

Metroliner

The Train Service That Did It

by Bill Anderson



LEFT Retaining its hastily applied Penn Central identity, snack-bar coach 858 leads an Amtrak Metroliner train in May 1972. JIM BOYD, KEVIN EGDALY COLLECTION

BELOW LEFT Looking over the engineer's shoulder aboard Metroliner Train 2000 approaching Newark, N.J., in 1969. BILL ANDERSON

BELOW RIGHT "Papers, please." Gate security greets Metroliner passengers in 1969. BILL ANDERSON

Numerous articles, books, and reports have been published since the mid-1960s highlighting the trials and tribulations associated with the *Metroliners'* development and operations. Some even highlighted the positives, such as ridership increases and higher-profile marketing efforts. However, the understanding of why the *Metroliners* were so successful has never been fully explained, or at least presented in stark clarity.

The most recently discovered *Metroliner* article, in *The Journal of Transportation History*, was entitled "Moonshots to Nowhere? The *Metroliner* and Failed High-Speed Rail in the United States, 1962-1977." While this 2022 article is factually correct, its thesis was based on the wrong premise. The *Metroliner* clearly was not the ultimate engineering success, but in the big picture that was background noise. The *Metroliner* was a success because its riders, and the employees and others supporting the service, made it so, in spite of all the challenges that have been so thoroughly memorialized.

A quick review

What became the *Metroliner* service was politically inspired and, in retrospect, laced with unrealistic expectations and deadlines. The High Speed Ground Transportation Act of 1965 (HSGT) was another Congressional reactionary response to the United States being badly upstaged by a former enemy, Japan. In this case, the "do something about it" came from the stir caused by Japan's high-speed (initially 125 mph) trains that had started revenue service the previous year.

The HSGT program was structured as something of a public/private partnership to design, build, and operate high-speed trains on the Pennsylvania Railroad (PRR) main line between New York City and Washington, D.C. As the underfunded and continually delayed project moved forward, it became a frustration for all the parties involved. Consider the following overarching issues:

- PRR committed tens of millions of dollars for infrastructure and rolling stock. However, that railroad's financial



strength was falling fast and it was desperate for a lifeline in the form of the federal government's approval of a merger with New York Central.

•The HSGT program attempted to take what was generally decades-old technology and infrastructure and jump-start it into a high-speed performance paradigm.

•A never-ending list of "bugs" continued to haunt attempts to achieve revenue service.

Inaugural runs

However, through the strength of key team members, the program pressed ahead. On January 15, 1969, a press run was made with a six-car train from Washington, D.C., to New York City. The next day, revenue passengers took the first-ever official rides on the *Metroliner*.

Shock might have been the best word to describe what happened after that first high-speed "demonstration" service began. Most of the negative press coverage fairly quickly shifted the equipment and other delay problems into the background. After a sampling of the *Metroliner* service by the media, politicians, and committed air travelers, most skeptical expectations were exceeded. New complaints arose — in some cases petty issues caused by success, such as the need to stand in line to buy a ticket due to the *Metroliners'* popularity. Daily sold-out trains were more the rule than exception, and actually rippled into a slight increase in ridership on conventional trains and greater pressure to increase the *Metroliner* schedule.

The NEC in the 1960s

On April 30, 1961, Eastern Airlines began the Eastern Air Shuttle (soon known to travelers simply as "the Shuttle"), providing frequent service between regional New York City airports at Newark and LaGuardia and both Washington (National Airport) and Boston. What set this service apart was not only what quickly became hourly departures, but a guaranteed seat with no advance reservations, even if additional aircraft were needed for second or more services.

For those who only know air travel as it has been over the past few decades, it is probably inconceivable that one could board a commercial airliner without a picture ID, making it through a gauntlet of not-particularly-friendly government workers, and a boarding pass. The Shuttle remade travel in the NEC to a standard that left PRR's New York-Washington service far behind.

The rail service in place as the Shuttle took to the sky could hardly compete. With most trains taking most of four hours between the New York and Washington end points, the Shuttle's gate-to-gate timing of an hour at a cost that was less than a PRR parlor-car seat was an easy win for Eastern Airlines. The deteriorating condition of NEC infrastructure and rolling stock was in line with PRR's declining financial condition and was obvious to deserting train riders.

So, between the Shuttle capturing the time-sensitive, price-inelastic market, and Greyhound and other bus lines offering lower fares for the price-sensitive market, PRR's dozen daily round-trip trains were being squeezed. In fact, if it were not for intermediate markets, particularly Philadelphia, it is likely that at least some of the New York City-Washington trains would have been the subject of Interstate Commerce Commission (ICC) hearings to remove them before the first *Metroliner* hit the rails.

The new ingredient

So what was the ingredient that confirmed this high-speed rail demonstration would be a success? It boils down to one thing: totally non-traditional, if not cutting-edge, marketing. To confirm this impact, the Shuttle, by the late 1960s the standard for business and government travelers between New York/Newark and Washington, began to experience measurable defections. Although traditional rail service between New York and Washington, D.C., still had a negative stigma, the newly named *Metroliners* became a top-of-mind, high-quality brand.

The modal shift: The proof is in the numbers

The graph at the bottom of this page, from a 1977 U.S. Department of Transportation report, demonstrates that the Shuttle began losing ridership that corresponded to the *Metroliners'* debut.

Although the New York City-Washington, D.C., endpoints tended to receive the most focus, other NEC markets also experienced gains for the *Metroliner* over air competition.

Note the market-share changes from 1970 to 1973 in the table below. It should be noted that the total air/rail passenger market expanded over the four-year period in these two markets, particularly the relatively short Washington-Philadelphia segment (134 miles). Much of this was attributed to the *Metroliners* generating passengers that would otherwise be driving between these endpoints. This highway/rail diversion also impacted the New York and Washington endpoints, although not to the degree witnessed with intermediate markets.

Marketing differentiation or branding

Although the business of marketing has a number of elements, the key to success is in differentiating one product or service, in this case *Metroliner*, from another, the Eastern Air Shuttle. Also in the case of the *Metroliner*, it was critical to differentiate the new trains from conventional trains. Surveys revealed that most travelers perceived PRR's and then Penn Central's existing service to be little different than that at the beginning of the streamliner era in the 1930s, only in a deteriorated state.

The following represent key marketing tactics that put the *Metroliners* in a class by themselves. The marketing was based on, and had heavy reliance from, surveys of rail, bus, auto, and air passengers. With the government conducting these surveys, competitive resistance to cooperating was generally removed and increased the reliability of the surveys. The one major holdout was Greyhound Bus Lines.

Applying common expectations for business and upper-income travelers considered normal in the late 1960s also provided a strong foundation. Sto-



ABOVE The *Metroliners* were unlike anything previously experienced by passengers on the Northeast Corridor. Among many changes, the "parlor car" designation was relegated to history. This is an Amtrak MetroClub car in 1971. AMTRAK; GEORGE H. DRURY COLLECTION

LEFT AND RIGHT The *Metroliners'* debut included an overhaul of NEC timetables, featuring graphics of the new trains as well as an improved and simplified presentation of fares. Marketing the new service as "The Penn Central Ground Shuttle" was a not-so-subtle swipe at Eastern Airlines' competing air shuttle. BOTH, AUTHOR'S COLLECTION



ries abounded about the culture shock this brought to many rail managers and employees, who seemed to have been totally out of touch with how the rest of the travel world had evolved after World War II.

Schedule: Why a timing of two hours 59 minutes, and not a nice round number

of three hours? Well, air-passenger surveys determined that once the total travel time between New York and Washington, D.C., dropped under three hours, there would be a shift to rail. This is similar to retail pricing at 95 or 99 cents and not rounding up to the even dollar amount. When a buyer sees something for \$4.95, it has been demonstrated that there is less resistance to purchase than if priced at \$5.00. In fact, as deferred maintenance began to add a few minutes to the *Metroliners'* schedules as the 1970s moved forward, a drift back to air was noted.

Employee training: Surveys indicated that dealing with railroad employees was routinely unpleasant. Ticket agents and onboard personnel had not been given cutting-edge (airline level?) training in customer service for many years, if ever. Key employees were provided with training ("train the trainer" concept) and then worked with their colleagues to provide credibility and limit any us-versus-them attitudes. Along with the pride rail-

road employees took in the new rolling stock, the passengers' reaction to newly learned customer skills was overwhelmingly positive.

Ticket-punch chads and procedures: Some things might seem almost silly, but were added to produce a class act. Traditional conductors' ticket punches dropped paper chads up and down aisles. This made for cleaning issues and a messy appearance among other things. So conductors' ticket punches were replaced with devices that held the chads until later emptied.

Another irritation noted from some surveys was having conductors come up from behind to examine tickets, so the training included an emphasis on checking tickets working from the front of the car so passengers could see them coming.

Reservations: Although it seems bizarre from today's perspective, most pre-*Metroliner* NEC ticketing was not associated with train capacity. This was a regular problem, creating standees around peak travel times.

For parlor-car reservations, PC was still using the archaic system of car seat layout on paper diagrams that was, at best, a slow process compared to the no-reservation Eastern Shuttle. Attempting to make round-trip reservations routinely involved sending a "wire" to the location that controlled (had the diagram) for the return trip, adding hours if not a day to complete the entire reservation. So a computer-based reservation system was developed that not only eliminated the standee issue, but vastly accelerated

The Penn Central ground shuttle:

New York NEWARK
TRENTON
Philadelphia
WILMINGTON BALTIMORE
Washington

Effective Date: August 24, 1970



making of reservations for both Metro Club (modernizing the parlor car name) and *Metroliner* Coach.

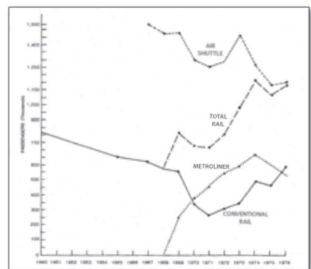
Timetables: The two examples on this page speak for themselves. The head-on image of the *Metroliner* train became the "face" of high-quality travel in the Northeast Corridor.

Also, *Metroliner* fares were shown as a total cost, not some combination. For example, the Metro Club fare now included the seat premium, eliminating the need to find two separate amounts to (hopefully) calculate the correct total.

Capital Beltway station: PRR did not adjust as suburbia enveloped the NEC, and stations remained embedded at downtown locations. So, early in the year after the *Metroliners* went into revenue service, a park-and-ride station was opened near the intersection of the Penn Central main line and I-295, a.k.a. the Capital Beltway.

Subsequent passenger surveys produced some unexpected results. The Capital Beltway station not only attracted riders from the Maryland side of Washington, D.C., but also from northern Virginia. This was essentially taking riders from National Airport's backyard.

BELOW New York City-Washington, D.C., rail and air-shuttle passenger data. U.S. DEPARTMENT OF TRANSPORTATION



BELOW Table summarizing market share of *Metroliners* vs. air shuttle, 1970-1973. COMPILED BY AUTHOR

Metroliner vs. Airline Shuttle Ridership Changes, 1970-1973					
Traffic Lane	Year	Metroliner Ridership	%	Air Ridership	%
Washington* - Philadelphia	1970	121,000	47	137,000	53
	1973	347,000	74	125,000	26
New York City** - Baltimore	1970	123,000	31	271,000	69
	1973	213,000	49	219,000	51

* Washington includes Union Station and Capital Beltway station.
 ** New York City includes LaGuardia and Newark airports, and Pennsylvania stations in New York City and Newark, as well as Metropark, N.J. (the latter station for 1973 only).



DEPARTING TRAINS			
TRAIN	DEPT	TRACK	REMARKS
TRENTON	3:35	3	LOCAL
PHILADELPHIA	4:00		EXPRESS
SPIRIT ST. LOUIS	4:05		ST. LOUIS - CNN
WASHINGTON	4:15		<i>Metroliner</i>
WASHINGTON	4:30		CONGRESSIONAL
NEW BRUNSWICK	4:55		LOCAL
THE BROADWAY	5:05		CHICAGO
WASHINGTON	5:45		PATRIOT
JERSEY COAST	5:50		LOCAL
PHILADELPHIA	6:00		EXPRESS

CLOCKWISE FROM LEFT Boarding a sold-out *Metroliner*; Penn Station's departure board; Sold-out *Metroliners* were the norm on Fridays and Sundays; When space was available, walk-up passengers could purchase *Metroliner* tickets at a gate window.

FACING PAGE TOP Deflating the competition: an Eastern Airlines omen at an airport newsstand.

FACING PAGE BOTTOM *Metroliner* Train 2003 is about to depart from Penn Station. ALL, BILL ANDERSON

It should be noted that not all applications of a suburban station were successful. In 1973, Metro Park was opened near the Garden State Parkway and other key highways in the New Jersey suburbs of Newark/New York City. *Metroliner* ridership never developed to the degree it did with the Capital Beltway station. Shortly after opening, Metro Park became a popular New Jersey Transit stop, although certain *Metroliner* trains continued to stop there.

Ticket pricing: One of the initial challenges was convincing PRR, and later Penn Central and then Amtrak, that the *Metroliners* and the non-*Metroliner* trains were not only a classic opportunity to offer two distinct levels of service, but also could be differentially priced. While the initial *Metroliners* were priced at or near the standard ticket for non-*Metroliners*, later *Metroliner* pricing was pushed to create a wider spread between the two services. This was done with no loss of *Metroliner* ridership, while other service factors remained the same. Also, by doing selective discounts for the non-





Metroliner trains after Amtrak's startup, these trains also experienced a ridership increase that more than offset the lower ticket cost. (See graph on page 34.)

A champion of differential pricing and other marketing initiatives was a mild-mannered manager in the Federal Railroad Administration's (FRA) Office of Economics, Dave DeBoer. There was many a meeting with the U.S. DOT higher-ups, including the Secretary of Transportation, who could not really understand how this and other marketing concepts would work. Once Amtrak had responsibility for pricing strategies, DeBoer and others undertook the mission to educate Harold Graham, the head of Amtrak marketing.

Name recognition: As previously noted, by the latter 1960s trains in the NEC had a negative connotation. To differentiate the new trains, the *Metroliner* name was used to create a new brand, with

ABOVE Passengers file past the final checkpoint before boarding their New York-bound *Metroliner* at Washington Union Station.

LOWER LEFT *Metroliner* signage adds a modern touch to the waiting area at Wilmington, Del.

ABOVE RIGHT Running repairs take on a more intense meaning as a riding technician attempts to make a "fix" in Baltimore. Enroute failures were a common occurrence with the *Metroliner* EMUs.

RIGHT Boarding at Washington. ALL, BILL ANDERSON

Penn Central's name pushed into the background as much as possible. However, the "Penn Central Ground Shuttle" tagline did appear on NEC timetables prior to Amtrak's debut.

During several months in 1972, while I was awaiting the government's glacial pace to approve my employment, I landed an extra-board job at Washington Union Station as a telephone reservation clerk. It was interesting to see first-hand



ABOVE With telephone service aboard the *Metroliners*, Penn Central had modernized a feature introduced by predecessor PRR in the 1950s on its *Senator* and *Congressional*, also built by Budd. **BILL ANDERSON**

how well the *Metroliner* branding was working. People calling in requesting a seat would routinely need to be prompted for a train time. When offering train departure times (this was before hourly *Metroliner* service), it was not unusual for them to say they did not want to ride "a train" or "the Amtrak," they wanted the *Metroliner*. There were occasions when a particular *Metroliner* was unavailable or not scheduled for the desired time frame, and the prospective passenger would say they would then drive or fly.

2001: This was the train number attached to the first revenue *Metroliner* and subsequent departures until fall 1969 for the 8:30AM slot from Pennsylvania Station in New York. Although 2000-series train numbers were largely applied to radically differentiate the *Metroliners* from existing conventional trains, it was accidental genius.

The previous year, the cutting-edge sci-fi movie *2001: A Space Odyssey* captured the public's attention. Although quite subtle, a train number invoking the movie's title seemed fitting, if not audacious, for this new service.

Telephone service at high speed: Once upon a time, there were no practical cell/mobile phones (or email). While this made pay phones in airports and NEC stations a profitable investment for AT&T, they did not satisfy the demand for continual communication while actually traveling in a moving vehicle (train). Building on the public telephones aboard PRR's *Congressional Limited* and *Senator* NEC trains in the 1950s, the *Metroliners* paved the way for the cellular technology that over several decades evolved into

today's ubiquitous cell-phone network. The "Fastest Phone in the East" provided a clear advantage over the Shuttle, and helped overcome the airliner's speed advantage by enabling productive work to be accomplished while traveling.

It smells new: The automotive industry learned that new cars could be identified by the "smell" that was artificially induced in the passenger compartment. Although of a different flavor, the *Metroliner* cars also had a unique and very appealing smell applied to them. While some might view this as another somewhat silly facet, as a marketing tactic, it set these trains apart and further characterized the brand. This was particularly true when compared with PC's conventional trains, which often had an unpleasant musty odor.

Metroliner riders "look different:" If there was any question of the deflection from the Shuttle and other air services, one only needed to be around the *Metroliner* gate area or platform as passengers were queuing up. In recent years before the *Metroliner* service hit the rails, passengers would tend to be people with limited funds and at the younger or older ends of the age continuum. In contrast, those waiting for the next *Metroliner* departure were heavily represented by business attire — mostly middle-aged men wearing suits — and stood in stark contrast to the rest of the environment found in stations. In fact, it seemed that passengers arriving for departing *Metroliners* sought to minimize any unnecessary station dwell time. When *Metroliners* arrived, passengers made a quick beeline for the taxi stand.

The rebuilds strut their stuff

After much handwringing over the operational challenges and high cost of maintaining adequate cars for hourly service, the U.S. Department of Transportation's (DOT) Federal Railroad Administration (FRA) obtained funding to rebuild four of the *Metroliner* cars. The rebuilds were effectively based on aggregated operating experience that indicated many changes, some substantial.

As 1974 progressed, the rebuilt cars were deemed ready for a media demonstration. At the same time, the NEC Improvement Project was taking form, albeit glacially. As the plan came together, it was decided to debut the rebuilt *Metroliner* cars with a press run and to also promote the NEC Improvement Project. Accordingly, the press run was arranged for Saturday, July 13, 1974.

It was a typical humid, overcast summer day in the Northeast. The press run departed from Washington Union Station and ran at normal *Metroliner* speeds, but without station stops, to Trenton, N.J., with various DOT/FRA officials and members of the media onboard.

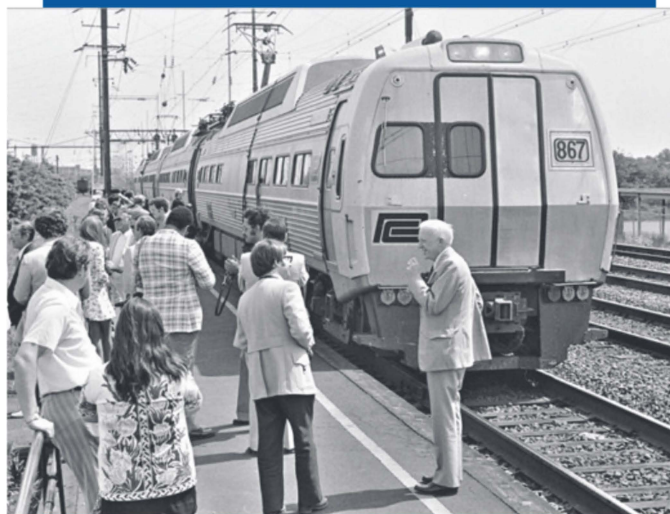
With the rooftop housings that had been added mid-car, the rebuilt *Metroliners'* appearance flashed back to the classic Budd RDC (Rail Diesel Car) profile. Equipment such as air intakes, that had been located under the floor, would function better away from the dirtier and hotter environment near the track. Many other changes that were made produced no outward appearance modifications.

Once at Trenton, anticipation built waiting for clearance to "have the railroad" eastward over about 21 miles from the Millham interlocking, two miles east of Trenton, to the County interlocking near Jersey Avenue in New Brunswick, N.J. This was the location of the test track that had been upgraded for the original testing of the Budd *Metroliner* cars as well as the United Aircraft Turbo Train. The latter had reached a top speed of 170 mph here during the testing process.

The basic idea was to make two *Metroliner* speed runs. The eastbound run would top out at 125 miles per hour, and was completed without incident.

For the westbound run back to Millham, the top speed target would be 150 miles per hour. There were several concerns for reaching that top speed. First, there was a 145-mph curve en route that limited the portion of the distance that could be used to reach 150 mph. Second, there was just the worry that something would happen to prevent achieving the top advertised speed, and risking a negative political/public blowback.

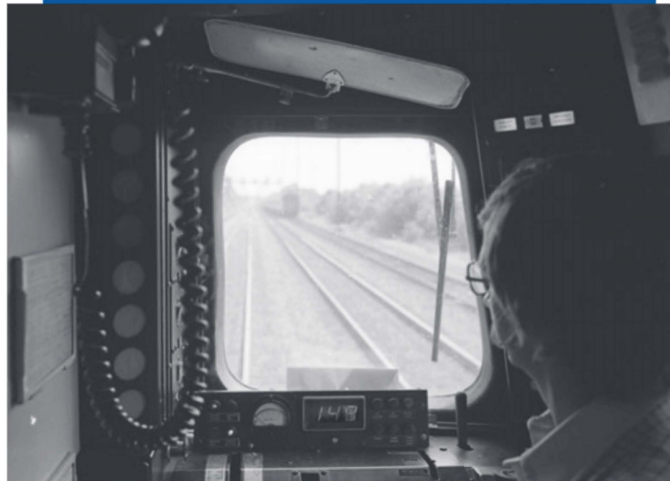
The final concern came from an overheard discussion among the professional engineers and technicians that the train's blended braking system would not function with the blended dynamic



ABOVE Among the media luminaries on the July 13, 1974, high-speed press run were *Trains* magazine Editor David P. Morgan (right foreground) and the *Washington Post's* Don Phillips, who appear to be sharing a lighter moment. The 150-mph run is about to begin. When Morgan was asked what he thought about the high-speed sprint, he responded somewhat dryly that it was about the same as a jet airliner at take-off speed.

BELOW Just one mile per hour short of the 150-mph goal (note speedometer in the middle of dashboard), the press-run train charges west on the Trenton-New Brunswick, N.J., test track on July 13, 1974.

BOTH, **BILL ANDERSON**



and air (termed "subzero") until the speed dropped below 140 mph. This required the test train to coast about five miles, and at that point the brakes (air

and dynamic) could slow the train adequately to bring the speed down to the speed limit beyond the west end of the test track.

So, with some fingers figuratively crossed, the dispatcher was advised that the train was ready to proceed west on Track 3 of the test segment. At that point, with a bit of low-key drama, the engineer was notified he "had the railroad" to operate at 150 mph.

After what seemed a long time, and with fewer available miles to reach the magic number of 150 mph on the cab speedometer, the engineer cut the throttle soon after the goal was achieved and let the train coast for about five miles. When the speed reached 140 miles per hour for the blended braking, he positioned the brake handle accordingly. To the relief to those in charge of the test run, the brakes performed as intended to slow the train to the authorized speed for the end of the test track. With an on-board air of noticeably reduced tension, the special train made the rest of the trip back to Washington Union Station without incident, although at the standard posted *Metroliner* speeds.

Coda

For all of the cost (about \$2.2 billion) and effort that went into the Budd Company's *Metroliner* rebuild program, it was largely for naught. By that time, Amtrak was concluding that locomotive-hauled trains made more sense on the NEC for flexibility and economics. Nevertheless, the Budd *Metroliner* EMUs soldiered on and were not fully replaced by locomotive-hauled trains until 1982. However, their fate was largely sealed even as they were demonstrating their 150-mph bona fides.

Even with all the goodwill and brand identification that the *Metroliners* built across what turned out to be more than 30 years, Amtrak's major high-speed rolling stock replacement in 2000 rebranded the high-speed segment of the NEC service with a new name, *Acela*. Whether this name change was necessary, or even helpful, is something of a moot point.

The *Acela* name has made its own imprint on high-speed rail travel, to the point that what had long been called the Northeast Corridor is now routinely called the *Acela* Corridor. During those bleak years for rail passenger service in the 1960s, to suggest a major megalopolis would be named after a train service would have brought a good laugh. Thanks to the *Metroliner* and its cutting-edge marketing, what produced a laugh in the 1960s became reality. 🚂

—My particular thanks go to Robert Watson and Mike Weinman, who were key participants in the high-speed development and demonstration project. Along with Bob and Mike, there were many others who made their contribution to the ultimate success of the *Metroliners* and raised awareness for the role of intercity passenger service.