# The Bulletin


**New York Division, Electric Railroaders' Association**

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**The Bulletin**

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# IND REACHED CHURCH AVENUE 70 YEARS AGO

*Note: Publication of this article was delayed from October due to space considerations.*

The IND was extended 3.79 miles from Bergen Street to Church Avenue 70 years ago, October 7, 1933. Unlike the other original IND lines that are entirely in the subway, the Smith Street-Prospect Park Line crosses the Gowanus Canal on a high elevated structure to avoid digging a deep tunnel under the steep hill east of the Gowanus Canal.

Instead, the engineers planned an alignment that includes a high bridge across the Gowanus Canal, the highest station on the transit system, Smith-9th Street — 87.5 feet from the street to the base of rail — and a tunnel that follows the contour of the street above.

Grades encountered by a southbound F train on its rollercoaster trip are as follows:

- Carroll Street to Smith-9th Street: +3.15% — portal is south of the Carroll Street station
- Smith-9th Street to 4th Avenue: -2.85% — portal is at the south (east) end of the 4th Avenue station
- 4th Avenue to 7th Avenue: -3.1% for 673 feet, then +3.1% (the 4th Avenue station, on a low structure, is approximately 31 feet lower than 7th Avenue, which is in the subway)
- 7th Avenue to 15th Street-Prospect Park: almost level
- 15th Street-Prospect Park to Fort Hamilton Parkway: -2.56% to –3.0%

The elevated structure in the vicinity of Smith-9th Street is different from most other elevated structures. The steel girders are not visible; they are covered with concrete. Track construction is identical to the Type IIM (Modified) track in the IND subway. Wood ties are set in a concrete invert. A fourth or fifth tie, 9'6" long, holds both running rails and the third rail. Other ties are short and do not cross the invert. Type IIM track has the longest life expectancy. Because it is difficult to remove the snow from a concrete deck, the BMT preferred Type III, basic open deck elevated track fastened to a structural steel member. With Type III track, the snow does not accumulate, but falls between the ties to the pavement below.

The designers were able to avoid placing columns in the middle of Fourth Avenue, a wide street, by supporting the structure with an arch. Work was completed on January 9, 1931.

## CONSTRUCTION PROGRESS REPORT

Construction proceeded rapidly as shown in the following table:

| | CONTRACT DELIVERED | 99% COMPLETE |
|---|---|---|
| **Tunnel Construction** | | |
| Smith Street — Baltic Street to 4th Place | May 11, 1928 | February, 1931 |
| 9th Street—4th Place to 4th Avenue | March 28, 1930 | June, 1932 |
| 9th Street — 4th Avenue to Prospect Park West | May 12, 1928 | February, 1931 |
| 9th Street and Prospect Park West to Windsor Place | January 15, 1929 | February, 1931 |
| Prospect Park — Prospect Park Southwest to Terrace Place | November 10, 1928 | February, 1931 |

*(Continued on page 3)*

# EAST BELT LINE
## by Bernard Linder

Owners:

STREET CARS

| | |
|---|---|
| July 18, 1863 | Central Park, North & East River Railroad Company |
| October 14, 1892 | Metropolitan Cross-Town Railway Company |
| May 28, 1894 | Metropolitan Street Railway Company |
| August 6, 1908 | Central Park, North & East River Railroad Company |
| January 21, 1913 | Belt Line Railway Corporation |
| August 4, 1913 | Third Avenue Railway Company |

Route:

STREET CARS

We do not know when the horse cars started operating. The oldest ***Bullinger's Monitor Guide***, dated 1869, states that horse cars operated from South Ferry to E. 59th Street and Fifth Avenue over a route that was nearly the same as the route shown on the track plan in this issue.

| | |
|---|---|
| 1874* | Extended to W. 54th Street and Tenth Avenue |
| 1898* | Rerouted to E. 125th Street and First Avenue |
| 1902* | Via First Avenue, E. 23rd Street, Avenue A, E. 14th Street, and Avenue D |

We do not know when the cars were rerouted, because we have no data for 1903-6.

| | |
|---|---|
| 1907* | Via First Avenue, E. 14th Street, and Avenue D |
| 1907* | Cut back to E. 59th Street and First Avenue |
| March 29, 1913 | Partial operation of battery cars from E. 59th Street to Grand Street |
| July 20, 1913 | First battery car—lower East Belt; last horse car |
| 1914* | Line was divided into two parts. Cars operated from South Ferry to Grand and Goerck Streets and from Grand and Goerck Streets to E. 59th Street and First Avenue |
| 1917* | Through service was resumed |
| October 13, 1918 | Cars operated from E. 14th Street and Avenue B to South Ferry |
| June 3, 1919 | Discontinued |

*Approximate date from ***Bullinger's Monitor Guide***

CAR ASSIGNMENT

Following is an incomplete assignment:

| DATE | CARS |
|---|---|
| December 31, 1913-June 30, 1918 | 1202-1280 |
| December 30, 1918-June 30, 1919 | 1202-1279 |
| December 31, 1919 | 1202-1227 |

Many years ago, Walter Ench informed us that the front ends of the Belt Line battery cars were made of steel or thin wooden strips. Instead of a headlight, most cars had a small white disc in the center of the bonnet. Other cars were equipped with a small headlight in the center of the dash. When the headlight was removed from the dash and placed in the bonnet, a small metal disc was fastened on the dash. An old-timer told Walter that open horse cars were in service during the first summer that the battery cars were available.

STREETS THAT ARE NOT ON THE MAP

The following streets shown on the track plan are no longer on the map:

- Cannon Street was one block east of Avenue D
- Goerck Street was three blocks east of Avenue D
- Corlears Street was one block east of Jackson Street
- Front Street was one block northwest of South Street
- Oliver Street was one block west of Catherine Slip
- James Slip was two blocks west of Catherine Slip
- Burling Street is the present-day John Street

HORSES' WORK PROGRAMS

In 1888, the running time was 2 hours 16 minutes. Each team of horses worked one round trip a day with five changes of horses in each round trip. The horses stopped for water at six stations.

*(Continued on page 3)*

**East Belt Line**

*(Continued from page 2)*

## A RIDE ON A HORSE CAR

A February 29, 1880 newspaper article describes a three-hour ride on an East Belt Line horse car.

There was a waiting room for passengers in the depot that was located on Tenth Avenue between W. 53rd and W. 54th Streets. In the horse cars, there were no cushions or matting on the floor and the wooden seats were uncomfortable.

Tenth Avenue was a very gloomy street. Filthy boys who were trying to hitch on the car were chased by the Conductor.

Some of the finest apartment houses were located along Central Park. Servants in shiny livery stationed at a marble entrance escorted visitors to a reception room, after which they rode in an elevator with mirrors, glass pendants, and polished brass. There were thick carpets and furniture upholstered in silk and satin in a sixth floor suite that rented for $100 a month. The tenant's servant brought meals served on a polished plate from a restaurant on the ground floor.

When the car reached First Avenue, the neighborhood changed abruptly. There were six-story walk-up tenements. Laborers who earned $1.60 a day ($9.60 a week) paid $10 a month rent for an apartment with no running water and a bedroom without a window.

## SERVICE DISCONTINUED

In its June 30, 1922 annual report, the company explained why service was discontinued:

"The East Belt Line of the Belt Line Railway Corporation was the first line to be abandoned. The line operated in Manhattan along the waterfront of the East River from the Battery northbound, a distance of three and three-quarter miles. Its abandonment became effective June 3, 1919. This line was operated by storage battery cars and had for years been operated at a loss. The travel, generally speaking, is to and from the waterfront rather than along it and the large amount of trucking on these streets made the speed with which these cars could be operated so slow as to make them unattractive for passenger service. In addition to the loss from operation, the maintenance of the trackage was very high, due to the rapidity with which the pavement was destroyed by trucks, and we were confronted with the reconstruction of the tracks and the renewal of the pavement in the near future. This reconstruction would have involved an expenditure of an amount of money that could not have been collected on the cars in many years."

This concludes our history of Third Avenue Railway's Manhattan street car lines. We will publish the history of Third Avenue's Mount Vernon and New Rochelle lines in future issues.

*(Continued on page 4)*

**IND Reached Church Avenue 70 Years Ago**

*(Continued from page 1)*

| | CONTRACT DELIVERED | 99% COMPLETE |
|---|---|---|
| Prospect Avenue — Terrace Place to E. 3rd Street | January 7, 1929 | February, 1931 |
| Caton and Gravesend Avenues — E. 3rd Street to Avenue C | May 8, 1929 | February, 1931 |
| **Station Finish** | | |
| Bergen Street, Carroll Street | April 23, 1931 | May, 1932 |
| Smith-9th Street, 4th Avenue | June 24, 1932 | August, 1933 |
| 7th Avenue, 15th Street-Prospect Park, Church Avenue | September 3, 1931 | October, 1932 |
| **Track** | | |
| Smith Street Line | June 12, 1931 | August, 1932 |
| 4th Avenue to Avenue C | July 17, 1931 | August, 1932 |
| **Miscellaneous** | | |
| Signals | June 26, 1931 | June, 1933 |
| Ventilation | June 30, 1932 | October, 1933 |
| Smith-9th Street escalators* | February 6, 1933 | August, 1933 |

*This contract includes escalators on the 53rd Street and Concourse Lines

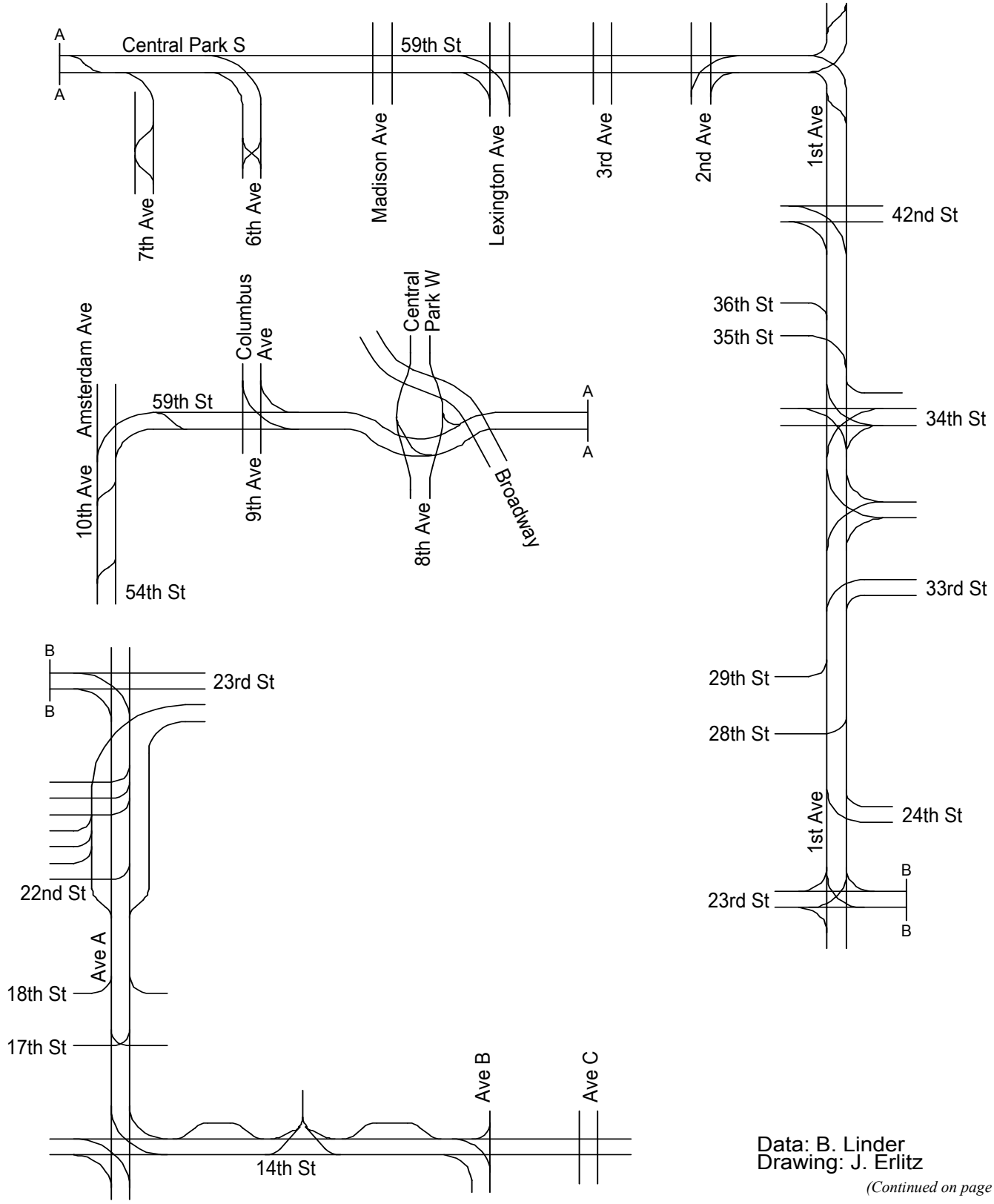
## PASSENGER TRAFFIC STATISTICS

This extension served neighborhoods where there was no rapid transit. At 4th Avenue and 9th Street, the new 4th Avenue station is above the BMT's 9th Street station, where passenger traffic declined from 3,063,105 for the year ending June 30, 1933 to 2,662,664 a year later. An obscure trolley line, Park Circle-Subway (see June, 1978 ***Bulletin***), was a feeder to the IRT Grand Army Plaza station. This line, which operated from Park Circle via Prospect Park Southwest, Prospect Park West, and Vanderbilt Avenue to Sterling Place, was a short distance from the Fort Hamilton Parkway, 15th Street-Prospect Park, and 7th Avenue stations. The little Birneys that ran only from 6:30 to 9:30 AM and 1:30 to 6:30 PM weekdays ceased operating on December 16, 1933, two months after the new subway opened.

After expanding rapidly in 1932 and 1933, more than two years elapsed before two new IND lines opened — the Houston Street Line on January 1, 1936 and the Fulton Street Line on April 9, 1936.

**East Belt Line**
*(Continued from page 3)*

# East Belt Line
## North Portion
## Circa 1897




Data: B. Linder
Drawing: J. Erlitz

*(Continued on page 5)*

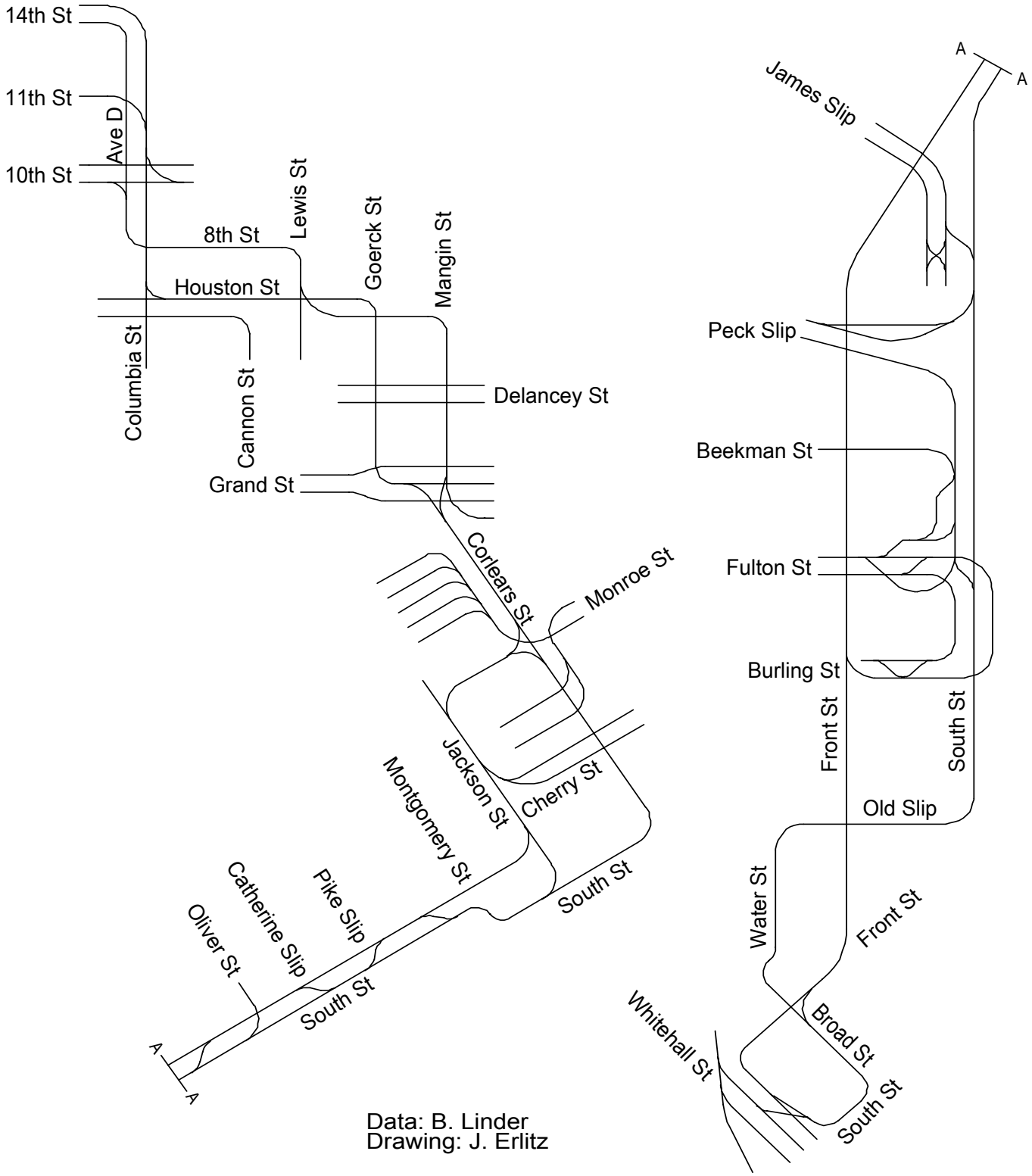
**East Belt Line**

*(Continued from page 4)*

# East Belt Line

South Portion

Circa 1897




Data: B. Linder
Drawing: J. Erlitz

# TECH TALK
## by Jeffrey Erlitz

Progress on the Canarsie Line signal project (contract S-32701) keeps rolling along. The second interlocking to be modified for eventual communication-based train control (CBTC) operation was placed in service between June 27 and July 11. The location was Livonia Avenue and an additional, second floor was added to the existing relay room to contain all of the new equipment. The original Union Switch & Signal Style UR control panel was replaced with a new Maintainer's control panel manufactured by a company called UBR, LLC. This company also uses one-inch mosaic tiles to form its control panels, in a fashion very similar to the Mauell Corporation. Coincidentally, both companies are located in Dillsburg, Pennsylvania. In the image below (photograph by the author), R-37 53 (a GE 45 Ton) leads a "wrong-railing" work train south from Livonia Avenue towards Rockaway Parkway on Sunday, August 31. The new upper level of the Livonia Avenue Relay Room can be seen on the left. As part of the work done here, there is now full traffic locking between Livonia Avenue and Rockaway Parkway on both tracks.

Over the weekend of September 26-29, the third interlocking to be modified for eventual Communication-Based Train Control (CBTC) operation was placed in service at Myrtle Avenue. As part of this work, the middle track (Q3/4) south of the station was connected into the southbound track (Q1) just north of the Halsey Street station. The addition of this one switch enables northbound Canarsie Line trains to be turned south at Myrtle Avenue without resorting to a double relay move. After CBTC is eventually installed, a simple single-track operation will be able to be set up between Myrtle Avenue and Broadway Junction, but only on the southbound track. Trains will still have to do a double relay move south of Myrtle Avenue to run south on the northbound track to Broadway Junction. Under CBTC, all sections of mainline track will have reversible traffic. Of course, with this work, another part of the old BMT left us. Myrtle Avenue had the last, unpainted, beautifully varnished wooden case on a General Railway Signal Company (GRS) Model 2 interlocking machine. The track indication panel above the machine was not original, however. It was one of those green-painted metal model boards that replaced the original paper-fronted panel. Hopefully, this interlocking machine will be moved to the Transit Museum.

The next phase of the Canarsie Line signal project is supposed to be the new interlockings at *both* Bedford and Third Avenues. This work is supposed to occur over a single weekend in November. Eighth Avenue will be the last interlocking converted and should be done by next spring.

Work has started in earnest out at Corona Yard under contract C-34714. This is the project to build a new inspection shop, car washer, and loop track. Several tracks in the original part of the yard (Yard A) have been shortened by fifty feet. Track 7 was done on August 14 while Tracks 13 through 17 were done during the week of September 8 through 12. The original car washer has already been removed from service, which is why the Flushing Line rolling stock has been less than pristine these past few months.

Speaking of the Flushing Line, the first of the Phase II signal contracts, S-32716, was finally awarded on September 25 to Safetran Systems, Incorporated. The contract award date is also the official "start of construction" date as far as the Capital Program is concerned. As you may recall, the original Phase II contract, S-32704, was broken up into four, more affordable parts to increase the potential pool of bidders. Contract S-32716 is for the design and furnishing of the new signal system for the interlockings from Hunters Point Avenue to 74th Street.

The next contract in this series, S-32718, is for the installation of the equipment only at Hunters Point Avenue. This was advertised to bidders during the week of October 13. Bids are scheduled to be opened on November 19.

The first of the new escalators at Lexington Avenue-53rd Street was opened to the public on Thursday, October 16. This single escalator is located just east (railroad north) of the double escalators at the south end of the platform. Because of this, northbound Ⓔ and Ⓥ trains resumed stopping at Lexington Avenue in the morning rush hour on Monday, October 20. Currently, this escalator is running in the down direction only. This keeps passengers who are coming down to get on Ⓔ

*(Continued on page 15)*

# Commuter and Transit Notes

**by Randy Glucksman**

**MTA Metro-North Railroad** (East)

Metro-North informed readers in the September edition of ***Mileposts*** that they might have seen some yellow-striped cars running on its lines. They went on to explain that these were Long Island Rail Road M-7s that were borrowed for the purpose of testing, as Metro-North will be receiving 180 similar cars by late 2004 for the Hudson and Harlem Lines. Addressing an ongoing criticism, the railroad promises that these new cars will feature a new generation of vacuum toilets that "completely remove and isolate waste in separate holding tanks…. and that means no unpleasant odors."

The annual "Open House" was held at Croton-Harmon on October 18.

New timetables (General Order No. 208) went into effect with the return to Eastern Standard Time on October 26. They will remain in effect through April 3, 2004. New to the Hudson Line is a train from Poughkeepsie at 5:15 AM, which makes all stops to Croton-Harmon, filling a gap that existed between 4:40 AM and 5:33 AM. Train #804, the 4:40 AM, has become an express from Croton-Harmon instead of Tarrytown. There is also a new express from Poughkeepsie at 7:10 AM that stops at New Hamburg, Beacon and Croton-Harmon. Afternoon riders are benefiting from a new express to Poughkeepsie that leaves Grand Central Terminal at 5:28 PM. Midday and weekend trains have had three additional minutes of running time added to compensate for a track surfacing project. With these timetables, the designations of Hastings and Ardsley Stations are now Hastings-on-Hudson and Ardsley-on-Hudson.

Reverse peak Harlem Line riders have two new expresses, which depart from North White Plains at 4:49 and 5:22 PM. These trains only make intermediate stops at White Plains and Harlem-125th Street.

Earlier service has also been added to the New Haven Line, with the scheduling of a train from New Haven at 4:30 AM, 22 minutes before the previously earliest train. A new evening express, which breaks up an hour and ten-minute service gap, has been added at 9:37 PM. In both of these cases, the trains make limited stops. There is also more express service on weekends from New Haven at inbound at 8:34 AM and outbound at 4:34 PM. Frequencies have been improved so that New Haven riders have half-hourly service for a three-hour period on Sunday mornings and between 4:07 and 7:07 PM.

Additional services to be operated with the Saturday schedules on Martin Luther King Day (January 19) and Presidents' Day (February 16) were included. For St. Patrick's Day there will be additional off-peak service on a weekday schedule.

Special Thanksgiving Day Weekend and Christmas/New Year's Holiday timetables will again be issued. Metro-North is continuing the tradition of operating Shoppers' Specials on Saturdays on the New Haven Line between November 1 and January 3, 2004, and during off-peak hours between Christmas and New Year's.

Since my employer moved to the west side of Manhattan, I had to change my way of commuting, and in the interests of time, switched from the Hudson Line to an express bus. But, to attend Division meetings, I choose to ride Metro-North, and for the September meeting, the train operated "wrong rail" on Track 3 all the way to Mott Haven. The reason was that southbound track (4) is out of service because temporary platforms have been placed on the rails while the existing southbound platforms are replaced at Greystone, Glenwood, Yonkers, Ludlow, and Riverdale. New canopies shelters and other improvements are also being made. At some stations these temporary platforms are severely offset from their usual locations.

What is Metro-North's newest station? If you said Southeast or one of the Wassaic Extension stations on the Upper Harlem Line you would not be correct, as the former was an existing station that just had a name change from Brewster North. The correct answer is High Bridge. But wait, you say there was a High Bridge, and you would be right, but this High Bridge is an employee stop to serve the recently opened Car Appearance Facility. High Bridge (I) was located at MP 7.1, while High Bridge (II) is a little south at approximately MP 6.6. It is a cute little station – just two cars can platform – and the station signs are in the same style as Metro-North passenger stations, but only employees can detrain there. Member Larry Kiss tells me that High Bridge (I) closed on June 2, 1975.

For a 38-day period, which began on September 27, buses completely replaced trains on the Waterbury Branch to enable wire replacement on the Devon Bridge. Metro-North took advantage of this suspension of rail service to do track maintenance on other sections of the line including the Naugatuck Bridge and Tail Race Bridge. All told, six to seven similar projects were performed. Member David A. Cohen sent a report from ***The New Haven Register*** that Metro-North plans to replace two midday trains with three shuttle buses, when this work is completed. The railroad anticipates savings of more than $100,000 annually, and reported that 119 riders are carried during middays, while the rest of the day, there is an average of 452 riders. Residents strongly protested this decision at a public hearing.

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**Commuter and Transit Notes**

*(Continued from page 7)*

The contract for *Rail Call* service will not be renewed at the end of 2004. Instead, the contractor, Cellular Telephone (AT&T), will begin removing the pay phones it had installed in more than 300 cars since 1993. This decision was because riders are using their personal cellular phones, and usage had fallen off. The railroad was earning an 18% commission on these calls. Initially a small icon of a telephone was used next to the "AM" or "PM" in the timetable to designate trains that were so equipped. As installation progressed to the point where all trains had at least one car, this practice was discontinued. No provision has been made for this feature in the M-7s.

A contractor is being sought via an RFP (request for proposals) to provide design and manufacturing service to overhaul the 24 Comet II cars that will be transferred from west-of-Hudson service. This is to insure compatibility with the of east-of-Hudson fleet, with which it is planned to operate these cars, and will take place after delivery of the Comet Vs. Among the components that are affected are trainline configuration, operator controls, pneumatic braking system, ATC systems, and door controls. The cars will also receive new flooring, seating, and toilets.

Member Glenn Rowe reported that the motive power on the Brewster-Wassaic Shuttle on September 23 consisted of FP-10s 410 and 413. At about the same time that I received this news, other emails reported the remaining FL-9s would be removed from service around 2008.

**MTA Metro-North Railroad** (West)

Approval to continue operations for 39 more months was given to the Haverstraw-Ossining Ferry. Operating since September, 2000, the service now attracts an average of 397 daily riders.

A large color advertising insert appeared in ***The*** (Rockland) ***Journal News*** to promote the "Secaucus Shortcut." On the reverse was a timetable showing all weekend Port Jervis Line trains, and it is possible, using one of the Metro-North Expresses, to leave Suffern and be in New York Penn in under one hour – actually 54 minutes!

**Connecticut Department of Transportation**

The 8:42 PM Shore Line East departure from New Haven, which has been operated by a bus, was suddenly changed to Train #1774 on September 4. Member Bob Underwood, who sent this report, wrote that no new timetables were issued, but Train #1774 stops at the new State Street station , which is a stop that was not made by the bus, at 8:44 PM. For sure, the train delivers its passengers to their destinations more quickly, as the train's running time to Old Saybrook averages 45 minutes, while the bus required 1 hour 24 minutes.

**MTA Long Island Rail Road**

Nearly seven months after he was tapped to be the Acting President of the Long Island Rail Road, the "Acting" was removed from James J. Dermody's title. Mr. Dermody, who became the 37th President of the railroad, started his career in 1958 as a 17-year old ticket clerk, and moved up through the ranks. ***Long Island Newsday*** reported that Mr. Dermody is also the railroad's longest-serving employee. The MTA won praise from the head of the United Transportation Union, who said that "he knows the railroad backward and forward and inside and out." As I have said it before, it warms this retired transit employee's heart to know that the person selected for this important post has actual railroad experience. Thanks to member Joe Gagne for the report.

A special timetable was issued for the Babylon Branch (September 13 and 20) under which bus service operated between Wantagh and Babylon while Amityville Interlocking was resurfaced.

In support of the evening concert that was staged in Central Park by the Dave Matthews Band, during the afternoon of September 24, the Long Island operated four additional westbound trains: two on the Babylon Branch and one each on the Port Jefferson and Ronkonkoma Branches.

Several trains on the Port Washington, Port Jefferson, Ronkonkoma, Far Rockaway, and Babylon Branches made additional stops on Friday September 26, for the eve of Rosh Hashanah.

General Order No. 303 went into effect at 12:01 AM September 27, and new timetables were issued. In spite of the fact that the Port Washington Branch timetable that went into effect on August 11 had an end date of September 28, two days longer than all of the other branches, it too received a new timetable on September 27. For five weekends between September 27 and October 26, the Port Washington Branch between Great Neck and Port Washington and the Port Jefferson Branch between Kings Park and Port Jefferson were shut down due for maintenance. The Port Washington had a track drainage improvement project, while on Port Jefferson, concrete ties were installed between Kings Park and Stony Brook. Buses or vans pinch-hit for trains. During those same weekends, one of two Main Line tracks was taken out of service between Carle Place and Hicksville so that a switch replacement program in the area of Westbury could be completed. Train times were adjusted. The LIRR reported completion of the third rail replacement project between Merillon Avenue and Queens Village and track tie replacement and resurfacing between Rockville Centre and Wantagh. The area of work has been shifted to between Amityville and Babylon.

More special timetables were issued – this time for Bruce Springsteen & The E Street Band, who played at

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**Commuter and Transit Notes**

*(Continued from page 8)*

Shea Stadium on October 1, 3, and 4. As with other special events taking place at Shea or the National Tennis Center, all trains between specified hours stopped at the Shea Stadium station. For this concert, the hours were 4 PM to 1 AM. To celebrate the 20th anniversary of the Oyster Festival, additional shuttle service was operated from Mineola to Oyster Bay on October 18 and 19, so that there was hourly service from 11 AM to 8 PM.

On October 27, General Order No. 304 went into effect. Details next issue.

**NJ Transit**

In late September, copies of an October 27, 2002 Atlantic City Line timetable, which had a Revised September, 2003 date, were available. This was done to reflect different PATCO train times.

When the October 26 timetables went into effect, riders found ten new weekday trains, as follows: Northeast Corridor (6:22 and 7:17 AM Trenton), North Jersey Coast (6:17 AM Perth Amboy AM), Pascack Valley (5:14 and 7:24 AM Spring Valley and 3:57 and 6:22 PM Hoboken), and Port Jervis Line (5:55 AM Port Jervis, 10:31 AM Middletown, and 6:08 PM Hoboken). This resulted in a few train renumberings.

Two grants valued at $127 million were received from the federal government for the 8.8-mile Newark-Elizabeth Rail Link ($59 million) and Hudson-Bergen LRT ($68 million).

With autumn comes the inevitable falling leaves, and while the change in foliage is a rite of the season, transit agencies may have other feelings about it. This is especially true when those leaves fall onto tracks. The problem stems from the oily residue that occurs when leaves are crushed by the trains' wheels, which have a tendency to slip and slide. Last year Morris & Essex Lines commuters were severely affected because of the hilly nature of those lines. In the past, NJ Transit has relied on brush-like metal scrubbers, which proved to be ineffective. This year, NJ Transit will be using "Aqua Track," a piece of equipment that shoots water at 20,000 pounds per square inch. Water is supplied from a 10,000-gallon water tank, which is attached to the unit. There is also an additional set of sprinklers for the purpose of blowing away leaves. NJ Transit spent $420,000 for this equipment, and by the time you are reading this everyone will know whether or not it works. Mounted on a flatbed rail car, Aqua Track runs off two 250-hp diesel engines. Its nozzles extend below the flatcar to several inches above the rails. It will operate each night beginning at about 11 PM, and cover the M&E. ***The Star-Ledger*** reported that a similar piece of equipment has been employed by Metro-North for several years.

On September 17, 2002, NJ Transit's brand new self-propelled Track Geometry Inspection Vehicle was destroyed by fire while working on the North Jersey Coast Line. The Board of Directors recently approved the purchase of a replacement TGIV from the manufacturer, Harsco Track Technologies. NJ Transit's insurance company will cover the cost of replacing the $3.2 million unit, less a $1 million deductible, and has initiated legal action to recover those costs from Harsco.

In the future, Newark Broad Street, already designated as an ADA Key Station, will receive new eastbound and center high-level platforms. In advance of this work, a $1.588 million contract has been awarded to Kevco Electric of Middlesex, New Jersey, to construct new catenary structures and relocate existing traction and power systems at the station. This work will alleviate many of the operating constraints that presently exist there.

The catenary between the viaduct on Grove Street in Jersey City and north across Paterson Plank Road and New York Avenue, up to the south side of the future 2nd Street Station in Hoboken, was energized on September 29. Hudson-Bergen LRT crews are running test cars on this section, which is not scheduled to open until 2005. Meanwhile, the extension to Bayonne is to take place on November 15.

**Port Authority Trans-Hudson Corporation**

Executive Director Joseph J. Seymour announced on September 17 that the rebuilt PATH terminal in lower Manhattan would retain the World Trade Center name. Mr. Seymour said that this was done for a variety of reasons including that "it's really a statement of respect for those who died there and what happened there."

**Metropolitan Area**

Since many of our members share an interest in the Staten Island Ferry, the following non-rail news item is being included. ***The New York Times*** reported that for the first time since 1986 the City would be taking delivery of new ferries. A dedication ceremony was held in the shipyard in Marinette, Wisconsin (about one hour north of Green Bay) on September 19. Work on these vessels was delayed by a 44-day strike last winter. The first boat is being named in honor of former Borough President Guy V. Molinari and will be moved to New York City through the Great Lakes after the ice on the St. Lawrence Seaway thaws next spring. These boats will replace the "Kennedy" class, and the "American Legion" has been selected to be the first one to be retired, followed by the "John F. Kennedy" and "Gov. Herbert H. Lehman." This class has been providing faithful service since 1965. Member Gary Grahl told me that when the 1986 group arrived he took a ride soon after they had been placed into service, and asked one of the crewmen how he liked these new boats. His answer was that they were "floating Grummans." It remains to be seen how those who have to operate them will accept these boats. Each of the new ferries has a capacity of 4,400 passengers, which exceeds by 900 what the

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**Commuter and Transit Notes**

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older boats could handle. There is also a fifth deck so that the passengers can ride at the same level as the Captain. Oh yes – the price – $40 million!

New Jersey has 566 municipalities, according to an article in ***The New York Times*** (New Jersey section – September 21), and during the Depression, the Federal Writer's Program researched place-name origins around the country. Atco, which the Writer's Program reported stood for the Atlantic Transport Company, is located at MP 17.1 on the Atlantic City Line. Another reference work, ***New Jersey: A Guide to Its Present and Past,*** attributes the name to a Lenape (American Indian) word meaning pure water. Readers of this column can believe the former is the real meaning and not be incorrect.

**Amtrak**

Members of six of Amtrak's labor unions threatened to go on strike on October 3 to protest Congress's failure to pass a $1.8 billion appropriation for FY 2004, which began on October 1. Amtrak requested an injunction to prevent a shutdown of the railroad. A hearing was scheduled for October 20, and the unions agreed to continue working. A strike would also affect other rail lines such as Metro-North, NJ Transit, SEPTA, and VRE, to name just a few.

***The ESPA Express***, published by the Empire State Passengers Association, reported that although two Turboliners have completed their rebuilding, only one set is in service on any given day. A third set was delivered in September, and it was expected that one Turboliner would be configured into a six-car unit, rather than five, with a consist of two power cars, three coaches, and one food service car. Ultimately, Amtrak would like to have five six-car trains, rather than seven five-car trains.

**Miscellaneous**

Two of our members reported that there are other transit systems that include the cost of local transportation with monthly commuter passes (August and September ***Bulletin***s). Steve Erlitz wrote that, "MARC Monthly and Weekly tickets are valid on all MTA properties (local bus, Light Rail, and Metro) in Baltimore. They are not valid on certain MTA charter services. MARC tickets are also honored on D.C. Metro Buses within the state of Maryland. They are not valid to or from D.C. and are not honored on Metro unless there is an outage. I think Montgomery County Ride-On, which parallels the Brunswick line to Germantown, does also honor them. For us, users can ride the 87/88 (rush hours only) buses from Greenbelt/New Carrolton to Laurel and the 89/89M, which runs all day from Greenbelt and passes near Merkirk and Laurel. MARC and VRE cross honor their tickets for reverse commutes. MARC monthlys can be used for any VRE train that heads south before 12 noon and then used to return. VRE tickets are good for the same: north on MARC before noon and then return any time that day. One of my coworkers who rides VRE from Lorton had to go with me to Frederick a few months ago. He transferred to the Camden line and met me at Dorsey and then I dropped him later that afternoon at BWI and his VRE ticket was honored both ways. Of course we get short-changed since there are no Fredericksburg trains before noon, only Manassas and Amtrak does not honor the cross-honoring."

Member Bob Wright wrote that SEPTA's TrailPasses have always permitted travel on Regional Rail (within the specified zone) as well as access to City Transit and Suburban Transit bus, subway, trolley, etc lines. TrailPasses are good for any zones on weekends also.

**Museums**

Last winter, the B&O Museum in Baltimore suffered major structural damage when heavy snows caved in part of its roof. Disaster struck again in the State of Maryland on September 28, when fire destroyed the lower barn at the National Capital Trolley Museum in Wheaton. Half of the collection, which represents more than half of the operating fleet, was destroyed:

1053: 1935, St. Louis Car Company Pre-PCC, originally Capital Transit
07: 1899, McGuire Manufacturing Company, Snow Sweeper, originally Capital Transit
026: 1905, J.G. Brill, Snow Sweeper, originally Washington Alexandria & Mt. Vernon
0509: 1899, American Car Company, work car
6062 and 7802: 1938, closed Motor-Trailer, Vienna
120: 1909, closed single-truck motor from Graz, Austria
52: 1926, American Car Company, ex-Johnstown

Apparently safe was Vienna 4220 (ex-TARS 678). Most of these cars were the last operating examples of their kind. The Museum will remain closed until 2004. Thanks to members George Chiasson for forwarding the report and Bob Matten for additional details.

**Other Transit Systems**

*Boston, Massachusetts*

Good news from Boston, as Governor Mitt Romney, after placing a hold on the Greenbush Commuter Line, gave it the go-ahead. According to the ***Boston Globe***, the contractor, Balfour-Beatty, was given approval to begin mobilization. Work is expected to begin in the spring. However, a key wetlands permit must be secured for the project. Thanks to member Todd Glickman for the report.

*Philadelphia, Pennsylvania*

Member David W. Safford reports that whenever elimination of the R-6/Cynwyd Branch is brought up, those plans are promptly rescinded, because there are some highly influential commuters who live on the line. It was to be dropped for the recently completed Rail Power Project, but was restored to the lower level of 30th Street Station. In August, it was to be discontinued entirely, but

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**Commuter and Transit Notes**

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rose like the phoenix. SEPTA's latest ploy is cutting the east end back to Suburban Station with the hopes of discouraging a few more riders, but David reported that during rush hours, barely a single car is filled.

David also sent articles from *metro*, which reported that SEPTA's new CBTC (Communication-Based Train Control) system is being installed in the subway portion of the Subway-Surface Lines. This new cab signal system will completely replace the existing wayside system, which cannot force operators to obey signals, which has on occasion resulted in cars crashing into each other. "CBTC will physically prevent operators from exceeding the computer-determined speed limit." CBTC has been installed in the Muni Metro and NYCT is in the process of equipping the Canarsie Line.

SEPTA crews began replacing catenary between Fern Rock and Elkins Park, an area that is served by R-1/ Airport, R-2/Warminster, R-3/West Trenton, and R-5/ Lansdale trains. Because of all of this traffic, the work is being performed at night, during which there will be some single-tracking. The wire that is being replaced has been in service since the original Reading Railroad electrification in 1931. Over the next few years, all catenary will be replaced in this 13-mile section.

From ***Cinders***: The proposal to renumber 17 ex-Reading 9000-series Silverliner IIs, has been dropped, because of their planned retirement "in a few years." Only 12 of 231 GE Silverliner IVs still need to go through SEPTA's interior upgrade program at the Wayne Electric Shop. In this day and age where prices seem to jump by "dollars," it is nice to know that when SEPTA raised its daily parking fees, the rate went from 50 cents to $1. Monthly permits now cost $20, instead of $10.

*Baltimore, Maryland*

Between October 5 and 24, trolley rail between Patapsco and Camden Yards was replaced by buses to enable work to be done on the double-tracking project (September ***Bulletin***). Dedicated buses operated on a 6-minute headway from 5 AM-1 AM Mondays-Saturdays and on Sundays from 10 AM to 6 PM. A trip time of 20 minutes was scheduled. In addition, between 6:30-8:30 AM and 3:30-5:30 PM, additional buses offered direct service between the Patapsco and Camden Yards stops in both directions. With no intermediate stops, one-way trips took 10 minutes. Thanks to Steve Erlitz for the report.

*Washington, D.C. area*

The Washington, D.C. area was hard hit by Hurricane Isabel, which visited during September. Steve Erlitz kept me posted on all of the latest developments. Summarizing, VRE and MARC did not operate at all on Thursday and Friday September 18 and 19. VRE ran a reduced ("S") schedule on Monday morning, but resumed most of its service that afternoon. Metrorail was shut down, as were Baltimore's Metro and Light Rail lines. Metro resumed on Friday at 11 AM. It was the first time that Metrorail did not operate for an entire day. A modified Saturday schedule was operated on Friday. Amtrak suspended service south of D.C., and curtailed some of its services from the Northeast.

One of our members updated the report in the October ***Bulletin*** concerning the 16 METRA Gallery Cars that MARC recently purchased. The story is that four are to be cannibalized for parts, while the remaining 12 are in western Maryland (Cumberland?) being rebuilt by Western Maryland. They'll be running come winter/ spring.

Virginia Railway Express, just one of many governmental agencies that is experiencing economic problems has asked its riders for comments on a proposal to eliminate train service on the following holidays: Columbus Day, Veterans' Day, the day after Thanksgiving, Martin Luther King Day, and Presidents' Day. The agency's analysis has found that on the aforementioned holidays 1,200 trips (2,400 round trips) are taken, which falls far short of the typical weekday ridership of 14,000 trips. This would result in annual savings of $140,000. As of mid-October, more than 1,000 email responses had been received. These were categorized as follows: Eliminate holiday service; keep the service; eliminate all but the day after Thanksgiving; and other feedback and suggestions.

VRE began testing its "Quiet Cars" during October. This concept is to be tested on different trains to work out any kinks, prior to being implemented systemwide.

*South Florida*

On Sunday, September 21, history was made as the Colorado DMU Demonstrator, pulling two Tri-Rail coaches (one each, cab car and trailer), operated over the entire 72-mile route between Mangonia Park and Miami International Airport. The test train was not in service, but made all station stops including dwell times of 30 seconds and one minute at alternate stops. What impressed Tri-Rail officials was the fuel economy; a diesel engine normally requires about 325 gallons of fuel for a round-trip, while the DMU only used 128 gallons. In a subsequent email, Karl Groh, who reported this, also wrote that Tri-Rail had won a grant from the FTA to purchase two DMU motors and a coach. As part of the agreement, the trainset will run on Tri-Rail for 2 years as a test and be loaned out to anybody else who may wish to use the cars as a demo. "Competitive bids" were to be taken beginning October 1, with car fabrication beginning on October 15, 2003. Believe it or not, the cars are scheduled for delivery on August 14, 2004.

The Florida East Coast Railroad hosted a VIP train on September 29 that operated between West Palm Beach and Miami. Aboard the train were local elected officials, many of whom were impressed with the concept, espe-

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cially as it was raining and highway traffic was crawling. When Tri-Rail was planned during the 1980s, the FEC Corridor was considered, however it was the CSX trackage that parallels I-95 that was selected. I have driven on I-95 many times, and frequently have observed that Tri-Rail trains travel faster than highway traffic. The South Florida Regional Transportation Authority, which took over Tri-Rail on July 1, commissioned a study to determine the viability of using FEC trackage for passenger service. Thanks to members Dennis Zaccardi and Joe Gagne for the reports.

*New Orleans, Louisiana*

According to an email that was forwarded by Karl Groh, you can mark December 6 on your calendars as the official date that the 3.1-mile Canal Street Line returns. However, if construction crews get their work done earlier, the streetcars may be running as soon as Thanksgiving. Groundbreaking on this $161 million project took place July 20, 2001. An October opening had been planned, but there were delays due to heavy rains that accompanied Tropical Storm Bill in July. The total project consisted of 5 miles, and first to open was a 0.6-mile connector between St. Charles and Riverfront. One of two tracks for a 1.3-mile spur down Carrollton is complete and this spur should open shortly after the main line down Canal Street. By the end of September, 19 of the 24 trolleys were completed, with the balance in various stages of completion. When the line "officially" opens, there will be appropriate ceremonies at the corner of Canal and Barrone Streets, and RTA officials are considering a one-day fare reduction from $1.25 to $.25, the fare that was in effect on May 30, 1964, when the Canal Street Line was abandoned.

*Chicago, Illinois*

A professional conference brought David Safford to Chicago in early August. He managed to find time to ride all of the subway/elevated lines that he had not previously ridden. David wrote that he had forgotten that there were a significant number of electrified third rail crossings that still remain. He also found that "the grand old four-track elevated raceway to Evanston (the center tracks that were the route of the Electroliners and other North Shore trains) is in horrible condition, because the train lurched along in a most disconcerting manner over the entire route. On Skokie the former North Shore right-of-way remains in fine condition; however, it is run with third rail as far as Skokie Shops, and from there to Skokie on the old catenary."

METRA publishes a newsletter to its riders entitled ***On the Bi-Level***, which is viewable on-line at www.metrarail.com. In the September issue it published a letter from a customer in the "Sound Off" column which told of an unusual custom that takes place on that railroad. Specifically, the comment was: "Although I'm very grateful for the practice of 'sharing newspapers by leaving them on the train,' here are some tips to make this tradition even more pleasant.

- "Don't throw the paper in the garbage. This way, the next person won't have to dig it out of coffee-laden garbage.
- "Refold the paper and leave it on the seat so others can have an illusion that it's new.
- "Leave behind a complete newspaper. The next person may enjoy reading ***WomaNews*** too.
- "Don't do the crossword unless the paper is on its last leg or it's the end of the day.
- "Lastly, don't use it to blow your nose (based on a true story)!"

I want to know: if it was <u>your</u> newspaper, are you allowed to do the crossword, and not take the paper with you?

*Chesterton, Indiana*

Thanks to member Jim Beeler, who sent copies of the South Shore's July 15, 2003 timetable that displays new fares but contains train times from June 1, 2002.

*Salt Lake City, Utah*

September 29 was the opening date for the TRAX extension to the University of Utah Medical Center (September ***Bulletin***). This 1.5-mile spur was placed into service more than a year earlier than was anticipated. Though it does not add much mileage to the system, building it was complicated due to its winding route through the campus. Three new stations have been added: South Campus, Fort Douglas, and University Medical Center.

*San Francisco, California*

Following up on last month's report on SF Muni, Todd Glickman wrote that he was in San Francisco in October, and that "Muni fares went up on September 1, so that the base fare is now $1.25; cable car fares are now $3. Visitor Passports are now $9, $15, and $20 (1, 3, and 5 days), but are still a great buy...especially since there are no transfers to/from cable cars - the fares are one-way. Todd also provided another tip for getting on a Powell car at Market without waiting on line - walk up two short blocks to O'Farrell. The cars always leave Market with a few open spaces, and the cars can be boarded when they stop at the O'Farrell traffic light. Once the cars get to the St. Francis Hotel (and further outbound), they are always full with the Gripman saying, 'Next car! Next car!' as he clangs his way by the stop. The F line continues to be wildly popular, with a mix of mostly PCCs and Milan cars. Twice I tried to get a full-length ride, and twice I failed. After taking the cable car to Fisherman's Wharf, I went to the F line terminal there, and waited 35 minutes for a car that never came. Finally, an articulated diesel bus signed 'SHUTTLE' pulled up and swallowed the crowd that was waiting (without collecting fares). The driver said there

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was a 'line blockage,' and he took us to Embarcadero for a transfer to the Muni Metro subway. The second time, I went to the terminal at Castro. There, I found a PCC and Milan car waiting, but the operator told me there was a war protest at Van Ness, so all surface service was suspended. Back to the subway! Finally, on my third try, I got a ride on a PCC."

Speaking of PCCs, it appears that Muni will be obtaining 15 ex-Newark City Subway PCCs from NJ Transit. Details will be provided when and if known.

CalTrain introduced the first of six of its new MP-36 diesel-electric engines, which will be used to power its *Baby Bullet* (express) trains. When service begins next year, the following stations will be served: San Jose, Mountain View, Palo Alto, Hillsdale, Millbrae, and San Francisco. Approximately ten trains are being added, and this will require an overhaul of the present 76-train schedule. Last year 17 Bombardier bi-level cars were purchased from Seattle's Sounder for this purpose.

*San Pedro, California*

We already reported that the San Pedro Trolley Line serving the Port of Los Angeles opened for service on July 19 and that there are four stations along its 1.5-mile long line. ***Western Transit*** reported that there is a Phase II planned that would add stops at 22nd Street Landing, Hilton Hotel, and the historic Bath House at Cabrillo Beach.

*Montréal, Quebec, Canada*

Agence Métropolitaine de Transport (AMT) has awarded Bombardier a contract to deliver 22 bi-level cars for its Dorion/Rigaud Line. Delivery is expected by the end of next year on this C$60 million (US$44 million) order. Thanks to member Andrew Grahl for sending this report.

Longeuil Station was renamed to Longeuil-Université-de-Sherbrooke Station on September 26. This name change was done to recognize the school, which has had a campus at this station for the past 15 years. Several other métro stations also honor institutions of higher learning that are situated in close proximity, such as: Université du Québec à Montréal (Berri-UQAM Station), Concordia University (Guy-Concordia), Université de Montréal, and McGill University. For the latter two, the stations have the same name.

*United Kingdom*

At long last, *Eurostar* passengers in the United Kingdom will get an opportunity to ride in this equipment at the speed at which it travels on the European continent – 186 mph (300 kph). In the UK, speed is measured in miles per hour. With completion of work on 68 miles of the Channel Tunnel Rail Link (CTRL), riders are saving 20 minutes between Waterloo Station (London) and Gare de Midi (Brussels), so the trip now requires 2 hours 20 minutes. Paris is 2 hours 35 minutes. When work is completed on the 24-mile second stage in 2007, there will be an additional 20-minute reduction in the trip times. This first section was placed into service on September 28. The cost of CTRL is US$8.5 billion. Thanks to ***Railway Age*** for the report.

*Nice, France*

I found the answer the question that I posed in last month's ***Bulletin*** regarding the proposed tram system in this city. According to a news item in ***Mass Transit***, a 40-km (25-mile) network will be built at a cost of $392 million. Don't rush out to purchase your tickets yet — it is to be done by 2015!

*Tel Aviv, Israel*

Our Editor-in-Chief, Bernie Linder, received an article from ***The Jerusalem Post*** reporting that transit officials in Tel Aviv expect construction of the Red Line to begin in early 2005, with the first trolleys running by 2010. The seven-station Red Line will be 22 km (13.5 miles), of which 7.5 km (4.6 miles) will be underground. Three other lines, totaling 46 km (28 miles), are also planned. If the entire system were built, there would be 117 stations, including nine that would be underground.

**From the History Files**

*110 Years Ago*: On November 6, 1893, the Chicago Rapid Transit Company began service to Lake Street using trains hauled by steam engines.

*40 Years Ago*: On November 4, 1963, following the abandonment of Chicago, North Shore & Milwaukee service on January 21, 1963, the Philadelphia & Western Transportation Company (Red Arrow Lines) purchased the two St. Louis Car Company Electroliners, which had been built in 1941. They ran for a few years and then went to the Illinois Railway and Rockhill Trolley Museums.

*News items and comments concerning this column may be emailed to NYDnewseditor@aol.com.*

# NEW YORK DIVISION NEWS

Almost every Tuesday, readers of ***The New York Times*** will find a transit article written by Randy Kennedy in his "Tunnel Vision" column. On September 23, Randy's story about the reopening of the New York Transit Museum profiled the man who was largely responsible for its creation – none other than our own "Honorary Member" Donald W. Harold. In this story, Don described the various means that had to be employed to "hide" these cars, which were in grave danger of being scrapped. Don credited those who would remain anonymous for their assistance in this mission.

Congratulations, Don!

# NEW TECHNOLOGY TRAINS: RADIO FREQUENCY LINKS
## by Raymond R. Berger

Most readers of the ***Bulletin*** are aware that electrically-propelled rail cars were initially locomotives using electric traction motors for propulsion, as an alternate to steam-propelled technology of the day. Passenger cars with electric traction motors located in the trucks followed, but it was Frank Julian Sprague (ERA Member #1) who successfully proved that several locomotives or even passenger cars could be controlled from a single point through a master controller. This multiple unit control concept made possible the rapid transit systems and low-cost light rail trains in worldwide use today.

At first, the key to this successful phenomenon was the eleven-point control jumper and the manually controlled accelerator used in the IRT's High Voltage-type cars. Initially these were that complicated because it was thought that different speeds of traction motors were necessary. You should recall that these IRT High Voltage early rapid transit cars had simple bridge-type under floor controllers and the master controller had ten steps, five in series and five in parallel. This was typical of all early rapid transit applications.

Later, after 1910, this gave way to the improved automatic accelerator which connected all the under-floor controllers in a train with a series of seven-point jumpers. The Brooklyn Rapid Transit's Standard car used the Westinghouse H2A coupler with the AL electric portion, which used copper fingers rather than a control jumper. The IRT mostly continued to use jumpers rather than electric portions, but the result was the same. There were six possibilities with the use of the automatic accelerator: switching speed, series speed, and full multiple or parallel speed, with the exact same speeds in reverse using the three other points in the jumper cable. In the center of the jumper there was a single point for the negative battery return circuit.

Recently, an investigation unearthed the story that the first IRT subway cars used for the extension of rapid transit service to Queens used Westinghouse H2A couplers with AL type electric portions, similar to the BRT's Standard cars. These twelve Steinway-type high voltage cars were known as "The Boilers" because of their large equalizing air tanks in the Motorman's cab.

The original Queensborough subway line opened on June 22, 1915 and was very short, isolated from the rest of the rapid transit system, running only between Lexington Avenue (now Grand Central) and Jackson Avenue (now Vernon-Jackson Avenues). In 1917, it was extended to 104th Street-Alburtis Avenue in Corona (now 103rd Street-Corona Plaza) and to Ditmars Boulevard in Astoria. More of the Steinway-type cars were built for these services and it is assumed that the IRT's J-type coupler and control jumper cable system replaced the Westinghouse H2A coupler and AL electric portion at that time, as all the newer Steinway-type cars were fitted that way.

When the cars for the Independent Subway were designed and built, the Westinghouse H2A coupler with a Westinghouse Model BL25, and later a BL25A electric portion, was selected as standard. Recall that the R-1 and R-4 cars had manually controlled running and tail lamps using the BL25 electric portion, while the R-6 through R-9 cars had running and tail lamps that were controlled by the Motorman's reversing key, using the BL25A electric portion. All other circuits were identical in both types of electric portions.

Post-World War II SMEE and later model cars used Westinghouse's H2C couplers with a BL25, BL26, or BL33 electric portion or similar variants. The major diversion is the R-46 car, with an Ohio Brass coupler with a Walton electric portion. However, the transmission of battery circuits to give identical indication, so that each traction motor in the train responds in the exact same way, remained paramount.

In the late 1990s the team that worked on the New Technology Train design was aware of advances in radio frequency transmission technology. A microprocessor system was designed to coordinate various onboard systems and to sort out the interaction between them. One system that was considered was the use of radio frequency signals between the two units that make up a ten-car train to replace the electric portion still in use on older cars. A transmitter/receiver the size of half a hard-boiled egg was proposed to be located beneath the coupler. These would be positioned face-to-face, spaced about as far apart as two electric portions on existing cars in the receded and locked positions, actually about three inches apart. Battery circuits would be converted into radio frequencies, which would be transmitted and received between the two units in the same way that low voltage battery circuit currents flow between electric portions, and would have the same effect.

As you know, every electric railroad measures its effectiveness and efficiency by the type and frequency of failures of its cars. It has long been known that a high percentage of failures on New York's subway cars involve couplers and electric portions. In the late 1990s, a program was initiated to couple as many cars as possible into linked units and replace electric portions with hard-wired connector cables in order to reduce those failures. The results of those conversions to four- and five-car units are astounding. Failure rates are more than one-quarter the number when only single and mar-

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**New Technology Trains: Radio Frequency Links**

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ried pair cars were run.

The use of radio frequencies in place of electric portion battery circuits, particularly involving the acceleration/deceleration of traction motors, was not to be. Intense investigation and testing produced uncertain results. New York City Transit required 100 per cent assurance that radio frequency transmission was foolproof. This was not the case. While the radio frequency transmitters and receivers were placed nose-to-nose, assuring transmission of those frequencies between them, there was an unexpected phenomenon. If a two-unit train passed another two-unit train on adjacent track, it was possible that the radio frequencies would transmit between trains as well as between units of the same train. Such potentially disastrous events were unlikely, but New York City Transit required that they be totally impossible.

The end result was that the use of radio frequency transmission of low voltage circuits between units of R-142/142A/143 cars, including those for the low-voltage controller for acceleration, was denied. Old-fashioned, but reliable electric portions remain in use. That does not mean "RF Transmission" is entirely dead. Mainline railroads use this technology to synchronize power and braking of several locomotives in a train, even when the train has its motive power located in the front, middle and back of the train consist. Their use has given mixed results, sometimes dangerous.

Ultimately, the "RF Transmission" concept will be perfected and NYCT will see its use, but we must wait until an acceptable level of reliability is achieved.

# PORT MORRIS AND GLENWOOD POWER HOUSES
## by Thomas J. Blalock

The New York Central Railroad was forced to electrify its approaches to Grand Central Station, through upper Manhattan, during the early years of the twentieth century because of a horrific that involved steam locomotives operating through the Park Avenue Tunnel.

The result was not only a completely underground electrified operation, but also the construction of the present Grand Central Terminal complex, which opened in 1913.

The New York Central electrification utilized conventional 600-volt d.c. third rail power, provided mostly by the General Electric Company.

Electric power was produced by two generating stations. One was located in the Port Morris section of the Bronx, and the other was located on the east bank of the Hudson River at Glenmont, just north of Yonkers. The former was completed in 1906, and the latter in 1907.

The designs for these two stations were nearly identical. They provided three-phase, 25-cycle power at 11,000 volts, which was then distributed to substations located along both the Hudson and the Harlem Divisions of the New York Central. Transformers and rotary converters were used to produce the 600-volt d.c. third rail power.

Substation No. 1 was originally installed as part of a steam plant located on the east side of Park Avenue at E. 50th Street. During the 1930s, this facility was demolished to make way for the new Waldorf-Astoria Hotel, and the substation was relocated to an area beneath Grand Central Terminal that had originally been a steam generating plant that provided direct current power for lighting in the terminal (its chimney ran up through the northwest corner of the old Hotel Commodore!).

Initially, the Port Morris and Glenwood Stations each contained four General Electric 5,000-kilowatt steam turbine-driven generators. By 1929, an additional 20,000-kw steam turbine unit had been installed at the Port Morris Station, and two of the 5,000-kw units at the Glenwood Station had been replaced with three 20,000-kw steam turbine units.

In 1937, the operation of both power houses was taken over by the Consolidated Edison Company, and both stations were still generating as late as 1980. Today, however, the Port Morris Station is gone, and the Glenwood Station is derelict (interesting photographs of it can be seen on the website www.-hudsonvalleyruins.org). Solid-state rectifier substations now provide third rail power for Metro-North commuter trains operating along the old New York Central routes.

**Tech Talk**

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and ⓥ trains from mixing with those going up to exit and transfer to ❻ at the south end of the platform. Up on the mezzanine level, only the first hundred feet or so of the new eastward extension is now open though the passageway is narrow leading to the top of the new escalator. The area is still completely walled off with plywood barriers. Traveling down this new escalator, one is reminded of similar ones in London, with its "tube-like" construction.

Over the weekend of October 25-26, the remaining

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# IRT CAR UPDATE
## By George Chiasson

Despite numerous rumors and the continuing build-up of a replacement fleet, ❼'s Redbirds were hanging on at this writing, with one or two trainsets in use each rush hour. The R-142 program continued to creep to its ultimate conclusion, and the next stage appears to be a brief waiting period before deliveries of the 80 supplementary R-142S cars commences. There are on-going material changes to IRT fleet distribution on most lines, with spare ratios being compressed to some extent on ❷, ❹, ❺, and ❼. In addition, the unitized R-62As are being grouped to each route numerically, which will ease tracking, and very soon the last piece of the puzzle should be in place to complete the new IRT equipment mosaic which has taken almost four years to create.

**R-142s (The End Is In Sight)**

The final train of Option II R-142s, consisting of 1236-1240 and 1246-1250, was placed in ❹ service on September 24, 2003. On October 10, Option I R-142s 6981-6990 were introduced on ❺, and through October 16 there remained one set of Primary R-142s (6961-6970) to be accepted before the introductory phase of the IRT New Technology Train program could be concluded. Option I R-142s 7071-7080 were also forwarded from ❺ to ❹ on October 13, which continued to pave the way for removal of R-62s from ❹ and eventual relocation of additional equipment to ❼.

Following the brief experiment involving the 6-car R-142 unit in August, a similar trial was undertaken with R-142As 7711-7720 starting on September 26. In this case, the 6-car set was made up of 7715/7714/7713/7712/7717/7716, which also went out for testing on the Rockaway flats while the other four cars were left at 207th Street in fragmentary fashion (7711, 7718/7719/7720). With regard to the swap of R-142As between ❹ and ❻ (involving 7216-7220 with 7406-7410 from ❻ and 7681-7685 with 7726-7730 from ❹), this was done to evaluate possible solutions for what appears to be accelerated wheel wear on the Pelham-based fleet. The two sets were initially kept together on each other's lines with proper interior strip maps installed. In latter weeks they have been randomly mixing with home R 142As from each line and this situation continued through October 16.

**R-62/R-62A Transfers (A Practice In Good Housekeeping)**

Through October 16, R-62s 1421-1425, 1446-1450, 1476-1480, 1491-1495, 1541-1545, 1551-1555, 1561-1565, 1571-1575, 1586-1590, and 1606-1610 were transferred from ❹ to ❸, for a total of 245 cars or 24½ trains. On October 16 there were 65 R-62s remaining on ❹ (6½ trains, of which 5 were in full-time operation).

By September 27, unitized R-62As 1781-1790 were relocated from ❸ to ❼, along with single units 1976-1990. Single cars 1971-1975 followed on September 29, 1957-1959 on October 6, and 1966-1970 on October 15. On September 27, unitized R-62As 1666-1670 and 1671-1675, which were stationed on ❶ since 2000-01, went to Corona for ❼ in exchange for 1886-1890, and initiated a series of equipment swaps between ❶, ❸, and ❼ to rationalize the numeric groupings of unitized R-62A sets. Next to move were 1871-1875 and 1896-1900 from ❸ to ❶ on October 1, 1866-1870 and 1881-1885 from ❼ to ❶ on October 6, 1816-1825 from ❶ to ❼ on October 7, and 1771-1775 from ❶ to ❼ on

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**Tech Talk**

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portions of 42nd Street South Interlocking on the Eighth Avenue Line were removed from service. This is the interlocking that connected Track D3 from the lower level of the 42nd Street station into both southbound local and express tracks north of the 34th Street station. The switch into the local track was removed and the two interlocked signals on the local track were converted into automatic signals in November, 2002.

Progress is being made at Roosevelt Avenue-74th Street. The street stair from the full-time booth on the IND mezzanine to the north side of Broadway just east of 74th Street was closed back on August 25. This was the staircase that been temporarily reconfigured to go to the street rather than the old bus terminal and was encased in plain cinder blocks. Several of the bus lanes have now been paved in the bus terminal portion. The new street stair from the northeast corner of Roosevelt Avenue and 74th Street to the expanded Flushing Line mezzanine is nearly complete. The steelwork for the expanded Flushing Line mezzanine seems complete and the structure is already being outfitted with walls and windows. Most of the new platform edging has been completed on the IND level except for the northbound local track. At least one of the new platform stairs on the northbound IND platform looks ready to be placed in service. This stair is towards the south end and was turned around to face the northbound direction as you descend. This will provide a direct path for passengers coming down from the Flushing Line to the northbound platform.

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**IRT Car Update**

*(Continued from page 16)*

October 10. It has become fairly obvious that, when complete, the intended distribution will find 1651-1850 on ❼ (200 unitized R 62As) and 1851-1900 on ❶ (50 unitized R-62As to supplement 2156-2475). As of October 13 R-62s were dominating ❸, and unitized R-62As 1776-1780 and 1801-1805 were forwarded to Corona. This left only 1891-1895 at Livonia, ostensibly for future relocation to ❶, and appears to have been the final such transfer in this long series dating back to mid-2002. Finally, unitized R-62As 1706-1710 were back in Flushing Line operation as of October 2, following repair from their mishap at Coney Island Yard.

**Redbird Notes (Going...But Not Quite Gone)**

The last fleet of Redbirds continued to disappear from ❼ without pause through mid-October, spiraling downward from six trains to just two operating in each rush hour. Perhaps the most noteworthy events were the return of GOH-II R-33Ss 9308* and 9318* to revenue service on October 1, the former from a Subdivision "B" work service assignment and the latter from its conversion at 207th Street Shop. Manipulation of the surviving R-33 single unit fleet continued for several days thereafter, and finally on October 10 the last two cars retaining their original Westinghouse propulsion and braking equipment (9313 and 9319) were taken out of service. As of October 16, cars 9309* and 9316* were the last two R-33Ss left in ❼ service, with 9308* laid up at Corona for any passenger, transfer, or utility duties that may be required. Many of the other R-33Ss have been moving around the system in the past several weeks, and others remain at 207th Street Shop. Work on 9307* was completed and it is now in GOH-II configuration. R-33S cars 9317*, 9320, and 9327 are now at Concourse Yard where they join 9340, and the six-car set which went into work service in the late spring (9328*, 9329*, 9330, 9331, 9332*, 9333) is now divided between 239th Street and Unionport Yards, where they are parked with Gel Train R-33 8885. Finally, in late September, Reserve Main Line R-33s 8888/8889 were observed in repose at 38th Street Yard with window-mounted air conditioners, suggesting it will be converted to a Yard Office or Training Car.

**Redbird Retirements and Restorations**

Taken out of service through October 16, 2003 were:

R-33S: 9309* (9/25/03), 9312 (9/25/03), 9313 (10/10/03), 9316* (10/2/03), 9818* (10/10/03), 9319 (10/10/03), 9322* (9/25/03), 9324* (10/2/03), 9326* (10/2/03) off ❼

R-36: 9574/9575, 9588/9589, 9618/9619, 9620/9621, 9624/9625, 9634/9635, 9652/9653, 9668/9669, 9678/9679, 9684/9685, 9696/9697, 9706/9707, 9710/9711, 9712/9713, 9714/9715, 9716/9717, 9738/9739, 9742/9743, 9748/9749, 9754/9755 off ❼

Restored to service on ❼ were:

R-33S: 9308*, 9318* on October 1, 2003; R-33S 9309*, 9316* on October 13, 2003

**Redbird Reefing**

Departing for Shark River Reef (16 miles off the Shark River Inlet, located next to Belmar, New Jersey) on October 9 were the following 50 cars:

R-36: 9560, 9561, 9566, 9567, 9568, 9569, 9572, 9573, 9576, 9577, 9578, 9579, 9590, 9591, 9592, 9593, 9598, 9599,9602, 9603, 9614, 9615, 9624, 9625, 9646, 9647, 9648, 9649, 9654, 9655, 9662, 9663, 9676, 9677, 9678, 9679, 9686, 9687, 9688, 9689, 9694, 9695, 9710, 9711, 9718, 9719, 9754, 9755, 9762, 9763

30 World's Fair R-36s were awaiting disposition at 207th Street as of October 16, with 26 additional remaining in operation on ❼. Destination of the final Redbird barge was not yet known.

**Conclusion**

As this Update concludes, my "In" box is already filling again with newer developments, observations, and reams of speculation on the future. This much is clear: the end of the line for Flushing's Redbirds is now plainly in sight, though the actual chain of events has yet to unfold. Will this be the very end of this classic equipment for all time? Will there be an unexpected turn in our road of progress which opens new chapters in our on-going technical history? The oracle shows little and reveals less as we attempt to peer into the murky darkness of the subway's centennial year. And what about Subdivision "B"'s lingering changeover? When will the few remaining R-40Ms finally move to Coney Island? Which will be first on the line of execution when R-160s finally do start to arrive? How will reopening of the Manhattan Bridge change our outlook? These and many other questions are ours to ponder as we traverse the archival basin, wary of that official troll leaping unexpectedly into our path. Only time will tell us the answers, and in the meanwhile...Happy Halloween!

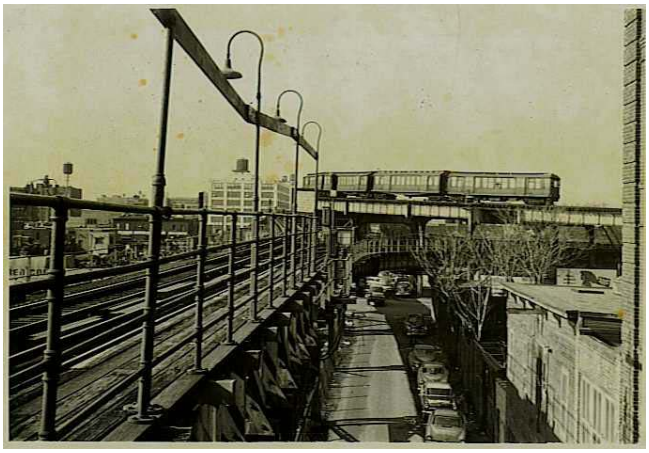

**...and then there were (almost) none: A boatload of Redbirds prepares to leave 207th Street Yard on July 21, 2003.**
Glenn Rowe photograph

# AN ATLANTIC AVENUE REBUTTAL

In last month's issue, Jeff Erlitz's *Tech Talk* column was devoted to the demise of the Fulton Street "L" connection with the Canarsie Line near the Atlantic Avenue station. Historians that we are, we thought it would be appropriate to show our readers what the connection looked like years ago. With pictures provided by Editor-in-Chief Bernard Linder and his son Larry, we think we are on the right track (and structure).

**Pitkin and Snediker Avenues looking north, March 26, 1956.**
Bernard Linder photograph

**Sutter Avenue station looking north, March 22, 1969.**
Larry Linder photograph



**Sutter Avenue station looking north, March 26, 1956.**
Bernard Linder photograph

**South of Atlantic Avenue station looking south, April 5, 1956.**
Bernard Linder photograph

**Approaching Atlantic Avenue station looking north, March 5, 1956.**
Bernard Linder photograph

**Approaching Atlantic Avenue station, May, 1969.**
Larry Linder photograph

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## An Atlantic Avenue Rebuttal

*(Continued from page 18)*

**Atlantic Avenue station, March 26, 1956.**
Bernard Linder photograph

**Looking north from Atlantic Avenue toward Eastern Parkway.**
Bernard Linder collection

**Looking north from Atlantic Avenue toward Eastern Parkway, March 8, 1969.**
Larry Linder photograph


**Another view from Atlantic Avenue looking north.**
Larry Linder photograph

**Broadway Junction looking east, May, 1969.**
Larry Linder photograph

**Atlantic Avenue station looking west, May, 1969.**
Larry Linder photograph

# Around New York's Transit System

**Reconstruction of Times Square Shuttle Station**

The 99-year-old Times Square shuttle station was originally a local station on the main line where trains ran on Fourth Avenue, 42nd Street, and Broadway. Both side platforms were located on a curve.

When the Contract 3 Lexington and Seventh Avenue trains started running in 1918, shuttles were operated on Tracks 1, 3, and 4 between Times Square and Grand Central. The side platforms were retained and a curved platform was installed between Tracks 1 and 3.

There are several deficiencies in the existing track and station layout. To ensure passenger safety, mechanical gap fillers bridge the excessive gaps between the train doors and the platform edges. Because of the excessive track curvature, there is rapid wear of the train wheels and track rails. When it is necessary to transfer the train on Track 4 to the shop, the metal bridge over Track 4 must be removed. This is a time-consuming operation that can be performed only during the midnight hours. The 5'0" spacing of the columns on the platforms interferes with passenger circulation and the crews' view of the closing doors. The passengers can become confused because trains leave from three different platforms. There are an inadequate number of entrances at the northern end of the station.

NYC Transit would like to correct the above-mentioned deficiencies and to rehabilitate the station. At the present time, two three-car trains and one four-car train operate on Tracks 1, 3, and 4. NYC Transit expects to take Track 4 out of service and operate two five-car trains on Tracks 1 and 3 with island platforms at Times Square and Grand Central. The Times Square platform will be relocated 250 feet east and Tracks 1 and 3 will be realigned to eliminate the sharp curves and the gap fillers. New structural framing will accommodate the new track and station layout. The existing control area R-148 at the southeast corner of W. 42nd Street and Broadway will be reconfigured and a new street entrance will be constructed along the south sidewalk of W. 42nd Street. The existing control area at W. 43rd Street and Broadway will be replaced by a new control area at W. 42nd Street and Broadway with two new stairways on Broadway north of W. 42nd Street.

**Siemens Awarded NYC Transit Contract**

NYC Transit has awarded a $110.1 million contract for a new public address/customer information screen system to Siemens Transit Technologies, a consortium of Siemens Transportation Systems Incorporated and Transit Technologies LLC.

The three-year contract involves designing, furnishing, and installing this system at 156 stations and a closed-circuit television surveillance system with customer help point intercoms at 10 of these stations. The public address system will interface directly with the Rail Control Center for Automatic Train Supervision. When the work is completed, riders will be able to view real-time information regarding train location and station arrival on 1,000 new customer information screens and hear announcements on new public address loudspeakers.

**New Light-Emitting Diode Speed Signs**

New Light-Emitting Diode speed signs have been installed at automatic signal G1-198 north of Broadway, Astoria Line, and automatic signal 1634 on Track 1 entering Chambers Street on the Broadway-Seventh Avenue Line. These new speed signs, which are very bright, more visible, and cost-efficient, will be illuminated during the station time mode.

**Baker Scaffold Instead of Flagging**

Contractors working on platforms use barriers instead of flagging. A "Baker Scaffold" is a metal-framed work platform, 30" wide x 60" long, which must be assembled at the worksite. The work platform can be adjusted from 12" to 60" high and locking wheels may be attached to the legs. The scaffold must have an 8" vertical fire-retardant plywood barrier affixed from platform level, closest to the trackside and to all sides within 48" of the station platform edge. The barrier must not be closer than three feet from the platform edge. It must not block the view of Conductor's indication boards or CCTV monitors, and it must not impede passengers.

**More Information about Tennis Balls on Redbirds**

In the October issue, we mentioned that several Flushing Line Redbirds were outfitted with green tennis ball decals. Member Benjamin W. Schaeffer reports that the tennis balls were sponsored by the American Express Card in 2003 and in 2002 as well. The balls had the same background as can be seen on the cards, and the American Express logo could be faintly seen. These cars also had all of their interior advertising geared to American Express Cards. In addition to the cars we mentioned last month, Ben lists the following cars as having the decals: R-33S 9322 and R-36s 9561, 9587, 9601, 9609, 9621, and 9691.

**MTA Says $2 Base Fare Safe Through 2007**

At the MTA's monthly Board meeting on October 27, 2003, Chairman Peter Kalikow stated that although deficits of $839 million and $1.34 billion are projected for 2005 and 2006, the $2 base subway and bus fare is safe through 2007. He also said that the MTA remains committed to building the Second Avenue Subway. However, he indicated that subway, bus, commuter rail, and bridge/tunnel fare/toll discounts (such as 30-day *MetroCard*s) might have to be adjusted in the interim.