IND EXTENDED TO BROOKLYN 70 YEARS AGO

The IND Eighth Avenue Subway was extended to Jay Street, Brooklyn on February 1, 1933, only a few months after trains started running from 207th Street to Chambers Street. Light trains operated a day before the first train left Chambers Street southbound at 6:05 AM February 1. It departed from Jay Street at 6:12 AM and made express stops to 207th Street. The following service was operated:

<table>
<thead>
<tr>
<th></th>
<th>WEEKDAY AND SATURDAY</th>
<th>SUNDAY</th>
<th>RUNNING TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Express leaving 207th Street to Jay Street</td>
<td>5:40-12:50 AM</td>
<td>—</td>
<td>37</td>
</tr>
<tr>
<td>Local leaving 207th Street to Jay Street</td>
<td>12:52-5:32 AM</td>
<td>24 hours</td>
<td>44</td>
</tr>
<tr>
<td>Local leaving 168th Street to Chambers Street</td>
<td>5:40-12:50 AM</td>
<td>—</td>
<td>31</td>
</tr>
</tbody>
</table>

The entire Eighth Avenue Subway was served by 974 trains a day. Fifteen additional cars were placed in service and 43 jobs were created.

This extension, which added 2.2 miles to the 12.05-mile original Eighth Avenue Subway, cost about $30 million, including $22 million for construction of the river tunnels. The High Street station, 85 feet below the surface, was not opened until June 24, 1933, because of the delay in completing installation of the escalators. Although the Broadway–Nassau station was not the largest in the city subway system, it was the most elaborate. There are ten direct entrances from the sidewalks or buildings and numerous interior ramps and passageways by which IND riders can transfer to the IRT and BMT. In 1933, passengers transferring between the IRT, BMT, or IND had to pay an additional five-cent fare. However, IND riders could gain access to the station through IRT or BMT entrances without having to pass through their fare controls.

The IND attempted to compete by running trains more often than the IRT and BMT. Until riding increased, short trains were operated in non-rush hours.

HEADWAYS EFFECTIVE FEBRUARY 1, 1933

<table>
<thead>
<tr>
<th>LINE</th>
<th>EVERY DAY</th>
<th>WEEKDAY</th>
<th>SATURDAY</th>
<th>SUNDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MID-NIGHT</td>
<td>AM RUSH</td>
<td>MID-DAY</td>
<td>PM RUSH</td>
</tr>
<tr>
<td>A</td>
<td>—</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>AA</td>
<td>12</td>
<td>4</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

(Continued on page 4)
SOUTH OF SHEEPSHEAD BAY

May 19, 1917  Second track in service between Sheepshead Bay and Ocean Parkway
May 30, 1917  Single track in operation between Ocean Parkway and W. 8th Street
October 21, 1918  Trains were laid up and terminated at Brighton Beach Yard instead of Sheepshead Bay.
New tower and crew room were placed in service
November 19, 1918  To allow the permanent northbound track to be connected south of Sheepshead Bay, northbound trains operated on the express track from Sheepshead Bay to Kings Highway between 10:30 AM and 4:25 PM. When the permanent southbound track was connected, southbound trains operated on the express track between these points. Shuttles provided local service between Neck Road and Kings Highway
December 23, 1918  New tower at Ocean Parkway was placed in service
May 30, 1919  Brighton trains started operating to Stillwell Avenue. Locals approached from the lower level and expresses from the upper level

NORTH OF CHURCH AVENUE

July 25, 1917  New northbound track at Woodruff Avenue was placed in service
September 25, 1918  New southbound track and new southbound platforms at Prospect Park and Parkside Avenue were placed in service. This new track was connected to the old track north of Prospect Park
December 26, 1918  Northbound platform at Prospect Park was placed in service. Single track operation was in effect for about an hour between Lincoln Road and Eastern Parkway while track changes were made
May 2, 1919  The permanent northbound track and temporary island platform were placed in service at Prospect Park
June 25, 1919  The new permanent northbound express track was placed in service between Church Avenue and Prospect Park. The local track was turned over to the contractor and a temporary wooden platform was built at Parkside Avenue
September 3, 1919  Church Avenue west station opened
September 25, 1919  New northbound and southbound local tracks were placed in service between Church Avenue and Prospect Park. Express tracks were in service the following morning
August 1, 1920  Trains started running via Flatbush Avenue, Montague Street Tunnel, and Manhattan Bridge to Manhattan. Shuttles operated from Franklin Avenue to Prospect Park in the winter. Through service operated to Coney Island in the summer

EXTENSION TO FRANKLIN AVENUE

On May 7, 1894, the company obtained the consent of the Common Council of the City of Brooklyn to change the northerly terminus from Atlantic Avenue near Franklin Avenue to Fulton Street at or near Franklin Avenue to connect with the railroad of Kings County Elevated Railway Company. The company was granted the right to lower the grade of its railroad across Park Place about one foot below the grade of the street and to raise the grade of its railroad across Prospect Place about one foot. The company was not allowed to build the station platform above the sidewalk at Franklin Avenue.

BRIGHTON LINE ELECTRIFICATION

The Brighton Line was shut down completely on April 2, 1899, to allow stringing of trolley wire. Five hundred men were able to complete the work on May 1, 1899. New 92-pound track rail was installed and the road was ballasted.

A test car and a test train operated on May 6, 1899, transporting railroad and government officials. A Flatbush Avenue trolley car ran from Borough Hall to Prospect Park, where the officials transferred to a two-car train composed of one open motor car and one trailer. The train made the 6½-mile trip in 9 minutes, averaging 40 miles per hour, and made even better time on the return trip. On June 3, 1899, Flatbush Avenue trolley cars started running from Park Row to Brighton Beach via a ramp at Prospect Park and the Brighton Line.

BRIGHTON HOTEL

The Brighton Hotel was located west of Coney Island Avenue between the Atlantic Ocean and the private right-of-way on the present-day Brighton Beach Avenue. The Brighton Beach Music Hall was west of the hotel and the race track was north of the private right-of-way.

(Continued on page 3)
On March 21, 1899, Brooklyn Rapid Transit bought the Brighton Beach Hotel, which was inspected by the officials who rode the first electric train on May 6, 1899. The hotel was scheduled to open on Memorial Day. About 1887, the hotel and the music hall were moved away from the ocean, but erosion took away all that was gained. A new stone bulkhead was built and two acres of land, formerly under water, were reclaimed in front of the music hall.

To attract a better class of people, the company continued charging a ten-cent fare to Brighton Beach in 1899.

**STATIONS CLOSED, THEN REOPENED**

When the BRT took over in April, 1899, the Sterling Place station on the present-day Franklin Avenue Shuttle was closed without permission from the State Railroad Commission. It was reopened for a brief period, then closed again. In November, 1899, 500 people signed a petition requesting that the station be reopened. A hearing was scheduled for November 15, but we do not know whether the station was reopened.

The Dean Street station was also closed in April, 1899. It was reopened on October 28, 1901 and closed permanently on September 10, 1995. At that time it was the least busy station in the transit system.

The Woodruff Avenue station was closed on May 22, 1917.

On December 30, 1919 the name of the Consumers Park station was changed to Botanical Gardens. On October 5, 1928, this station was closed and a new Botanic Gardens station was opened.

**STEAM RETURNS BRIEFLY**

On June 14, 1901, steam engines were placed in service again because the company needed power for additional trolley service to the beaches. Trains were so slow that the frequency was reduced from 10 to 15 minutes. The company expected to resume electric service by July 1, if the Halsey substation was in service.

**FARE ZONES**

An 1886 agreement listed the following fares to Coney Island:

<table>
<thead>
<tr>
<th>RAILROAD</th>
<th>FARE</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York &amp; Manhattan Beach (LIRR)</td>
<td>45 cents</td>
</tr>
<tr>
<td>Brooklyn, Flatbush &amp; Coney Island (Brighton)</td>
<td>35 cents</td>
</tr>
<tr>
<td>Prospect Park &amp; Coney Island (Culver)</td>
<td>35 cents</td>
</tr>
<tr>
<td>Coney Island &amp; Brooklyn (Coney Island Avenue trolley)</td>
<td>15 cents</td>
</tr>
<tr>
<td>Brooklyn, Bath &amp; West End</td>
<td>30 cents</td>
</tr>
<tr>
<td>New York &amp; Sea Beach</td>
<td>25 cents</td>
</tr>
</tbody>
</table>

In 1892, the Sea Beach fare was reduced to 20 cents and the LIRR fare from Flatbush Avenue to Manhattan Beach was reduced to 30 cents.

There must have been an overlapping fare zone on the Brighton Line. An August 24, 1906 newspaper article informs us that passengers boarding south of Prospect Park received identification checks to be surrendered at the second fare point. Until September, 1911, Avenue U, Neck Road, and Sheepshead Bay were in the second fare zone. At that time the second fare zone was moved to Brighton Beach. Effective May 1, 1920 fare zones were discontinued.

**SHEEPSHEAD BAY RACE TRACK SPUR**

The Sheepshead Bay Race Track was located east of Ocean Avenue between Gravesend Neck Road and Jerome Avenue. When the race track was open, Brighton trains switched from the main line to the turnouts, which were located approximately 250 feet south of the south end of the Neck Road station. Trains then operated on the surface via a long reverse curve, terminating at a six-track station at Ocean Avenue between Avenue X and Avenue Y. Although the track closed at the end of the 1910 season, the turnouts adjacent to the main line were not removed until early in 1929. The retaining walls supporting these turnouts were visible for more than half a century. During April, 1984, a contractor who was building two-family homes adjacent to the Brighton Line demolished the retaining walls with a jackhammer.

**PLATFORM EXTENSIONS**

In 1964, Brighton Line platforms were extended to accommodate 10-car trains. But the Newkirk Avenue platforms could not be extended without realigning the local tracks. To perform this work, the express tracks were disconnected north and south of the station and the local tracks in the station were also disconnected. During the night of February 8-9, 1964, hard rail connections were made between the local and express tracks north and south of the station. Skip-stop service was operated on the Brighton Line during this period. Local tracks were reconnected during the October 17-18, 1964 weekend.

The express tracks were in service on November 2, and normal service was resumed.
IND Extended to Brooklyn 70 Years Ago
(Continued from page 1)

CARS

<table>
<thead>
<tr>
<th>LINE</th>
<th>EVERY DAY</th>
<th>WEEKDAY</th>
<th>SATURDAY</th>
<th>SUNDAY</th>
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<td>EVENING</td>
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<tr>
<td>A</td>
<td>—</td>
<td>7</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>AA</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

(A) 6 cars—morning
4 cars—afternoon

The IND expanded rapidly in 1933, reaching Bergen Street on March 20 and Church Avenue on October 7. The Concourse Line opened on July 1. Trains started operating to Roosevelt Avenue and to Nassau Avenue on August 19. After these extensions were in service, riding increased rapidly, as shown in the following table:

FARES COLLECTED — YEAR ENDED JUNE 30

<table>
<thead>
<tr>
<th>Line</th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eighth Avenue Line</td>
<td>58,870,935</td>
<td>117,674,861</td>
<td>140,481,975</td>
</tr>
<tr>
<td>Concourse Line</td>
<td>—</td>
<td>24,752,308</td>
<td>31,899,246</td>
</tr>
<tr>
<td>Queens Boulevard Line</td>
<td>—</td>
<td>9,535,006</td>
<td>15,561,896</td>
</tr>
<tr>
<td>Brooklyn Crosstown Line</td>
<td>—</td>
<td>2,310,970</td>
<td>3,429,041</td>
</tr>
<tr>
<td>Smith Street-Prospect Park Line</td>
<td>210,615</td>
<td>7,385,018</td>
<td>11,603,416</td>
</tr>
<tr>
<td>TOTAL</td>
<td>59,081,550</td>
<td>161,658,163</td>
<td>202,975,574</td>
</tr>
</tbody>
</table>

R-143 UPDATE by George Chiasson

The R-143 program made limited progress through the holiday season, with 8273-8276 and 8293-8300 delivered. No additional cars were placed in service during the period, but 8125-8132 have been in and out of service testing prototype door hangers from Fujitech. This train has been running as such since October, 2002 and is not to be intermixed with other R-143s. Cars 8177-8184 are outfitted with a new type of communications system from Panasonic. In early January, a minor accident at East New York Yard damaged the couplers on 8169 and 8253 slightly, requiring components supplied by Kawasaki. Cars 8261-8268 were observed making a "burn-in" run at Myrtle Avenue on January 9, with placement in service looming. All delivered R-143s through 8296 had completed various phases of testing, with static function being performed on 8297-8300. 8301-8304 were expected to arrive by mid-January, and at least one of the two remaining 4-car units by the end of the month.

There were no other R-40M or R-32 transfers during the period between December 15 and January 10, with several of the ex-Jamaica Phase I R-32s seen on January 8. Of other niggling details worthy of mention at this juncture, the silver "streaks" observed on R-38 roofs for some time (perhaps since 2000) are strips of Teflon tape stretched across the welded seams of roof panels, evidently to address deterioration/leaking problems. Some R-38s show paint over the tape strips and a handful appear to have had repairs made. Jamaica Shop is on a campaign to clean, paint, and buff up the fiberglass end caps of the R-46 fleet.

Contrary to what had been understood as an isolated appearance, Bill Zucker offers occasional observations of Coney Island-assigned R-40M trains on from November 8 until approximately December 27. In addition, expansion of the Phase II R-32 fleet at Jamaica, thanks to the R-40/R40M transfers from East New York during 2002, has resulted in the full-time presence of R-32s on commencing the week of December 16. This applies to weekdays and weekends, including late evenings but not necessarily overnights. Nominally, Jamaica R-32s continue to provide all service with few exceptions.

(Continued on page 15)
On July 29, 2002, the Metropolitan Transportation Authority announced the award of a long-awaited subway car construction contract for BMT-IND lines, known as Class R-160. This contract was signed on October 31, 2002, and with it the tone of rapid transit operations and car maintenance for the B Division for most of the first half of the 21st Century was set. The $961 million R-160 contract is most unusual because it joins two competing car manufacturers to form an alliance that will benefit both manufacturers, NYC Transit, and the public. Success in the construction, delivery, and operation of both the 520-car R142As and the 212-car R143s by Kawasaki Rail Car, Incorporated, resulted in a suggestion by the MTA to include KRC in the 660-car R-160 contract. Alstom offered the R-160 cars based on the manufacture of car shells and other equipment at its recently acquired Mafersa car plant in Lapa, a suburb of Sao Paulo, Brazil. Currently, NJ Transit’s Comet V cars are manufactured there and are completed in the United States. Similarly, the last of Amtrak’s California Cars are now almost finished and the newest Chicago Transit Authority car shells were manufactured there in the late 1990s. In each case, final assembly occurred in the USA so the cars could meet the requirements of the Buy America Act.

Examining the history of NYCT’s New Generation, New Millennium Cars, we can understand how the contract evolved. Kawasaki’s latest involvement in NYCT began in 1989 with the award of a prototype test train, Class R-110A, under the New Technology Test Train Program. In 1998, the company won a share of the R-142 contract to supply the cars for the replacement of the Redbird (R-26/28/29/33/36) fleet. Ultimately, the R-142 contract was shared with Bombardier Transit Services. 680 cars, with an option for 350 more, were awarded to Bombardier under Contract R-142. 400 cars, with an option for 120 more, were awarded to Kawasaki Rail Car, Incorporated, under Contract R142-A. All cars in these car classes are powered by Alstom’s Onix traction package. Later, KRC won the R-143 car contract, but these 212 cars are fitted with Bombardier traction equipment.

As the R-160 car is closely based on the R-143, Alstom was regarded as offering a well-proven, reliable technology. Bear in mind that the R-143 car’s superior performance is based on Bombardier’s traction system and that the R-142A’s is based on Alstom’s Onix system. Both car classes have racked up Mean Distance Between Failure records twice as high as those required in the contract specifications. Thus, Alstom is considered winning a low-risk contract. Alstom won the major portion of the contract based on its low bid, which was within three percent of other offers, but deemed reasonable, based on Brazil’s low labor and production costs. However, Kawasaki did beat Alstom in the technical evaluation of the contract.

Alstom and Kawasaki have set up a joint venture known as “Alskaw” to manage the contract. The Project Manager will come from Alstom’s payroll and Kawasaki will provide systems engineering, although ultimate responsibility for the R-160 will rest with Alstom. There will be a single specification for components such as doors, brakes, and air conditioning, which will be overseen by a joint sourcing team. 400 cars will be manufactured by Alstom and Kawasaki will build 260. Using its Onix traction system with IGBT air-cooled inverters fed from NYCT’s 600 volt DC third rails, Alstom will supply all traction equipment. Kawasaki will build all the trucks and all cars will be motored; remember only 70 percent of the R-142/142As have motors.

Alstom’s alternating current motors have a nominal rating of 110 kilowatts and will be identical on both fleets, but with different mounting brackets to suit the Kawasaki trucks. There will be three sub-classes within the R-160 contract. The Alstom cars will delivered in four-car and five-car formations and Kawasaki will ship only five-car units. Of course, provision is made on all cars for the eventual installation of Communication Based Train Control equipment. It is anticipated that the initial R-160s will replace R-32, R-38, R-40, and R-42 cars. Two units of five cars each are scheduled to be delivered within 33 months of signature of the contract by each car builder, for a total of 20 cars. After that, there will be a nine-month period of acceptance testing, particularly concentrating on acceleration, braking, air conditioning, and electromagnetic currents and emissions, as well as compatibility with other NYCT cars. Another nine months will be required for road testing the cars without passengers before normal deliveries begin.

The last cars of the base contract are scheduled to be delivered in 2007. However, it is expected that options of 1,000 to 1,040 more R-160 cars will be exercised in 2005-2006, bringing production of the cars to 2010. Alstom’s ability to offer a lower price than its competitors was due to its plan to fabricate the body shells in Lapa, Brazil. Final assembly will be at its Hornell, New York plant, in the same way that NJ Transit’s 265 Comet V cars are manufactured. These cars will be completed in July, 2003. Kawasaki will
The last phase of the West End Line signal rehabilitation project (S-32344) is the interlocking at Ninth Avenue. This area is the most complicated part of the entire project, which may have something to do with saving it for last. As of mid-January, the cut-in is being scheduled to take place in ten steps from March 1 to April 13, mostly over weekends. At the conclusion of this work the only old BMT signals and interlocking machines left will be on the 14th Street-Canarsie Line. Those, of course, are not long for this world either.

A Capital Program project not previously mentioned here started last September. Contract E-33809 is installing new tunnel lighting on Tracks B3 and B4 (express) of the Sixth Avenue Line from the Manhattan Bridge portal to 34th Street. This project is being handled by the in-house forces of Maintenance of Way. Budgeted at $34.8 million, the work should be completed by the last day of this year. The project is actually taking place in two parts. The tunnel lighting construction is what started last September. The other part is the construction of Electrical Distribution Rooms and/or Tunnel Lighting Rooms, which is still in design. It is expected that this work will also be done in-house. During the past month, new conduits and fixtures were installed on the northbound Track B4 between the Grand Street and Broadway-Lafayette Street stations. This was very convenient, as this track is currently out of service for the Manhattan Bridge reconstruction work.

Another project not previously discussed that is currently under construction is the upgrade of the 179th Street station on the Queens Boulevard Line for ADA accessibility. Three elevators are being constructed by Innivax-Pillar, Incorporated of White Plains, New York under contract A-35904. This $13.5 million project started last September. The other part is the construction of new tunnel lighting on Tracks B3 and B4 (express) of the Sixth Avenue Line from the Manhattan Bridge portal to 34th Street. This project is being handled by the in-house forces of Maintenance of Way. Budgeted at $34.8 million, the work should be completed by the last day of this year. The project is actually taking place in two parts. The tunnel lighting construction is what started last September. The other part is the construction of Electrical Distribution Rooms and/or Tunnel Lighting Rooms, which is still in design. It is expected that this work will also be done in-house. During the past month, new conduits and fixtures were installed on the northbound Track B4 between the Grand Street and Broadway-Lafayette Street stations. This was very convenient, as this track is currently out of service for the Manhattan Bridge reconstruction work.

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T. Moriarty & Son is busy rehabilitating two pump rooms under contract E-40802, Pump Room 1001 at Whitehall Street (Broadway Line) and Pump Room 1016 at 36th Street (Fourth Avenue Line). This $7.4 million project started on the day after Christmas in 2001 and should wrap up by this October.

The project to install the first solid-state interlocking at Bergen Street was awarded to Alcatel Transport Automation (U.S.) Incorporated back on June 18, 2002. Though the relay room for this interlocking was originally going to be located behind the token booth on the southbound platform, a building at 166 Smith Street is apparently going to be the site for this room now. The track work for this project, as in several other recent projects, will be conducted under a separate contract number, in this case, S-32712. Currently, both the upper and lower levels are being surveyed in preparation of actual construction work and the contractor has completed mobilizing.

In the October, 2002 Bulletin I mentioned that the bid opening for the Concourse Line signal rehabilitation project (S-32308-R) had taken place on September 19. Only one bid was received, by Halmar Construction Company, and after some price negotiation, it was awarded the contract on December 31.

In that same issue of the Bulletin, I mentioned that I thought that Safetran Systems was the supplier for the Maintainer’s indication panel inside the Central Instrument Room at Rector Street (205 CIR). This turns out to be true but it was Safetran’s fourth installation on the subway, not its third. I only found out recently that Safetran supplied the local control and indication panels on the Brighton Line under that line’s second signal contract (S-32305) in the mid-1990s.

In the discussion last month about the original track and signal arrangement on the Centre Street Line, I was working from memory rather than directly from the periodical from which the information came from. For this, I apologize. The magazine was the February 1914 issue of The Signal Engineer, which was Volume 7, Number 2.

There were only two, not three towers to control train movements on this line, and the signal equipment was supplied by General Railway Signal Company, not the Federal Signal Company. Federal supplied the interlocking machines at Chambers Street and Essex Street when the line was resignalised two years later. There was no interlocking at Essex Street during this initial operation, which is why I still suspect that the interlocking machine at Bowery was originally at the Delancey Street terminal.

According to the article, the two tracks that were in service were simply Track 1 from Essex Street to Chambers Street and Track 2 from Chambers Street to Essex Street. These were also the track numbers used on the Williamsburg Bridge. Apparently, the track numbers did not have the line letter “J” in them.

The automatic block signals from Chambers Street to the Williamsburg Bridge apparently did have the track numbers on their number plates (though also not the line letter “J”) but it was done in IRT fashion with the track number as the last digit.

Interestingly, the signal indications of the home signals mimicked the indications of the outdoor semaphore signals used elsewhere on the BRT. They were also the same as those on the IRT, with green over red, yellow over red and red over yellow indications.

Though this was a GRS signal installation with electric Model 4-A switch machines, all of the train stops were (Continued on page 17)
Metro-North of the Rensselaer station, all of this could come about. They deal with inadequate Dutchess County, but retreated due to local opposition. Years ago, Metro-North tried to extend service into trak trains because they would make more stops. A few complete the journey in the same amount of time as the Amtrak trains. Passengers could select. Metro-North trains would not compete as there would be more service from which passengers could choose. A key to New York City. However, an Amtrak spokeswoman commented that the railroad would welcome the competition as there would be more service from which passengers could select. Metro-North trains would not complete the journey in the same amount of time as the Amtrak trains because they would make more stops. A few years ago, Metro-North tried to extend service into Dutchess County, but retreated due to local opposition. There are issues that would need to be resolved before all of this could come about. They deal with inadequate space in the rail yard north of the Rensselaer station, only three tracks at the new station, and operating authority — the State Legislature would have to enact a law to permit Metro-North to operate in Columbia and Rensselaer Counties.

Operating a ferry service across the Hudson River during the winter season could be problematic, as commuters learned during the winter of 2000-2001 (please see February, 2001 Bulletin). At that time, the Hudson River froze on the Ossining side because of its north and west location, which is the direction from which the wind blows. The previous relatively mild winters caused no such problems. This year service was suspended on January 14 for a completely different reason. Yes, the temperatures were below freezing, but this time the reason was that the new high-speed boats use Hudson River water to cool their engines, and they were drawing in a slushy mixture, which created a dam that prevented the water from reaching the engines. Commuters were told to use Tappan ZExpress buses destined for Tarrytown. This suspension was still in effect as this column was being finalized during the third week of January.

MTA Metro-North Railroad (West)

Metro-North has started preparation of an Environmental Impact Statement (EIS) to explore the possibility of adding parking in the Harriman-Salisbury Mills Corridor, which is served by the Port Jervis Line. The study will examine several alternatives including expansion of the existing station at Harriman, construction of a new station and parking at another location, or a new rail station and use of 1,800 existing parking spaces at the Woodbury Common Outlet Center. The latter has been strongly opposed by residents and their elected officials.

Connecticut Department of Transportation

Elected officials in eight Fairfield County towns have urged Metro-North to order new cars for the New Haven Line and not wait for the results of a study being conducted by CDOT that would determine the viability of double-decker cars. Double-decker cars could accommodate 150 passengers vs. the 110 that the present single-level cars hold, but their height could cause problems fitting within the 16-foot tunnels under Park Avenue in Manhattan. CDOT’s study is looking at whether existing models could be modified. With most of the electric fleet now approaching 30 years of age, about 15% are out of service on any given day. Thanks to member David A. Cohen for the report from The New Haven Register.

In early January, the Connecticut Transportation Strategy Board issued its final report on how the State of Connecticut should increase cargo transport, expand

(Continued on page 8)
Commuter and Transit Notes

(Continued from page 7)

transit, and reduce congestion on I-84 and I-95. According to the article which appeared in The New York Times, Governor John G. Rowland expressed concerns as to how this $4.9 billion program would be funded while the state grapples with a projected $2 billion budget shortfall over the next few years. Although mention was made that there would be improvements and expansions of bus and rail lines, no specifics were provided.

MTA Long Island Rail Road

Kenneth Bauer, President of the Long Island Rail Road and one of the more popular men to hold that position, announced his retirement on January 9, to be effective on March 3, ending 30 years of MTA service. Mr. Bauer was appointed as Acting President on May 5, 2000, and had the “Acting” removed that December. He could probably be considered a rare type of transit executive, because he also commuted on the LIRR. There was no immediate announcement as to a successor, but in light of the MTA’s announcement last October that it would merge the Long Island and Metro-North into one railroad, it is possible that Metro-North President Peter A. Cannito could assume that responsibility.

NJ Transit

System Timetable No. 7, with an ALP-46 on its cover, went into effect at 12:01 AM January 1. It incorporates all of the changes necessitated by the Montclair Connection last September. In fact, as I predicted, there is no longer any reference to the Boonton Line, except for the Boonton station. Mileposts, stations, etc., are listed under the Montclair Branch.

Last April, faced with overcrowding conditions on 30 peak hour trains, NJ Transit embarked on a program to improve service. Between June and November, 11,500 seats were added to midtown service, and nine trains now have less than 100 standees. All told, 34 new weekday trains were added, bringing the total to 646. Following is a summary of those improvements:

• June 16, one new train
• September 7, five new trains
• September 29, 26 additional trains due to Montclair Connection
• October 27, one new train
• November 4, one Montclair-Hoboken train

Future rail service improvements were outlined in the December, 2002 Bulletin.

Member Bruce Russell sent an article from the (Newark) Star-Ledger, which reported on the dissatisfaction, that some Boonton Line riders have for their current rail service. The complaints are coming from riders who do not have Midtown Direct service, from Little Falls west. Passengers are reporting fewer trains and scheduling problems. As an example, Train #1055, 6:14 PM Hoboken/Hackettstown, a (limited) express, almost always winds up behind its leader. To correct this, a new timetable was issued on January 26, which pushes back this train six minutes. NJ Transit officials will also be setting up a meeting with passengers who ride from stations west of Montclair.

Although NJ Transit has classified the project to restore passenger service on the New York Susquehanna & Western (Susie-Q) as “inactive” (October, 2002 Bulletin), nonetheless the transit agency will acquire a 120-acre site that was formerly a landfill in Hardyston (Stockholm) for eventual use as a train storage yard. By acquiring the site, NJ Transit will assume the estimated $6 million cost for environmental remediation.

I received the following report via email. “As of December 15, Norfolk Southern’s Harrisburg Division has taken Number One and Number Two Orange Running Track between milepost WD 8.4 and ‘DB,’ the West End Running Track between ‘DB’ and West End, and the Newark Industrial Track between milepost NK 4.3 and milepost NK 8.0, out of service.” These include the tracks leading to/from the retired portion of the Boonton Line.

At the end of 2002, the New Jersey Association of Rail Passengers (NJ-ARP) reported the status of NJ Transit’s rail projects as follows:

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>STATUS</th>
<th>CURRENT DEADLINE</th>
<th>ORIGINAL DEADLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBLRT/Weehawken Street</td>
<td>Under Construction</td>
<td>2004</td>
<td>2003</td>
</tr>
<tr>
<td>HBLRT/22nd Street</td>
<td>Under Construction</td>
<td>2003</td>
<td>2003</td>
</tr>
<tr>
<td>Bergen Tunnels Phase I</td>
<td>Tunnels Lined</td>
<td>March, 2003</td>
<td>August, 2002</td>
</tr>
<tr>
<td>SNJLRT Transfer</td>
<td>Operations Testing</td>
<td>Late June, 2003</td>
<td>2003</td>
</tr>
<tr>
<td>Secaucus Transfer</td>
<td>Ongoing</td>
<td>September, 2003</td>
<td>2002</td>
</tr>
<tr>
<td>Pascack Valley Sidings</td>
<td>Designed</td>
<td>2004</td>
<td>2000</td>
</tr>
<tr>
<td>Union Town- ship Station</td>
<td>Under Construction</td>
<td>Late Spring, 2003</td>
<td>December, 2001</td>
</tr>
</tbody>
</table>

As noted above, the Union station on the Raritan Valley Line did not open on December 31, 2002.

It did not take long, but Alan Kramer reported that HBLRT cars 2020 and 2029, which had been partially wrapped in safety advertisements and decorated as “Holiday Express” with snowflakes in the windows, were returned to their original colors during the first week of January.

On December 15, 2002, DMU 3506 became the first SNJLRT car to run in the streets of Camden. Please see Bruce Russell’s report on page 15.

Port Authority Trans-Hudson Corporation

Alan Kramer reported that in advance of Exchange Place re-opening in a few months, some PA-1 through PA-4 cars are receiving EXPL destination signs in lieu of WTC. A temporary World Trade Center station is ex-
Commuter and Transit Notes

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Metropolitan Area

Mass transit riders in New York City top the list by paying 54% of the cost of their ride. The Federal Transit Administration reported other cities as follows: Chicago, 42%; Boston, 31%; Los Angeles, 30%; and Atlanta, 29%.

In December, 2002, the Bloomberg Administration, in a policy reversal from the Giuliani Administration, asked the Surface Transportation Board to grant a certificate of interim trail use for the 1.45-mile-long High Line. This is the remaining elevated portion of the West Side Freight Line, which CSX inherited from Conrail, and is still under orders to demolish. The line runs from W. 34th Street to Gansevoort Street in Manhattan.

Miscellaneous


Scheduled for 2003

Omitted from last month’s listing is Pittsburgh’s (PAT) Stage II (Overbrook Line). Rehabilitation of this 5.5-mile line will provide a faster routing between Castle Shannon and South Hills Junction. Work began in April, 2000 and is scheduled for completion by year’s end.

Other Transit Systems

Boston, Massachusetts

Hopefully not too many members trekked up to Boston for the planned December 21, 2002 re-introduction of the troubled Type 8s. According to the Boston Herald, the Department of Telecommunications and Energy, which has final say on MBTA safety matters, turned down the transit agency’s plan to reintroduce 27 low-floor Bredas, saying it needed additional information and at least another month to 45 days to review the agency’s plan. The first of several unsuccessful attempts to place these cars in service occurred in 1998, but after a series of derailments, the cars were sidelined, and have been ever since.

For the first time, the Winter edition of the Rapid Transit schedules was produced in color. Thanks to member Todd Glickman for sending copies and for the aforementioned report.

Philadelphia, Pennsylvania

Member David Frazer (#1343) sent an article from the metro newspaper about track replacement that took place on Route 36. However this article, which arrived last year, was misplaced. Two phases of work were scheduled beginning last April, which closed Elmwood Avenue from 65th-70th Streets through August, when work moved to 69th-73rd Streets. Work was completed in November. Trolleys operated on a single track through the work area, except on three weekends when there was bus replacement service. The rails that were replaced by welded rail had been in use since the 1950s.

A shuttle bus is replacing the one train in each direction that operates middays on Route R-6 between Center City and Cynwyd. SEPTA forces have been replacing running rails since December 16. This work is expected to last for six months.

Washington, D.C. area

Ridership has not met expectations on MARC’s line to Frederick. Since the line opened in December, 2001, an average of 287 riders used the trains, as opposed to the expected 350. Estimates were that ridership would grow to 1,600 by the year 2005, with a doubling of service.

In 2002, Metrorail accepted 96 new CAF 5000s, and the balance of the 192-car order is expected to be in service this summer. At that time, all peak trains will operate with six cars. Also this year, the first Breda 2000/3000-series cars will be returning from their rehabilitation at Alstom. 2000-2075 were delivered during 1983-84, while 3000-3289 arrived from 1984-88. Although there are 366 cars in these groups, Alstom’s contract was for 364 cars.

Virginia’s Commonwealth Transportation Board voted in favor of extending Metrorail’s Orange Line from West Falls Church to Dulles Airport. Eleven new stations would be added, plus there would be a rail yard on airport property. Less than three weeks earlier, Federal Transit Administrator Jennifer Dorn told local, state, and federal officials the rail line to Dulles project is too costly and would not carry enough riders to justify the cost. Thus, it is likely that the project will be rejected because the $3.3 billion project would only serve 71,900 riders a day. It was suggested that rather than building a 24-mile rail line to Dulles, a shorter rail line as far as Tysons Corner should be built, which would require a transfer to a rapid bus service. Member Phil Hom, who sent the report, wrote that the new Air and Space Museum will open at Dulles Airport this December, and no one has figured out how the public will get to the new museum using public transportation. Phil is sure the tourist count is not included in the 71,900 daily users.

Memphis, Tennessee

The Heritage Trolley Line in this city was shut down for a two-month period beginning on January 5, so that the existing line can be connected to the new line. At the same time, the catenary will be re-tensioned and converted to pantograph. The cars will also receive pantographs. Thanks to member Karl Groh for the report.

St. Petersburg, Florida

As our readers may already know, transit reporting by the general news media leaves a lot to be desired. As an example, how many times have you heard radio or television reports about trains being diverted over lines that they could not possibly operate on, due to a service disruption? Member Dennis Zaccardi sent an article from the St. Petersburg Times reporting that Pinellas County must decide on whether or not to build a $1 bil-

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Commuter and Transit Notes

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lion light rail system. Although the article mentioned that either a light rail system similar to Dallas, Denver, and Portland, Oregon, or an elevated monorail like Disney World or Seattle, would be constructed, the caption under a photo of a monorail read: “Pinellas County is preparing to ask the federal government for hundreds of millions of dollars to build a light rail system such as a monorail.”

Chicago, Illinois

The Chicago Transit Authority offered its riders the biggest transit bargain, other than riding free, when it charged a fare of one penny. This was in effect from 8 PM New Year’s Eve until 6 AM New Year’s Day. In addition, all elevated and many bus lines operated with extended hours. Loop stations were served by Brown, Green, and Orange Line trains until 1:30 AM. Blue Line trains on the Cermak (Douglas) Branch also ran until 1:30 AM. Purple and Yellow Line trains from Howard to Evanston and Skokie ran until 2:20 AM and Brown Line trains shuttled between Belmont and Kimball until 2:25 AM. Red Line and Forest Park/O’Hare trains operate 24 hours a day.

Mayor Richard M. Daley has submitted a $6.6 billion plan to expand O’Hare International Airport. Under the proposal, runways would be rearranged to reduce delays, another terminal would be constructed, and there would be a link to a nearby commuter rail line. I asked Chicago-area member Jim Beeler for some details, and he reported that “from the map it looks like METRA would come into the new West Terminal. The trains would come out the Milwaukee West Line (to Elgin) and cut off just before the Bensenville station and head up the UP Belt line (which currently doesn’t have any passenger service) to the new terminal, which will be on the west edge of the airport.”

METRA awarded Sumitomo Corporation of America a $74 million contract to build 26 EMUs for the METRA Electric District. Sumitomo will supply the stainless steel shells and components for the cars, which will be assembled by SuperSteel in Milwaukee. METRA Electric service is provided by a fleet of Highliners, 129 out of 130 (St. Louis Car Company, 1972) plus 36 received from Bombardier in 1978-79. All were overhauled several years ago by Morrison-Knudsen in Chicago and made ADA-accessible. A prototype car is due next year, with complete delivery by 2005. In future years, there are expected to be additional orders to completely replace the current fleet. Thanks to member Andre Kristopans for the report.

Dallas, Texas

There’s lots of news from the Lone Star State this month, so I’ll start off with on a positive note. An article from the Dallas Morning News reported that since the McKinney Avenue Transit Authority’s line became Line M and was extended to City Place Station (and fares were eliminated), ridership has increased five-fold. By this summer, a contract is expected to be awarded for an 0.8-mile extension to the Arts District, and this fall work should begin to construct a turntable, which will enable the Authority’s single-ended cars to be put into service.

In good economic times, sales tax revenues that fund transportation are beneficial. However, when the economy makes an about-face and those tax dollars are not there, transit agencies have to make some hard choices, including whether to cut service or delay expansion of routes. Railway Age reported that DART is in such a situation because sales tax revenues have declined by nearly 20%. DART had expected to receive $406 million in 2002, but actually got about $325 million, and if things do not turn around in the next 12-18 months it is anticipated that the expansion plan will be stretched out. That will not sit well with those cities that were expecting rail service.

The Houston Chronicle reported that a busload of commuters from Sherman, shuttled 55 miles south by the Texoma Area Paratransit Authority, was turned away and not permitted to discharge its passengers at the recently opened Plano station. According to a DART spokesman, cities and regions that are not members of DART are required to have an agreement before they can bring riders to rail stations and “we have not developed a policy for dealing with non-member cities.” The TAPS bus service, which serves seven counties in North Texas, did not have an agreement. Not only had DART denied it permission to deliver passengers to and from Parker Road, the city of Plano has told the agency that it cannot load and unload buses on city streets near the station. It all boils down to economics — constructing DART cost millions, and additional riders from non-DART communities could cause the need to purchase more equipment, costs that would have to be borne by DART members. On a daily basis the 1,300-space parking lot has been filled, and allowing passengers from non-DART cities could strain the system and crowd out commuters who have been paying for DART development since 1983. A TAPS spokesman said that its buses would make six round trips each day and only carry about 75 passengers. He hoped that an agreement would be reached soon. Some Dallas suburbs chose not to join DART and other cities, such as Sherman, are ineligible for membership because they are too distant from the rail line or too sparsely populated to pay membership costs.

Fort Worth, Texas

An email that was forwarded to me reported that at the former Leonard’s/Dillard’s/Tandy Subway, as of early January, the tracks have been removed and the tunnel blocked. There was no word as to the disposition of the equipment.

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Commuter and Transit Notes

(Continued from page 10)

Houston, Texas
Work is on or ahead of schedule in the four sections of track construction in Houston, and the 7.5-mile-long Metrorail should open in 2004.

Seattle, Washington
Sound Transit reported that its commuter trains carried a record 610,000 passengers last year. The Federal Transit Administration also approved the EIS (Environmental Impact Statement) for the extension from Tacoma to Lakewood.

San Francisco, California
Riders in the City by the Bay may soon be losing the distinction of having one of the lowest transit fares in the nation. According to a report sent by Phil Hom, in order to close a $38 million deficit, Muni proposes to raise fares by 25%. The base fare is presently $1. Senior fares would rise by 10 cents, to 45 cents, while the Fast Pass would go from $35 to $43.75. Interestingly, a $44 cost was proposed, but when transit officials learned that the number four signifies “death” in the Chinese Culture, and two fours means “double death,” the price was reduced. The largest increase would be for riding the cable cars, which would go from $2 to $3. Once the Municipal Transportation Agency commission and the Board of Supervisors approve the new fare structure, it would go into effect as of September 1.

A San Francisco firefighter was critically injured after responding to a fire aboard the SFO AirTrain, further delaying its start-up of service. The electrical fire occurred on January 9.

Burbank, California
For the second time in less than a year, a Metrolink train was involved in a crash. This time, it was a southbound Antelope Valley Line train (#210) en route to Los Angeles, which struck a pick-up truck that witnesses said went around the gates, which were down with the lights flashing. The cab car was leading the push/pull train, which sliced the truck in half, carrying a section down the tracks, while the remaining part burst into flames, killing the driver, who was the only fatality. 32 of the 58 passengers aboard the train received injuries. Three of the cars derailed, and it appeared from television video coverage that some of the cars were turned on their sides. Service was delayed throughout most of the day. On April 23, 2002, the engineer of a Burlington Northern freight train struck a Metrolink train (June 2002 Bulletin). He later reported that he was “blinded” by the sunlight and could not see the signal, which was at “stop.”

Toronto, Ontario, Canada
The Mount Joy station, which is located between Markham and Stouffville, opened on December 2, 2002. This was the second station opening on the Stouffville Line in recent months. On September 3, the Centennial station opened (December, 2002 Bulletin).

The fare went up on January 1 on all Toronto Transit Commission routes to C$2.25. Students/Seniors are paying C$1.50 and children, C$.50. New tickets were issued, and they and the tokens are sold five for C$9.50 or ten for C$19.00 (full fare). Students/Seniors are C$6.25 and C$12.50 for five or ten, respectively.

Vancouver, British Columbia, Canada
West Coast Express has been operating what it calls “Snoozer Cruisers.” On all trains, the upper level of the coach nearest to the engine (usually the noisiest car) has been set aside as an area for “resting and reading quietly.”

Moscow, Russia
In December, Russian officials announced that the 5,758-mile Trans-Siberian Railroad was fully electrified. These officials were anticipating a 40% increase in traffic.

New Delhi, India
India’s capital city opened the first five miles of its new Metro on January 1, carrying an estimated one million riders that day. By 2005, the system should comprise 37 miles.

From the History Files

50 Years Ago: On February 23, 1953, Public Service Coordinated Transport purchased 30 PCCs from the Twin Cities Rapid Transit Company. The first arrived in New Jersey on August 12, and the September, 1953 issue of Headlights reported that car 21 (ex-360) was the first car to run in revenue service on January 8, 1954. PSCT paid $11,000 for each car.

25 Years Ago: On February 9, 1978, the Budd Company presented its new version of the very successful RDC – the SPV. Unfortunately for Budd, history did not repeat itself with this car, and although the initials stood for “Self Propelled Vehicle,” those few systems that purchased them found out that the letters stood for something entirely different: “Seldom Powered Vehicle.” According to the book Budd Car — The RDC Story (Chuck Crouse – Weekend Chief Publishing Co. © 1990), 32 were completed. Six were exported to Morocco, and of the remainder 13 went to CDOT, 11 to New York’s MTA (for Conrail), and one to the Federal Railway Administration (Track Geometry Car T-10). One other was a company demonstrator. CDOT and MTA converted their cars to locomotive hauled coaches. Metro-North, successor to Conrail, discontinued using them in late 1994, and they were reportedly sold to CDOT. However only one made to trip to CDOT. The balance remain at Croton-Harmon. CDOT uses its own cars in Shore Line East service, but not on the runs to Stamford. Thanks to Josh Weis for some of the details.

News items and comments concerning this column may be emailed to NYDnewseditor@aol.com.
NEW YORK DIVISION BULLETIN - FEBRUARY, 2003

REDBIRD UPDATE
By George Chiasson

R-142s
Through January 10, Option R-142s 7041-7050, 7106-7110, 7116-7120, and 7131-7140 were delivered and Option R-142s 6926-6930, 6936-6940, 7091-7105, and 7111-7115 were in service on the reefing schedule. The final 30 cars of contract Option I have been delivered with all 120 cars of Option II. It will be interesting to see what the delivery sequence is following the 7100-series currently being shipped.

R-62/R-62A Notes
The swap of R-62s and R-62As between and can be expected to occur at virtually anytime, most likely in the space of one or more weekends. Sources of delay in this regard have ranged from the possibility of a strike (December 7-8 and 14-15, 2002) to employee downtime for the holidays to the usual array of weekend General Orders. There is also the issue (though likely not major) of re-orienting the facilities and personnel at Jerome and Livonia from servicing General Electric equipment to Westinghouse and vice-versa. Otherwise, for the first time in several months the R-62A fleet was unchanged.

Redbird Notes and Status
Through January 10, these 12 additional R-33s had been identified as receiving SMS work at 207th Street:

- R-33: 9250/9251, 9256/9257 off on
- R-33 8828/8829, 8882/8883, 8916/8917, 8918/8919, 8944/8945, 8970/8971, 8988/8989, 9002/9003, 9062/9063, 9078/9079, 9082/9083, 9115/9121, 9122, 9126, 9127, 9120/9121, 9150/9151, 9164/9165, 9188/9189, 9194/9195, 9196/9197, 9202/9203 off on
- R-33S: 9309, 9316, 9317, 9322, 9325, 9326, 9336 off on
- R-33: 9250/9251, 9256/9257 off on
- R-33: 8836, 8837, 8840, 8841, 8846, 8847, 8850, 8851, 8882/8883, 8916/8917, 8918/8919, 8944/8945, 8970/8971, 8988/8989, 9002/9003, 9062/9063, 9078/9079, 9082/9083, 9115/9121, 9122, 9126, 9127, 9120/9121, 9150/9151, 9164/9165, 9188/9189, 9194/9195, 9196/9197, 9202/9203 off on
- R-36: 9354/9355 off on
- Restored to service through January 10, 2003 were:
  - R-33: 9068/9069 on

Redbird Reefing
Two barges loaded with “Deadbirds” have departed 207th Street since our last check. The first slipped quietly out of town on December 9, 2002 (and we found out about it after the holidays), disposing of 50 car bodies out of town on December 9, 2002 (and we found out about it after the holidays), disposing of 50 car bodies off the coast of Savannah on behalf of the Georgia Department of Natural Resources. The contents were:

- R-29: 8694, 8695
- R-33: 8922, 8923, 8946, 8947, 8960, 8961, 9004, 9005, 9006, 9007, 9022, 9023, 9052, 9053, 9128, 9129, 9180, 9181, 9186, 9187, 9190, 9191, 9192, 9193, 9200, 9201, 9204, 9205, 9210, 9211, 9252, 9253, 9268, 9269, 9304, 9305
- R-36: 9410, 9411, 9430, 9431, 9446, 9447, 9476, 9477, 9534, 9535, 9658, 9659
- The second barge left for the coast off Hilton Head, South Carolina on January 9, 2003 with the following 50 car bodies:
  - R-29: 8716, 8717, 8718, 8719, 8740, 8741, 8784, 8785, 8786, 8787
  - R-33: 8836, 8837, 8840, 8841, 8846, 8847, 8850, 8851

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The controversial Southern New Jersey Light Rail Line, running approximately 36 miles from Camden to Trenton, is now at the point where testing of trains has begun. The first unit arrived last autumn on an enormous freight-carrying airplane, an event that received much media coverage. Photos showing the three-section articulated vehicle emerging from the open front end of the aircraft and being eased onto a flatbed truck received wide circulation. Since then, several other LRVs have arrived, but via ship from Europe.

On Sunday, December 15, 2002, testing began along the street trackage in downtown Camden using car 3506, which was not the car that had come on the airplane. New York Division members Jack May, Russ Jackson, and myself were there to observe the event. Fortunately, it was a bright, sunny day with mild temperatures.

The street running section through downtown Camden is now complete. There is double track throughout, and the rails are set in concrete. Except for the lack of overhead wires, it looks like any newly constructed modern light rail line. At various locations stations have been constructed. They are simple structures consisting of a slightly raised platform and a shelter with a pointed roof. Ticket vending machines have not yet been installed. The Camden street running segment, where the December 15 testing occurred, begins along the waterfront opposite Philadelphia and runs parallel to it for about a half mile before turning inland. The Camden waterfront now includes the battleship New Jersey (which is a memorial), an excellent aquarium, and a minor league baseball stadium. These should all be excellent traffic generators.

Although ridership forecasts remain dismal, positive points remain. The first is that the line will serve as a feeder to and from NJ Transit's Northeast Corridor route from Trenton to Newark and New York City. Secondly, the line will also act as a funnel of riders to PATCO in southern New Jersey. The only drawback appears to be the requirement that operation over the line cease about 11 PM in order for freight service to be provided to several industries. The FRA does not permit the same stretch of railway trackage to be used simultaneously by lightweight railcars and heavy locomotive-hauled freight trains. This is because in a collision the passengers in the lightweight vehicle would suffer disproportionately. Furthermore, the Water Rand Transportation Center, named after a deceased state senator who did a lot for southern New Jersey, is being refurbished and expanded. By next year, it will serve the PATCO route to Philadelphia, the new light rail line, and local buses. This is in line with NJ Transit's policy of making non-automotive transportation wholly connected so as many people as possible will use it, leaving their cars at home.

Trackwork along the entire 36-mile route is almost finished. The line appears to be about 60% double-track and 40% single-track. This should pose no problems, considering the fact that service frequency will consist of trains running every 20 to 30 minutes during the day. The rails are continuously welded and set atop concrete ties, except in a few locations on the double-track segments. Here one of the tracks is the former Conrail one, upgraded with new wooden ties plus welded rail. Seeing a line with one track atop concrete ties and one atop wood looks strange, but was probably done to save money. The transition from street running to private right-of-way former railroad alignment occurs at the fringe of downtown Camden near the offices of the Campbell's Soup Company, a local industry of worldwide fame. A simple ramp permits the light rail vehicles to access private right-of-way. Until a decision is reached to extend the route from NJ Transit's Trenton station into the heart of that city, where many government offices are located, Camden will possess the only street running on the system.

Car 3506 was on the line primarily to test switches on the street segment in Camden. Several crossovers exist, and these required an evaluation. Car 3506 therefore operated over them, and the driver turned the switches from inside the vehicle's full-width cab. Everything appeared to be in good working order.

The cars used on the South Jersey Light Rail Line are impressive. In the opinion of this reporter, they are far more pleasing in appearance than the ones now in use on the Hudson-Bergen LRT and on the Newark City Subway. These cars have a very box-like look, while the South Jersey models reveal some degree of styling. Similar vehicles are running in Linz, Austria and in Lausanne, Switzerland. Of course, these are fully electric, while the South Jersey models will rely on diesel-electric propulsion.

The South Jersey LRT was not electrified due to cost considerations, plus the low ridership forecasts. Under normal circumstances, new rail projects qualify for some federal assistance. In the case of this line, the "feds" took a look and said, "No dice; build it on your own." Because political considerations mandated that at least one new rail project be built in the southern section of the Garden State, and because there was opposition to construction of a rail line in a corridor where it made some sense, the present route was selected.

Even as the line has gradually been built atop the old Pennsylvania Railroad right-of-way (which last witnessed passenger service in 1963, when a single...
Southern New Jersey Light Rail Update

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round-trip using a gas-electric "doodlebug" quit), it has been a lightning rod for criticism from many quarters. Estimates of cash recovery from the farebox range from a low of 10% to a high of 15%, which is pathetic for any rail system. This translates into massive amounts of subsidy dollars needed to keep the trains running. The original price tag was $604 million. This has risen to over $1 billion for a line that does not even include electrification.

The new vehicles consist of aluminum body shells and end sections made from composite materials. They are bi-directional, with identical cabs at both ends, referred to as A and B. The color scheme is a very tasteful white and blue with bright yellow used for the four doors. The NJ Transit logo is surprisingly very small, and appears on the front beneath the window and on the side. NJ Transit will not actually operate the line. Instead, the Bechtel Company, which is also building it, will run the service. A similar arrangement existed for the construction of the Hudson-Bergen LRT, under which the Raytheon Company built it and now runs it. At the present time Bechtel is suing NJ Transit for $140 million in cost overruns. This has resulted in much negative publicity.

The most interesting feature of the new vehicles is their center section, which separates the two passenger-carrying portions. Here is situated the diesel power plant, which will provide electricity to be fed to three-phase AC traction motors. I was impressed with the quietness of the diesel, a far cry from the noise levels of such cars as the Budd SPV-2000, which produced an ear-splitting racket. Instead all one hears is a gentle purr. The prime mover is a Mercedes MTU183 12-cylinder model manufactured by Mercedes Marine Division. This engine has a horsepower rating of 460 and is very compact. Air intakes for it are located on the side of the central section where it is housed. This portion of the car can be walked through, allowing riders to pass from one end of the vehicle to the other. The cars are diesel-electric, meaning that the diesel engine furnishes power to generate electricity, which is fed to motors attached to the wheels. An alternate means of propulsion is diesel-hydraulic, in which no electricity is involved.

The well-known Budd RDC possessed diesel-hydraulic apparatus. Top speed of the South Jersey cars is 60 mph. This will certainly be attained along stretches of the private right-of-way in spite of many grade crossings. The construction of the line involves rebuilding of all of these level crossings, which unfortunately have the potential of deadly train/car encounters. Sadly, there will always be people who will attempt to beat the train by driving around closed gates or ignoring flashing lights. They become statistics.

The operator’s cab is full-width and consists of a comfortable seat and a console containing all of the controls to run the cars. If two-car trains are utilized, the operator in the lead unit will naturally run both. Stations along the line are designed for use by two-car trains. The full-size window will provide the driver with an unobstructed view of the entire scene in front of him or her. At night a powerful headlight set in a slight recess above the front window will furnish illumination. Inside of the car it is possible to observe the operator through a glass partition screen. Having this vantage point will definitely make riding the route a genuine pleasure for railfans. On so much of today's new rail rolling stock it is impossible to look out the front end and see what is coming. In addition, the seats are comfortable and feature pleasing colors. The ride ought to be smooth. The cars have three trucks — two beneath the passenger-carrying sections close to the cabs, and one directly below the central power unit.

Refueling and washing of the diesel-electric light rail cars will be done at the shop complex in Camden. Dispatching of cars along the 36-mile route will likewise be done inside of the now-completed shop structure.

The three of us — Jack, Russ, and I — were able to obtain photos of the vehicle at various locations within downtown Camden. A nice pose was when the car tested a crossover adjacent to Camden’s City Hall. Just beyond City Hall, the tracks pass adjacent to the Walter Rand Transportation Center, where transfer can be made to the PATCO line to downtown Philadelphia. Russ departed early, but Jack and I photographed until it became too dark. It was certainly an interesting day as well as a preview of exciting things to come — for railfans, at least!

For now, work continues on a much-maligned South Jersey diesel light rail line. The opening date is set for sometime in the early autumn of 2003. Prior to then, test trains should be running, providing photographic opportunities during the time when the days are longest. The old Camden & Amboy Railroad, originally spiked down in the 1840s, will once more see passenger trains, at a frequency it never knew during its heyday prior to World War I. All aboard for Camden, Bordentown, Riverside, and Trenton!
It is not only a railfan thing to do. People in all walks of life like to do certain “things” to complete “something,” whether it is finishing up a crossword puzzle, collecting a particular type of collectible, or riding all parts of a transit system. I have been very fortunate in that I have been able to travel extensively, maybe not as much as some, but certainly more than others, and many transit systems, completely.

Within the past seven months, NJ Transit has finished work on several projects by adding new sections of track that I had not been able to ride. So, when I found myself with a weekday off in January, I decided to get caught up on riding these rail lines on which I have reported in my columns. As Steve Lofthouse was also available, we drove to the Walnut Street station in Montclair, to make our first ride over the Montclair Connection. The parking lot was restricted to those with permits, but fortunately there were meters, which when fed were good for several hours. To get to Hoboken, we rode Midtown Direct Train #6234, which had ALP-44 (“class engine”) 4400 on the east end, pulling a train of Comet V cars. This was also our first ride in a Comet V, which we found to be comfortable. There were at least five train crewmembers aboard plus the Engineer, a little excessive considering only two cars were open. At Broad Street (Newark) we detrained to wait for Train #424, a three-car train of Arrow IIIs from Gladstone. Every M&E train in Hoboken service that we saw was composed of just three cars. It also seemed that there was too much “pad” in the schedule because at several of the stops the train held for its scheduled departure time. In fact, we were five minutes ahead at West End, and the same amount of time early at Hoboken.

HBLRT extended its line from Pavonia/Newport to Hoboken on September 29, 2002, and this was the only section we were missing, so after purchasing tickets a round trip was made between those stations. As I previously wrote, it is an unnecessarily long walk to reach this platform, and you must purchase and validate your ticket prior to entering this “paid fare zone.” For all of the money that was spent on this project, for (relatively speaking) a few dollars more, the tracks should have been brought farther east so that the walk from the terminal to the cars would have been more convenient for passengers. The car we rode wrong-railed to the Junction, and then crossed over to the outbound track. As the rails on the unused track were covered with rust, I wondered why this track was not in service. I learned later from one of the Train Operators that there was a problem with a “frog,” which he expected would be corrected soon. LRV 2026 was stored on the lay-up track east of the Pavonia/Newport station and it had a colorful sign on the dash that read Bayonne Flyer.

After we returned to Hoboken, we rode PATH to Newark, changing trains at Journal Square for the last “new” ride of the day, the Newark City Subway extension. Silver Lake (Belleville) and Grove Street (Bloomfield) were opened on June 22, 2002. The first car only ran to Branch Brook Park, so we got off there and waited for the following car to reach Grove Street. The no-longer-used inbound platform at Orange Street is still there. On our outbound trip, car 118, formerly HBLRT 2019, passed us going eastbound. It was also the only car we saw that had its number applied to the top of the center section. One of the operators told me that 117 (the other car that was transferred over) is considered a “jinx car” because it breaks down down frequently. The trip west of Branch Brook Park (at the approximate location of the old Franklin Avenue station) was excruciatingly slow, plus we had to stop at all of the grade crossings to await a clear signal. As it was late in the day, to save time, rather than riding PATH back to Hoboken to get the train back to Walnut Street, we rode a NJ Transit bus to the Broad Street station.

Next on the horizon is SNJLRT when it opens later this year.

R-143 Update
(Continued from page 4)
and account for up to a half-dozen of the day’s trains at any one time. Since December, 1990, has been dominated by R-46s, with a few trains of R-32s officially assigned but rarely seen. On certain weekends during installation of the 63rd Street Connector (1998 2001), R-32s did replace most R-46s on , diverted off and operating from Jamaica Center to 95th Street via the 60th Street Tunnel.

Redbird Update
(Continued from page 12)
8874, 8875, 8970, 8971, 8992, 8993, 9002, 9003, 9054, 9055, 9062, 9063, 9084, 9085, 9106, 9107, 9126, 9127, 9166, 9167, 9188, 9189, 9202, 9203, 9216, 9217, 9242, 9243, 9264, 9265, 9276, 9277
Boy, is it cold outside. But that will not stop the work from getting done, unless there is a blizzard or a cold weather plan. Anyway, I will try to make this brief.

The IRT has major service disruptions with the Lenox/White Plains Road shutdowns that will probably see the largest bus substitution for train service that has ever been done. Completion work for track and for 72nd Street station rehabilitation as well as Flushing signals and Atlantic Avenue station rehabilitation are moving right along.

On the IND, we have AirTrain, Lexington Avenue station rehabilitation, and structural repairs, as well as a chip-out in Washington Heights and Division of Track forces working on the switches north of Broadway-Lafayette.

For the BMT, we have the Division of Track reinstalling a switch north of 57th Street-Seventh Avenue that had been removed from service for lack of use. This switch has found a new use with the Manhattan Bridge being closed. West End signals and DeKalb Avenue station rehabilitation will also be in the picture, although not when Switch #25 at 57th Street is being done. And last but not least, there is the Canarsie line. Last month I told you that the new Track P2 tie-in at Atlantic Avenue will happen Presidents’ Day weekend. That has now been moved tentatively to the last weekend of March and the first weekend of April. CBTC will be moving north to Bedford Avenue and Third Avenue to prepare the switches for the new signal system. This will require a 3-split shuttle and a bus. Also the First Avenue and Third Avenue stations will be closed during G.O. hours. Until next month, stay warm.

<table>
<thead>
<tr>
<th>DATE(S)</th>
<th>TIME</th>
<th>LINE(S)</th>
<th>AREA OF WORK</th>
<th>SERVICE ADJUSTMENT(S)</th>
<th>DESCRIPTION OF WORK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/11 to 2/14</td>
<td>Nights</td>
<td>1 2</td>
<td>Track B4 S/E 72nd Street to N/E 96th Street</td>
<td>N/B express via Track 3 from S/O 72nd Street to N/O 96th Street</td>
<td>Electrical, plumbing, and architectural installations</td>
</tr>
<tr>
<td>2/4 to 2/7</td>
<td>Nights</td>
<td>1 2</td>
<td>Track B2 N/O 72nd Street to S/E 42nd Street, Track B3 S/O 72nd Street to N/E 96th Street</td>
<td>N/B &amp; S/B operate local before normal midnight local service begins</td>
<td>Electrical, plumbing, and architectural installations</td>
</tr>
<tr>
<td>2/15 to 2/17</td>
<td>Wknd 7</td>
<td></td>
<td>Track C1 N/E Main Street to S/E 69th Street</td>
<td>S/B via Track M S/O Main Street to S/E 69th Street, then normal</td>
<td>Switch tie machine replacement</td>
</tr>
<tr>
<td>2/8 to 2/10</td>
<td>Wknd 7 6</td>
<td>6 local</td>
<td>Track E1 N/E Atlantic Avenue to S/E Eastern Parkway</td>
<td>S/B express via Track 2 N/O Atlantic Avenue to S/O Franklin Avenue</td>
<td>Remove roof beam and piles extensions, platform edge repair, pour concrete for platform edge</td>
</tr>
<tr>
<td>2/14 to 2/17</td>
<td>Wknd 4 6</td>
<td>6</td>
<td>Tracks E2/E3 S/O Franklin Avenue to N/E Atlantic Avenue</td>
<td>Operates local in both directions</td>
<td>Remove skeletonized Type II track, install new Type II track, and pour concrete</td>
</tr>
<tr>
<td>2/8 to 2/17</td>
<td>Wknd 3 5 1 6</td>
<td>5 1 Bus</td>
<td>Track F2 S/O Freeman Street to N/O 149th Street-Grand Concourse, Track F3 N/O 135th Street to S/O Freeman Street, Track J4A N/O 138th Street-Grand Concourse to S/O 149th Street-Grand Concourse</td>
<td>3 – 241st Street to E. 180th Street, South – Flatbush Avenue to 149th Street-Grand Concourse, 4 – New Lots Avenue to 96th Street, 5 – Sh. – E. 180th Street to Dyre Avenue, 6 – Main – Bowling Green to 149th Street-Grand Concourse (upper level), Bus – 148th Street to 135th Street Bus – 149th Street-Grand Concourse to E. 180th Street (express and local)</td>
<td>Switch reconfiguration on Lenox/White Plains Road and Type II-Type II chip-out N/O 142nd Street Junction</td>
</tr>
<tr>
<td>2/8 to 2/10</td>
<td>Wknd 3 1 6</td>
<td>1 6</td>
<td>Track L4 S/O 125th Street to N/O 125th Street</td>
<td>N/B via Track 4B S/O 125th Street then via Track 3 to N/O 125th Street and normal</td>
<td>Installation of track wall panels</td>
</tr>
<tr>
<td>2/15 to 2/24</td>
<td>Wknd 3 1 6</td>
<td>1 6</td>
<td>Track L3 S/E 125th Street to N/O 125th Street</td>
<td>N/B via Track 4 N/O Grand Central to N/O 125th Street</td>
<td>Installation of track wall panels</td>
</tr>
<tr>
<td>2/14 to 2/24</td>
<td>Wknd Nights 3 6 6</td>
<td>3 6 6</td>
<td>Track MM2 N/O 14th Street to N/O Brooklyn Bridge</td>
<td>S/B local via Track 1 N/O Grand Central to N/O Brooklyn Bridge</td>
<td>Completion work</td>
</tr>
<tr>
<td>2/4 to 2/6</td>
<td>Nights 6</td>
<td></td>
<td>Track MLP N/E Brooklyn Bridge to N/E Brooklyn Bridge</td>
<td>S/B operates to Bowling Green and relays in Bowling Green Loop</td>
<td>Critical pump repair on trackway</td>
</tr>
<tr>
<td>2/3 to 3/21</td>
<td>Nights 6</td>
<td></td>
<td>Track A1 S/E 168th Street to N/O 125th Street</td>
<td>S/B express via Track A3 from S/O 168th Street to NO 125th Street, then normal</td>
<td>Structural repair, tunnel lighting, and Type II-Type II chip-out</td>
</tr>
<tr>
<td>2/14 to 2/17</td>
<td>Wknd 4 6</td>
<td>6</td>
<td>Track A1 S/O 168th Street to N/O 125th Street</td>
<td>S/B express via Track A3 from S/O 168th Street to N/O 125th Street, then normal</td>
<td>Structural repair, tunnel lighting, and Type II-Type II chip-out</td>
</tr>
<tr>
<td>DATE(S)</td>
<td>TIME</td>
<td>LINE(S)</td>
<td>AREA OF WORK</td>
<td>SERVICE ADJUSTMENT(S)</td>
<td>DESCRIPTION OF WORK</td>
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<tr>
<td>2/15 to 2/17</td>
<td>Wknd</td>
<td>4</td>
<td>Track A/N/O Canal Street to N/O 42nd Street</td>
<td>N/B operates local via Track A2 from N/O Canal Street to N/O 59th Street</td>
<td>Install platform edge tile</td>
</tr>
<tr>
<td>2/4 to 2/14</td>
<td>Nights</td>
<td>1</td>
<td>Track B1 N/O 34th Street to N/O W. 4th Street</td>
<td>S/B express via Track B3 from N/O 34th Street to N/O 4th Street</td>
<td>Asbestos abatement</td>
</tr>
<tr>
<td>2/4 to 3/7</td>
<td>Nights</td>
<td>7, 8</td>
<td>Tracks B2/B4 N/O Jay Street to S/O W. 4th Street</td>
<td>1 – N/B via Eighth Avenue Line from N/O Jay Street to S/O W. 4th Street 2 – Exclusive use on Track B3 Grand Street to W. 4th Street</td>
<td>Renewal of Switches #50 and 52A/B</td>
</tr>
<tr>
<td>2/3 to 3/28</td>
<td>Daily</td>
<td>9</td>
<td>Track B3 S/O 34th Street to N/O W. 4th Street</td>
<td>No effect on service</td>
<td>Installation of tunnel lighting conduits and equipment</td>
</tr>
<tr>
<td>2/10 to 2/14</td>
<td>Nights</td>
<td>10</td>
<td>Track C2 S/O Fordham Road to S/O Bedford Park Boulevard</td>
<td>N/B express via Track C3/4 from S/O Fordham Road to S/O Bedford Park Boulevard</td>
<td>Install DC fuse boxes, safety bars, paint, etc.</td>
</tr>
<tr>
<td>2/8 to 2/10</td>
<td>Wknd</td>
<td>11</td>
<td>Tracks D3/D4 N/E Lexington Avenue to S/E Fifth Avenue</td>
<td>Days – operates to World Trade Center via 63rd Street Tunnel and Sixth Avenue Line Nights – operates to Whitehall Street</td>
<td>Subway roof and platform demolition at Lexington Avenue</td>
</tr>
<tr>
<td>2/3 to 2/28</td>
<td>Daily</td>
<td>12</td>
<td>Track F1 N/O Aqueduct to S/O Howard Beach</td>
<td>1 – 207th Street to Lefferts Boulevard 2 – Rockaway Boulevard to Far Rockaway</td>
<td>Demolition of platform</td>
</tr>
<tr>
<td>2/15 to 2/17</td>
<td>Wknd</td>
<td>13</td>
<td>Tracks G1/A1/G2/A3 S/O Queensboro Plaza to S/E 57th Street</td>
<td>N/B via Track 15th Street-Seven Avenue S – 57th Street to 42nd Street, relay north of 42nd Street Sh – Ditmars Boulevard to Queensboro Plaza S – South – 42nd Street to Whitehall Street N – North – 71st Avenue to Second Avenue</td>
<td>Reinstall Switch #25 and pull cable in 60th Street Tunnel</td>
</tr>
<tr>
<td>2/8 to 2/10</td>
<td>Wknd</td>
<td>14</td>
<td>Track B2 S/E DeKalb Avenue to N/E Lawrence Street</td>
<td>N/B via Manhattan Bridge from DeKalb Avenue to Canal Street</td>
<td>Concrete repair, lead abatement, and painting</td>
</tr>
<tr>
<td>2/8 to 2/15</td>
<td>Sat</td>
<td>15</td>
<td>Tracks A3/A4 S/O Kings Highway to S/E Ocean Parkway</td>
<td>N/B discharge on Track A1 at Brighton Beach, relay to Stillwell Avenue, N/B from Track A2 at Brighton Beach</td>
<td>Steel rehabilitation</td>
</tr>
<tr>
<td>2/10 to 2/28</td>
<td>Nights</td>
<td>16</td>
<td>Tracks E2/F4 N/O Kings Highway to N/E 36th Street</td>
<td>1 – suspended and replaced by one-way service 2 – S/B via Sea Beach Line to Stillwell Avenue, N/B normal 3 – Brightline connection to Sea Beach Line</td>
<td>Remove old and install new conduits, tunnel lighting fixtures, etc.</td>
</tr>
<tr>
<td>2/8 to 2/9</td>
<td>Wknd</td>
<td>17</td>
<td>Tracks D1/D3/D4/D1 S/O 36th Street to S/O Bay 50th Street</td>
<td>S/B via Sea Beach Line from 36th Street to Stillwell Avenue</td>
<td>Track signal testing</td>
</tr>
<tr>
<td>2/3 to 2/7</td>
<td>Nights</td>
<td>18</td>
<td>Tracks Q1/G2 N/E Graham Avenue to S/E Bushwick-Aberdeen</td>
<td>1 – North – Eighth Avenue to Lorimer Street 2 – South – Rockaway Parkway to Broadway Junction Bus – Lorimer Street to Broadway Junction</td>
<td>Chop concrete and bag ballast on Switches #7, 8, and 9 for CBTC</td>
</tr>
<tr>
<td>2/11 to 2/14</td>
<td>Nights</td>
<td>19</td>
<td>Track Q1 S/E Union Square to N/E Bedford Avenue</td>
<td>N/B – Rockaway Parkway to Bedford Avenue #1 – Bedford Avenue to Union Square #2 – Union Square to Eighth Avenue Bus – First Avenue to Eighth Avenue M14 bus – additional service</td>
<td>First Avenue and Third Avenue stations closed — Chip concrete on switches #6 &amp; #9 at Third Avenue</td>
</tr>
<tr>
<td>2/15 to 2/17</td>
<td>Wknd</td>
<td>20</td>
<td>Track Q1 S/E Union Square to N/E Bedford Avenue</td>
<td>N/B – Rockaway Parkway to Bedford Avenue #1 – Bedford Avenue to Union Square #2 – Union Square to Eighth Avenue Bus – First Avenue to Eighth Avenue M14 bus – additional service</td>
<td>First Avenue and Third Avenue stations closed — Chip concrete on switches #6 &amp; #9 at Third Avenue</td>
</tr>
</tbody>
</table>

Daily = Days, Wknd = Fri to Mon Continuous, Wkndys = Sat/Sun Days

David Erlitz is a Superintendent with MTA New York City Transit and has been interested in trains all his life. He may be contacted via e-mail at tderlitz@optonline.net.

Tech Talk
(Continued from page 6)

The fact that track circuits were lit on the model board when the associated track circuit in the field was unoccupied. This is completely opposite to current standards.

Jeff may be contacted via e-mail at jerlitz@pipeline.com.
Automated Announcements in New Subway Cars

The R-142s, R-142As, and R-143s are equipped with a recorded voice and an electronic display informing passengers of the current and next stations in addition to the train’s destination. If the train is rerouted and makes unscheduled stops, the Conductor must override the electronic device and make the announcements. At each terminal, the Conductor must key in the correct line number.

Data is calculated on-board with software developed by the Telephonics Corporation of Farmingdale. This device calculates the distance traveled by counting pulses generated by the train’s propulsion system, much as a car odometer counts wheel rotations. The program compares the data with a digital trip map. Transportation experts who question the method’s accuracy believe that wheel slippage could introduce cumulative errors, but transit officials insist that the wheels of the new cars do not slip but admit that worn wheels could cause errors.

The Washington Metro uses a similar device, but double-checks it by using two-way communication between the train and the wayside or station.

Rehabilitation of 72nd Street IRT Station

The renovation of the 72nd Street station of the Broadway-Seventh Avenue Subway is 75% complete. NYC Transit expects to relieve congestion at this station by building an additional entrance, which recently opened (the existing entrance is now closed for rebuilding and is expected to reopen this spring, completing the rehabilitation project). In this new headhouse are gleaming white tiles, translucent glass-block walls, and an arched ceiling of tiny mosaic glass squares adorned by artwork. Work includes four new, wider platform stairs, two elevators allowing complete ADA accessibility, and new token booths.

Television Advertisements at Subway Entrances

NYC Transit hopes that it will reduce its $2.8 billion budget deficit by selling space for digital television advertising screens at subway entrances. The screens, which will be installed in Manhattan south of 96th Street, are about 3 feet high and 5 feet wide, and cost $45,000 apiece. Silent ads lasting 10 to 15 seconds will run on all screens simultaneously. One screen has been installed at the BMT 23rd Street (N/⁰) station. As many as 100 screens will be installed.

Crews Must Report Sick or Injured Passengers

Employees finding sick or injured passengers on a train must notify the Control Center, then stop and stay at the next station. If the passenger is able to leave the train, he or she may wait in the station for medical assistance.

During rush hours, Emergency Medical Technicians may be on duty at the following stations:

<table>
<thead>
<tr>
<th>IRT</th>
<th>BMT-IND</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowling Green</td>
<td>34th Street-Sixth Avenue</td>
</tr>
<tr>
<td>Grand Central</td>
<td>Fifth Avenue-53rd Street (PM Rush)</td>
</tr>
<tr>
<td>125th Street-Lexington Avenue</td>
<td>Queens Plaza</td>
</tr>
<tr>
<td>Atlantic Avenue</td>
<td>Roosevelt Avenue (AM Rush)</td>
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<tr>
<td></td>
<td>DeKalb Avenue-Flatbush Avenue</td>
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<tr>
<td></td>
<td>Jay Street</td>
</tr>
<tr>
<td></td>
<td>57th Street-Seventh Avenue</td>
</tr>
<tr>
<td></td>
<td>Broadway Junction (⁰/₀)</td>
</tr>
</tbody>
</table>

Damaged Slant R-40 Returned to Service

Slant R-40 4392, damaged in an electrical fire, was back in service together with 4393 in September or October, 2002.

More New Millennium Cars for the BMT-IND Lines

(Continued from page 5)

manufacture its body shells at its motorcycle plant in Lincoln, Nebraska and complete them at its Yonkers, New York facility. The agreement between the two car builders includes a technology transfer element providing for Kawasaki’s stainless steel carbody expertise to be used in sidewalk fabrication in Lapa, Brazil. This sidewalk fabrication will be mostly automated using robot techniques, despite the lower labor costs.

Alstom has already invested $7.2 million to upgrade its Hornell plant and expects to invest an additional $9 million to improve the Lapa facility. Hornell is now designed to ship 85 finished cars per month and the plant now has a multi-voltage test track, a climate chamber, and a water test facility. It is planned to further increase production to 115 cars per month.

Certainly, readers of this article can envision the transformation of the BMT-IND lines by the ordering of the R-160 cars in a way that the delivery of the R-142 and R-142A cars has already changed the IRT lines. For sure, there will be little rolling stock in service at the end of this decade that was in service at the turn of the century.