

Rail Ridership, Service, and Markets in the Keystone Corridor

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During the 1980s ridership on Amtrak's Keystone trains between Philadelphia and Harrisburg declined by 67 percent. The reasons for the decline and the changing market for rail travel in the corridor are discussed. Whereas service cuts, increased travel times, and higher fares undoubtedly played a role, patronage shifts to an expanding local (Southeastern Pennsylvania Transportation Authority) service on the eastern end of the line also had a significant effect. Amtrak's markets were analyzed and segmented by geography and time of day. In 1983, when all local Philadelphia service terminated at Paoli, 48 percent of Amtrak passengers were traveling only on the eastern portion of the line (Philadelphia to Parkesburg), but by 1990 this share had declined to 16 percent. During the same period the share of trips between the Philadelphia area and Lancaster or Harrisburg increased from 48 to 78 percent. Most of the regular Amtrak commuters to Philadelphia are now coming from Lancaster County, which is beyond the reach of local service. These indications are all consistent with the conjecture that a patronage shift has occurred. However, this raises the questions of whether markets on the western end of the line (Lancaster and Harrisburg) are adequately served and what the proper role for Amtrak in the corridor is. One or two new stations would help tap a growing market in eastern Lancaster County. In addition, it may now make sense to restructure the service by transferring operation of the Keystone trains to a state or regional agency.

Philadelphia-Harrisburg passenger trains, collectively named the Keystone Service, have been operated by Amtrak since 1971 with financial assistance from the Commonwealth of Pennsylvania. The service was originally part of an extensive network of passenger trains operated by the Pennsylvania Railroad (PRR) and was continued by the Penn Central Railroad after it was formed from the merger of the PRR with the New York Central in 1968. Before the Amtrak takeover in 1971, service to Harrisburg consisted of 10 weekday trains, 8 Philadelphia-Harrisburg trains supplemented by 2 long-haul trains, in each direction. As of early 1992, service consisted of seven weekday trains in each direction [six local trains plus the Pennsylvanian (New York-Pittsburgh)] and five on weekends and holidays. Only trains with traffic rights between Philadelphia and Harrisburg are counted. Information in this paper is current to May 1992.

As recently as 1980, more than 1 million passenger trips per year were carried by the Keystone trains, but throughout most of the 1980s ridership fell steadily, reaching 317,000 in 1989. Several reasons for the loss of ridership have been suggested, including service cuts, patronage shifts to an expanding local service operated by the Southeastern Pennsylvania

Transportation Authority (SEPTA) on the eastern end of the line, and changing markets for rail travel. The quality of service and less-than-inspired marketing have also received their share of the blame.

This paper examines some of the reasons for the ridership decline, the changing market for rail travel in the corridor, and the resulting impact on ridership since 1980 and suggests institutional changes that could place the service on a sounder footing. It is part of a larger study that the Delaware Valley Regional Planning Commission (DVRPC) conducted for the Pennsylvania Department of Transportation (PennDOT). In that study, DVRPC was asked to assess the condition of the line, examine service patterns and ridership, determine needed improvements, and explore management and operational options for improving the service. Technical assistance was provided by R. L. Banks & Associates, Inc.; Main Line Management Services, Inc.; LTK Engineering Services; and Canby Associates.

Amtrak serves 14 stations on the 167-km (104-mi) line between Philadelphia (30th Street) and Harrisburg. Trains use the Northeast Corridor for the first 2.3 km (1.4 mi) out of 30th Street Station and then diverge at Zoo Interlocking to head west. Figure 1 shows the line with stations and connections served by Amtrak. The PRR electrified the 32 km (20 mi) between Philadelphia and Paoli for local commuter service in 1915 and extended the electrification to Harrisburg in 1938 as a spur to its New York-Washington corridor. This permitted operation of the 600-series trains, as the Harrisburg locals are designated, into Penn Center Station in central Philadelphia, as well as through service to New York. (The underground Penn Center Station, also known as Suburban Station, provides better access to the heart of the city's office employment than does 30th Street Station, which is located west of downtown.) Though SEPTA uses electric propulsion for all of its trains, Amtrak's use of electric power is declining. Amtrak ceased operating the Keystone trains into Penn Center in 1988, terminating instead at 30th Street Station, and now all but the New York-Harrisburg trains routinely use diesel locomotives for traction power. Electric locomotives are used only as backup power. There is some concern about Amtrak's long-term commitment to maintaining electrification.

Two other Amtrak trains also operate in the corridor: the Broadway Limited between New York and Chicago and the Keystone State Express between New York and Harrisburg. The first does not have traffic rights within the range of interest, and the second does not stop at 30th Street Station in Philadelphia. Neither will be considered further in this paper.

In addition to the Harrisburg and long-distance trains, the PRR also operated local suburban trains oriented toward Phil-

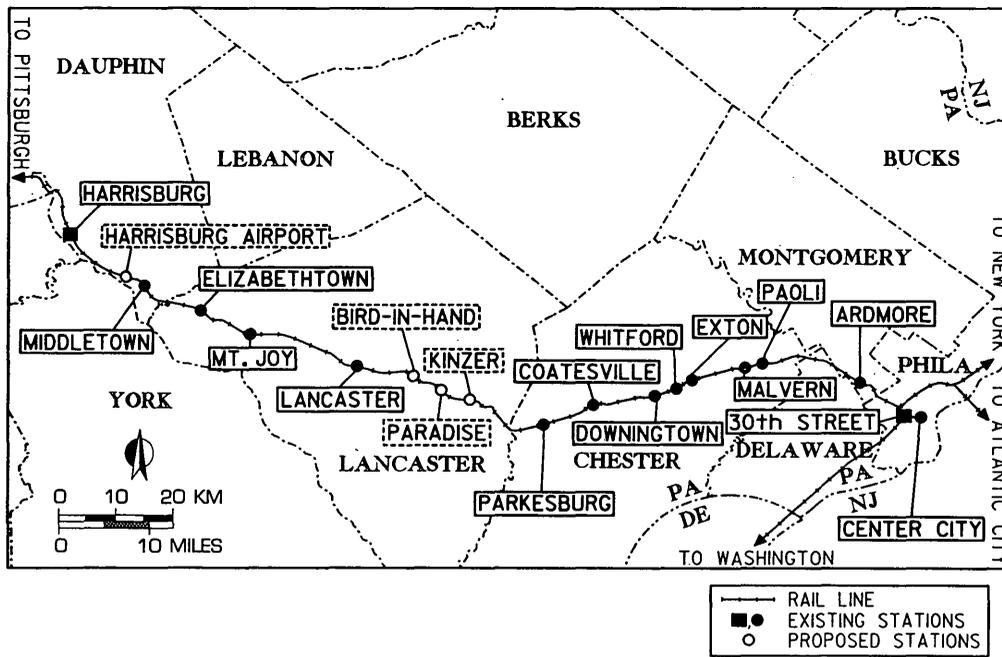


FIGURE 1 Philadelphia-Harrisburg rail line. Map shows stations and connecting lines served by Amtrak. Penn Center (Suburban Station) has not been served by Amtrak since 1988, though Amtrak tickets are honored on connecting SEPTA trains. Open circles indicate new stations proposed for eastern Lancaster County and Harrisburg Airport.

adelphia [milepost (MP) 0] at the eastern end of the line. Most of these trains used Paoli [MP 20 (32 km)] as their western terminus, though a few continued as far west as Downingtown [MP 32 (52 km)]. After SEPTA was formed in 1964, the PRR received a public subsidy to support operation of these trains. This arrangement continued under subsequent Penn Central and Conrail operation until SEPTA took over direct operation of the service at the beginning of 1983. SEPTA initially operated trains only as far as Paoli, but service to Downingtown was restored in 1985 and extended west to Parkesburg (MP 44) in 1990. Since 1984 SEPTA has designated this local service as Route R5.

Rail service in this corridor serves a number of travel markets. There are two separate commuter markets, one oriented eastward toward Philadelphia and the other westward toward Harrisburg. Since the line connects the state's largest city with its capital, a significant number of business trips are generated. Many members of the Amish community, who do not own automobiles and are centered in Lancaster County, rely on the train to meet their intercity travel needs. Several schools and universities are located within walking distance of stations, making rail travel easy for students and faculty. Discretionary markets include visitors to Philadelphia, Lancaster, and Harrisburg, as well as local residents needing access to the national Amtrak and airline networks.

AMTRAK SERVICE

Amtrak has published monthly reports of ridership by route since 1978. Ridership, service, and fare trends since 1980 for

the corridor are given in Table 1. The years shown are fiscal years ending on September 30 of the indicated year. The values for service levels, average speed, and fares are those in effect on January 1 (winter timetable).

Frequency of service, travel time, and cost are important parameters affecting travel decisions, although other factors, such as service reliability and passenger comfort, are also clearly important. The ridership trend is shown in Figure 2. Generally the trend has been one of falling patronage, though ridership does appear to have bottomed in 1989. The first half of the decade showed an average annual loss of 6.2 percent, and in the second half the loss rate increased to 18.4 percent per year, notwithstanding the bounce back at the end. (These are statistical averages reflecting the slope of the best fit straight line drawn through the points and do not depend solely on the end points chosen.)

Changes in service levels since 1980 are shown in Figure 3. Longer-distance trains with traffic rights in this range were included, because they help attract riders to this market. The value given for daily round-trips represents a weighted average taken over 1 week and was obtained by counting the number of one-way trips (in both directions) made between Philadelphia and Harrisburg and dividing by 14. The largest single change occurred in January 1986, when Amtrak reduced the number of daily round-trips from 9.5 to 6.6 (from 11 to 7 weekday round-trips). This service reduction of 30.5 percent coincided with the steepest decline in ridership observed during the decade (45.3 percent from 1985 to 1987). At the same time, SEPTA reinstated commuter service to Downingtown at fares lower than those charged by Amtrak. This siphoned off some of the ridership to and from stations in Chester County west of Paoli.

TABLE 1 Amtrak Ridership and Service Trends

Fiscal Year	Ridership	Daily Round Trips	Avg. Speed (km/h)	Fare	
				One-Way	Round Trip
1980	1,024,700	9.7	92.7	\$8.25	
1981	895,300	11.1	92.9	\$10.00	
1982	815,600	11.1	91.2	\$12.10	\$20.30
1983	807,800	11.1	92.1	\$13.75	\$21.00
1984	741,747	9.4	93.2	\$14.75	\$22.50
1985	756,616	9.5	90.8	\$14.75	\$22.50
1986	578,595	9.5	89.0	\$15.25	\$23.00
1987	413,711	6.7	90.1	\$16.00	\$24.00
1988	349,806	6.6	89.8	\$16.00	\$24.00
1989	317,443	6.6	83.8	\$16.50	\$25.00
1990	334,963	6.6	83.7	\$17.00	\$25.50
1991	330,619	6.6	84.2	\$17.00	\$26.00
1992	305,222	6.6	85.8	\$18.00	\$27.00
Average Annual Change ^a					
1980-85	-6.15%	-1.69%	-0.24%	10.41%	
1985-90	-18.42%	-8.78%	-1.66%	2.69%	2.50%

^aAverage annual change was calculated by using trend analysis to determine the slope of the best fit straight line drawn through the relevant points. This was then converted to a percentage value by using the average of the annual values over the time span as a base.

Between 1980 and 1990, average speeds, as calculated from the scheduled time required to traverse the entire length of the line, declined by approximately 9 km/hr (5.6 mph). This reduction only adds about 10 min to the schedule, which by itself probably has an insignificant impact on ridership. However, average speed is also a measure of the condition of the track structure and the quality of the ride, and this affects the marketability of the service. Although Amtrak has upgraded some sections of track, in general, investment has not kept pace with depreciation.

Fares increased steadily during the same period, but the rate of increase slowed after 1984. Between 1980 and 1984 Amtrak raised one-way fares at an average rate of 15 percent

per year, although the impact on ridership was moderated by the introduction of round-trip excursion fares (approximately 1.5 times the one-way fare) in 1982. Even so, ridership fell by 27.6 percent in the first 4 years of the decade. Since 1984, the rate of increase has fallen below the inflation rate, and at this point it probably has only slight effect on ridership.

Schedule reliability is shown in Figure 4. The graph is based on monthly averages of on-time performance for Keystone trains for the fiscal years 1985 through 1991. Though significant fluctuations from month to month are evident, the general trend indicates declining performance in the early years, reaching a nadir in November 1987. Performance improved markedly after schedule times were lengthened and has re-

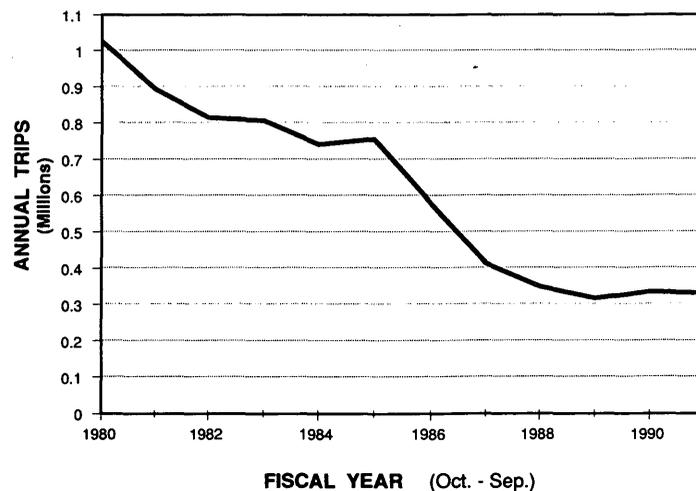


FIGURE 2 Annual Amtrak ridership reported for Keystone trains.

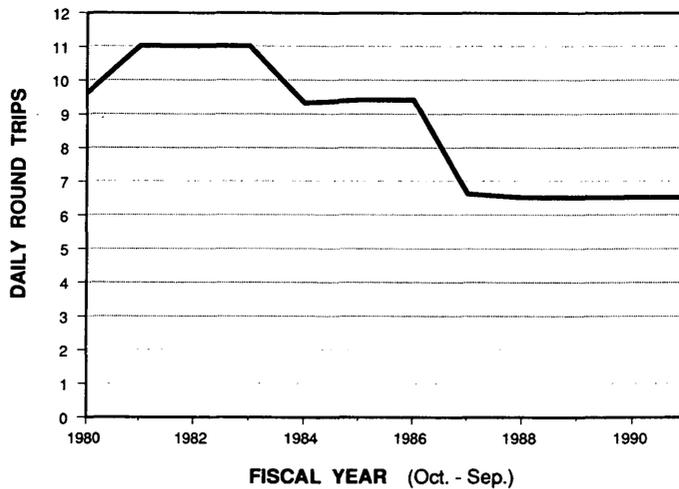


FIGURE 3 Average number of daily round-trips by all Amtrak trains operated on January 1 of indicated year. Trains without traffic rights in the corridor have been excluded.

mained on a relatively high plateau since. Consistency has also improved, with smaller fluctuations observed over the last 2 years. Currently, these trains rank among Amtrak's most reliable, achieving 95 percent on-time performance in most months.

LOCAL SERVICE

In 1980 Conrail operated a single weekday round-trip for commuters between Downingtown and Philadelphia under contract with SEPTA, which was discontinued when SEPTA took over direct operation of commuter trains in January 1983. For the next 2 years Amtrak was the only carrier providing passenger service west of Paoli. In March 1985 SEPTA reinstated service as far as Downingtown with two weekday round-trips. Service was subsequently expanded in stages,

with midday and Saturday service added in 1988 and a route extension to Parkesburg introduced in April 1990. In spring 1992, SEPTA operated 13.5 round-trips beyond Paoli on weekdays. Most use Downingtown as their western terminus, with three trains traveling to/from Parkesburg. Figure 5 shows the trend for all trains combined. Only SEPTA trains running west of Paoli are included. Increases in SEPTA service have more than negated Amtrak's cuts for those traveling on the eastern half of the line on weekdays. However, SEPTA operates only as far as Downingtown on Saturdays, and there is no service west of Paoli on Sundays or holidays. For those traveling to Lancaster or Harrisburg or traveling on Sundays and holidays, the cut in Amtrak service is very real.

SEPTA's annual survey of regional rail riders provides data on station activity, which can be used to estimate ridership on specific line segments. Estimates of SEPTA ridership were obtained by totaling the passengers boarding or alighting at

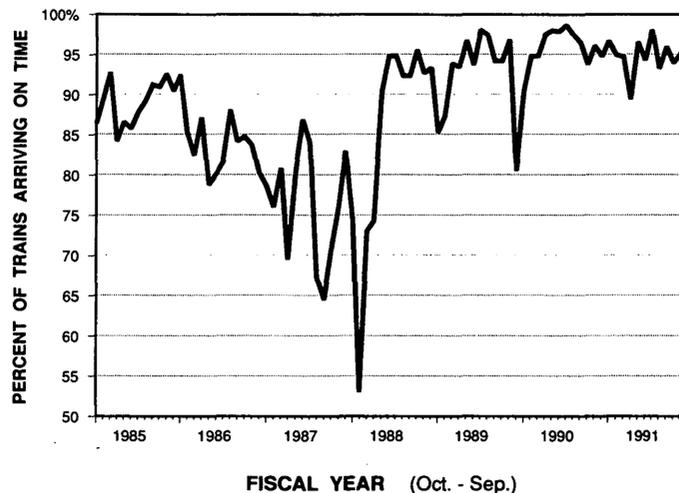


FIGURE 4 Schedule reliability—monthly percentage of trains arriving at their final destination within 15 min of scheduled time.

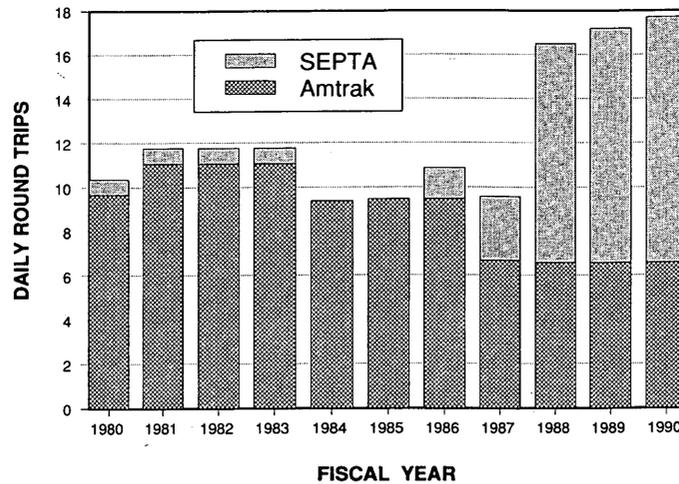


FIGURE 5 Total number of daily round-trips operated by Amtrak and SEPTA. Service is that in place on January 1 of indicated year and is averaged over the week. Only trains traveling west of Paoli are counted.

stations west of Paoli and using a factor of 254 to convert from average weekday to annual ridership. Figure 6 shows that though total ridership on the line has remained relatively constant, there has been a dramatic shift from Amtrak to SEPTA. Riders have responded positively to increases in service, and in 1990 SEPTA carried approximately 580,000 trips. This brings total line ridership to more than 900,000, the highest level since 1981. It appears that at least a portion of Amtrak's ridership decline can be attributed to passengers switching to a cheaper SEPTA service.

To test this conjecture, Amtrak's ridership was divided into ranges using origin/destination data available from the Amtrak Passenger Accounting System. Retrieving the data involved constructing a composite trip table from the microfiche records of three routes: Philadelphia-Harrisburg (Keystone), New York-Harrisburg, and New York-Philadelphia-Pittsburgh.

Thus, the data include riders on long-distance trains, provided their trip is confined to the Philadelphia-Harrisburg segment, as well as those on the Keystone trains. To avoid the effort required to search 12 sets of monthly records for each year, September ridership was used to represent travel behavior for the year.

Results are given in Table 2. Range I comprises passengers whose entire trip lies within the Philadelphia-Paoli commuter territory. Range II counts riders who travel west of Paoli but who do not go beyond Parkersburg. Range III includes those on the western end of the line (Lancaster-Harrisburg), and Range IV encompasses passengers traveling between the eastern and western halves of the line (i.e., those traveling across the Chester-Lancaster county line). Riders whose entire trip lay east of Parkersburg constituted almost 48 percent of all Amtrak passengers on the line in 1983, but by 1990 their share

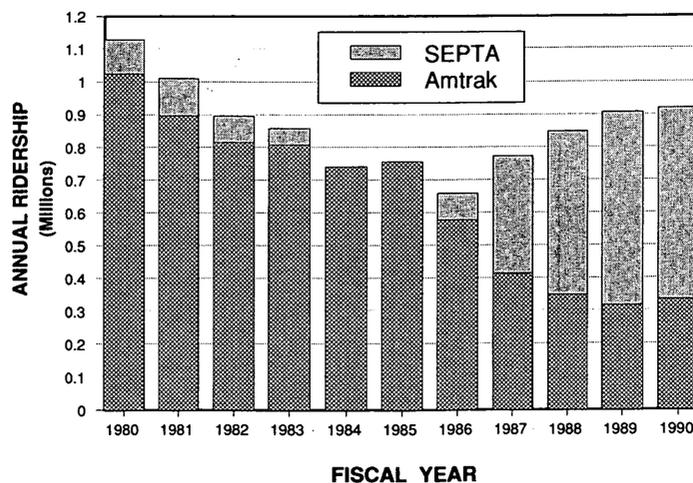


FIGURE 6 Total Amtrak and SEPTA ridership west of Paoli. Amtrak's fiscal year ends on September 30. SEPTA ridership was estimated from on-off station counts taken in October of the preceding year.

TABLE 2 Ridership Trends by Geographic Range

	Range Share ^a				Total
	I	II	III	IV	
Sep 1983	4.6%	43.2%	4.7%	47.6%	100.0%
Sep 1984	2.4%	27.7%	6.9%	63.0%	100.0%
Sep 1985	2.6%	29.6%	6.8%	61.0%	100.0%
Sep 1986	2.3%	28.4%	6.6%	62.8%	100.0%
Sep 1987	2.2%	19.4%	6.3%	72.0%	100.0%
Sep 1988	2.0%	16.4%	6.4%	75.1%	100.0%
Sep 1989	2.2%	14.3%	6.1%	77.4%	100.0%
Sep 1990	2.5%	13.5%	6.0%	78.0%	100.0%

^aRanges are defined as follows:

- I - Philadelphia to Paoli
- II - Philadelphia to Parkesburg, exclusive of Range I
- III - Lancaster to Harrisburg
- IV - Trips between Ranges II and III

had declined to 16 percent. In 1983, less than 48 percent of the line's business was for trips that crossed the Chester/Lancaster county line, but in 1990 these trips constituted 78 percent of the market. Local trips at the Harrisburg end (i.e., west of Lancaster) rose slightly, from 5 to 6 percent. It appears that Amtrak's market has indeed changed from one that handled significant number of local riders at the Philadelphia end to one that focuses on attracting through passengers traveling longer distances.

MARKET SEGMENTS

A detailed analysis of Amtrak ridership by train and by day gives some basis on which to segment the market, at least into broad categories such as commutation, weekday discretionary, and weekend trips, and by direction (whether oriented toward Philadelphia or Harrisburg). Amtrak's passenger accounting system provides detailed trip information for each train, though some assumptions must be made to account for passengers traveling on passes. A detailed analysis of ridership was made for the months of September 1983 and September 1990.

The Philadelphia commuter market is served by two weekday round-trips, which in September 1990 carried an average daily combined ridership of 257. The ridership never fell below 187 during the month. The latter number was used to estimate the size of the existing commuter market (round-trips) to Philadelphia, and anything above the minimum was assigned to the weekday discretionary market.

The commuter market to Harrisburg is served by two westbound trains in the morning, but only one eastbound in the afternoon. In 1990 these trains carried an average of 115 round-trips on weekdays. Following the same logic used for Philadelphia, the Harrisburg market was estimated at 81.

The discretionary market consists of the remaining riders during the rush hours plus those at midday and in the evening, properly sorted by direction. Trips destined to Philadelphia were assumed to be eastbound in the morning and westbound in late afternoon and evening, with the midday trips apportioned to provide balance. Trips in the reverse direction were

assigned to Harrisburg and Lancaster. Lancaster is a significant travel destination, as well as an important origin, and now generates more Amtrak passenger activity than does Harrisburg. Average weekday discretionary round-trips were estimated at 152 toward Philadelphia and 138 toward Harrisburg.

For travel purposes the weekend starts at midday Friday and continues through Sunday evening. Since Friday is the heaviest travel day of the week, the excess above the weekday average was considered as part of the outbound segment for weekend trips. Trips taken on Sunday were assumed to be return legs, and Saturday trips were apportioned for balance. This methodology assigned 916 weekend round-trips to the market oriented toward Philadelphia and 1,064 toward Lancaster and Harrisburg.

The preceding analysis included neither one-way trips and trips with external origins or destinations nor round-trips that were not completed within 1 day or on a weekend. It did, however, provide a reasonable basis for a broad market segmentation and is supportable from the existing data base. It is also possible to analyze data from earlier periods to obtain information on market trends. Table 3 compares the 1990 markets with those found 7 years earlier in 1983. Since service and travel patterns repeat on a 7-day cycle, trips were tabulated on a weekly basis. Three trends are immediately noticeable. First, the market oriented toward Philadelphia declined from 73 to 57 percent of the total. Second, the commuter market declined from 42 to 35 percent. Third, weekend riders in 1990 made up 26 percent of the total, up from 15 percent 7 years earlier. These are all consistent with the conjecture that the expansion of local SEPTA service to Parkesburg has captured most of the short-haul market at the eastern end of the route.

Not all of the decline in Amtrak ridership can be attributed to the expansion of local SEPTA service. Although most of the decline occurred on the eastern half of the line, ridership oriented toward Harrisburg, which is not served by SEPTA, went down by 24 percent between 1983 and 1990. Reduced service certainly accounts for some of the loss, and this poses the core problem. A competing service captures a portion of the market served by a route and this forces a reduction in

TABLE 3 Ridership Trends by Market Segment

Orientation	Market Segment	1983		1990		Change 1983-90
		Weekly One-Ways	Market Share	Weekly One-Ways	Market Share	
Philadelphia	Commuter	5,230	32.5%	1,870	24.7%	-64.2%
	Discretionary	5,460	33.9%	1,520	20.1%	-72.2%
	Weekend	1,124	7.0%	916	12.1%	-18.5%
	Subtotal	11,814	73.3%	4,306	57.0%	-63.6%
Harrisburg	Commuter	1,570	9.7%	810	10.7%	-48.4%
	Discretionary	1,500	9.3%	1,380	18.3%	-8.0%
	Weekend	1,228	7.6%	1,064	14.1%	-13.4%
	Subtotal	4,298	26.7%	3,254	43.0%	-24.3%
Line Total		16,112	100.0%	7,560	100.0%	-53.1%

service, because there are no longer enough passengers to support the former level. This in turn reduces ridership in markets not served by the new operator.

DEMOGRAPHICS

Overall, the population along the Keystone Corridor did not grow rapidly, increasing by only 2 percent in the decade between 1980 and 1990. Indeed, Philadelphia and Delaware counties lost population, and Dauphin County at the western end only matched the overall nominal rate of 2 percent. Most of the growth is now occurring along the middle of the corridor, with Chester and Lancaster counties increasing by 19 and 17 percent, respectively. This is one reason why Lancaster now exceeds Harrisburg in station boardings, even though little white collar employment lies within easy reach of the station. The residential catchment area for Lancaster grew by 13 percent, in contrast to 4 percent for that surrounding Harrisburg. Another reason for Lancaster's higher ranking is its location a significant distance south of the Pennsylvania Turnpike, whereas Harrisburg is served directly by the turnpike. Thus, the competitiveness of the train vis-à-vis automobile and bus is improved at Lancaster for travel eastward. Similarly, Harrisburg is much better served by air than is Lancaster.

Much of Amtrak's market for work trips toward Philadelphia now comes from Lancaster County. Residents of Chester County can use a substantially cheaper SEPTA service, and Dauphin County is too far removed from Philadelphia to generate a significant number of work trips. Though Harrisburg comprises a smaller job market, the potential commuter market at the western end of the line is growing faster. The population with good access to stations at Middletown, Elizabethtown, Mount Joy, and Lancaster grew by 13 percent between 1980 and 1990, and downtown employment in Harrisburg is growing faster than that in Philadelphia.

Station spacing along the line is very uneven, varying from 1.3 to 38.3 km (0.8 to 23.8 mi). The largest gap is between Parkesburg and Lancaster, essentially leaving eastern Lancaster County, with its Amish community and tourist attractions, unserved. Several alternatives have been considered to fill the gap. The Strasburg Railroad, a steam-powered tourist railroad operating on a 6-km (4-mi) branch line, has indicated

that it would like to participate in a joint station at Paradise. The location is convenient to US-30 and almost bisects the unserved gap. An alternative is to trisect the gap by adding two new stations, at Kinzer and at Bird in Hand. This would improve local coverage but would have reduced tourist potential. In any event, one or two new stations in this gap could strengthen the market for rail travel. A new station at Harrisburg International Airport, replacing the existing Middletown station, would provide both intermodal convenience and better access to rail from Hershey and other communities east of Harrisburg.

RESTRUCTURING SERVICE

Whereas Amtrak has reduced its Philadelphia-Harrisburg service, SEPTA has expanded its service in Chester County to meet a growing commuter market. This leaves open the question of whether other markets, such as work trips to Harrisburg, business travel, and trips originating from eastern Lancaster County, are adequately served. It also raises the question of what roles Amtrak and SEPTA should play in serving these markets.

Amtrak currently owns the Philadelphia-Harrisburg rail line, as well as the stations, and operates the Keystone trains, as well as other longer-distance trains, over it. There is no inherent reason why this has to remain the case. Amtrak's primary mission is to provide intercity rail passenger service nationwide, and the Keystone Service is not ranked very high on its scale of priorities. (Amtrak has traditionally viewed the service as primarily a commuter operation and therefore inconsistent with its basic mission.) Other institutional arrangements are possible that would increase the level of local control and provide the capital investment needed to improve service.

Three separate functions must be considered when looking at alternatives to Amtrak service: line ownership, policy management, and operations. If ownership of the line were to change, Amtrak would continue to operate its longer-distance trains (such as the Broadway Limited and Pennsylvanian) over the line, although it would then have to buy trackage rights from the new owner. Policy management refers to the power to set policy and make decisions at the broadest level.

The most likely alternative to Amtrak ownership is for control of the line to be transferred to the state of Pennsylvania, either PennDOT or an entity established for the purpose. The state would then be responsible for capital investment and maintenance, but it would have control of the level and timing of these investments, and it could ensure that the interests of corridor travelers were protected. If the state legislation that created SEPTA and that limited its service area to the Philadelphia area were amended, SEPTA could possibly acquire the line, though the resources for its acquisition and improvement would still have to come from the state and other sources. SEPTA has the capability in place to manage and maintain rail lines. Since in either case financial responsibility would reside largely with the state, state ownership should be seen as the principal alternative to Amtrak ownership.

If any changes in the institutional arrangements are made, they should include passing control of policy decision making to the state, since it is the people of Pennsylvania that have a primary interest in upgrading the service. Though day-to-day management would be provided by whoever operates the service, the state should retain the right to set general policy regarding service, fares, promotion, and capital investment. The state would also maintain oversight control over the operator.

Even if Amtrak does not own the line and control the Keystone Service, it could still contract to operate the trains. There is precedent for Amtrak operation of local trains under contract elsewhere in the Northeast Corridor. Another possibility is to have SEPTA operate the trains to Harrisburg as an extension of its local service to Chester County. SEPTA already operates more train-kilometers on the line than does Amtrak. The service could also be put out to bid for operation by an independent contractor, or the state could establish an agency to operate the trains, as was done in New Jersey. However, by operating only a single line, neither the state nor an independent contractor would be able to enjoy an economy of scale. It appears that Amtrak and SEPTA may be the only realistic option for operating a state-controlled Keystone Service.

SUMMARY

The Keystone Corridor serves several distinct markets, including commutation at each end, business and discretionary

travel to Philadelphia and Harrisburg, and connections to points beyond. The corridor has experienced declines in ridership and service over the past decade, although a portion can be attributed to an expansion of SEPTA local service to Chester County. An analysis of origin-destination data shows that significant shifts in markets have indeed occurred. Most of the Philadelphia commuters have moved to SEPTA, with the result that through trips now constitute a larger share of Amtrak's market. Other trends are also apparent. The share of Amtrak trips oriented toward Lancaster and Harrisburg has increased from 27 percent in 1983 to 43 percent in 1990, and a larger share of Amtrak's passengers are now traveling on weekends, when SEPTA has less service.

Population growth is now occurring mainly in the middle of the corridor, namely in Chester and Lancaster counties. Partly because of this growth, Lancaster now boards more passengers than does Harrisburg, and additional ridership could be captured by adding one or two new stations in eastern Lancaster County.

Though rail markets at the western end of the corridor and for through trips could be stimulated with better service, Amtrak is constrained by limited resources and is unable to make the needed investment. Little improvement is likely under current institutional arrangements. A restructuring of these arrangements would provide greater local control and responsibility. A rationalization of service would increase the options available to travelers and avoid disruptive competition between local and through trains. Only through a new institutional arrangement, dedicated to planning, operating, and aggressively promoting a customer-oriented service, can the full potential of linking the state's largest city and its capital with a fast, reliable, comfortable, attractive, and affordable train service be realized.

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