

STATEMENT OF JOHN M. SULLIVAN, ADMINISTRATOR OF THE FEDERAL RAILROAD
ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON INTERSTATE AND FOREIGN
COMMERCE, SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE, CONCERNING
RAIL PASSENGER CORRIDORS

February 28, 1980

I am pleased to testify today about the results of our joint Amtrak/DOT study-- performed at your request--concerning upgrading of passenger service in higher density, short-haul markets where there may be some payoff. Last year at this time, the Department and Amtrak were here before this same Subcommittee proposing to discontinue a number of trains which clearly had little hope of either saving energy or returning other benefits for the large subsidies and capital required to operate them. Today, however, we are talking about a somewhat different set of circumstances. Many of the corridor services studied offer more rail competition with buses, air transportation and automobile travel than the routes under discussion last year. At the same time, we are now talking about major new investments rather than a rationalization of an existing network. Both differences are significant.

Let me explain further our concerns. First, our study evaluates potential rail passenger service financial and operating performance in thirteen relatively short distance, high-density markets. The principal bench-marks against which these markets have been measured are the criteria established in the Amtrak Reorganization Act of 1979. These criteria were useful for the purpose of weeding out the poorest performers and reallocating resources within the system of current operations. They are, however, not adequate as a means of judging the prudence of undertaking major new investments in facilities and improvements in service. True, compared to Amtrak's existing operations these markets compare favorably. To the extent we need to improve our intercity passenger transportation system, however, our objective should be to make truly the most efficient use of our limited financial resources. In doing so, we must consider the cost-effectiveness of a wide variety of potential improvements, not just improvements to

passenger railroad service. It was not possible to perform this type of alternatives analysis in the brief time available to us, but before any significant commitment of Federal financial resources to upgraded rail passenger service is contemplated, sound public policy requires that such analyses be done.

Second, although Amtrak's principal target for diversion is the intercity automobile traveler, we have found that intercity bus and air travelers could possibly be diverted to corridor-type rail passenger operations. Although also the beneficiaries of public assistance in one form or another, neither the airlines nor the bus industry receive, on a per passenger or per passenger-mile basis, anywhere near the level of assistance provided to Amtrak. Until the effects on intermodal competition of Amtrak's expanding corridor-type operations can be evaluated, I believe we should be cautious in using public funds to influence the competitive balance in these markets.

In view of the many competing demands for Federal resources and the significant uncertainties associated with the results of this study, I caution that the study does not yet establish a basis for an Administration commitment to undertake any new corridor projects.

Our knowledge of these corridors and their potential simply does not furnish us with an adequate information base for making a decision as to which, if any, should go forward. We have, however, learned several lessons on the Northeast Corridor. First, and foremost, is the extreme importance of advance planning and proper scheduling before any work is undertaken. Directly related to this is the need to develop priorities with regard to potential projects. Undertaking work on many corridors simultaneously would strain seriously the trained technical and economic resources available.

A careful reading of the study confirms a lesson which I believe we could have foreseen from the beginning. The real need in many of these corridors is for relatively conventional 79 mile per hour service at higher frequencies. In many cases, this type of service should be demonstrated initially to determine whether there really exists passenger demand potential without initiating a great deal of investment in right-of-way and in stations.

According to the results of the study we have recently transmitted there is at least some basis for thinking that more and better service can be provided in some of the locations studied while improving Amtrak's revenue to cost ratio. However, the study has also revealed that substantial additional capital investment and operating subsidies would be required. Thus, it is essential that any incremental benefits attributable to potential service improvements be weighed against any incremental investments that may be necessary.

I will now discuss the results of our study by addressing the specific questions that we were asked in the October 10 letter requesting this study, and then address some of the policy implications of interest to this Subcommittee. Let me first emphasize that in the time available we have not been able to do a thorough study of either the costs or the markets, and discussions with the railroads that own the track would need to occur before any estimates could be considered final.

QUESTION 1 WAS TO ASSESS THE POTENTIAL DEMAND FOR SERVICE IN EACH CORRIDOR GIVEN DIFFERENT ASSUMPTIONS ABOUT ENERGY AVAILABILITY AND COST

The first point I want to make in answer to this question is on the overall magnitude of demand in relation to that of the Northeast Corridor. As an example, the San Diego to Los Angeles corridor was the best performing of these corridors. Figure 4-3 in the study (attached) shows the relative magnitude of demand in the two corridors today. It is clear that the

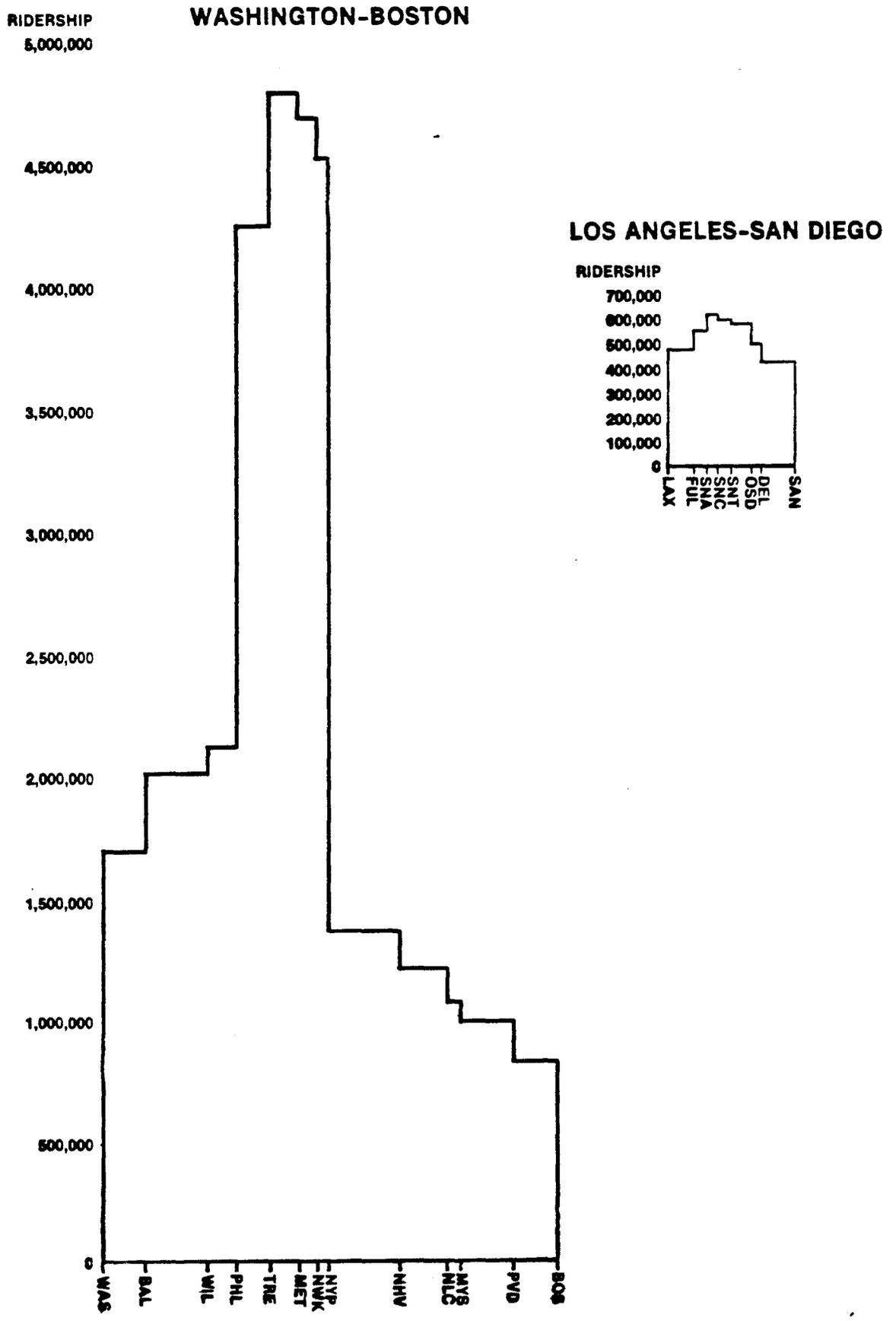


FIGURE 4-3
COMPARISON OF PASSENGER LOADING OF NORTHEAST CORRIDOR
WITH THAT OF MOST HEAVILY LOADED CORRIDOR IN THIS STUDY

passenger volume on the highest part of the San Diego - Los Angeles is considerably lower than even on the lowest volume point on the NEC. By 1985 the NEC volume is expected to increase overall by about 80 percent and the San Diego/Los Angeles corridor volume would increase by about 120 percent if the corridor were upgraded to 110 mph maximum speed with double today's frequency. In 1985, even with a significant upgrading of speed and frequency, the San Diego/Los Angeles volume would still be on the order of only 20 percent of the NEC volumes.

The projected volume in the other corridors is only from 30 to 70 percent as high as that of San Diego - Los Angeles assuming the same type of service, and would therefore be much lower than in the NEC. I say this to keep things in perspective. The NEC has and will have by far the highest passenger density, and deserves the highest priority.

The next important point about passenger demand is the effect of higher speeds. In the NEC we are committed to 120 mph maximum speed. It makes sense here because of the high existing volumes and the possibility of competing with air travel. However, because the automobile is the main competitor in the other corridors and because the potential volumes are much lower, it makes sense to study a more gradual approach. Typically, a maximum speed of 79 mph will mean an average speed of 60 mph including station stops. A 110 mph maximum means roughly a 70 mph average including station stops.

For the four locations where there now is a form of corridor service from 3 to 6 trains per day each way, we are projecting ridership increases of 14 to 55 percent as a result of a combination of corridor upgrading to 79 mph, a higher gas price and, to a lesser extent, population growth. Roughly half of this increase results from the upgrading while the rest derives from the other factors. A further increase in maximum speed--to 110 mph--would only result in further increases in rail passengers from 3 to 23 percent. These are not dramatic changes since in many cases the maximum speed can be reached only on certain short stretches of track without curves or stations.

Increasing frequency of service would most probably lead to more substantial changes in ridership--we believe at least 70 percent--in going from 3 to 6 trains per day, and at least 40 percent in going from 6 to 12 trains per day. Thus where service is at three trains per day, just one more train per day would attract more riders than going that extra step from 79 mph to 110 mph. As frequency is built up the marginal effect of additional trains vis-a-vis higher speed diminishes.

With \$2.50 per gallon gasoline instead of our minimum assumptions of \$1.40 per gallon there would be further increases in ridership of 10 to 33 percent. This is still a modest ridership increase considering the magnitude of the assumed gas price, which is stated in this year's dollars. In 1985 dollars, \$2.50 per gallon of gasoline today could cost \$3.50 per gallon, assuming general inflation of 7 percent per year. If there were a 10 percent shortage of gasoline (that is, 10 percent less gas than could be sold at a given price), then we think that rail demand could increase by 75 percent in the short run. However, this figure may not be valid for a long-term shortage involving rationing.

QUESTION 2 WAS TO ESTIMATE THE COST OF UPGRADING TO DIFFERENT LEVELS

I want to emphasize the distinction between the study we furnished to you and previous corridor-type studies that have been done for the Department or Congress. This joint study deals with present-day technology and readily attainable speeds, and, does not envision the extensive rebuilding program that we have undertaken in the Northeast Corridor. Few previous studies have attempted to adapt the capital and operating requirements of each service to the market it is intended to serve. There is no question that the Northeast Corridor justifies the kind of high speed service which we are developing: it is equally clear that most of the other corridors studied do not currently warrant that intensive level of improvement. This would not exclude the long-range possibility of higher speed.

We have examined not only the costs of physically upgrading the fixed facilities but also the costs of rolling stock and the operating costs net of revenues. The capital costs for track and signals were estimated by FRA to be the minimum required to operate at certain maximum speeds (79 mph and 110 mph costs were estimated separately) and for specific frequency levels taking into account specific conditions in each corridor. Amtrak also made a rough estimate of an upper limit of costs to establish a low maintenance track structure capable of higher frequencies. Allowances for station rehabilitation and grade crossings have also been included. The minimum upgrading

costs for 79 mph range from \$12 million to \$192 million, depending on the corridor, and the upper limits range from \$35 million to over \$300 million. Service at 110 mph would require $1\frac{1}{2}$ to 3 times as much investment to achieve the minimum upgrading required. Amtrak has not made an estimate of the upper limit of costs for 110 mph maximum speeds because of significant uncertainties involving the need to negotiate with the owning railroads.

Substantial capital costs as well as operating subsidies are required in all cases. Both costs are important in relation to the amount of transportation that would be provided for those costs, as measured in passenger miles. Our report points out that the corridors with the lowest costs per passenger mile tend to be ones with high ridership, such as in San Diego to Los Angeles.

We have also looked at the percentage of long-term avoidable operating costs which could be covered by the revenues. This percentage depends on the price of gasoline. The higher the price of gas, the more people would use trains and the more revenue can be generated in relation to cost. For nearly all cases with the high gas price, the revenue to cost ratio exceeds 50 percent, but for the low gas price assumption a significant number of corridors have the ratio less than 50 percent. Amtrak's legislated system-wide goal is 50 percent coverage of cost with revenue by 1985 and corridor upgrading investments should be examined with the clear intent to do better in terms of cost recovery. This is the case in the NEC, for example, where 100 percent coverage has been forecast for 1990.

QUESTION 3 DEALT WITH THE POTENTIAL ENERGY SAVINGS DUE TO UPGRADING

Here again our figures are so rough that it is with some hesitation that we even publish an estimate specific to each corridor. With our simplifying assumptions the fuel savings are directly proportional to the number of rail passenger miles. They will vary with fuel price, frequency, and speed but they do not take into account the special characteristics of each route such as curves, grades, etc. These rough estimates vary from 30 to 50 barrels/day in San Diego-San Jose to upwards of 400 barrels/day in the long corridors such as New York-Buffalo and the Texas Triangle. To show how sensitive these figures might be to different assumptions, if we assumed that the new rail trips were diverted from other modes in the same proportion as was projected for the Northeast Corridor (i.e., more bus, less auto) then the energy savings would be one-third to one-fourth of those stated in the report. I would also point out, for example, that in the Texas Triangle air fares are already significantly below Amtrak fares and it is doubtful that rail service could compete successfully, regardless of what our demand model says. Although energy savings are definitely among the benefits of improved service in upgraded routes of relatively high density, we do not feel that the energy saving dimension of corridor service can be held out as a major justification for undertaking major improvements. The savings are there, but, in light of a need to avert some four million barrels a day of petroleum imports, they are insignificant in the national scheme of things, compared to other transportation policies. We are working with Amtrak to establish a better statistical basis for the fuel consumption of trains as it is related to different size trains and different types of long and short distance routes and different speeds.

QUESTION 4 DEALT WITH THE TIME REQUIRED TO MAKE THE NECESSARY
IMPROVEMENTS

In answering this question I will take as a reference point the first year during which funds might be available from an appropriation to do engineering or construction work on any given corridor in the event that a decision were made to work in a particular corridor.

The time required to do the work in connection with a 79 mph upgrade would clearly be shorter than for 110 mph. Some of the more straightforward trackwork requiring little engineering could even be done in the first year, assuming that the railroad crews were available.

However, most of the work could not be completed until the second or third season. If there were any grade crossing elimination work in environmentally sensitive areas it could take even longer to obtain the necessary clearances. Moreover, our experience with the Northeast Corridor has shown that a thorough job of planning and engineering must be done before the major work is started, particularly where potential interference with passenger and freight schedules is involved.

I will now address some of the policy implications of interest to this Subcommittee which I have been asked to address in your letter of February 20. Several of these areas represent complex unresolved issues which need to be resolved before any improvement program is developed.

I. Organizational Structure and Management Responsibilities for DOT, Amtrak, and States Under an Emerging Corridors Program

The short answer here is that the best structure would depend very much on the individual situation with each corridor. In each case the precise roles of the Department of Transportation, Amtrak, the States, and the railroads would be somewhat different.

While we have had experience with the NECIP structure, each of the corridor situations is sufficiently different that each has to be reviewed separately. I cannot at this time offer DOT recommendations regarding management structure but I can discuss a range of possibilities for corridor construction and operations as well as finance.

A. Construction responsibilities

Generally the Department's role in any upgrading work contemplated could range from that of contracting agent for both design and construction of each project, at one extreme, all the way to broad oversight over grants to Amtrak and/or States for corridor upgrading.

Similarly, Amtrak could take on more or less responsibility for project priority setting design and construction management, depending on DOT's role. The same could be said of a State. The owning railroad would probably be a contractor or contracting agent for work on its own property.

B. Operations responsibilities

One could utilize the traditional model, with Amtrak as contracting agent for railroad train and engine crews, using Amtrak equipment and on-board personnel, as well as a model in which a State contracts with a railroad to provide the service as in the case of commuter rail. The best solution would depend on the circumstances.

C. Financing Responsibilities

1. State/Regional 403(b) Service

By contrast with the Northeast Corridor, where nine States or political jurisdictions are traversed by the service we are upgrading, most of the corridors studied here are in only a single State or at most two States. This raises the question of whether or not the possible operation of any or all corridor-type trains should be funded through Section 403(b) of the Rail Passenger Service Act. At present Amtrak has such an arrangement with California DOT in the San Diego-Los Angeles service.

In the event States would like to see service enhanced on any of these corridors or new service established the Department believes that most additional service should be financed under the 403(b) mechanism.

The same question could be raised with regard

to upgrading the railroad itself or with regard to equipment requirements. In many cases, a State, sometimes with Federal assistance, has provided funds for upgrading or repair of lines over which Amtrak operates trains. In at least one case a State has actually purchased rolling stock which will be operated by Amtrak. There should be a minimum level of State participation established for this type of capital expense. Section 403(b) provides for State sharing of 50 percent of capital expense, and this should include a considerable degree of responsibility for any corridor upgrading.

2. Commuter-Oriented Operations

A number of these corridors appear to be primarily commuter oriented rather than intercity travel oriented. Where a corridor is primarily commuter oriented, the funding provisions of Section 403(d) should be applied just as they would in the Northeast Corridor and elsewhere 18 months after passage of the Amtrak Reorganization Act of 1979. That is, Amtrak should be reimbursed for the capital and operating cost (net of revenues) of the service by the State or local authority. Appropriate use of available transit capital and operating assistance from UMTA should be explored in such cases.

3. Other Existing Programs

Some of the actions which would be required to upgrade a corridor could be handled under existing programs and under existing funding. The elimination or protection of grade crossings is a good example, where the Department now makes available funds to the States for these purposes both on and off Federal aid systems of roads. State targeting of these funds to corridor routes would enhance the productivity of such improvements.

4. Local Speed Restrictions

Yet another problem is posed by the traditional role which State and local authorities have played in imposing speed restrictions on railroad operations, both for freight and passenger service. For example, local jurisdictions in the State of California have historically imposed speed restrictions. Los Angeles County had a 65 mph limit on all railroad operations within the County. This raises the question of whether there is an overriding Federal interest in maintaining good passenger service which would dictate that speed restriction on Amtrak corridor lines be removed or subjected to Federal jurisdiction or whether, at the very least, the availability of Federal funding for the improvement of a corridor ought to be made contingent upon the removal or upgrading of local speed restrictions which cannot be justified on mandatory safety grounds. In this regard, the recent actions by the State of

California, spearheaded by State Senator Mills who is a member of the Amtrak Board, furnish a good example of enlightened local initiative. In California, the State has recently passed a law invalidating all local speed restrictions unless they have been approved by the State Public Utility Commission. Unfortunately, no action has been taken to improve the speed of operations because of the status of discussions between Amtrak and the Santa Fe Railroad as to improving the trip time schedules. We have estimated that between Los Angeles and San Diego alone these local speed restrictions cost about 15 minutes in the schedule, and their removal would cost essentially nothing.

Although we do not yet have exact estimates it seems clear that similar circumstances would exist for the improved running times in other corridors .

II. Criteria to be Used to Select the Most Promising Corridors

In our report we have looked at three criteria: passenger miles per train mile, avoidable loss per passenger mile, and ratio of revenue to long-term avoidable cost. I would urge that we not limit our review to these criteria and especially that we not lock in on the numerical standards applied to these criteria in the

Amtrak Reorganization Act of 1979. The minimum standards for short distance routes of 9¢ avoidable loss per passenger mile and 80 passenger miles per train mile were intended to decide whether certain routes which the Secretary recommended for deletion should be retained in the system for further trial operation.

In this case we are talking about the possibility of adding service, sometimes at great capital expense. At this time I am not yet prepared to recommend numerical thresholds but I think it is essential that the criteria be broadened to include consideration of capital cost. We have developed some illustrations of the results that would emerge from applying the various criteria. In Figure 1 of the attachment we have attempted to show each of the criteria as it applies to each corridor under the conditions of \$1.40 per gallon of gasoline and 79 mph maximum speed service.

The criterion portrayed on the right-hand side is an attempt to include the capital as well as the operating loss, expressing both in equivalent annual terms, and dividing the sum by annual passenger miles. Figures 2 through 5 show graphically the numerical values associated with each corridor for each criterion. Finally, Figure 6 shows the ranking of each corridor under all of the criteria.

The first point is that the rankings are very similar. We expected this with regard to the first three criteria. The way in which the numbers were calculated would lead to that result

since revenues are proportional to passenger miles and many of the costs depend on train miles. It is interesting though that even when the capital costs are added, as in the fourth criterion, the results do not change much.

I hasten to point out here that we have looked only to a limited extent at variations in routings and service patterns in these corridors. We know, for example, that there are some corridor segments which when taken by themselves perform better than the corridor as a whole. Good examples are the Chicago - Milwaukee segment of Chicago - Twin Cities and the New York - Albany segment of New York - Buffalo. These segments may desire closer scrutiny.

III. Incentives to Encourage Rail Freight Carriers to Cooperate in Corridor Projects.

If the railroad over which the Corridor service is to be operated is privately owned, and the vast majority of the railroad trackage involved in this study is privately owned, then an entirely different series of issues is raised that we have not had to resolve in the Northeast Corridor Project.

A. Ownership of and Benefits from Upgraded Lines

In several cases, it appears that some investment would be necessary in order to create extra capacity on the lines that we have studied if additional service were to be run. This may be the case for example in the Los Angeles to San Diego Corridor where an increase beyond six passenger trains a day may call for additional sidings, switches and trackage. While the primary beneficiary of this investment is of course the rail passenger service, it seems equally clear that some benefit will accrue to the freight service as well. Even where additional capacity is not involved, a simple program of upgrading the railroad right-of-way is sure to have at least secondary benefits for the freight operation due to smoother rides, safer operations, and less loss and damage to cargo, among other things. When it is clear that the Federal investment benefits both freight and passenger services, how can the cost of the track upgrading be fairly apportioned between freight and passenger?

B. Railroad Cooperation

Another primary issue revolves around the willingness of the private railroads involved to permit Corridor service to be developed. The attitudes of the railroads with which Amtrak deals cover the full spectrum varying from action interest in and promotion of Amtrak service on the one hand to a clear and public desire to terminate Amtrak's service on the other hand. The latter attitude has been manifested in a lack of cooperation with Amtrak and unwillingness to discuss ways in which the service can be provided, an apparent unwillingness to make efforts to provide on-time service, and a series of other actions.

C. Passenger and Freight Interference

Another issue which will arise on the part of the private railroads is the interference between passenger and freight services. While it is difficult to make a case that a great

deal of interference occurs between one passenger train a day and the rest of the freight operations on the line, passenger frequencies of 12, 6, or even 3 trains a day each way do pose the threat of interference between passenger and freight. If this interference does occur and if it does impose additional costs on the private railroad operating the property, how and in what way can the private railroad be compensated for the cost of such interference?

D. Track Degradation

FRA has had some experience with problems of the bankrupt railroads and their inability to maintain their trackage. Specifically, Amtrak contracts with the railroads generally require that all track over which Amtrak trains operate should be maintained to its 1971 level of utility or to the level of utility which it had when an Amtrak train began operating over the track. In many cases, however, it is alleged that the quality of track over which Amtrak trains now operates has fallen below its quality in 1971. If this is true, and if part of the right-of-way investment required for a new corridor program involves correcting deficiencies which have occurred since 1971, then should the Federal government bear the cost or should the private railroad involved bear the cost of bringing the track back up to its 1971 level of utility? I should point out that sound records

may not exist which would allow us to know what specific levels of track quality existed in 1971.

IV. Overcoming the Cost and Operational Barriers in Instituting Corridor Service

I have already mentioned a number of the institutional and operational barriers involving the railroads. In addition, there are established mechanisms in the 403 (b) cost sharing program for financing both capital and operating costs and it is feasible that some mix of 403 (b), commuter assistance, and regular Amtrak capital and operating grants could be applied to make some of the improvements that were studied in this report.

Thank you very much for your attention. I look forward to working with the Congress on this issue.