# 1435 TRANSIT

JANUARY 1977 VOLUME IV

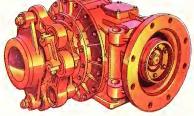


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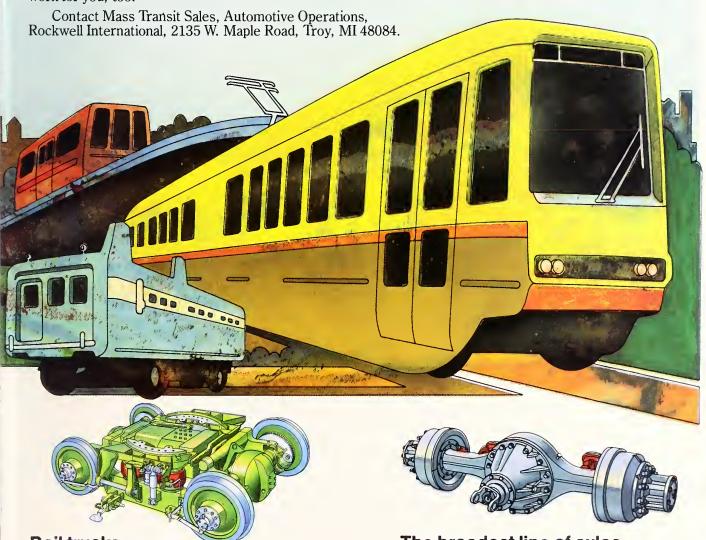


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#### **FEATURE**

In New York City, where tall buildings are the order of the day, tall buses are now the order of the streets. Double-deckers have returned to the city after a 23-year absence



#### **TECHNOLOGY**

While common in Europe, articulated buses—ones that bender in the middle—are only now being recognized in the U.S. Eleven cities will soon try to cut costs with the super buses

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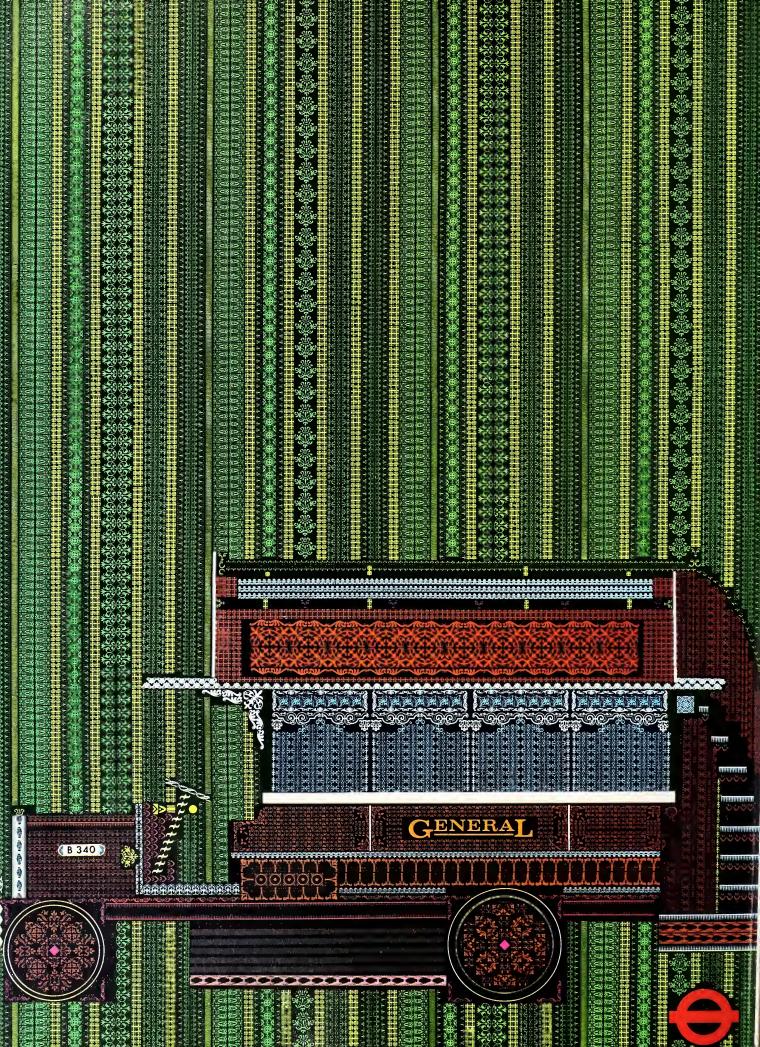
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The Illinois Department of Transportation subsidizes six intercity commuter trains to and from Chicago in probably what is the nation's largest experiment in intercity commuter trains

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# DOUBLE UP

#### by Frank Mazza

After a 23-year absence, double-decker buses made a return engagement on Broadway and received rave reviews. They were hailed with enthusiastic anticipation by the young and with a twinge of nostalgia by senior citizens. But as in any revival, there were problems in getting the show on the road.

The bi-level buses, eight in all, are part of an \$800,000, twoyear demonstration project that was funded equally by the federal Urban Mass Transportation Administration (UMTA) and New York State. Built by British Leyland Motors Inc. of Great Britain, the buses were introduced into regular service last Sept. 14 on Broadway, Fifth Ave. and Riverside Drive—the same routes traveled nearly a generation ago. A similar demonstration project using German-made buses, is underway in Los Angeles.

It was an unusually balmy day in New York for September and more than 1,000 spectators were crowded around the starting area near Central Park when the buses were revealed for the first time. Top representatives from the federal, state and city governments, British Leyland officials and David L. Yunich, chairman of the Metropolitan Transportation Authority (MTA), were on hand to herald the return of the double-deckers.

Spectators swarmed over the large red, white and blue buses with picture-sized windows. All were offered a free demonstration ride around the south perimeter of Central Park. As the once familiar, but now strange-looking buses slowly wended their way through the jammed streets, passengers seated on the upper level exchanged waves with office personnel seated eyeball-to-eyeball at window desks on the second and third floors of buildings. Pedestrians cheered merrily. It was by all accounts a happy occasion.

The happiness was short-lived. A malfunction of the air conditioning unit and a problem with the fuel oil line of the diesel-driven, foreign-made buses, caused significant breakdowns. Prospective passengers, who in the first days following introduction of the double-deckers, passed up the standard-sized buses for a ride on the unique vehicles, were disappointed when none showed. Disappointment led to vocal criticism and the media had a field day.

Hastily the MTA and British Leyland jointly set out to correct the major bugs and by late fall the buses were running smoothly with reliable performance. Besides, by October the air conditioning was no longer needed. Bus heat was plentiful. Representatives of the authority and British Leyland noted that the system that generates heat also controls the air conditioning and that therefore, proper heat control now meant that the buses will be cool next summer. The bus order for New York was the first time that British Leyland equipped a double-decker bus with air conditioning.

The double-decker buses are 14 feet, 5 inches high and have an overall length of 33 feet, 7 inches. Topped with a solid metal roof, unlike its forerunner of many years ago which sported a convertible top removable on warm days, the new buses have a seating capacity of 69 with 44 accommodated on the upper deck and 25 on the first level. Conventional buses seat approximately 43 passengers.

At the unveiling ceremony, Yunich took the functional approach. He noted that the bi-level bus "enables us to nearly double our seating capacity without adding to air pollution, traffic congestion and roadway space. They should be of great value to us on our high-volume bus routes."

Abraham Beame, the septuagenarian mayor of New York City, proved in his brief remarks why, despite the fiscal crisis gripping the city, he is still popular with New Yorkers. He hailed the return of double-deckers as an "historic event," but then taking advantage of the festive mood of the crowd, combined smarts with schmaltz. He joked that there was no connection with his birth in England and the award of an \$800,000 contract to a British bus manufacturer and recalled that dating on a double-decker bus was a popular form of courting in his day. "I courted my Mary on a double-decker bus while struggling to become a CPA," he said. "Maybe, the practice will make a comeback. Of course, the fare was only a nickel then," Beame smiled. (The fare today is 50 cents.)

At 14 feet, 5 inches high, the double-deckers are nearly 2 feet taller than their predecessor bi-level buses and standard-sized buses now in use. The unusual height caused some flap among several members of the 11-member board of the Metropolitan Transportation Authority. They revealed that the buses were landlocked in Manhattan. Due to their height, they are unable to cross any bridge or fit through any tunnel linking the island of Manhattan with any other part of the city. The board members also pointed out that the buses, again due to their height, could be housed in only one of the 20 transit garages in the city.

Board member Harold Fisher, one of the most outspoken critics over the size of the buses, made it clear that if any other double-decker buses are ordered, they will be under 14 feet high. Yunich has countered that he was aware of the height of the buses, but that "the double-deckers ordered we never intended for use anywhere else but in Manhattan." The mild brouhaha was calmed by John Taylor, UMTA's New York regional director, who reminded all that "this was a demonstration project and there are problems, but none so serious that we can't solve."

Double-decker buses, which last roamed the streets of New York in 1953, were favored by lovers and sightseers. Unaware of any polls which show that there may be fewer lovers and sightseers today than a generation ago and based on a recent upswing in revenue along double-decker bus routes reported by the transit authority, it would appear that double-decker buses in New York are here to stay.

Contributing Editor Frank Mazza covers transportation for the New York Daily News.

**JANUARY 1977** 



#### by Ken Kelley

Circumstances that have resulted in articulated buses being widely used around the world—but virtually unknown in North America—are about to change.

Working in cooperation with M.A.N., an established German producer of such vehicles, AM General Corp. is gearing up to deliver 384 articulated buses to 11 transit authorities in the U.S.

Cruse W. Moss, president of AM General, said he expects an annual industry sales of about 250 of the buses in North America in the forseeable future and cited one main reason.

"When properly applied on high-density routes, they can move at least 50 per cent more people than standard transit buses, yet it still only takes one driver to operate one of the bigger vehicles. With the drivers' wages constituting 80 per cent or more of a bus property's operating costs and wage rates constantly escalating, the articulated bus has to be the way to go on many routes."

AM General is starting the articulated bus business with more than \$62 million in orders to supply 150 vehicles to Seattle and another 234 units to a consortium of authorities based in Los Angeles, Oakland, San Diego, San Rafael, Calif., Minneapolis-St. Paul, Phoenix, Chicago, Atlanta, Pittsburgh and Washington, D.C. The latter group has been called the Super Bus Consortium.

The buses will be partially built in Germany by M.A.N. (Maschinenfabrik Augsburg-Nurnberg). Much of the work—from installation of seats to applying the finish coat of paint—will be handled at AM General facilities in Marshall, Tex. The necessary expansion of those facilities is one factor stretching out the delivery time.

Refining the vehicles to meet U.S. safety standards and other regulations, as well as adding features that U.S. bus riders have come to expect, are two major assignments for the Texas operation. From exterior paint to drivers' seats, a long list of U.S.-produced materials will be used. Air conditioners are not widely used in buses overseas, however, U.S.-produced air conditioners will be among the components added in Texas.

An articulated bus is really a combination of a two-axle bus with a smaller, semi-trailer bus at the rear. A coupling device is set in the revolving floor of the midsection where the two units are linked. Both the coupling equipment and the midsection's roof and sides, made of heavy vinyl-coated fabric, are built so that they bend both vertically and horizontally. Seats can be installed in the midsection.

The AM General models are available in 55 and 60 foot lengths. Tom Poirier, general manager of the company's transit division, said the vehicles are more maneuverable than standard buses which are 40 feet long.

"Up front, there is an independent suspension with power steering. It's linked mechanically by tie rods with the suspension at the rear in such a way that it steers the rear of the vehicle around a corner. We have tried one in small neighborhood streets around the plant here and found that it is easier to drive than one of our standard buses."

Moss saw the articulated bus as the company's answer to studies by the Urban Mass Transportation Administration (UMTA) on improving service on high-density routes.

"There have been studies which showed that articulated buses, with their larger capacity, can save money even if they cost twice as much as the standard models," he added. "What we have here is two buses and two drivers doing the work of three of each."

Bidding on both of the orders which AM General has landed to date was open to the other articulated bus producers around the world. "Such companies as Volvo of Sweden and Pegaso of Spain looked into the business," Moss said. "On the Seattle contract, the Ikarus organization from Hungary did enter a bid against us."

C. W. Toohy, transit division general sales manager, said that, while AM General does not expect to be announcing any further sales of articulated buses in the immediate future, high interest in the product indicates additional orders lie just ahead.

"A number of cities, including New York and Boston, have expressed a great deal of interest. We have had other inquiries from such diverse sources as ski lodges and amusement centers."

Toohy explained that AM General has a marketing arrangement on the articulated buses covering both the U.S. and Canada, which gives AM the responsibility for supplying service assistance and repair parts. "Since we will be stocking repair parts for the articulated buses along with our other bus parts in South Bend, Ind., it will be just as easy to get parts for both types of buses." he added.

After M.A.N. completes its work on the articulated buses, they will be shipped to Texas in bare-bones but drivable condition, George W. Scharbach, engineering vice president at AM General explained.

With only the exterior primed, no floors or seats on the inside and all windows—except the windshield—omitted, the Texas factory can customize the units for North American customers.

Power for the buses comes from a supercharged six-cylinder pancake M.A.N. diesel engine which is mounted under the front section of the vehicle. It develops 276 gross horsepower. A

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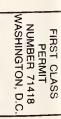
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German supplier, Renk, provides the automatic transmission which has four speed ranges. The bus is driven by a fixed axle in the middle that has dual wheels.

Service of engine, transmission and drive axle is handled either through removable panels in the floor, through side panels or from a service pit below the vehicle.

Purchasers of the articulated buses have great freedom in specifying what they want, making it difficult to develop specific comparisons with standard buses. AM's articulated models, for instance, not only come in the 55 and 60 foot lengths, but with a choice of two or three doors and freedom to specify the width of the doors.

A 60-foot articulated bus could be expected to carry about 113 people, seated and standing, and sell for about \$142,000, although prices and capacity can vary widely depending upon specifications.

Similar figures for a 40-foot standard bus are a capacity of about 75 people and a price around \$75,000, again varying with the specifications.

Moss said the variations in specifications plus the continuing inflation in bus prices and component costs makes it particularly difficult to make direct comparisons of the two types of buses.

"We see the articulated bus frequently being used here on a route where it can be just about filled in one area, run a good distance without stopping and then discharge most of the passengers in a limited area toward the end of the run," Moss said.

"Three-door arrangements are great for getting large numbers of people on and off in a hurry during rush hours. A narrow front door option may work out better here if each customer is to pay as he enters. In some European cities, they use a pass system, making only spot checks to be sure that those who get on the buses have passes. There, the three wide doors really speed things up."

While there were some articulated buses run in Omaha for a

time years ago, Moss said they are unfamiliar to most U.S. cities until promotion of the M.A.N. product began recently.

When AM General executives were asked about the other type

#### U.S. SUPPLIERS

The following are the major American suppliers of components for the articulated buses imported in bare-bones condition from Germany. The total cost of these add-on American parts represents 44 per cent of the total bus price of \$142,000. Some suppliers have not been chosen.

Paint Du Pont, Sherwin Williams

Floor covering RCA Rubber

Air conditioning Trane

Door controls Vapor Corporation

Tires Divided between Firestone,

Goodyear, Goodrich, and General Tires

Rubber front bumpers Firestone

Passenger seats American Seating

Driver seats American Seating and National Seating

Glazing Excell Corporation

Destination signs Transign Company

of bus which increases the number of riders one driver can handle—double-deckers—Moss commented, "They only work in the few cities where, for some reason, people are willing to climb steps and spread out on two levels. Besides, that movement up and down can waste time." Poirier added, "Double-deckers can be short of head room on the second level."

Contributing Editor Ken Kelley is a freelance writer based in Detroit and a former newspaper transportation reporter.

## Omaha's "super" bus

In November 1948, as Omaha commemorated the 80th anniversary of its first horsedrawn bus, it became the first U.S. city to put into service the "Super Bus"—a hybrid articulated bus manufactured by Twin Coach of Kent, Ohio.

When the Omaha and Council Bluffs Street Railway Company bought five Model 58-D Super Twin Coaches to replace their over-aged postwar streetcars, they were buying an idea that was clearly ahead of its time for the U.S.

The buses carried 120 passengers and featured a unique design—a Twin Coach Model 38-S body without a front end which was joined by hinges to a 34-S body without a rear end. The hybrid offspring was a three-axled, 47-foot articulated bus.

Unlike the common European version that is hinged to articulate vertically and horizontally, the Super Twin was hinged to only articulate vertically. This permitted the bus to go from a level surface to an incline

by bending in the middle.

The center of the three axles was powered by two propane-fueled 180 brake horsepower engines. The key to its surprisingly short 35-foot-11-inch turning radius was a synchronized front end and rear axle intersteering. When the driver turned the steering wheel, both the front end and rear axle turned in harmony and the bus pivoted around the center axle much like a hook and ladder truck.

It cornered as if it were on streetcar tracks. The power assistance from the steering was controlled by two pedals, one for right turns and one for left turns. Some drivers steered by merely tapping the booster pedals on the floor.

Dave Dunlap, a transit planner at Omaha's Metro Area Transit (MAT) authority, recalls driving the Super Twin on service runs before its retirement in 1970.

"It was easier to drive than most buses except for one flaw," he said. "Unless the

driver exercised particular caution while pulling away from curbs and especially when making left turns following a curb pickup, the rear end would pivot over the sidewalk taking down poles and people. On right-hand turns, the rear end would swing halfway into the adjacent lane. We had to place warning signs on the beat-up tails of the Super Twins warning against following too closely."

MAT's special projects coordinator, Jim Reed, reported that of the 15 Super Twins that once traveled the streets of Omaha, 10 were converted into cabins for a bible camp in 1970.

After sitting idle for five years, four of the five surviving Super Twins started and moved under their own power from a car barn to their current home outside MAT headquarters in Omaha. Their fate remains undecided, although one may someday be displayed at a proposed transportation museum.—Thomas B. Holley

JANUARY 1977

# How to "Adopt-A

by C. Anthony Junker Ueland and Junker

What can private individuals do when faced with an eyesore of a subway station and see little hope that anything will be done about it in the foreseeable future?

For one thing, they can do what a group of Philadelphia firms did with an important station in a national historic area. Led by the Greater Philadelphia Chamber of Commerce, the firms took the station under their wing, and went out and raised enough money to pay for the technical studies and a portion of the local matching funds required for an Urban Mass Transportation Administration (UMTA) project grant.

As a result, station renovations were completed in record time and Bicentennial visitors to Philadelphia enjoyed a newly refurbished station in the heart of the historic area.

The story began in early 1973 when a newly-formed environment sub-committee of the Chamber's regular public transportation committee was casting around for studies and projects to undertake. There were many suggestions, but their primary interest was in doing something concrete rather than writing reports and papers.

Thus the idea of "Adopt-A-Station" was born, where businesses whose employees and customers utilize a transit station take the facility under their care in cooperation with the local transportation agency—in this case the Southeastern Pennsylvania Transportation Authority (SEPTA). The idea has precedents. Local residents and civic groups planted trees and flowers and repainted rail stations in their neighborhoods. In New York City, Union Square has been adopted by Consolidated Edison and other contributors and plans for refurbishing that station were announced in late 1976.

Another New York program known as "Platforms for Design"—supervised by The Municipal Art Society, the Public Arts Council and the Arts and Business Council—is underway with \$20,000 in grants from Exxon Corporation for the improvement of four other New York subway stations.

But a major downtown subway station in Philadelphia needing close to \$2 million in repairs was something different. There the project had to be placed on the region's public transportation improvements program, and local, state and federal authorities had to agree to fund their portions of the work. While not a feasible project for informal groups working on small neighborhood stations, the Chamber of Commerce, working with businesses located around the needy stations, had the resources to organize such an effort.

The environment sub-committee decided, with the Bicentennial only three years away, to work on the historic Fifth Street-Independence Mall station on the Market-Frankford Subway Elevated Line, one block from Independence Hall and a stone's throw away from the new home of the Liberty Bell. While in deplorable condition, it has the advantage of being very near a number of large, public-spirited firms who no doubt were interested in its future.

The support of the local firms was critical. With the Bicentennial so close, there was no time to apply for UMTA supported funds to conduct the required initial technical study. So it had to be independently funded. Furthermore, in order to get the project moved up on the regional capital improvements program, the local matching funds for the capital grant had to be provided

Almost miraculously, events began to fall into place. A foundation and three large firms neighboring the station—the Haas Community Fund, Penn Mutual Life Insurance Company, Rohm and Haas Company and the Philadelphia National Bank—agreed to provide a necessary base of funds and solicit the remainder from smaller firms in the area.

By early 1974, initial approvals were received and studies were underway. The project was launched, and what followed

(Continued on page 14)
Imagination and a lot of work turned one station into a work of art using the colors of the flag along with a blend of historic and contemporary images.



# -Station"



(Continued from page 12)
was a rapid and often hectic series of
events leading to design and completion of
station improvements in a record 24
months.

The problems to be overcome were obvious and familiar. The station was shabby, with peeling paint, numerous ledges and crannies for collecting dirt, exposed pipes, obsolete conduits and fixtures, and that bane of Philadelphia and a few other major cities—graffiti.

Low lighting levels and out of the way corners made it difficult to provide safety. The inevitable water seepage through the combination roof structure and streetbed overhead had to be contended with, as well as a tortuous maze of rotogates and entry and exit passages between the platform and the street—legacies of almost 70 years of deterioration and piecemeal efforts to improve operations and passenger flow.

The most important goal of the project was to develop a design concept appropriate to the historic location of the station within the budget constraints of the sponsors and within the time constraints imposed by the Bicentennial. Together with SEPTA, the designers, Ueland and Junker, Architects and Planners of Philadelphia, defined ideal objectives of the project and divided it in two phases.

Phase one, now complete, included the basic improvements necessary to transform the station environment into an attractive, up-to-date transit facility. Phase two includes longer-range improvements, notably platform extension to the east to accommodate 8-car trains (the station currently accommodates 6-car trains), and the construction of new headhouse-lightwells and elevators along Independence Mall.

Located in the middle of the historic district, the station is a gateway for tourists, and the design theme was established to orient tourists to the local historic shrines and points of interest. Surfaces were needed which would resist graffiti and permit its easy removal. And the entire design had to present a new and fresh image of the subway environment, capable of demonstrating the possibilities for transforming other old stations into exciting and attractive spaces.

One of the first design decisions made was to not try to improve or work with the existing surfaces. The architects had seen many examples of station renovations where elaborate and costly measures had been taken to clean, repair and refinish existing surfaces. The result was usually unsatisfactory in surface quality and left behind many of the ledges, niches and

hidden corners which present problems in maintenance and security.

Instead, it was decided to bypass all existing surfaces—walls and ceilings—with new surfaces, giving the entire station a new and permanent interior "skin." Old

walls were left mostly in place, and continuous, unbroken new walls were set in front of them. The walls were skewed away from the platform edge as they approached the central toll areas, funneling passengers towards entrance points. Like-



BEFORE
Peeling paint, exposed pipes,
obsolete fixtures and grafitti
not only made the stations
eyesores, but made remodeling them that much harder.



wise, the new aluminum ceiling flows gently past the countless beams and arches above providing a new and simpler surface and unifying the various station areas.

The new interior skin had many additional advantages. The station was larger than

needed and its area could be reduced by screening-off unneeded spaces with the new walls. This initially meant less area of new construction, as well as less area to maintain in the future. The new surfaces also allowed ample room behind to ac-

commodate the service equipment necessary to maintain a transit environment, such as ventilation ductwork, new deflector ceilings and troughs to intercept water seepage, new drainage lines, piping for a high-pressure detergent wash-down system and a closed circuit TV surveillance system.

The second major decision dealt with passenger flow. Present and future volumes were studied at toll positions, gates, stairways and passages. Capacity was too low in the east-bound direction where the street level could only be reached through two narrow, twisting passages. A generous new stair entrance was designed which would allow a dramatic view of Independence Hall as the passenger emerged above the surface. Flow within the station was focused on exit and entry points at the toll locations through the use of two-way turnstiles. To reinforce the natural funneling effect of the walls, an illuminated ceiling was placed over the toll area, along with a semi-circular dropped illuminated sign. The greater prominence of the toll area would naturally attract the attention of unloading passengers, directing them towards the central exit points.

Finally, an all-important decision was made to use the colors of the nation's flag as the basic design theme, along with a blend of historic and contemporary images of the Independence Mall area. Porcelain enamel panels were selected for use throughout the entire station since they allowed the use of brilliant colors and designs, and showed the best graffiti removal performance to date.

Natural clay floor tiles and brick were also used to help balance the more synthetic feel of the porcelain enamel walls, aluminum ceiling and stainless steel column covers. On each side of the platform, widened stair lobbies were designed with illuminated tourist information map murals helping to orient the visitor to the locations of nearby historic places.

The Adopt-A-Station idea is applicable in other locations around the country. Today, when most transit agencies feel the funding pinch, public-spirited private efforts would appear to be an effective means to stretch public dollars to achieve the most good. What is needed to get the ball rolling is a handful of individuals with some imagination and persistence . . . and a lot of public spirit. The rest should flow as others in the community "catch the spirit."  $\square$ 



#### AFTER

The new design created a pleasant and colorful environment and also is tied closely to the history of the area surrounding the stations.



C. Anthony Junker is a partner in the Philadelphia firm of Ueland and Junker, Architects and Planners, designers of the Independence Mall Station renovation.

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# 1435 TRANSIT



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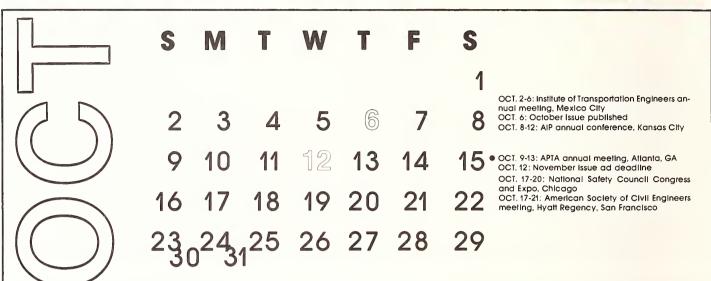
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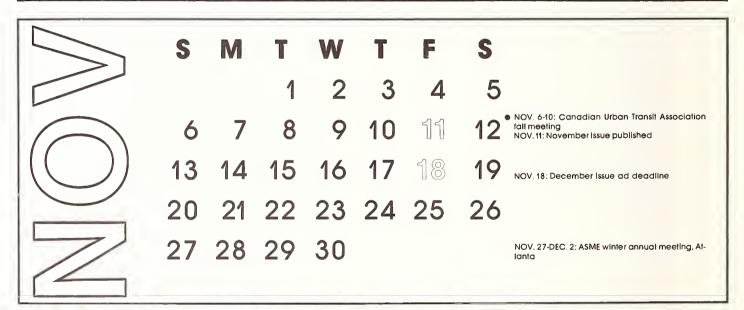
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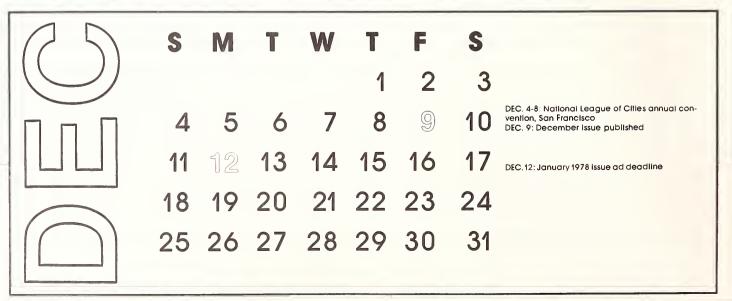
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## editorial

The following is a guest editorial in the form of an open letter to Brock Adams, the new Secretary of the Department of Transportation. It was written by Michael A. Powills, Jr. and David R. Miller, principal associates of Barton-Ashman Associates, Inc., a multi-disciplinary planning and engineering firm based in Evanston, III.

Office of the Secretary United States Department of Transportation Washington, D.C. 20590

Dear Mr. Secretary:

Congratulations on your imminent inauguration in a most challenging position. You have an outstanding opportunity to direct some far-reaching changes in American transportation policy. At the same time, you confront some well-established and organized pressure groups that have a great interest in protecting the status quo. We would like to share our views on some changes worth considering.

Like many other consultants, we have not only worked for the federal government, but observed it and attempted to analyse its workings. We see the Department of Transportation today as a group of constituencies represented by the various modal administrations. The aviation community is represented by the Federal Aviation Administration (FAA); railroads and their users by the Federal Railroad Administration (FRA); urban areas and the transit industry by the Urban Mass Transportation Administration (UMTA), and so forth. Until very recently, federal transportation programs have been largely organized along single-mode lines, with the importance of individual programs being determined by the interplay of forces within the mode and supporters of the mode within the department and the Congress. Although lip service has been paid to the necessity to study the trade-offs between investments in competing modes, the present organization of the department makes it very difficult to embody the results of such studies in programs.

At present, there appears to be a common thread that runs throughout all the modal administrations: The industries they represent appear to be looking to the federal government to assist them in various ways to survive and be profitable. It is tempting to dwell on the paradox inherent in seeking governmental intervention while simultaneously extolling the virtues of the free enterprise system, but we will let that pass. It is perfectly rational strategy for any industry or any firm in that industry, to turn to the government for help these days. For one thing, it has worked well in the recent past, in terms of enabling industries and firms to survive. For another, classical economic theory is strangely silent on the very real—and painful—dislocations that occur in the inevitable departure of the less efficient firms from a free enterprise market situation. The problems of temporary unemployment, loss of services, traumatic reorganizations of firms and

irreversible changes to substitute goods (modes) are all assumed away.

Granted, the results of the mode-by-mode administration of national transportation policy have included the creation of the world's finest highway system, its best air transport network and some of the most advanced urban transit technology. However, we believe that circumstances have changed to the point where the policies of the past will no longer take us toward our current goals at an acceptable rate. We would like to suggest a reorganization of the Department of Transportation for these reasons:

- We believe that a more conscious, consistent effort to implement the results of trade-offs among the various modes is absolutely necessary. To give just one example—the United States is currently preparing to pour money into a major rehabilitation of the roadbed and track used for intercity passenger service in the Northeast Corridor. At the same time, general revenue funds are used to support the operations of the FAA, including a large sum to provide air traffic control services to aircraft serving the same city pairs that the rail lines do. We believe that we can no longer afford the luxury of supporting major intermodal competition, whether it be for freight or passenger traffic, intercity or intraregional;
- The present organizational structure of the Department of Transportation does not encourage the type of discussion and analysis of trade-offs that we feel is currently necessary. Each mode has its advocates, its friends in the department and the Congress and its programs. Opportunities to test the cost-effectiveness of a dollar spent on one mode or another are scarce. Granted, the opportunity to divert highway funds to mass transit uses, created in response to the energy crises a couple of years ago, was a step in the right direction. But how far did it go, and how many cities found it useful or workable?;
- The present organizational structure, in our opinion, focuses attention on precisely the wrong issues. At the risk of offending our friends and clients in the various modes, we feel impelled to say that the present organization tends to encourage the continuation of economically unviable and unjustifiable modes and practices. It concentrates on preserving suppliers of service, mode by mode. All too often, the point of keeping the modes

### 'However far we've come, this ain't the time or place to stop!'



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alive—that of making it possible for people to move themselves and their goods—appears to be overlooked.

To say that we can no longer afford the luxury of intermodal competition requires some explanation. We do not mean to imply that the government should decide which mode should provide which service and support only that mode. That decision is best left to the users. What we do mean is that the department should

add up the sum spent on all alternatives available for moving the same goods or people in a given setting, and ask whether the total is more than adequate, about right, or less than adequate and is being spent in the most cost-effective way? The alternatives analysis now required for major capital investments in rapid transit is, combined with Transportation Systems Management (Continued on next page)

### editorial

(TSM), a major step in the right direction. We look forward to seeing the concept spread from the planning area further into the programming area.

Our misgivings about being able to afford supporting competitive modes come from observing the general escalation of prices and particularly the dramatic rise in the cost of energy. Prior to the oil embargo, we had been accustomed to thinking in terms of an economy of abundance, whose biggest problem was finding a way to deliver a "fair share" of the economy's bounty to all citizens. Now, we have come around to thinking—and worrying—about an economy of scarcity, particularly with regard to energy resources. And since so much of our economic well-being depends on heavy use of energy (for production as well as transportation), we feel that a renewed concern with the allocation of all resources—and particularly energy resources—to transportation is very well placed at this time.

We have also done considerable analysis of the growth and structure of cities in the course of our routine consulting assignments. Land use policies, social forces and economics have combined to dramatically alter the shape of cities in the post-World War II era. Transportation policies have played a role as well. However, we do not wish to find fault, but merely to point out facts. As of 1970, fully two-fifths of the labor force in the country's 33 largest cities (those with over a million population in their Standard Metropolitan Statistical Areas) both lived and worked

outside the central city. Not just outside the central business district, mind you, but entirely outside the city. In other words, fully 40 per cent of all work trips began and ended in the suburbs, as of 1970. There is no reason to believe that the percentage has not grown since.

It is unfortunate, but true, that serving this kind of dispersed work travel with conventional rail transit is highly uneconomical at best and entirely unfeasible at worst. The same policies that have permitted and encouraged residential dispersement are now permitting and sometimes encouraging industrial dispersement. In so doing, they are helping to diminish the role of conventional mass transit in our cities.

It is also true that many of the policy decisions that led to this state of affairs were, and still are, entirely outside the purview of the Department of Transportation. Many of them reflect the impersonal workings of the urban land market. Private developers, for example, have far more influence on the shape of urban and suburban growth than all transportation modes put together.

Given this view of the world, what role can the Department of Transportation play effectively in the interest of improving the quality of life for all of us? At best, we feel that the department can concentrate its efforts on optimal allocation of scarce resources among competing modes. In order to do this more effectively, one approach that has occurred to us is the possibility of reorganizing the department along geographically functional lines rather than



along modal lines.

By creating an Intercity Transportation Administration (ITA) and an Urban Transportation Administration (UTA), attention would be refocused on the primary issues of creating mobility (for people and goods) between urban areas and within urban areas. The Intercity Transportation Administration could assume responsibility for FRA's current programs (except for commuter rail service in areas where there is an overlap), the rural portions of FHA's programs, the air traffic control, aircraft and pilot certification and most other portions of FAA's efforts, the Coast Guard and so forth. The Urban Transportation Administration would deal with the urban portions of the highway and rail programs, the airport programs of the FAA and UMTA. Research efforts for all modes could be concentrated in a Transportation Technology Administration (TTA), in order to insure that the total research effort was constructively allocated.

At first, the changes would be mainly in organizational charts. There are, we realize, many continuing programs that could not be terminated by a departmental reorganization; nor should they. However, we would expect the department's legislative proposals to reflect the necessary combining of budgets to permit broader program support. At the same time, we would expect the permitted use of funds to expand so as to permit better allocation of resources across modes. What do we mean by all this? Some examples:

- The recent termination of the "Diamond Lane" experiment in California represented a real setback, in our opinion, to the concept of Transportation Systems Management. Ideally, we would like to have seen more allocation of freeway lanes to high-occupancy vehicles, and we would like to see the sort of federal program that would make it easier for cities to do more of that sort of thing. For example, a single block grant could permit funding the necessary highway alterations to make the exclusive land safe and workable, the peripheral park-and-ride lots to help make the high-occupancy concept attractive, and the additional cost of improved bus service to further increase ridership. The full cost of the project would be seen in a single agency's application for funding and the cost-effectiveness of such an approach (as opposed to building more freeway lanes or trying to serve mass transit needs in mixed traffic) could better be evaluated;
- At present, there appears to be widespread agreement that the ground transport aspects of air travel will require more attention over the next decade than the airside problems, with one or two site-specific exceptions. The present organizational structure gives no incentive to FAA and FHWA (Federal Highway Administration) to talk to one another about alternatives in terms of new airport construction versus expansion of existing facilities, nor about negotiating with FRA to support improved medium-haul rail service to decrease air travel requirements. An Intercity Transportation Administration would not only encourage, but require that sort of discussion to occur before funds were allocated.

We are aware that the approach we propose would require a great deal of effort and statesmanship to work. Typically, established interest groups prefer the status quo, with its certainty, to the uncertainty of change. However, we feel that the economic realities of 1977 require that we find a better way of doing business and we believe that the UTA/ITA/TTA approach offers such a way.

Sincerely,

Michael A. Powills, Jr. and David R. Miller

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## trans-action

Trans-action features responses from Mass Transit's readers from the postagepaid Action Cards and from letters that seek information on specific programs, projects or policies. Specific requests for advertised product information have been sent on to those sources. Readers' names and addresses are included here so that others may respond directly to the writers with further information. You are invited to use trans-action as your forum.

#### Paint company

Editor: Your article, Cleaning Up Graffiti, published on page 62 of your October, 1976 issue, listed the following names of paint companies who participated in the New York City transit project: Coatings for Industry, Debevoise Co., and Urecal Corp. Can you supply us with the full addresses of these companies so that we may write them, or can you request them to send us brochures and pertinent material on the paints they manufacture? From:

Lester S. Dickinson, Assistant Chief Engineer, City of Chicago, Dept. of Public Works, 320 North Clark Street, Room 600, Chicago, II. 60610.

MT trans-action: The information you requested is being forwarded to you by each of the companies you mentioned. For further information, readers may write to the following addresses: James M. Klotz, President, Coatings for Industry, Inc., P.O. Box 27097, Philadelphia, Pa. 19118; Sam Spiegel, The Debevoise Co., 74 20th Street, Brooklyn, N.Y. 11232; Gerald Rohl, Railco Engineering Corp. (Urecal Corp.) 108 Commerce Street, Longwood, Fl. 32750.

#### More information

Editor: I enjoyed Mr. (Harre) Demoro's article on the new Boeing streetcar (MT, September 1976), especially since I have just returned from Neuhausen, Switzerland where Toronto's new streetcars are under development. Would it be possible to obtain the titles of Mr. Demoro's published works and further information on his forthcoming book on PCC (Presidents' Conference Committee) cars? From: Mike Filey, 1978 CNE Centennial Committee, Exhibition Place, Toronto, Canada M6K 3C3.

MT trans-action: Harre Demoro, Mass Transit's technical editor, has three books to his credit: The Evergreen Fleet, history of Puget Sound ferries, Golden West Books, San Marino, Calif., 1971; Seattle Trolley Coaches, Interurbans, Los Angeles, 1971; BART at Midpoint, Interurbans, Los Angeles, 1971. A fourth book coauthored by Seymour Kashin, entitled The PCC Car, is due to be published in April 1977 by Chatham Publishing Co.

#### Stories wanted

Editor: Please write an article with tables showing gauges of all mass transit systems, propulsion units used, dimensions of cars, etc. From: John A. Godlewski, Engineer, Parsons Brinckerhoff Quade Douglas, Inc., One Penn Plaza, New York, N.Y. 10001.

Editor: Really enjoyed your (September 1976) issue—BART (Bay Area Rapid Transit Impact Study) particularly!! I would appreciate an article regarding the construction of Metro outside the D.C. area, and in particular, the interfacing of Metro with other modes of transportation (National Airport, Baltimore-Washington International airport, New Carrollton train station and Rockville commuter train station). From: James W. Rogers, Broker, J.W. Rogers Associates, 4210 49th Street, Box 364, Bladensburg, Md. 20710.

#### Missing decimal

Editor: One item of statistics that creates a little confusion in my mind is table 2 shown on the bottom of page 29 (MT, November 1976). There you have a column headed "Passengers Per Vehicle (Rush/Avr)." I assume that this means

rush hour and average. Please check the numbers you have for the automobile. If there are 1.4 passengers per vehicle during rush hour, how can you cram 19 people on the average? I feel that there is a decimal point missing there somewhere. From: G. Gagarin, President, Knorr Brake Corporation, P.O. Box 1905, Rockville, Md. 20850.

MT trans-action: You are correct. The column heading did refer to the rush hour average and a decimal point was missing. Instead of 19, the chart should have read 1.9 people on the average. Thank you for pointing out our typographical error.

#### **Tube for autos**

Editor: Enclosed I am sending you an article from the New York Times (Sunday, Nov. 21, 1976) about the engineering exhibit at Police Plaza in New York City. In it is, in my opinion, the most disgusting, wasteful picture that I have ever seen pertaining to New York history—a model of a proposed tube for midtown tunnel for automobiles. There is not enough money to pay the bonds nor is there any money to extend PATH (Port Authority Trans-Hudson Corporation) to Plainfield or the Newark Airport or even to build new parallel tubes to Penn Station so we can see commuter rail service to Rockland County or New Jersey North. But there is always more money or plenty of it to bring more automobiles, pollution and congestion via the new proposed midtown tube. New York City is bankrupt?, Who are they trying to kid? . . . [It is] a waste of the taxpayer's money and another brainchild for Detroit! From: Renaldo G. Kuhler, North Carolina State Museum of Natural History, Box 2760, Raleigh, N.C. 27611.

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# commuting

# Long distance trains used for intercity commuting

by David Young

The Great Illinois Dining Car War will not go down in the annals of American railroading or mass transit as one of the really significant events that shaped our times. In fact, few of the people involved really knew it was happening around them. Fewer know that the war is still officially declared; that the National Railroad Passenger Corp.'s latest action is simply a truce.

It began a few years ago as an innocent and good-intentioned move by Amtrak to upgrade service on its Chicago to St. Louis route by introducing its snappy new turbotrains. Contrary to the expectations of the people who run Amtrak from L'Enfant Plaza in Washington, the innovative new train was not greeted with a round of applause but a howl of indignation. The turbotrain, it seems, had no diner.

"The turbotrains were supposed to be snazzy, but they had problems," said Phillip W. Peloquin, director of intercity passenger service for the Illinois Department of Transportation. "The public was confronted with austere interiors and a cafeteria-style food service.

"People were accustomed to a higher level of service," he added. That statement surprised Amtrak officials, who recalled that the Chicago to St. Louis train used to be operated by the Gulf, Mobile, and Ohio Railroad—a line which had been trying to get out of the passenger business by alienating riders for years.

What the howls of indignation were about was the turbotrains' food service cars and their single microwave oven which forced patrons to wait for as much as 30 minutes while the lone attendant frantically pumped precooked and frozen meals in and out.

Amtrak's problem was that the train involved served Springfield, Ill., the state capital, and was frequented by General Assembly members and state officials.

Sentiment against the food service on the turbotrains ran so high that the General Assembly finally appropriated money and ordered the Illinois Department of Transportation to put a diner on the run. The department scoured the nation for an available diner, because Amtrak claimed it had no extras, and finally located one in a private car collection. Amtrak finally came up with a diner of its own, and early last year completely refitted the route with new Amfleet cars just off the assembly line.

"People still don't like the Amfleet food service, but they can live with it," Peloquin said. That would be very reassuring to Amtrak, except that Illinois officials are now carping about schedules on Amtrak's new "InterAmerican" train service between St. Louis and Chicago. It seems that the train is scheduled to arrive in Chicago too late to permit passengers to make connections with Burlington Northern and Chicago & North Western commuter trains. Passengers traveling from Texas to Chicago on the "InterAmerican" probably aren't worried about catching the North Western's 9:30 to suburban Arlington Heights, but state legislators who board the "InterAmerican" in Springfield are.

Those downstate passengers on Amtrak trains are very important to the Illinois Department of Transportation, which operates probably the most aggressive intercity commuter train network in the nation. Each day, the state subsidizes six intercity trains to and from Chicago in what is probably the nation's largest experiment in intercity commuter trains.

Detailed studies of Amtrak ridership have indicated that contrary to popular belief that agency's long-distance passenger trains are in fact short haul trains which happen to operate over very long routes. Although ridership patterns vary from route to route, it is evident that the bulk of Amtrak's ridership originates within 200 miles of major cities. The "Empire Builder," for example, operates daily over a 2,287-mile route between Chicago and Seattle. However, examination of ridership statistics show most riders originate in Chicago, Milwaukee, and Minneapolis (or towns within a 200-mile radius of those urban centers) on one end and within the State of Washington on the Othicago to New Orleans "Panama Limited" originates entirely within the State of Illinois, statistics show.

The phenomenon is a result, of course, of the automobile and airplane displacing the train as the primary long-distance intercity carrier. While trains long ago ceased to be a significant carrier for persons traveling 2,200 miles between Chicago and Los Angeles, they are considerably more important to persons traveling the 311 miles between Chicago and LaPlata, Mo.

What has emerged from this phenomenon is a group of short distance routes that for lack of a better word can be called intercity commuter trains. A few, like "The Blue Ridge" (also known informally as the Harley Staggers Special) between Washington and Martinsburg, W.Va., and the "Michigan Executive" between Jackson, Mich., and Detroit, are commuter trains pure and simple; they carry people to work in the morning and home in the evening. Others, like the network of trains developed since 1972 in Illinois, are intended to appeal to the infrequent commuter by providing service to rural areas beyond the normal commuting limits of urban centers. On these trains, a person living several hours from a major city might travel to the city one day a week for business, personal reasons, or pleasure.

Still others, like many of the Amtrak trains operating in the busy Northeast Cor-(Continued on next page)

## commuting

(Continued from page 29)

ridor between Boston and Washington and the Chicago to Milwaukee route apparently are a combination of both. These routes, among others, date long before Amtrak's creation in 1971—so the phenomenon is by no means new.

The Chicago to Milwaukee route, for example, was once the site of a highly competitive battle between two standard railroads (North Western and Chicago, Milwaukee, St. Paul & Pacific) and an interurban (Chicago, North Shore and Milwaukee), all of which strived to keep running times to less than 90 minutes to compete for passengers. Amtrak now operates up to six trains a day between those two cities, and an informal passenger survey indicates the patronage is largely a mix of daily commuters (between Racine, Wis., and Milwaukee) and pleasure and business travelers—the infrequent commuters.

Amtrak, itself the beneficiary of considerable infrequent commuting on its regular routes, has encouraged further intercity commuting through its 403b program which permits local jurisdictions to help

underwrite the cost of trains Amtrak normally would not operate. The program permits states to create new train routes or schedules by underwriting a portion of their cost.

The Amtrak Act originally allowed that agency to operate trains requested by the states if those states paid two-thirds of the trains' operating losses. The provision was amended by Congress early last year to require that the states pay half of the total cost, including a share of Amtrak's administrative costs. That was later amended to require that the states pay only half of the actual operating costs of the 403b routes. Amtrak officials believe the change will encourage states to keep existing 403b trains and request new ones.

Michigan, for example, has been aggressively involved in the 403b program for two years. It subsidizes three trains Amtrak does not have the money to operate on its own. Two of the three provide service to smaller Michigan communities which would not have such service had Amtrak been left entirely to its devices. The third is an intercity train linking Detroit with Buffalo

and New York City.

The Michigan Department of Highways and Transportation spends \$1.2 million a year keeping the three trains running. The best known of the three is the "Niagara Rainbow" to New York City, but as important to the state are two lesser known trains, "The Michigan Executive" and "Blue Water Limited."

"'The Michigan Executive' is a commuter train," said Jerome J. Rudnick, acting administrator of the state's intercity passenger division.

"The primary ridership is between Ann Arbor and Detroit, a distance of 40 miles," he said. The train originates in Jackson each morning at 6:15, arrives in Ann Arbor by 7 a.m., and Detroit by 7:50 a.m. The return trip in the evening begins at 5:15 p.m.

The Illinois program, however, has been expanded beyond even the Amtrak 403b provisions. That state subsidizes not only four Amtrak trains but two non-Amtrak routes operated by the Chicago, Rock Island & Pacific (CRI&P) Railroad. There are several things in favor of a successful pro-



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TRANSPORTATION
SYSTEMS

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gram in Illinois, which each year appropriates \$3.5 million for its trains, that might not be true of other states.

Probably the most important is Illinois' position as the nation's railroad center with tracks radiating in all directions from its two principal metropolitan areas—Chicago and St. Louis (a substantial portion of suburban St. Louis is east of the Mississippi River in Illinois). As a result, the state has always had excellent rail passenger service, both intercity and commuter. Benefiting this is the fact that the state has never been among the nation's leaders in highways. Busy Interstate 55 between Chicago and Springfield, for example, still has traffic signals, cross roads and railroad grade crossings.

As a result, Illinois in 1972 decided to begin a program of subsidizing Amtrak and the Rock Island to provide short haul intercity commuter service to all parts of the state. The combination of the state program and regular Amtrak routes has brought at least one train to every major Illinois city but one, Decatur.

The theory behind the state-subsidized trains, however, is to enable downstate residents to commute to Chicago for a day, then return home that night. In general, the schedules are designed to get the commuters to Chicago in time for a 10 a.m. business meeting, and to depart for home by 6 p.m.

The six trains include:

 "The Illini" (pronounced Ill-lye-nye) serves the University of Illinois at Champaign-Urbana 129 miles south of Chicago with a 7 a.m. train to the city each morning and a 4:20 p.m. return departure (Amtrak's "Panama Limited" offers a later departure at 6:10 p.m.)

- "The Black Hawk" operates over an 183-mile run to Rockford, the states's second largest city, and Dubuque, Ia., leaving in the morning at 6, and beginning the return trip at 5:15 p.m.
- "The State House" over which the dining car war was fought serves the state capital of Springfield 185 miles southwest of Chicago with 6:30 a.m. inbound and 5:45 p.m. return departures.
- "The Illinois Zephyr" leaves Quincy, Ill., 263 miles southwest of Chicago at 5:50 a.m. and departs Chicago on the return at 6:05 p.m. Its major stop is Macomb, Ill., site of Western Illinois University.
- The "Rock Island Rocket" provides service to the quad cities of Rock Island, Moline, East Moline, and Davenport, Ia., with 6:45 a.m. departures. The 181-mile return trip is at 5:35 p.m.
- The "Peoria Rocket" leaves each morning from that central Illinois city at 6:45 on its 161-mile trip to Chicago, and starts its return trip at 6:15 p.m.

The two "Rockets" are operated by the Rock Island. Although ridership has thus far been disappointing on three of the six trains, it has increased on the other three, state officials claim. Last year, the four Amtrak-operated trains combined had a 10 per cent increase, led by the "Statehouse" which had jumped 24 per cent following the introduction of the new Amfleet cars.

Six passenger trains, both Amtrak and state subsidized lines, provide short haul commuter service to all parts of Illinois. The intercity commuting service enables out-of-state and downstate residents to commute to Chicago in time for a 10 a.m. business meeting and depart for home by 6 p.m.

Although the state has yet to conduct detailed ridership surveys to determine who is using the service, it is obvious that on several runs students swell patronage, especially on weekends and holidays. "Our loadings at Macomb are 50,000 a year, primarily because of the college students. That's twice the population of the town," Peloquin said.

The weakest trains thus far have been the two operated by the Rock Island Railroad plus the Amtrak-operated "Black Hawk." September ridership figures show it was one of the worst in the nation with a daily average of only 89 patrons—44 per train. That contrasts unfavorably with the 57 per train daily average on the Champaign run, 91 to Quincy, and 112 to Springfield, and far behind the 370 per train average on the busy New York to Philadelphia Amtrak run.

The "Black Hawk" is cited by critics of the subsidy program as the main reason it ought to be discontinued in favor of state-subsidized intercity express buses. "A train is a hell of a lot more expensive to subsidize than a bus," said one state official, "especially when the subsidy is coming out at something like \$20 a passenger."

To bolster ridership on the "Black Hawk," the state has undertaken a marketing program to plug one-day trips to Chicago. One called "Chic Chicago" features an all day shopping excursion to the fashionable North Michigan Avenue shops, plus lunch at a downtown hotel—all for

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## commuting

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\$14.50 plus train fare. Peloquin said ridership on the train jumped 46 per cent during the campaign. Other tours feature Chicago museums and professional athletic events.

The Rock Island's two trains present more serious problems. The condition of the track on that railroad, which filed for bankruptcy in 1974, has deteriorated to such an extent that the running times of its intercity trains have been bloated by slow orders. One train last summer took six hours to make the 181-mile run to Rock

Island—an average speed of barely more than 30 miles an hour.

As a result of the deteriorated track and lengthened schedules, ridership has steadily declined. "When on-time performance went down, ridership went down," Peloquin said. About 51,500 persons rode the two trains in 1972 when they ran on schedule about half the time, but only 22,200 rode them last year when the on-time performance dropped to only 41 per cent even though the schedule was lengthened.

Unlike Amtrak, which has equipped its

runs with new Amfleet coaches, the bankrupt Rock Island uses aging coaches with a food service that is simply a porter dispensing sandwiches and soft drinks.

"Service went to hell and people quit using it," Peloquin said. The Rock Island train which used to make the run in three hours or less is now scheduled for a four hour and 35-minute trip and is often late, according to Anthony Haswell, managing director of passenger services for the rail-road

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## commuting

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To save the Peoria service the state is now considering a \$2 million program which would include turning operation of the train over to Amtrak. It would operate over the Atchison, Topeka, and Santa Fe Railroad to Chillicothe, III., then south over a new cutoff and refurbished Rock Island Railroad track to Peoria. That could cut the four hour and 25 minute running time in half, Peloquin believes. The train would then be competitive with the automobile or

"We have two million trips a year between those cities (Peoria and Chicago) and 1.7 million of them are by automobile. We're trying to get people out of their cars and onto the train," Peloquin said.

State officials are hopeful that slow running time on the Rock Island train can be cut as a result of a \$17 million track rehabilitation program being undertaken by the CRI&P. Although in reorganization, the federally-quaranteed loans will enable it to rebuild the worst sections of the mainline through Illinois, including upgrading of the roadbed, new ties, installation of welded

rail and central traffic control systems. With the track in better shape, state officials hope Amtrak can be induced to take over the train and equip it with new Amfleet

Illinois is involved in a race against time. however. The railroad has petitioned the Illinois Commerce Commission (ICC) to discontinue the two trains, claiming that although the state provided \$1 million in subsidies, the two still lost \$1,700 a day. The state has thus far refused to subsidize the entire operating loss, but has opposed the Rock Island's petition before the ICC.

Meanwhile, the state has gone ahead with a \$1.1 million program to upgrade most of the smaller stations throughout the state. Amtrak earlier refurbished Chicago's Union Station, hub of the system.

"We are trying to dispell the illusion that trains are old broken down relics," Peloguin said. "Once we get people back on the train, we think they'll stay."

Contributor David Young is Transportation Editor of the Chicago Tribune, where he formerly was an investigative reporter.





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