

Freight Transportation: Preserving the Rail Service Option

Pamela R. Davis

In 1990, approximately 101 million tons of freight were hauled by railroads in North Carolina. Because rail service is required by many of the state's basic industries, there is a need to support an adequate and efficient railroad system.

Although railroads are crucial to the transportation requirements of many of North Carolina's industries, the state's rail system miles have been shrinking at an alarming rate. Many factors have contributed to the poor financial health of the railroad industry. These factors include poor labor productivity due to inefficient work rules, loss of revenue base to trucking competitors, poor investment decisions, government subsidies of competing modes and government regulation.

The Importance of Rail Transport to North Carolina

Many of North Carolina's basic industries use rail transportation to transport commodities from medium to long distances because of its relatively low cost and its ability to transport certain types of commodities efficiently.

Railroads are particularly suitable for the transportation of bulk commodities such as coal and grain because they can haul huge volumes of freight in long multi-car trains efficiently and economically. Chemicals and hazardous materials are often transported in railroad tank cars because they

provide armor-type protection. Railroads are also commonly used to transport commodities that are simply too large or too heavy to ship by truck. Although railroads are predominantly used to carry raw materials and oversized items, they are also used to transport many other manufactured products such as automobiles, paper products and canned goods.

Many industries use rail service because it is the least costly transportation option and the only one that permits them to keep operating costs at accepted levels and allow a reasonable profit. For other industries, the availability of railroad service is critical because other transportation alternatives cannot meet their particular shipping needs.

The largest industrial users of rail service in North Carolina are coal-fired public utilities, which receive large bulk shipments of coal. North Carolina's agricultural industries also commonly use rail to haul grain, fertilizer and feed. Many of the state's logging companies rely upon railroads to transport timber and wood chips to saw and paper mills. In addition, many of North Carolina's construction companies regularly use rail service to receive building materials such as sand, stone, concrete and glass.

Norfolk Southern Corporation and CSX Transportation (CSX), two of the nation's largest and most successful railroads, predominate in North Carolina. These companies operate over 95 percent of the rail system. In 1990, Norfolk Southern Corporation operated 1,560 rail miles while CSX operated 1,178 rail miles in North Carolina. More than 800 miles that are operated by small or "short line" railroads remain. Many of these smaller railroad companies have been in business for decades and are an important part of the state's transportation infrastructure.

Rail Line Abandonment

Since 1980, both Norfolk Southern and CSX have initiated programs to streamline their rail networks and to abandon

Pamela R. Davis has been employed with the North Carolina Department of Transportation for ten years and currently serves as the rail revitalization coordinator for the Public Transportation and Rail Division. She received a bachelor of arts degree in urban studies from Mount Holyoke College, South Hadley, Massachusetts, and has also studied transportation planning at the Department of City and Regional Planning, University of North Carolina at Chapel Hill.

unprofitable track. This streamlining is part of a national trend to restructure facilities and services in order to improve the poor economic performance of the railroad industry. These financial difficulties were severe in the early 1970s and resulted in the bankruptcy and subsequent reorganization of some of the nation's largest railroads.

North Carolina has been hit hard by abandonment because of its large number of rural branch lines with light to moderate traffic density. Over the past ten years more than 500 miles of track have been abandoned. This is an average of approximately fifty miles per year.

Rail service abandonments have affected almost every county in North Carolina and hundreds of businesses and communities. The immediate impact of branch line abandonment is on rail shippers. The response of a particular business to rail service abandonment will depend on how increased transportation costs will ultimately affect their operations, income and profit. The most drastic response to abandonment is the closing or relocation of a business. Other responses are to curtail production, lay off workers, and halt future expansion and job hiring.

Counties and local governments have strongly resisted any abandonment of railroad service that would adversely impact local industry or result in the loss of opportunity to attract new rail-oriented development. Recognizing the community impacts that may result from railroad abandonment, the General Assembly has authorized the North Carolina Department of Transportation to use state and federal funds to assist communities and shippers in preserving critically needed rail service.

Alternatives to Rail Line Abandonment

North Carolina has actively helped communities deal with and find alternatives to abandonment. Railroad abandonment increased in the early 1980s, and the state actively opposed these abandonments with the Interstate Commerce Commission (ICC). Unfortunately, protesting only helped to delay an abandonment, rather than prevent it. Past economic turmoil in the railroad industry heavily influenced the ICC's decisions in abandonment cases. The ICC views restructuring and abandonment as a means to help the railroad industry improve its economic performance.

Although protesting with the ICC was not effective, a variety of other strategies have been used that were more successful. The best strategies include establishment of a short line railroad, track rehabilitation, rail service marketing, and rail operating subsidy. Each approach has been widely accepted by both railroads and shippers, and has been used successfully in North Carolina.

Short Line Railroads

The establishment of a short line railroad is one alternative to termination of service. In the United States, hundreds of new short line railroad companies have formed to take over lines abandoned or spun off by the major systems.

A short line is a local railroad that collects and distributes local freight traffic and interchanges it with the primary interstate railroads that make up the national railroad system. Short lines perform this "switching" service for a small portion of the overall per car revenue. Approximately fifteen percent of revenues obtained by major railroads come from freight interchanged with short line railroads. These railroads are typically less than 100 miles long. This is a relatively short distance when compared to the many thousands of miles operated by the major railroads. These small railroads are usually welcomed by the major railroads because they perform time-consuming and expensive local switching, and allow the major railroad to focus on their long-haul transportation operation.

A short line railroad usually offers comparable or better rail service than a major system and has lower operating costs. This is because these operations have a two-man crew rather than the normal four-man crew. They are not usually bound by railroad industry labor agreements; hence, they are often able to employ labor at prevailing local wage rates. Short line managers also usually have more flexibility in the use of labor. They have lower overhead costs and closer contact with shippers.

Fifteen new short lines have been established in North Carolina since 1980. Of these, eleven were formed as an alternative to abandonment. In 1984, CSX proposed abandonment of twelve miles of track between Red Springs and Parkton in Robeson County. The county and the town of Red Springs strongly opposed the abandonment because of the anticipated adverse impacts on local shippers and economic development. After extensive negotiations with CSX, Advancement Incorporated, a five-county regional economic development organization, purchased these tracks and leased them to the Laurinburg and Southern Railroad (LRS) to operate. An LRS subsidiary company called the Red Springs and Northern Railroad now operates the track.

In 1987, CSX proposed the abandonment of 5.7 miles of track between Dunn and Erwin in Harnett County. Burlington Industries, an Erwin textile company dependent on rail transport, unsuccessfully protested the abandonment and subsequently solicited private proposals to buy and operate the track. The Aberdeen and Rockfish Railroad purchased the track from CSX and established short line service.

In an unprecedented move in July 1988, the state of North Carolina purchased 67 miles of track between Dillsboro and Murphy to avoid a proposed abandonment. The shippers and communities served by this track strongly protested the proposed abandonment of service, but were unable to finance purchase of the track. The state purchased the track for \$650,000, and leased it to the Great Smoky Mountains Railway (GSMR) for a 25-year lease period. Although freight traffic on the track has remained light, the GSMR operates passenger excursion trains which provide most of their revenues. In 1990, approximately 164,000 passengers rode the GSMR.

The success of a short line railroad depends on many factors. Like any small business, the most important indicator of potential success or failure is the projected revenues compared to the anticipated cost of operation. Unless a short line railroad lowers previous operating costs through good management of personnel and improves the line's former traffic base, it is doubtful whether a new operator can succeed where the previous one failed. The decision for continuation of service should be based on economic justification stemming from the need to preserve a needed service rather than on shipper or community desire to retain a nonessential service.

Although any public or private party can purchase a railroad, it is usually operated by a firm that specializes in such operations. Short line firms aggressively compete to operate those short lines with a projected good rate of return and may not indicate any interest at all in more risky ventures. Tracks with carloads of a hundred cars or more per mile are considered to be excellent prospects for short line operation. Tracks with less than twenty cars per mile probably have too few cars to operate profitably.

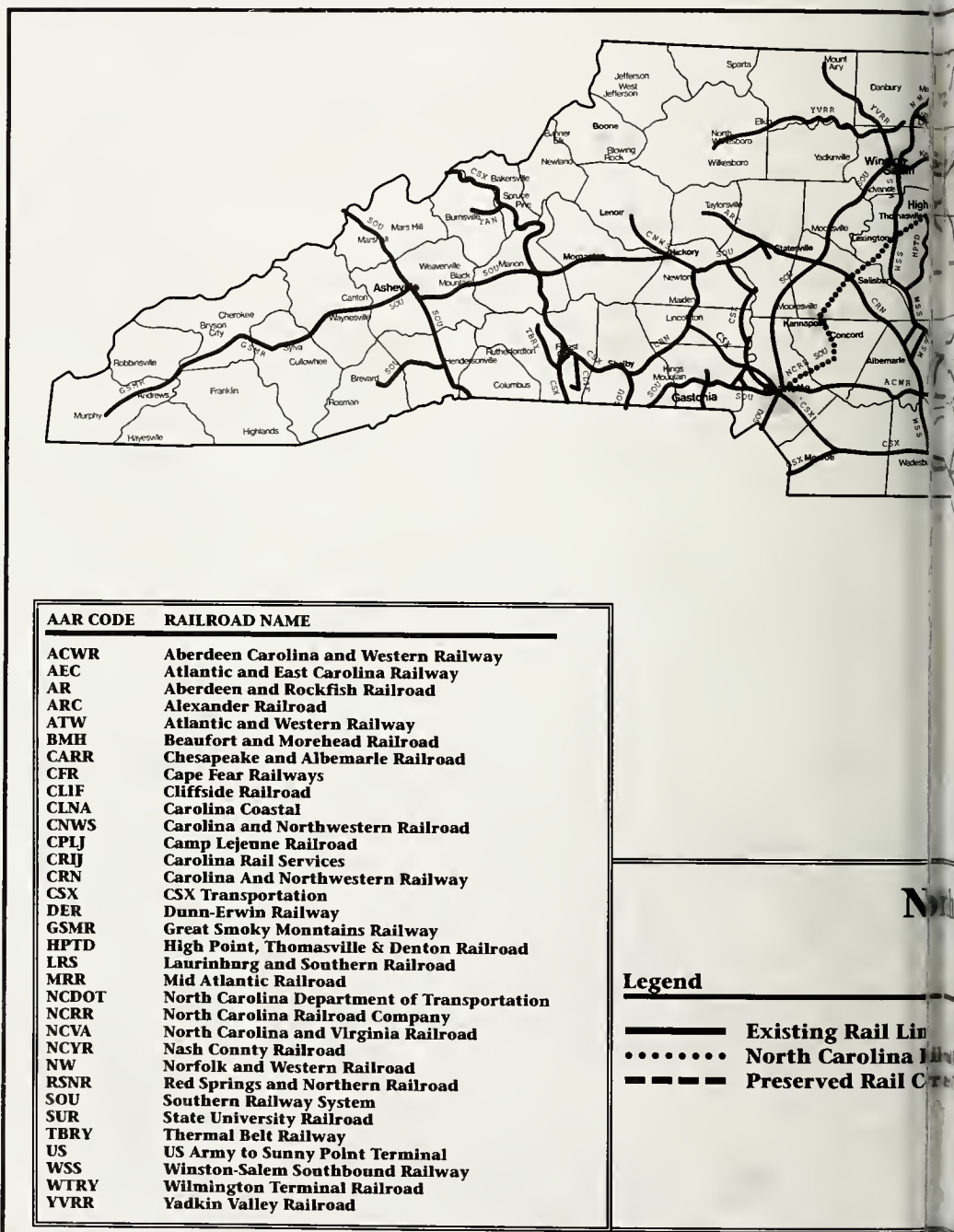
A short line operator will assume responsibility for most areas critical to a short line's success. They will handle rate negotiations, marketing, train operations, and track maintenance. A short line operator should be competent and experienced in the various aspects of railroad management.

The purchase price of rail track is normally the sum of its net liquidation value and right-of-way costs. The liquidation value usually consists of the fair market or salvage value of track materials minus the costs of track removal. The liquidation value of the track will depend on a number of factors, including weight and condition of rail, condition of other parts of the track (cross-ties, roadbed, ballast), and profitability.

The costs of the right-of-way underlying the track depend on local property values and the amount of acreage held in fee. Right-of-way held in easement is typically transferred at no cost as long as it remains in railroad use.

The risk of investing in the purchase of railroad track is partially offset by its collateral value. It is advisable to have an appraisal of both track and property values, as well as a title search on the property in order to assist with price negotiations.

Once a track is purchased, major rehabilitation work on the track is the responsibility of the owners. This cost can be prohibitive if the original owner has deferred maintenance in anticipation of eventual abandonment. It is important to have a competent railroad track engineer thoroughly investigate the condition of the track and consider the costs of rehabilitation before investing.



Branch Line Rehabilitation

Many railroads operate over tracks which are in poor condition due to inadequate maintenance. As mentioned previously, a major company may defer making maintenance expenditures on a track it anticipates abandoning. Some short lines will also reduce their spending on maintenance when revenues are inadequate. Some short lines also find it difficult to generate sufficient excess revenues to replace or repair major items, such as bridges, tunnels, and rail, because the costs are prohibitive.

When major track rehabilitation is needed but the owning railroad cannot afford the repairs, interested parties may

consider providing assistance to finance the necessary track improvements.

When assistance is provided, an abandonment can often be avoided and the efficiency of service improved. For the railroad, a rehabilitation investment may result in lower operating costs, improvements in safety, new business and ultimately a more financially viable short line operation. Several track rehabilitation projects have been undertaken in North Carolina, allowing for continued and improved railroad service.

The 34-mile Star to Aberdeen track was studied for abandonment by Norfolk Southern in 1983 and sold to a private investor. The original short line was named the Aberdeen and Briarpatch Railroad.

It was later resold to a private investor and renamed the Aberdeen, Carolina and Western Railway (ACW). The ACW Railroad inherited a track that was in very poor condition, and lacked crossties and ballast. The railroad undertook a major rehabilitation using funds provided by the state and the Federal Railroad Administration (FRA). Because of ACW's aggressive marketing, traffic on the line has since grown considerably, from 800 carloads per year in 1987 to 5,200 annually in 1990.

The nineteen-mile Spring Hope to Rocky Mount line serves a variety of shippers including Masonite, Union Camp, Louisiana Pacific, and Spring Hope Rockwool Company. The track was proposed for abandonment in 1985 by CSX and subsequently sold to LRS Railroad. The state is currently assisting in a major program to replace crossties and ballast and repair road crossings. Since this effort began, traffic on the line has increased by an average of 1,500 carloads annually over CSX traffic levels.

Although both tracks were purchased privately, rehabilitation funding was not forthcoming from private sources, since the cost to both purchase and rehabilitate these tracks privately could not be justified based on the return on investment. A public investment guaranteed continued service for local businesses.

A rehabilitation investment is usually designed to upgrade the track



North Carolina Railroad System 1991

Right-of-Way
(Tracks Removed)



Public Transportation & Rail Division
North Carolina Department of Transportation
P.O. Box 25201 Raleigh, NC 27611-5201

to minimum safety standards established by the Federal Railroad Administration. A typical rehabilitation project includes replacement of defective cross-ties, addition of ballast, adjustment of distance between rails to ensure an even gauge, and tamping, to tuck the stone ballast securely between and under cross-ties. FRA specifies the minimum standards for track quality depending on the maximum allowable speed standards. If a section of railroad does not meet all requirements for its intended class, it is reclassified in the next lowest class for which it does meet the requirements. Because of their low volumes, most short lines require maintenance at Class 1 (allows speeds up to 10-15 m.p.h.) or Class 2 (allows speeds up to 25-30 m.p.h.). After a rehabilitation investment is made, the railroad is required to maintain the track at the rehabilitated level for a specified time period, which is typically ten years.

Branch Line Marketing

In the past, marketing of light density tracks has been the responsibility of the major railroad systems. Railroad marketing efforts are typically much less active on these low volume tracks because they provide a relatively poor rate of return on investment when compared to higher volume routes. Many major railroads believe that the labor and equipment resources devoted to these lines are utilized more effectively on the more profitable parts of their railroad system. Because low-density tracks are often inadequately marketed by the operating railroad, communities can often serve a useful role by encouraging the use of light-density lines that are important to their area.

An important aspect of marketing is the process of becoming familiar with the status of local rail service and developing ways to monitor the performance of local rail service providers. Rail shippers are a prime source of information about the

status of rail line service. In North Carolina, the Department of Transportation also provides information. Information useful to develop an inventory of railroad service includes the volume of traffic carried, a list of users, number of people employed, and the general level of service and maintenance.

For tracks with densities under 500,000 annual gross tons per mile, concerned parties should conduct individual shipper surveys and ask about current and projected rail use, shipper satisfaction with rail service, and shipper recommendations for improvement. Inventories and shipper surveys should be kept up to date to allow adequate planning.

A more detailed marketing study evaluates the financial status of rail service and makes recommendations regarding its future. This type of marketing study has been conducted in North Carolina. In 1989, at the request of Caldwell and Catawba Counties, the Department of Transportation and Norfolk Southern Railroad studied the status of Norfolk Southern's railroad service between Lenoir and Hickory. The service's marginal profits made an abandonment likely but the company realized the potential to convert service to a short line operation. Norfolk Southern subsequently leased the track to Rail Tex, a firm specializing in short line operations.

Aggressive marketing strategies targeted at industrial prospects include advertising the availability of railroad service and providing information to prospects about rail-served sites. Sites abutting a track should be appropriately zoned as industrial or commercial, and have water, sewer and electric service available.

It is beneficial for local governments, shippers, economic development councils and other interested parties to maintain a good, ongoing communication and relationship with rail service providers. Railroads can provide useful information about the status of rail service and their cooperation is needed to implement almost any rail project. It is important for interested parties to clearly indicate to the railroad a strong desire to retain and improve rail service and to express a desire to stay informed and work cooperatively on solutions.

A North Carolina community worked directly with a railroad to retain service lines threatened by abandonment. In 1985, CSX placed the line between Clinton and Warsaw on its System Diagram, a map indicating future abandonment plans. The county and shippers negotiated with the railroad to retain railroad service by making improvements in the net profit of the tracks. These tracks were eventually taken off the Railroad System Diagram Map.

Subsidies

A railroad may continue to serve even an unprofitable track if it is offered an opportunity to recoup some or all operating losses. Subsidizing the costs of railroad service is a way of providing incentive to the railroad to continue providing a service that would probably otherwise be discontinued.

A subsidy is best used in the short term to help minimize



The Great Smoky Mountains Railway operates passenger excursion trains on its short line to offset a light amount of freight traffic.

or eliminate losses while simultaneously pursuing a program to improve profits. This approach has been used in North Carolina to prevent abandonment of critically needed rail service. In 1989, Norfolk Southern abandoned twelve miles of track in Rutherford County. This service was needed by several industries which had few viable transportation alternatives.

Rutherford County and the state provided funding to the Rutherford Railroad Development Corporation to purchase the track and lease it to a short line operator. Although there are prospects for increased traffic, the existing traffic base is very low. The Thermal Belt Railway leases the track from the Rutherford Railroad Development Corporation and has imposed a per car surcharge in order to provide adequate revenue. The current freight charge is still lower than the costs to shippers of switching to truck use.

Several forms of subsidy are possible and include:

1. *Guaranteed Shipments.* Shippers agree to ship and receive a specified number of carloads.
2. *Prepaid Shipments.* Shippers advance payment to the railroad, which is calculated to cover any deficit.
3. *Surcharge.* Shippers pay additional charges for each carload originating or terminating on the branch line.

Sources of Project Funding

Funding rail preservation is a significant challenge because it often requires a large investment. A variety of funding mechanisms have been successfully used.

Federal Railroad Administration

The Federal Railroad Administration (FRA) offers each state the opportunity to participate in the Local Freight Assistance Program (LRFA). The North Carolina Department of Transportation (NCDOT) has been designated by FRA as the state agency responsible for receiving and administering LRFA grant funding. The NCDOT receives a \$36,000 entitlement each year to be used for either rail planning or projects. FRA also offers states the opportunity to apply for discretionary grants. Eligible projects include rail rehabilitation, track purchase and capital improvements.

FRA requires states to provide at least thirty percent of total costs in rehabilitation projects and fifty percent in acquisition projects. The agency considers the benefit/cost ratio of the project and the state's abandonment activity to make grant awards. The FRA announces funding availability each year. North Carolina has received three discretionary grants that total \$850,000 in the past five years. These funds were used to rehabilitate the tracks of three short lines.

State of North Carolina

Starting in 1980, the state has provided the North Carolina Department of Transportation funds to match federal rail project grant funding. As these federal funds have dwindled,

state funds have become a primary source of rail project funding.

State grants for railroad revitalization are provided in the amount of fifty percent of total project costs. Since 1980, the department has funded eleven railroad revitalization projects. The department's funding comes from stock dividends paid from state ownership of stock in the North Carolina Railroad Company (NCR). The NCR owns the track between Charlotte and Morehead City, which it leases to Norfolk Southern Railroad.

Local Government

Some local governments also provide financing to preserve, improve or market local railroad service. They are most apt to get involved on the behalf of local industry, or when rail service is important to local economic development.

In North Carolina, local governments have usually assisted in planning, rather than funding rail projects. An exception is Rutherford County, which provided funding to help a non-profit community group purchase twelve miles of track abandoned by Norfolk Southern Railroad, and lease it to a short line operator. Robeson County also provided funds to a regional group to purchase twelve miles of track abandoned by CSX. The regional group leased the track to a new short line railroad.

Shippers

Ideally, shippers should provide at least some of the financing needed to preserve local railroad service since they benefit most directly from continued or improved service. When shippers have some funds at risk they are more apt to support a project. Shippers often provide a part of the funding needed to buy or rehabilitate rail track. They may also subsidize rail service operations, or commit to a specified level of use.

In North Carolina, shippers have made significant contributions to preserve rail service. Shippers provided part of the funding to purchase 67 miles of abandoned track purchased by the state and leased to the Great Smoky Mountains Railway. Shippers using the five-mile track from Jacksonville to Kellum helped to fund a joint effort by the NCDOT and Norfolk Southern to rehabilitate the track.

Class III Railroads

Class III Railroads (unrelated to the track maintenance classifications cited earlier) are defined by the Interstate Commerce Commission as those railroads that generate revenues of less than \$10 million per year. All of the state's short lines are Class III Railroads. Several of these short line railroads have become directly involved in purchasing track abandoned or sold by the major railroad systems.

In North Carolina, the Laurinburg and Southern Railroad and the Aberdeen and Rockfish Railroad provided financing



NCDOT track inspector Pasquale Vendettoli checks tracks for safety.

to buy tracks they now own and operate. The Laurinburg and Southern Railroad purchased the nineteen-mile Nash County Railroad, which had been studied for abandonment by CSX in 1985. The LRS provided funds to match a federal FRA grant for rehabilitation. The LRS also helped to provide funds to match a federal grant to rehabilitate the twelve-mile Red Springs and Northern Railroad, currently operated by LRS and owned by Advancement Incorporated, a nonprofit regional organization.

The Aberdeen and Rockfish Railroad purchased the five miles of track between Dunn and Erwin from CSX to avoid abandonment and also provided funds to match a state grant to help rehabilitate the track.

Several out-of-state short line management firms have also made private investments in North Carolina's growing short line industry. Rail Tex purchased the track between Boykins, Virginia and Tunis, N.C. when CSX announced its intent to sell the track in 1988. Rail Tex is one of the largest and most successful short line management firms in the United States. The North Carolina and Virginia Railroad (NCVA) is owned by Rail Tex and has since committed to participate in joint effort with the N.C. Department of Transportation to rehabilitate a deteriorating railroad bridge on the NCVA.

Private Entrepreneurship

Private entrepreneurs also invest in establishing new short lines. The former CSX tracks from Chadbourn, N.C. to Conway, S.C., and from Whiteville, N.C. to Mullins, S.C., were purchased from CSX in 1987 by a North Carolina businessman. The former Southern Railroad (SOU) track from Star

to Aberdeen was also purchased from the former private owner in 1987 by a Michigan businessman.

Private investors usually have a high interest in railroad transportation, have the capability to provide adequate financing, and are willing to incur substantial risk. More traditional investors, such as venture capital firms and banks, are typically reluctant to invest in rail projects because of unfamiliarity with railroad transportation, and because it is a high risk investment that does not provide the high rate of return many of these investors require.

Elements of a Successful Program

Several key steps are important to successfully implement a rail preservation project. Someone must assume leadership; typically a railroad, shipper, shipper group, economic development agency, local government, or state government might assume this leadership.

The next step is to begin to form key public/private partnerships. Generally, these partnerships will consist of the railroad, shippers, local government and the community. The success of any alternative will almost always depend on the full cooperation and commitment of all of these parties. It is important to inform key public officials and obtain their support. These individuals often help obtain public financing. They also influence shipper decisions to use railroad service.

It is important to thoroughly evaluate alternatives prior to implementing a rail preservation project. A feasibility study should be conducted to evaluate the potential success of a new short line. A marketing study should be used to identify service problems and solutions. It also identifies ways to increase branch line revenues. An engineering study should be conducted to determine the condition of the track and rehabilitation needs and costs. Detailed analyses are the only way to provide sufficient information to evaluate and implement alternatives.

To conduct research regarding alternatives to preserve rail service, there is no need to start from "ground zero." There are publications available that deal with the subject. The North Carolina Department of Transportation can also provide guidance. North Carolina communities that have already faced the challenge of preserving their rail service can also provide information.

Finally, once a project is undertaken, it is important to conduct follow-up monitoring to ensure that the project continues to meet objectives. Feedback obtained should be available to involved parties to help address new concerns and new opportunities.

Rail transportation is actively used by many North Carolina businesses and serves as an important, although often ignored transportation alternative to highway trucking. Greater awareness and the use of existing planning strategies can help to preserve the rail option for businesses which need it, and to enhance local economic development. □