Minnesota Freight Access Improvement Program (FAIP): A Public-Private Approach to Roadway Financing

CHARLES D. SANFT AND CECIL L. SELNESS

Public-private partnership is not a new concept, however, it is growing in acceptance and application as a transportation project development and financing tool. The Minnesota Freight Access Improvement Program (FAIP) presents a program concept that incorporates public-private partnership as a normal and ongoing aspect of a highway program. The program is proposed to be applied to developing local access to the state's 80,000-lb gross vehicle weight, 10-ton/axle system. Aimed at rural transportation and development, it is based on experience gained through rail transportation project development. An innovative look at developing a program to meet basic rural transportation needs os offered. Although written specifically for the Minnesota situation, the concept is applicable to many states.

In recent years, Minnesota has steadily expanded its system of trunk highways that are open to 80,000-lb gross vehicle weight (gvw), or 10 tons per axle under certain conditions. This development has increased the pressure from isolated businesses or communities for access to the Minnesota system (commonly referred to as the "10-ton system"). Strengthening the desired connecting roads to the expanding 10-ton system is costly and adds to the problems of highway financing. Many of these outlet roads do not carry sufficient traffic to receive the priority needed to be funded with limited existing highway funding.

To augment existing highway programs in the area of providing freight access, development of a program based on a public-private funding partnership is suggested. This concept is not new *(1)*. Various transportation projects have been financed through public-private cooperative funding. In Minnesota, occasional highway interchanges and access road projects are examples; however, integrating this concept into an ongoing highway funding program is unique *(2)*.

Minnesota's rail program served as a model in developing this concept. The Minnesota Rail Service Improvement (MRSI) program *(3)* goes beyond the occasional case and makes public-private partnership a program level requirement for rail rehabilitation projects. Using public funds as a base, financial participation by the railroad owner and by the railroads users is required for each project. State and federal funds provide up to 70 percent of the financing. The remainder comes from the railroads and the rail users. Rail users must contribute a minimum of 10 percent of a project's cost.

Minnesota Department of Transportation, Room 810, Transportation Building, St. Paul, Minn. 55155.

PROGRAM CONCEPT

Based on the MRSI program experience and on precedents of private funding participation in several highway projects, it appears that a freight access improvement program (FAIP) involving public-private financing is worth consideration as part of an assessment of highway service expansion activities and program funding needs.

This type of program could offer several benefits:

1. It could provide a way for industries and communities to help fund a 10-ton system outlet if they feel they must have one.
2. It could leverage public funds by attracting private matching funds.
3. It could encourage weighing costs versus benefits in setting priorities for access projects by calling for private entities to spend money where it is needed.
4. It could augment economic development and provide a tool to stimulate local economic activity.

The focus of the program would be on local access roads or connectors. It could be used to finance pavement-strengthening overlay projects that would enable the subject route to then serve as a connector from a business and community to the 10-ton system.

To explain the emphasis of this program, highways could be divided into three hypothetical groups A, B, and C. The A group could consist of those highway arterials that carry significant through traffic and that have the priority needed to receive necessary funding through the present highway programs. This group would include most trunk highways and major county highways. The C group would consist of those highways that have low usage, serve little or no freight transport function, and in most cases could not generate a project benefit/cost ratio of at least 1; that is, the benefits of upgrading the roadway derived during the life of the improvement would not equal the cost of the project. These highways or roads would not be considered for funding under this program. Many municipal, township, and county collector roads would fall in this category.

The B group of highways would be the target of this program. They are the highways that provide, or could provide, significant local access and could show benefits from a project in excess of the cost of doing the project. In Minnesota, a preliminary estimate indicates that this group includes approximately 782 mi of road serving about 300 rural communities. It is expected that the preponderance of these roads will be county highways. The full development of a program such as this would best be accomplished in response to the desires of the county engineers and officials and within the state legislative process because this program would primarily address the county system and because the impact of the expanded state 80,000-lb gvw system would have a direct impact on county systems.

Programming and project priorities could be developed at least in part based on

- Benefit/cost ratio. Values would be developed through a process similar to that used on Minnesota rail projects. Calculate the savings and increased revenues expected as a result of the project. Also include maintenance and other costs that could be avoided by the project. Benefits must exceed costs, and those projects with higher ratios would receive higher priority.
- Willingness to invest. The need for a project and the benefit from the project are often best reflected by the willingness of affected communities and businesses to financially invest in a project. Those communities and businesses willing to provide the matching funds would be those that in most cases would benefit the most from a project.
- Other factors. Other factors such as recent rail abandonments, lack of rail access, and coordination with other economic development investment could be used to set priorities for project development.

THE PUBLIC-PRIVATE PARTNERSHIP ASPECT

The program would be a three-way match of state funds with local private funds and road authority funds. For example, the state could provide up to 50 percent of the funds, the road authority up to 35 percent, and the business and community 15 percent. The local share could vary, but the business share should probably be in the range of 10 to 15 percent. These percentages may be adjusted as a program develops. They should be set with consideration for the benefit to the local community, local businesses, and the availability of state funds.

State's Role

The state would administer a separate fund that would be used exclusively for the program. All eligible road segments would be identified and a preliminary list of projects identified. The Minnesota Department of Transportation (MnDOT) would contact and initiate project development with local road authorities and local businesses.

The reason MnDOT may want to institute programs of this type is the political pressure from the counties for additional funds to help them meet local access and system needs. This approach spreads around the costs of the program and sets up a method for proving need based on benefits and willingness to participate, not just on such political pressure.

Local Road Authority—Counties

As a result of MnDOT's opening up the entire trunk highway system to 80,000-lb gvw or 10-ton axle loads, the counties will be forced to respond to the need to open up their system to 10-ton loads. The counties have many roads and bridges that need attention. Some facilities require immediate attention (e.g., bridge problems) and others have long-term problems (e.g., roads that cannot handle heavy loads and that show significant deterioration). A program such as the FAIP would allow counties to address some of their problems assisted by a match of up to 50 percent, and the counties would be better able to adjust to the expanded 10-ton system.

The local road authorities would have the same role in the design, construction, and maintenance of their highways that they have now. The primary difference would be the need to work with the private sector in developing project funding. The difficulty for the local road authority would be convincing private businesses and communities that the road needs to be upgraded and that regular funds are not available for the project. However, this explanation is no more difficult than explaining why the road must be restricted or why there is insufficient funding available to carry out an upgrading under the present program.

Local Business and Communities

At the present time, the only option that many communities and local businesses have for upgrading their roads is to apply for project funding or an arbitrary removal of weight restrictions. Some truckers apply for special use permits or resort to midnight permits to operate over posted highways. In many cases, these options either are not adequate or are not desirable. This program would provide an additional option to local communities and businesses.

POTENTIAL FUNDING SOURCES

On the state level, possible funding sources are general revenue appropriation, a portion of the motor vehicle excise tax, and general revenue bonds.

For the local road authority and communities, funding could come from existing highway funds, tax increment financing, industrial revenue bonds, or a special mill levy.

The sources of private funds are varied. In some cases businesses may prefer to provide cash from their operating budgets or borrow the funds from their own lines of credit for the projects. Other sources include industrial revenue bonds that would be paid through annual payments by the business out of savings generated by the projects.

ISSUES

This proposal brings along the following issues that need to be clarified.

Political Support and Acceptance

Because the concept of a highway program predicated on a public-private financial partnership is foreign to most organizations, the need to generate political support is a key issue. However, the current political environment, particularly at the federal level, supports this approach. Also, there are precedents for this approach and there are benefits attached to such a program. Finally, the MnDOT could benefit because this proposal offers an opportunity to open up new ways to extend the states' transportation funds.

The Program's Relationship to Other Transportation Programs

Clarification of a program's relationship to other programs would come once a source of funding was identified. However, relationships to the state aid program, the state trunk highway program, and bridge and resurfacing programs have to be reviewed. Administration of the FAIP would be a question that would need to be settled, and its relationship to the rail program would also need to be reviewed. Often, past rail abandonments and MnDOT's contacts with shippers and communities under the process brought about the question, "Well, if you can't save our rail service, what can you do to improve our highway access?" An ability to respond with a freight access improvement program would help the local businesses and communities and MnDOT.

Design Standards

How much flexibility should be allowed to stretch limited dollars in accomplishing functional improvements without doing what local officials may regard as overdesign? It may be desirable to meet established standards, but those standards increase costs. From a safety standpoint, if there is flexibility, there is also the question of liability for the state, local, and private participants in such a program.

There are probably other issues surrounding this concept but these are the most apparent. In dealing with them one other concept may be of value. In Minnesota, regional railroad authorities *(4)* are locally based political units formed to improve, purchase, operate, and generally facilitate local rail service. It seems possible and perhaps appropriate that a regional transportation authority (RTA) could be a vehicle for coordination, promotion, and implementation of projects under a program such as the FAIP. An RTA could transcend local road authority, community, and business boundaries to focus local efforts on using a public-private partnership approach to local road improvements.

Highway and local road improvement funds remain in short supply. There are needs and there are precedents. This chapter offers some ideas on how to build on proven program concepts to help meet highway and local road improvement needs.

IMPLEMENTATION

Needs

Part 1 of this paper was presented as a discussion paper within MnDOT in January 1985. After internal review of the paper, it was decided to proceed beyond the concept stage. In order to proceed, however, there was a need to better understand the program potential, nature, and scope of possible projects and establish an estimate of funding requirements.

At that time, MnDOT was just completing a study of highway freight routes in Minnesota. That study, the *Market Artery Study (5)*, was initiated in response to state legislation. It attempted to identify highway routes that were most important to Minnesota's economic activities and freight transport needs. After Minnesota's *Market Artery Study (5)* process was reviewed, it became apparent that the best approach was to use the data available from that study to establish estimated needs for the FAIP being considered.

Based on available information and on limited contacts with outside interests, there are both the need and the opportunity to use this public-private partnership concept to meet local highway access needs. These needs are scattered throughout the rural areas of the state, with the highest need in agricultural *(6)* and forest products areas. Also, access to industrial parks or specific industries such as grain elevators is an evident need.

Potential Projects

Potential projects identified for the FAIP are summarized as follows:

Road Authority	*Number of Projects*	*Length (mi)*
County	166	416.9
Municipal	19	14.9
Township	2	2.6
Total	187	434.4

These potential projects are based on the prior *Market Artery Study (5)* results, and are not considered to be a complete list. However, the list gives a good indication of the possible applications of the FAIP. The list comprises rural market artery routes 6 mi in length or less. This criterion was based on a judgment that projects in excess of 6 mi probably presented too large a total cost to be good candidates for this type of public-private funding.

Because the *Market Artery Study (5)* did not present data for all counties, an attempt was made to expand available data to give a representative figure for all except Metro counties. The identified data were as follows:

	Length (mi)		*Cost ($ million)*	
Number	*Average*	*Total*	*Average*	*Total*
187	2.3	434	0.207	39.1

The expanded estimate, based on the *Market Artery Study (5)*, included the estimated number of projects not reported in the *Market Artery Study (5)*.

	Length (mi)		*Cost ($ million)*	
Number	*Average*	*Total*	*Average*	*Total*
340	2.3	782	0.207	70.4

Cost estimates were based on $90,000/mi averages.

Costs

Project costs can vary considerably depending on length of project and on present road design and strength. However, based on estimates provided by the MnDOT, an average cost of $90,000/mi was assumed from the following calculation.

Overlay Element	*Cost*
Bituminous mixture ($17,050/in. × 4.5 in.)	$76,725
Tack coat ($704/application × 2 applications)	1,408
Shoulder (2–6 ft)	5,720
Total	$83,853/mi

Using the average length of 2.3 mi, based on identified potential projects, average project cost would be $207,000.

In developing projects, overall cost plays an important role in determining local and private ability and willingness to participate. Lower-cost projects would be most suitable and manageable under this program. Road strengthening is the predominant type of project identified.

Feedback and Focus

The feedback received on this proposal has been good at all levels. There appear to be no major obstacles to developing this idea further.

Although contacts outside MnDOT have been limited, those made have produced no negative responses. For example, contacts at the city of Perham in western Minnesota indicated that the city had considered such a concept to fund access to their industrial park. Ultimately, the city and county shared project costs and no private funds were used. A similar situation at Barnesville, Minnesota, resulted in 50 percent private participation to upgrade access to a fertilizer distributor.

After review by MnDOT staff and outside interests, it became apparent that the focus of this program should be a public-private partnership for rural transportation and development. With this focus, the program would function best as a tool to augment economic activity, provided it was developed as a flexible, independent program. It should therefore be established independently in funding and programming from the existing highway program process.

Implementing of Demonstration Projects

There are some questions remaining on how to proceed with this program concept, that is, on how to develop and implement it. A reasonable approach is to initiate a pilot program consisting of two or three demonstration projects. This approach allows the actual development of projects and enables MnDOT to use experience gained from these projects as a tool for developing permanent program guidelines.

The pilot program would use the following general guidelines.

1. Demonstration projects would be limited to those projects falling within funding capabilities of the pilot program.
2. Demonstration projects would require matching funds by the local road authority and private entities benefiting from the project.
3. Demonstration projects should have identifiable benefits that exceed project costs.
4. Demonstration projects should involve improvements to the existing roadway rather than new construction.
5. Preferably, demonstration projects would be chosen from candidate projects that are not presently programmed for construction.
6. Demonstration projects would afford or improve access to the existing 10-ton (80,000-lb) system.

After the pilot program is implemented, results will be reported and refinement of program guidelines will take place. Based on careful review, MnDOT will recommend whether the program should be developed beyond a pilot stage.

Funding of Demonstration Projects

On a limited basis in the past, federal Local Rail Service Improvement funds have been used for local road improvements in Minnesota when those improvements alleviated the impacts of rail line abandonment. Although this source of funds would not be suitable for a permanent program, it could be used to demonstrate the concept. However, to use these funds, the demonstration projects must be directly linked to the loss of rail service.

SUMMARY AND RECOMMENDATIONS

Based on the results of follow-up effort, the FAIP concept would prove feasible and would serve an evident need in rural Minnesota. The program should be set up to facilitate public-private partnership in rural development. It would work best and be most flexible as a separate program independent from the ongoing highway program process. In order to gain experience based on actual situations, it is recommended that the program be limited to a pilot program funding two or three demonstration projects. Based on the results of these demonstration projects, a larger ongoing program could be structured. Authorizing legislation and funding would be required for the ongoing program.

The Minnesota Department of Transportation is currently developing two demonstration projects for implementation and evaluation. Information concerning this demonstration phase was to be available by the fall of 1987. Interested parties can request results by contacting

Office of Railroads and Waterways
Minnesota Department of Transportation
Room 810
Transportation Building
St. Paul, Minnesota 55155

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