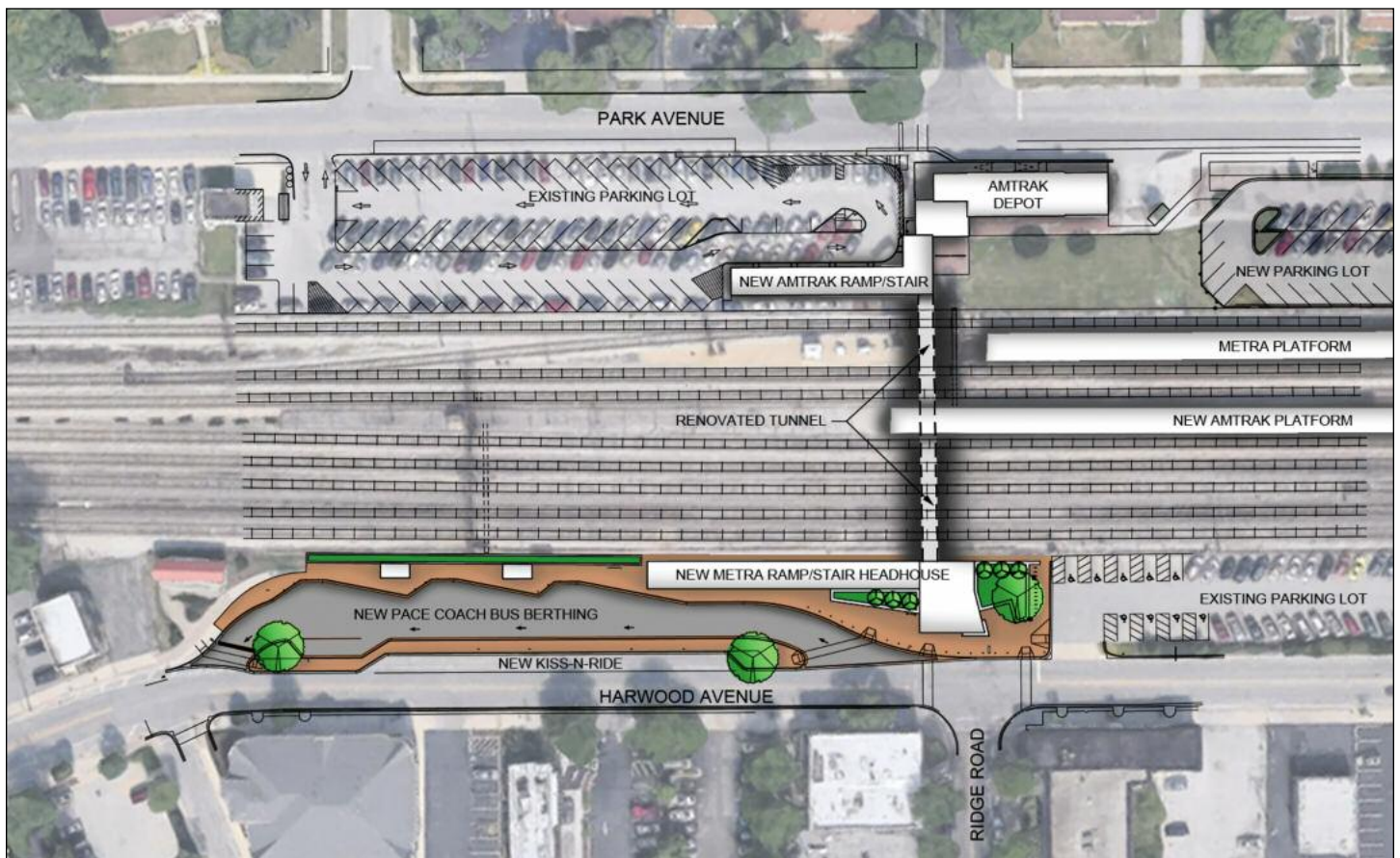
It has long been the interest of community leaders and the local aldermen to

have a Metra station in Chicago's Edgewater neighborhood. This is a densely populated area served by CTA's Red and Purple Lines and several CTA bus routes. The proposed station will be along Ravenswood Avenue between Peterson Avenue on the south and Ridge Avenue on the north. Both roads are arterial streets with heavy traffic. Peterson is an east-west road while Ridge is a north-south road connecting the north end of Lake Shore Drive with Evanston and Wilmette.

Metra's board of directors has approved a \$15 million contract for construction of this station. Construction will start in 2021 and take 18 months to complete. There will be two six-car platforms, a new pedestrian bridge over Peterson Avenue, heated concrete stairs, ADA compliant ramps, a masonry warming house with side canopies, vehicle drop off areas and 44 parking spaces plus spaces for bicycles. The existing bridges over Peterson and Ridge will be rehabilitated and the traffic signals reworked to accommodate station traffic.



▲ Rendering of Metra’s Homewood station on the east side of the railroad along Harwood Avenue at Ridge Road. ▼ The site plan with the west side of the tracks at the top of the rendering.—Two renderings courtesy of Metra



Homewood

On September 28, 2020, state, local and railroad officials gathered for a groundbreaking ceremony at the Homewood station. This is a joint Amtrak-Metra-Canadian National (CN) project that will expend \$29 million.

Amtrak’s work will be located on the west side of the railroad and its platform between the two CN through tracks. Metra’s construction will be on the east side of the rail-

road along Harwood Avenue where Pace buses serve the station. Metra owns the railroad right-of-way under its two tracks with CN owning the remaining right-of-way to the east of the Metra tracks. CN was included in this project as the pedestrian tunnel passes under their right-of-way.

Removal of the existing Amtrak platform commenced in August 2020 and is expected to be completed in the Spring of 2021. During this construction period

Amtrak trains are not stopping at Homewood. Shuttle bus service is being provided to and from Kankakee. The historic mission revival style Illinois Central station built in 1923, which closed in August 2020, is being restored and being made ADA compliant. Amtrak previously made roof and ceiling repairs to this building. Access between the pedestrian tunnel and the station will be under cover and the stairways are being rehabilitated.



▲ Preparing trains for the morning rush hour at the Blue Island station.

The pedestrian tunnel, which was built in 1911, suffers from water leakage. Waterproofing will be accomplished along with improved lighting, a ventilation system and graffiti-resistant finishes. The tunnel will become ADA accessible from each end. Upon completion of the Amtrak work, construction on the Metra facilities will begin.

Metra's scope of work will consist of a new station building, tunnel access between the west side of Harwood Avenue and the east side of the CN tracks. The Pace Bus driveway will be reconfigured. Drop-off and pick-up facilities will be included in the design. Metra's construction period is expected to start in the Spring of 2021 and be completed in 18 months.

Metra Electric Stations

In 2020, Metra announced a five-year plan for improving Metra Electric stations between 75th and 107th Street. These stations are basically unchanged since their construction in the electrification project that was completed in August 1926, though the 111th Street/Pullman Station

has received some upgrading in terms of expanded warming shelters on the platforms. Work is now planned for the 79th, 87th, 95th, 103rd, and 111th Street stations. All these stations have CTA bus service connections. Other MED station projects include the 59th/60th Street Station which will reopen the 60th Street entrances. This station is near the planned Obama Library Center and the University of Chicago.

Major work is being contemplated at the Harvey Station at 154th Street in downtown Harvey. Across Park Avenue is the Pace Bus Harvey Transportation Center that serves a number of bus routes including Pace Route 352. The 147th/Sibley Boulevard Station is also included in Metra's improvement plan. There is a large parking lot on the east side of the railroad that will be included in this project.

Fair Transit Cook County

For decades there has been a systemic decline in ridership on Metra Electric and the Rock Island due to the demographics of the territory served. Over these decades the

southeast side of Chicago and its southeastern suburbs have been burdened with significant unemployment and declining economic conditions. Departure of the steel industry was a major factor. Cook County recognized that Metra's fare structure could be an economic burden to many people and proposed a program to lower fares. The goal is to promote transit equity to support essential workers as well as those in need.

Pace Route 352 is part of this project. Route 352 operates on Halsted Street from the Chicago Heights transit center via the Harvey transit center to CTA's Red Line Terminal at 95th and State Streets. It is the only Pace route that operates 24/7. During this current pandemic it is carrying 2,300 daily weekday passengers. Bus service frequencies and hours of service will be increased. All trips will now originate in Chicago Heights.

This three-year pilot program was launched on January 4, 2021. The Cook County Board of Commissioners approved a \$35 million grant to offset the loss of fare revenue that Metra and Pace could incur. People in this area spend more than one



▲ This new 38,000 square foot building was dedicated on September 30, 2020. All Metra training will be consolidated in this building.—
Courtesy of Metra

► This area will be devoted to training on coach car repairs, maintenance and rehabilitation. The facility includes a pit, crane and panels to demonstrate the parts and function of component parts. ◀ The expanded truck shop that will allow for the insourcing of truck work.—
Two photos Norman Carlson

hour commuting to work and a large percentage of households do not own a personal vehicle. According to the local newspaper, of the 780,000 households in the service territory, 106,000 households lack a personal vehicle. For 177,000 households, transportation costs are 30 percent to over 50 percent of their annual income.

Fares on Metra will be reduced to the existing half fare structure that is extended to all riders who qualify for such fares. Approved by the Metra board in November, this creates a 50 percent discount. Presently, there is sufficient capacity on Metra trains to handle the increased ridership. Service additions will be made when necessary. The goal of the program is That increased ridership will cover the costs of operations and no subsidy will be needed.

47th and 49th Street Rock Island Expansion Project

The former Rock Island locomotive facility at 47th Street, known as the Rocket House, and the Coach Shop at 49th Street have become Metra’s “Back Shop.” Heavy maintenance and rehabilitation projects are conducted at these two locations. Midday storage and maintenance of Rock Island trains is done at the 51st Coach Yard.





▲ The new Hazel Crest station on Park Avenue at 170th Street that was dedicated August 20, 2020.—*Courtesy of Metra*

The scope of the work that started in 2018 included:

- 1) Renovation and expansion to the Rocket House by enclosing two tracks next to the facility with a new crane installed.
- 2) Renovation of the Coach Shop to increase production capacity, bring the truck shop capability in house and relocate parts storage area and the loading dock to increase the annual capacity to rehabilitate diesel-hauled coaches from 35 to 60 cars.
- 3) Building a new 38,000 square foot two story building dedicated to training with modern classrooms and workshops with welding training for apprentice programs, consolidating all Metra training into one building.
- 4) Convert the “Tin Shed,” from an open frame with a tin roof into an enclosed state-of-the-art 17,500 square foot logistics and storage center.
- 5) Improvements in parking, drainage and utilities.

At the time of the dedication, September 30, 2020, Metra’s in-house

rehabilitation programs had created \$202 million in economic benefit for Illinois; 102 jobs creating a payroll of \$77 million and savings of \$125 million by doing the work inhouse.

Production time on a coach rehab has been reduced from 40 to 28 days. By bringing the truck work in-house versus shipping to an outside vendor, turnaround time will be reduced to one week instead of the current four to 6 weeks. Metra also anticipates cost savings from keeping the work local. Metra will have capacity to do work for other commuter railroads. Essentially, Metra has turned a light maintenance coach shop into a heavy manufacturing plant capable of turning out a like-new railroad passenger coach.

Metra has invested \$34 million of federal funds in its mechanical facilities on Chicago’s South Side. This was done with an expectation of considerable return on investment. Metra’s goals include building a skilled, diverse workforce through apprenticeship programs that will lead to good paying jobs that can become careers. The training facility is also dedicated to

enhancing the skills of the existing workforce through teaching new concepts and technologies.

Around the System

In 2010, Metra launched the first phase of replacing the roadway bridges on the UP North Line in Chicago’s Ravenswood neighborhood. There are 44 bridges in total that were designed with horse and buggies in mind and installed in 1896-97. The replacements increase vertical and horizontal clearances. The project was broken into two segments, north and south.

The final phase of the north segment is rebuilding of the Ravenswood Station on the east side of the railroad to serve inbound trains. Construction of this station is expected to start in early 2021. The 11 new bridges for the inbound track were completed in October 2020. The station on the west side of the tracks and the 11 new bridges for the outbound track were completed in 2015.

The new Hazel Crest Station on Metra Electric was dedicated on August 20. Metra invested \$3.5 million in this new

station building. A new Rock Island station is being constructed in New Lenox in conjunction with a commercial real estate development and roadway improvement at the town's principal intersection. In Clarendon Hills, a new BNSF station is being constructed as a part of a downtown revitalization project

Fiber optic cable is currently being installed along the Southwest Service Line and will be installed on the Rock Island Line. This infrastructure buildout will enable newer technologies throughout the system. Metra received a \$500,000 grant from Cook County to help fund a new station building on the Rock Island Suburban Line at 115th Street/Morgan Park. The historic station burned down in 2017. A temporary facility has been in place since then.

The bridge over Milwaukee Avenue built in 1899 at Grayland Station on the Milwaukee North Line will be replaced with the help of a \$17.8 million federal grant. Metra will contribute \$4.5 million to this \$27 million project. The U. S. Department of Transportation makes grants for projects on rail corridors used by Amtrak.

The new bridge will have a ballasted deck which will require the adjacent tracks and the Grayland platforms to be raised. As a part of the project, the Irving Park Road bridge to the north and the Addison Street bridge to the south will be repaired. A shoofly will be used during construction. CP and Wisconsin & Southern freight trains also use this bridge.

In May 2020, Metra received a \$12.5 million federal grant to partially fund a \$26 million project to renew three interlockings on the Milwaukee North Line. Funding is also coming from Metra, CP and CN. The three facilities are the UP Cragin Line crossing at Grayland, the A-20 interlocking in Northbrook and the Rondout interlocking. Bringing the signals into a state of good repair is the central focus of the project. At Rondout, the east end of the former Rondout siding on the Fox Lake Subdivision will be connected to the interlocking. This will provide for double track access to the Fox Lake Sub creating additional flexibility at this critical junction.

In December 2020 a new interlocking, the CREATE B-1 project, west of tower B-12 in Franklin Park entered service. B-12

is the north end of the Indiana Harbor Belt and the site of the former Soo Line, now CN, crossing and the junction for North Central Service trains. Five crossovers were installed to allow CP freight trains that formerly passed through Bensenville and Franklin Park on yard trackage to use the mainline from tower B-17 in Bensenville. This is a significant benefit to Franklin Park as trains will move faster and do not need to stop to hand throw yard switches.

Finally, installation and implementation of Positive Train Control (PTC) was fully operational prior to the federally mandated December 31, 2020, deadline. This was a huge accomplishment taking 12 years to complete. The Metra Electric schedule had to be adjusted and certain rush hour trains eliminated because of capacity limitations imposed by PTC at 11th Place. 11th Place is at the north end of the line's four-track segment and where the three-track throat into the Millennium Station at Randolph Street begins.

Lease of Highliners to the South Shore Line (See Back Cover)

On January 13, 2021, Metra's Board of Directors approved a 15-year lease of 26 HL-1 Highliners to NICTD. These are the Highliners delivered by Nippon-Sharyo between 2004 and 2006. They are considered surplus to Metra's operations and NICTD is in need of rolling stock. Metra anticipates lease revenue, on average, over the lease terms of approximately \$3.6 million annually when the 26 cars are in NICTD service. Metra can terminate the lease at any time during the first 10 years of the agreement with five year's notice. NICTD has the option to purchase spare parts from Metra and to extend the lease at the end of the 15-year period.

As the first step in this transaction Metra will start an in-house rehabilitation of this series of cars. The first rehabbed car will be available for NICTD service in late Summer 2021. All 26 cars are to be rehabbed by August 1, 2024. Metra has a Purchase of Service Agreement with NICTD to provide service at Hegewisch. The cars will be used in that service in addition to the general needs of NICTD. NICTD has the option to lease unrehabbed cars at 75 percent of the full rental rate. Metra and NICTD will work together to get rehabbed cars to NICTD as

soon as possible. NICTD is responsible for the maintenance of the cars while they are under lease. Prior to transfer to NICTD each car will be subject to a joint inspection at Metra's Kensington facility (KYD) where the rehab work will be accomplished.

New Coach Car Procurement

In 2014 Metra's Board of Directors approved a modernization plan that among other things focused on new locomotives and coach cars. This plan was hindered by a lack of a capital funding bill in Illinois for 10 years. Such a funding bill was approved and signed by the governor in 2019. That pumped new life into the new coach car procurement.

In 2016 Metra issued its first solicitation for new coach cars based on the funding it then could foresee for new rail cars. The RFP included a prescriptive specification written for a gallery-type passenger car with a base order of 10 cars and options for up to 367 cars. This solicitation was cancelled because there was a lack of interest from the car builders. A second solicitation prescribing a gallery-type car was issued in 2017 for a base order of 75 cars with options for up to 230 cars. One bid was received. Due to an inability to come to an agreement with this proposer the solicitation was also cancelled. Concerned with the lack of proposals, communication, and collaboration in the direction of innovation and product improvement, Metra took pause, cancelled the RFP, and started over. Prior to re-issuing an RFP, Metra invited multiple car builders to its corporate headquarters in Chicago to discuss advancements, trends, and opportunities.

With the prospect of a state capital bill and federal funding in mind, on March 21, 2019, Metra issued a Request for Proposal (RFP). This request was an "open performance specification." Car builders were allowed to submit alternative car designs. The base order was 200 cars with options for 300 more cars for a total of 500 cars.

There are two major front-end factors affecting the unit cost of new railcars; engineering and design plus the cost of setting up the production lines, tools and jigs for manufacturing the parts and assembling the railcars. Once a production line is set up, as a manufacturer, you desire to produce as many units as possible.

With this in mind, Metra reached out to other commuter railroads to see if there



▲ On July 22, 2020, this joint Metra-CP PTC test train operated between Chicago and Rondout to test interoperability between the two railroads. The train is heading north having just crossed Devon Avenue at the Edgebrook station in Chicago.—Bruce G. Moffat photo

was any interest in purchasing new cars along with Metra. Virginia Rail Express (VRE) responded yes. VRE's early fleet of rolling stock included former Metra cars. Their current fleet has gallery-type cars. The future fleet will have a coach similar to Metra's. VRE will execute a separate contract for their coaches.

Pre-proposal meetings were held in April 2019. Proposers could submit written questions until July 26, 2019. Written replies to the questions were published by Metra in June and September 2019 with responses due by November 8, 2019. Then a seven-step process was established that included a technical review plus scoring and price scoring. Negotiation for a best and final proposal followed. This process was conducted in as a "black out period" so only those directly involved were knowledgeable of the process' results as it was moving forward.

The proposers were Alstom, Bombardier and CRRC. The recommendation to exec-

utive management and the board of directors was made by the Selection Committee. The Selection Committee was a cross-functional senior team to bring the viewpoints of departments across Metra. Passenger input was also received through electronic surveys.

The Selection Committee's determining factors were:

1. Versatility and equipment utilization: Alstom's walk-thru cab and expandable cab design is innovative. The engineer's position and the second position are on either side of the aisle. The cab car can be placed anywhere in the consist to accommodate off-peak "cuts" and "adds." This optimizes car utilization and provides options in emergency situations.
2. Safety, layout and passenger experience: Metra is seeking the most efficient passenger flow possible during boarding, exiting and moving

through the train. The design provides for:

- A clear line of sight through the passenger compartment for openness and security
 - Provide the conductors with a full view of the passenger compartment
 - Facilitate unimpeded emergency exist routes and easy access for first responders
3. Alstom was the only proposer to offer a six year "bumper-to-bumper" warranty in comparison to the industry standard of three years.
 4. Carbody Material, Design and Workability: While Metra's Mechanical Department was eager to explore different carbody materials, the choice of stainless steel almost 90 years ago by the Chicago Burlington & Quincy still remains a great choice. Stainless steel's strength and corrosion resistant properties are tried and true. Modern

engineering allows for retaining strength while reducing weight. Metra has decades of experience with maintaining, repairing and welding stainless steel. Alstom's multi-level is in harmony with Metra's existing fleet and the new cars are interoperable with the existing fleet.

Metra's current fleet of 855 diesel-hauled coaches consists of three groups:

- 370 Budd and Pullman cars, 43 percent of the fleet, that in 2021 will become 41 to 68 years of age. While safe to operate, Metra rates these cars and being in marginal or poor condition. The Budd cars that remain in service were built in the 1953-1980 period. The Pullmans remaining in service were built between 1958 and 1969.
- 176 Amerail cars, 21 percent of the fleet, were built in the 1994-1998 period that in 2021 will become 23 to 27 years of age.
- 309 Nippon Sharyo cars, 36 percent of the fleet, 302 cars were built in the 2002-2006 period that in 2021 will become 13 to 19 years old, plus seven cars that arrived in 2019.

The majority of the Amerail and Nippon Sharyo cars are in good or adequate condition based on their age and their last rehabilitation. There are nine cars that are in excellent condition.

At the November 2020 Board of Directors meeting, Chief Mechanical Officer Kevin McCann gave a presentation that outlined how the procurement process was being conducted and the state of the fleet. At the January 2021 board meeting Kevin, together with Sean Cronin, Senior Director Mechanical Capital Projects, presented the Selection Committee's recommendation to accept the Alstom proposal.

The board of directors accepted the recommendation and approved the purchase of the base order for 200 cars. Metra management can come back to the board to authorize some or all of the options for 300 more cars with a total project cost for 500 cars not to exceed \$1.8 billion. This authorization includes the six-year warranty, engineering and design cost, spare parts, specialty tools and training.

The first prototype cars will be delivered 42 months after Alstom receives the

Notice to Proceed. The first cars are expected sometime in the second half of 2024. The full base order will be delivered over the 30-month period thereafter. Maintenance cost over the life of these coaches is expected to be reduced because of easier access to replace air conditioning units, outboard disc brakes, modular subsystem units and other design features based on experience maintaining the current fleet.

In Metra's press release, an elated CEO Jim Derwinski said: "This move is truly transformational. We are finally modernizing one of the oldest fleets in the country and, in doing so, we will improve operations while elevating our passenger experience to an entirely new level. It's really part of our long-term plan to evolve and serve the changing needs of today's commuters."

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▼ Courtesy of Alstom and Metra.



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