TRANSIT COOPERATIVE RESEARCH PROGRAM

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TCRP Report 56

Integrating School Bus and Public Transportation Services in Non-Urban Communities

Transportation Research Board
National Research Council

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Integrating School Bus and Public Transportation Services in Non-Urban Communities

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The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213--Research for Public Transit: New Directions*, published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration--now the Federal Transit Administration (FTA). A report by the American Public Transit Association (APTA), *Transportation 2000*, also recognized the need for local, problem-solving research. TCRP, modeled after the longstanding and successful National Cooperative Highway Research Program, undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes a variety of transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA, the National Academy of Sciences, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Committee.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Committee to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Committee defines funding levels and expected products.

Once selected, each project is assigned to an expert panel, appointed by the Transportation Research Board. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, TCRP project panels serve voluntarily without compensation.

Because research cannot have the desired impact if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended end users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

The TCRP provides a forum where transit agencies can cooperatively address common operational problems. The TCRP results support and complement other ongoing transit research and training programs.

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NOTICE

The project that is the subject of this report was a part of the Transit Cooperative Research Program conducted by the Transportation Research Board with the approval of the Governing Board of the National Research Council. Such approval reflects the Governing Board's judgment that the project concerned is appropriate with respect to both the purposes and resources of the National Research Council.

The members of the technical advisory panel selected to monitor this project and to review this report were chosen for recognized scholarly competence and with due consideration for the balance of disciplines appropriate to the project. The opinions and conclusions expressed or implied are those of the research agency that performed the research, and while they have been accepted as appropriate by the technical panel, they are not necessarily those of the Transportation Research Board, the National Research Council, the Transit Development Corporation, or the Federal Transit Administration of the U.S. Department of Transportation.

Each report is reviewed and accepted for publication by the technical panel according to procedures established and monitored by the Transportation Research Board Executive Committee and the Governing Board of the National Research Council.

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FOREWORD

By Staff
Transportation Research Board

This report will be of interest to managers of public transportation and school bus systems, transportation planning and operations professionals, policy makers, and others interested in the potential for coordinating or integrating school bus and public transportation services in non-urban areas. The report identifies and discusses issues associated with such coordination or integration, and provides 13 case studies of communities that have successfully coordinated or integrated some aspect of school and public transportation services. The report also provides an implementation guide that suggests "next steps" for non-urban communities seeking to give serious consideration to the coordination or integration of school and public transportation services.

In non-urban areas, the need for improved mobility is considerable. To provide adequate mobility in these areas, it is essential to more fully use the transportation assets and resources available within the community. To this end, the coordination or integration of school bus and public transportation services is often discussed. Opportunities exist to enhance mobility by using school buses to provide public transportation during the periods in which they would otherwise sit idle. Conversely, school districts may look to existing public transportation systems to increase efficiencies in their student-transportation programs.

School bus and public transportation services have different operating characteristics, scheduling techniques, funding sources, policies, and a variety of barriers to coordinating or integrating services. However, some communities have effectively used various combinations of school bus and public transportation assets and resources to improve efficiencies and enhance mobility to the general public. Integrating maintenance, fueling, and storage facilities; altering transportation routes to accommodate both students and the general public; and combining both fleets for joint uses are such examples. Although there are successful stories of coordination and integration, there are serious barriers, which may range from the physical characteristics of the vehicles to the regulations governing school bus transportation.

Under TCRP Project A-19, research was undertaken by Multisystems, Inc. to (1) identify non-urban communities that have coordinated or integrated school bus and public transportation assets and resources to provide efficiencies in service and improve mobility; (2) conduct case studies of selected sites that will provide other communities with information to consider when coordinating or integrating these services; (3) identify the key issues associated with the coordination or integration of school bus and public transportation services; and (4) develop an implementation guide to assist communities interested in evaluating potential service coordination or integration.

To achieve the project objectives, the researchers conducted a comprehensive literature review of information available on the subject of school bus and public transportation coordination or integration in non-urban areas; prepared a glossary of terms

needed to consistently define the issues; developed, conducted, and analyzed a national survey designed to identify information about coordination or integration efforts undertaken by school districts and public transportation agencies; developed a summary of key issues and concerns related to the coordination or integration of school and public transportation services, including funding, operational, legal, regulatory, and safety; conducted case studies of 13 communities that have successfully coordinated or integrated some aspect of school and public transportation; completed supplementary research on specific state laws and regulations, school bus and public transportation safety policies and procedures, and blended ("hybrid") vehicle design; and developed an implementation guide that suggests "next steps" for those non-urban communities seeking to give serious consideration to the coordination or integration of school and public transportation services.

The Executive Summary of this report, together with the Implementation Guide found in Appendix D, can also be found on the TCRP website as Web Document 11 (www4.nas.edu/trb/crp.nsf).

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Executive Summary

Overview

This report explores the coordination of student transportation and public transportation services in non-urban areas. The study included a research component and a survey to determine the scope and breadth of this type of coordination across the country. Case studies were also conducted to obtain more detailed information about communities that have successfully coordinated or integrated some aspect of student and public transportation. Although this phenomenon is not widespread, those communities that are coordinating services are doing so using a number of different strategies.

In some non-urban communities, school districts are transporting students – particularly in high school – via public transit. In other areas, the general public is being transported on school buses when the buses are not in use for student transportation. And, in a few communities, students and the general public are riding on school buses at the same time.

Efforts employed by schools and public transit agencies to coordinate their respective transportation services are not limited to operations; some school districts, public transportation agencies, and even Head Start transportation programs have coordinated support services such as maintenance and fueling. In addition, the consolidation of administrative staffs – if not the entire programs – has been achieved in a few areas and is being considered in others.

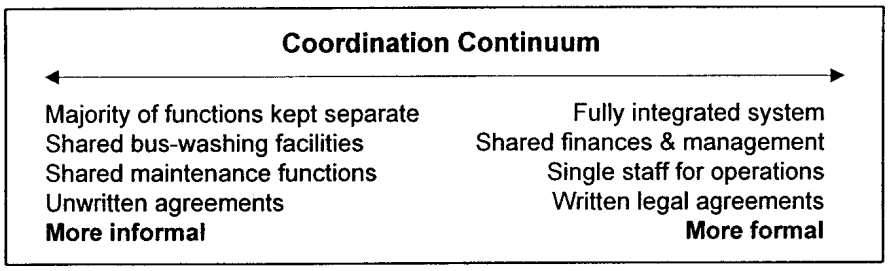
While there are success stories in the United States and in Canada, there are many barriers to accomplishing coordinated services. These include legislative and institutional barriers, restrictive funding requirements, turfism, attitudes (especially with respect to safety concerns), and operational issues.

This study identifies the types of coordination that currently exist in rural communities. It also explores in some detail the barriers and challenges to establishing coordinated services. This discussion provides insights into the complexities of coordination between student and public transportation, and also identifies how differences in regulations, funding, and vehicles impact coordination efforts. Decisions made at the federal, state, and local levels all impact a community's ability to coordinate services. A major factor in the ability of a community to blend services is the institutional willingness for – or resistance to – coordination.

The report culminates in an Implementation Guide, which is provided in Appendix D of this report. By providing information about how to replicate coordination in other communities, the Implementation Guide can serve as an important tool for those non-urban communities that are considering the coordination of public and pupil transportation.

Reasons to Coordinate

In recent years, the environment in which schools and public transit operators provide service has changed dramatically. The fiscal challenges and constraints faced by school districts and public transportation operators are greater than ever before, while demand for transportation services continues to be strong. This need is especially acute in rural areas, where the supply of public transportation in general is limited. The dearth of transportation leaves many rural residents unable to access health and human services and employment opportunities. In response, an increasing number of rural communities *without* public transportation services have looked to their school bus resources as a solution to filling their community transit needs, despite a battery of legislative, regulatory, and attitudinal barriers. In non-urban communities *with* separate public and pupil transportation services, a few school districts and public transit agencies are partnering to provide these services in a more coordinated manner, in order to increase the cost-effectiveness of these services and hence stretch their funding dollars.



Project Goals

The primary goal of this study is to identify successes, failures, and implementation strategies that will assist community leaders in making better decisions about how their transportation funding can translate into a maximum yield of community and student transportation.

A secondary, yet important, goal of the project is for the public transit industry and the school bus industry to learn more about one another, and to correct misconceptions that inhibit their willingness to work together for the betterment of the community.

This project included several elements:

- A literature review to identify key findings of past studies
- A survey of communities to identify instances of coordinated services
- Identification of key factors affecting service coordination/consolidation in different regulatory climates
- Case studies to identify how different communities address the key issues, tally the costs, and identify benefits
- An assessment of the real and perceived barriers to coordination
- Development of an Implementation Guide for coordinating or fully integrating services

Literature Review

A review of the findings from previous studies illustrated how little has changed in the past 20 years. The legislative concerns facing school districts and public transit systems have remained the same, as have operational issues, including vehicle availability, labor agreements, and tripper service. The institutional barriers of regulatory differences and turfism were well documented in the earlier studies, as were concerns over safety; these concerns continue today. These early studies identified institutional barriers as significant; for example, one study stated:

> The most difficult barrier to coordination is institutional
> More generally stated, there is a high resistance to change

> among institutions and the persons served by these institutions....In addition, lack of a long-term commitment to coordination was apparent in most of the pilot project areas.[i]

The need for intra-agency cooperation and commitment also was noted as a prerequisite for success. As with coordination between human service transportation programs or public transit and human service transportation, successful efforts require a significant amount of staff time at the front end of the project. Researchers for an integrated transportation system in Hohenlohe, Germany, found that "the cooperation of school officials is essential; that planning for this type of service takes a lot of time and is very difficult, and involves considerable planning at the tactical level; [and] that coordination of rural and public services can only be realized if there is an institution to provide for the coordination."[ii]

Finally, there was little formal documentation of either successful or failed coordination of school bus and public transit services. Some of the failures, however, have been documented in legal battles discouraging the use of public transit for students.

Community Survey

Following the formal literature review, the project team surveyed school districts and public transit agencies about the coordination of school bus and public transit and, where applicable, Head Start transportation. Surveys were returned from across the United States and from Canada. Of the 360 surveys returned, 80 agencies indicated that they were involved in some level of coordination.

Highlights from the surveys include the following:

- Of the 80 sites coordinating service, the most popular type of coordination involved placing regular education students, Head Start, and/or agency clients on public transit vehicles. Only 30 communities used school buses to coordinate service. Of these, 10 did and 20 did not co-mingle the public with students.

- A majority of those involved in coordination were located in rural areas; 25 percent of the communities involved in coordination had populations of less than 10,000. Another 16 percent were in areas with populations between 10,000 and 30,000.

- Savings were notable for those areas coordinating service, particularly for those entities involved in formal agreements.

- Rural areas reported fewer barriers, in general, and fewer *insurmountable* barriers, in particular, than more populated communities.

An overwhelming number of those involved in coordinated services indicated that they would recommend such efforts to other communities. Respondents identified a need for cooperation and a willingness to "break down barriers" as critical to the success of such projects. Respondents also listed comprehensive driver training, extensive planning, and an eye more toward safety than financial considerations as additional keys to success.

Key Factors

The survey effort established a framework for assessing the key factors that affect the coordination/integration of student transportation service and public transportation services in non-urban areas. These key factors include the following:

1. Lack of public transportation services
2. Existence of human service agency transportation
3. Funding issues
4. Operational issues
5. Legal and regulatory issues
6. Safety issues

These six issues are explored in more detail in subsequent chapters of this report, but will be reviewed briefly here. It is particularly important to recognize the uniqueness of each geographic area or community and to understand that each issue or each facet of an issue may have different levels of importance in different situations.

1. Lack of Public Transportation Services

Approximately 38 percent of the nation's rural residents live in areas without any public transit service, and another 28 percent live in areas in which the level of transit service is negligible, according to the Community Transportation Association of America (CTAA).

Furthermore, national statistics suggest that 1 in 4 rural households does not have an automobile, and nearly 1 in 3 rural Americans either has no car or cannot drive.[iii]

This lack of transportation is particularly acute when rural Americans are unable to travel to and from available jobs. In fact, serving these rural residents is one of the challenges of recent welfare-to-work transportation initiatives.

2. Existence of Human Service Agency Transportation

In many non-urban areas, human service agencies have become transportation operators – by necessity – in order to meet the transportation needs of their clients. These might include transportation services provided for the elderly, persons with physical and/or cognitive disabilities; persons with low income (e.g., non-emergency medical transportation for Medicaid recipients); and young children (e.g., Head Start).

Thus in many non-urban areas where human service transportation programs are the only other transportation service in existence (besides school bus transportation), there may be opportunities for coordination, especially since (1) the times that students and human service agency clients are typically transported are complementary, except, of course, for Head Start programs; (2) the school buses and human service agency vehicles are complementary by virtue of their respective sizes and degree of accessibility, and (3) many of the agencies have transportation funding available, but would prefer not to be in the transportation business.

In many non-urban areas where public and human service agency transportation service has co-existed, a long-standing challenge has been to coordinate these various resources. Indeed, as transportation needs and funding constraints have become more acute, the instances of coordination, if not integration, between non-urban public and human service agency transportation providers, have been increasing out of necessity, hence offering prospective models for coordination between non-urban public transportation providers and school transportation programs. While several of the models focus on coordinated/integrated service delivery, many do not, and instead focus on coordinating the funding of joint maintenance facilities, joint fuel procurements, the sharing of administrative space and staff, etc. Indeed, the social environment in rural areas may perhaps be more ideal for coordination than that found in urban areas.

The bottom line is that communities in non-urban areas that are looking to coordination as a prospective solution to broadening the mobility options for various segments of the population and in a more cost-efficient fashion should consider the common and complementary needs and (coordinated or uncoordinated) transportation programs of the public and private human service agencies in the community.

3. Funding Issues

Coordination is often presented as one solution to the funding constraints faced by school transportation administrators and by public transit authorities. Integrating school transportation and public transportation, many argue, is a method of stretching scarce dollars. Nonetheless, financing is a complex issue, and agencies that consider coordination of student transportation and other passenger transportation services must find similar frameworks for evaluating the cost impacts of coordinated activities.

Trends in Financing

Public transit agencies most often receive federal and state government funds; local funds often are generated through local sales taxes. State and federal funding is a key to operating public transportation programs in non-urban communities, as most rural areas do not have a tax base sufficient to fund these services without significant assistance. Most rural transportation programs also have developed a net of funding sources through coordination with human service programs. School transportation funding almost always is obtained through local or state channels.

Both public transit and student transportation are facing a need to do more with fewer dollars. School districts that provide transportation to the general school population are now required by law to provide complementary service to students who require wheelchair-accessible or medically equipped vehicles. Even though a majority of these services are funded by the federal government through percentage reimbursements, local school districts must still carry part of the financial burden. Transit agencies operating fixed-route services also are required to operate complementary paratransit services for individuals who cannot use accessible buses.

State education administrators also have made a key shift in how budget allocations are made to local school districts. For example, some states are now giving school district "block grants," or lump sums calculated on a per student rate for all expenditures, including cost of teachers, building maintenance, and transportation. As a

direct result of these block grants, transportation needs are now competing against classroom activities for this funding.

Cost Saving Potential

Transporting students on public transit vehicles is most effective when "unused capacity" on existing routes is used, resulting in a long-run incremental cost to the taxpayer that is virtually zero. Similarly, transporting the public on school buses is most effective when there is available capacity. When additional service is required, there is a measurable cost. One can see that this cost equation will vary in each individual situation. Before school administrators or transportation personnel will consider coordination as a possible financial solution, a strong business case must be made (a case that will be unique to each situation).

A related funding issue involves distributing the costs and benefits of coordination among the various levels of government. Typically, the total cost of providing school transportation and public transit is shared in varying degrees between federal, state, and local governments and school districts. Costs and savings resulting from coordination may affect the current level of grants and subsidies from the respective funding partners.

4. Operational Issues

By understanding how student and public transportation services are delivered, including differences and similarities in management and operational processes such as service standards, vehicle standards and design criteria, governance, legislative and regulatory requirements, and costs, we can better identify opportunities for enhanced coordination of these services.

The following is a list of the operational issues that must be addressed in order for coordination to succeed.

Administration – Contractual Arrangements with Operating Companies.

Arrangements to provide school bus transportation services are typically defined by relatively short-term contracts, often one to three years in duration. The contracting out of the delivery of public transportation services, on the other hand, generally is for three- to five-year periods. The greatest efficiencies in integrating school bus transportation and public transit may require time frames that encourage long-term planning by both school districts and the service provider. Further, the request for proposal/contractor procurement process leading to long-term contractual arrangements

must be fully competitive between all potential service providers, including private school bus operators and public transit providers. School district contracting processes are currently designed for private operators only.

Administration – Third Party Management

Some municipalities contract out the management of public transit services. This is not a common occurrence with school districts, which typically maintain control of administration and planning services. Some stakeholders may not believe that these arrangements would permit an objective and neutral approach to the management of public transit services where further coordination of public transit and school transportation is being considered.

Labor Arrangements

Labor arrangements with drivers, mechanics, and other staff include collective agreements governing work rules, hours, minimum call-outs, and wages. Increased coordination may lead to changes in staffing requirements. Integration may also lead to either the sharing or transferring of employees between the public transit authority and school bus operations. This type of reorganization of the workforce between the existing service providers may create a range of issues related to successor rights for existing employees, training, licensing, compensation arrangements, and so forth. Integration of school bus and public transit services may be limited by certain work rules and the existing collective agreement for employees.

Vehicle Availability

Typically, school buses are used for pupil transportation during morning and afternoon peak hours, Monday through Friday. When pupils and non-pupils are not co-mingled, these vehicles may be available for alternate populations on weekends, evenings, midday, and during the summer months. This presents other challenges ranging from the availability of drivers to the lack of air conditioning. One means of enhancing the availability of school buses when they are needed most (peak hours) is to effect a school schedule change, usually through the use of flexible bell times. Typically, school bell times occur at any time between 8:00 a.m. and 5:00 p.m. Many school districts have embraced a policy of flexible bell times within this range as a means to optimize student transportation efficiency. Under this approach, school bell times vary to allow for double and triple school bus runs. As a result, costs are reduced through the improved use of buses. Flexible bell times also can be considered as part of an integrated approach, since

coordination opportunities may result from off-peak use of transit vehicles such as the return trip use of commuter runs for student transportation or more opportunities for multiple runs of school buses.

Maintenance

While both school buses and transit buses follow similar preventative maintenance schedules, the differences in vehicle design and engine and drive train configurations present other challenges to integrating the maintenance of these two vehicle types. While diesel mechanics could work on both vehicle types, occasionally the need for an expanded parts inventory may make the costs of integrating the maintenance prohibitive. Inventory, however, may not be a significant issue since school bus operators rarely keep a large parts inventory.

Liability and Insurance

Under existing legislation, the school district is responsible for all students being transported on school buses. Essentially, from the time a student is picked up until he or she is returned to the pick-up location after school, the school district is responsible for the student's safety. Any shift in school transportation from yellow school buses to public transit may result in reduced responsibilities for the school district and increased personal and parental responsibility; however, this may not be acceptable to parents who may demand and/or expect continuation of the existing arrangements.

All groups involved in examining school transportation alternatives agree that younger students, however defined, require greater supervision and should be transported on vehicles dedicated to a point-to-point service (from near the home to school and back). Parental expectations as to when unsupervised transportation is appropriate are not clear. The use of public transit for secondary students is currently widely accepted. Establishing such criteria for the first time, or changing it, means it will likely be subjected to considerable scrutiny and question.

5. Legal and Regulatory Issues

As mentioned earlier, there are certainly a number of regulatory barriers that inhibit the coordination of services. While most of these regulatory constraints pertain to the physical design of buses used to transport school children, there are a number of additional regulatory issues, as follows:

- Many state laws restrict students to school buses (which excludes the possibility of using public transit for transporting school children if school districts are to contribute funds toward the effort)

- Many state laws only allow students, the driver, and bus monitors on board school bus vehicles

- Federal transit regulations limit the type of school transportation service that can be provided with FTA-funded vehicles, in an effort to protect private operations

- The Americans with Disabilities Act (ADA) requires that new public transit vehicles be accessible and have specified door height. Student transportation regulations do not require that every bus be accessible.

Transportation for Individuals with Disabilities

Requirements for student transportation and those for other public services are different, as they are, for the most part, covered by different laws. The legal requirement that special education children must be transported to and from school if the school district is providing service to children without disabilities runs parallel to recent public transit mandates stemming from the enactment of the ADA. If a public transit agency provides fixed-route transit service, it is required by the ADA to provide complementary paratransit service (where and when the fixed-route service is provided) to persons with disabilities who, because of the disability, are unable to use the public transit service.

The growing transportation needs of children with disabilities have strained many school district budgets. Nonetheless, school districts are required by a series of laws to provide such transportation, regardless of a student's disability or the cost of service. In low-density areas, the public transit's mandate to provide complementary paratransit services whenever fixed-route services are provided has encouraged communities to eliminate fixed-route service and/or to operate only a demand-response service. Many communities struggling to provide a basic level of transit service can ill afford to operate two parallel systems, one for public transit and the other for school districts.

State Requirements

The degree of "restrictiveness" of legislation and regulations that relate to student transportation varies from state to state. After decades of school bus transportation operation, there exists a

national "crazy-quilt" of laws governing the transport of school children to and from school. Although the issue of coordinating passenger transportation services has been debated in various forms for over two decades, laws and regulations continue to be passed that create barriers between transportation for pupil, human service agency, and general public transportation services rather than strengthening the common ground among them.

6. Safety Issues

The issue of safety is central to the discussion of coordination. Safety can be an emotional issue, especially for the student transportation practitioners, school officials, and for parents. Indeed, most communities are particularly vested with school transportation because of the "cargo." As a result, prospective changes in policies and procedures that may stem from coordination planning (or anything else for that matter) are often perceived as a potential compromise to the safety of the community's school-age children.

Safety is of paramount concern to school transportation practitioners and is reflected in school bus specifications, driver screening and training, routing, the location of school bus stops, loading and unloading practices, and limiting the extent to which older and younger students ride at the same time. There are also many practitioners in the school transportation industry who believe that the co-mingling of students with the general public is not in concert with this focus on safety.

Passenger safety is also an important facet of public transportation operations. Many transit agencies have exemplary training and risk management programs, with staff dedicated to the provision of safe operations.

At the same time, with the exception of federal standards and guidelines, there appears to be a wide variance in safety programs in both the school transportation industry and the public transportation industry.

Vehicle Standards and Design Criteria

In the interest of protecting school children, the U.S. Congress mandated a unique and stringent set of safety standards for school buses. Initiated in 1977 and modified in the years since, these standards cover a wide range of areas; particularly important are passenger seating crash protection, rollover protection, warning lights, and pedestrian safety devices.

For large school buses (i.e., those with a gross vehicle weight [GVW] rating above 10,000 pounds), the federal standard offers occupant protection through a concept called "compartmentalization." In this method, school bus seats are spaced closely together to "contain" children in a cushioned compartment with only a minimum amount of space between energy-absorbing surfaces. The Department of Transportation (DOT) and National Highway Traffic Safety Administration (NHTSA) have determined that "compartmentalizing" school children in such cushioned seating areas is in fact easier, more manageable, and safer than requiring the use of lap belts in all school buses.

For small school buses (i.e., those with a GVW rating under 10,000 pounds), the federal standard requires either lap belts or lap/shoulder belts at all designated seating positions, in addition to compartmentalization. Safety belts are needed – and have been effective – in these smaller school buses because their size and weight are closer to that of passenger cars and light trucks, which minimizes the benefits of compartmentalization.

Hence, the design of school buses is based on unique safety standards ideal for school age children; at the same time, this design is not particularly conducive – and in some cases, presents an impediment and/or safety hazard – to the use of such vehicles by the general public. For example, most school buses have high steps, smaller interior dimensions, narrower aisle width, smaller seat pitch, and less headroom, and do not have air-conditioning and accessibility equipment. For some prospective (non-pupil) riders, these aspects make riding less comfortable; for others, the design may present safety concerns, as well as preclude use.

While public transit vehicles, in contrast, are designed to better accommodate adults and persons with disabilities (noting, too, that there is a much wider variance in transit vehicle design than school bus vehicle design), there are aspects of transit vehicles that are not particularly oriented to the transportation of children in the same way that school buses are. Inside the transit vehicle, there is a lack of compartmentalized seats, as well as an insufficient number of seats to guarantee each student a seat. Very little, if any, interior surface is covered with protective padding. In addition, in many designs, not all seats are forward-facing. Transit vehicles are not normally equipped with lap or shoulder belts for ambulatory passengers. Transit vehicles do not have a stop arm, warning lights, and crossing arm guard to enhance the safety of children outside the vehicle. Many transit vehicles also do not have the same roll-over protection that is required for school buses. On the positive side, larger public

transit vehicles are significantly heavier than standard school buses, and are therefore likely to sustain less damage in collisions.

Although school buses and transit vehicles have developed along separate lines, an effort is being made by the California Department of Education to develop a "hybrid" vehicle that would meet the standards, laws, and regulations applicable to both school buses and transit buses and be more conducive to the transportation of the general public. The California DOE developed the specifications for this vehicle (included in Appendix D, the Implementation Guide) and has since awarded the bid to Thomas Built Buses, which is in the process of building the utility bus. It is anticipated that this will be accomplished by November 1999.

Also important is that, to date, no study has thoroughly evaluated the safety of school bus vehicles against the safety of public transit vehicles. Funds were recently approved for this type of comprehensive research in the Transportation Equity Act for the 21st Century (TEA-21).

Driver Qualifications, Screening, and Training

Representatives of the school transportation industry and the public transportation industry respectively acknowledge that there are many commonalties between the two industries when it comes to minimum requirements for and screening of driver applicants, as well as initial and ongoing training. For example, driver applicants in most states are required to have a commercial drivers license (CDL). Screening often includes a criminal record check, a review of the applicant's motor vehicle record, a reference a check, and a drug and alcohol test. Several states, however, also *require* fingerprinting of school bus drivers (allowing for further criminal record checks). Many of these states also maintain a statewide database of school bus drivers.

Similarly, training programs for school bus drivers and public transportation share many common elements, including defensive driving, CPR and first aid, and vehicle pre-checks and maintenance issues. School bus driver training also typically includes pupil management skills and dealing with special needs children. Meanwhile, most public transportation systems now include disability awareness and passenger assistance training, attributable in part to the ADA. In addition, both industries typically require pre-service training as well as annual or bi-annual refresher training.

While driver qualifications, screening, and training are therefore roughly commensurate between the two industries, it is also true that there is great variance in these types of safety programs in

different states, and from community to community within many states. In some of the states with less pro-active safety-related regulations and guidelines, a particular school district and/or transit property can impose higher standards. In addition, national school bus and transit management/operations contractors will often bring with them corporate safety programs.

Co-Mingling of Passengers

Many school district administrators and parents remain staunchly opposed to the co-mingling of *any* student, regardless of age, with the general public. These detractors rightly point out that many states spend millions of dollars fingerprinting and running criminal checks on anyone who comes in contact with children throughout the school day, including teachers, janitors, administrators, and drivers. Why, then, would administrators compromise this protected environment by transporting students with the general public?

Others argue that age-appropriate co-mingling should be less of a concern. While acknowledging that younger children are more vulnerable and do require physical and social protection while being transported to school (including the separation of elementary school students from older students), they also suggest that children in high school, and perhaps junior high as well, do not necessarily need these same protections and, with proper training, could take care of themselves enough to ride safely to school with the general public on board at the same time. They point out that:

(1) in many urban communities, school district use of public transit to transport older students is fairly commonplace;

(2) many families that are not eligible for subsidized school transportation, but still live far from school, opt to send their older children to school via public transit;

(3) many parents allow their older children to take public transit to (a) get to an after-school job (and to get home afterwards) and/or (b) enable their participation in an after-school activity in schools where there is no "late" school bus; and

(4) many parents allow their older children to ride public transit services by themselves and with friends to go the movies, and so forth.

Moreover, in many non-urban communities, there appears to be less concern about co-mingling students with the general public, whether on school buses or on public transportation vehicles. In rural

America, transporting students with the "general public" connotes that a son or daughter might be riding with a neighbor, a friend, a teacher, or another parent.

Summary of Safety Issues

It is clear that both school transportation and public transportation industries take safety seriously. At the same time, the safety practices of public transit and student transportation have developed along separate lines and are supported by separate federal and state legislation. Moreover, state regulations and guidelines that relate to safety in both industries vary widely. There is also a significant variance in safety programs from one community to another, as long-standing attitudes among the practitioners there, as well as local school boards and the community at large define what is safe and acceptable. It is also true that many families of school age children, and perhaps the community at large, are more vested in school transportation service, because of the cargo, than with the local transit system, in terms of safety (unless they are already allowing their children to use public transit).

While there are differences between the two industries, and while there are differences from state to state, most practitioners agree that effective practices for *all* passenger transportation services are in the best interests of the community as a whole. This common interest may provide opportunities to work together to improve the safety of all passengers.

Summary of Key Factors

The eclectic nature of the delivery and operating environment of school bus and public transportation services in non-urban communities raises several issues and challenges to a more coordinated, if not integrated, approach to the delivery of these services. An understanding of how these services are delivered, including differences and similarities in management processes, governance, legislative and regulatory requirements, and costs, is important for identifying opportunities for enhanced coordination of services. In this discussion of key issues, there are several important underlying themes:

- Coordination between – if not the integration of – student transportation services and public transportation services is a complex concept. Generalized and unsupported perceptions about coordination are not helpful to making progress in this area. Coordination activities must be tailored to local circumstances and must be specific to different age levels.

- The student, general public, and human service agency service transportation industries have developed separately over the past 50 years. Legislative and regulatory decisions have been made at the federal and state levels based on this separation of service. For example, vehicle specifications, funding, and planning processes have all developed independently.

- Many school transportation and public transportation practitioners are wary about coordination using each other's vehicles. Many school transportation practitioners believe that public transit vehicles may not be as safe for children as school buses. They also point to laws and practices which enhance the safety of children outside the vehicle that are not always present in public transit systems, as well as specialized training in pupil management that public transit drivers often do not receive. Meanwhile, public transportation practitioners argue that school buses are not designed for the transportation of adults, which results in lack of comfort, but more importantly, precludes their use by persons who require accessibility equipment and/or air-conditioning during the hotter months.

- Both industries are interested in doing things in accordance with industry norms, and each may have difficulty in looking "outside the box."

- Owing to the complexity of the issues and the emotions tied to both student and public transportation, it is easy to react to the concept of coordination based on emotion rather than informed and well thought out opinions. Emotional issues include the loss of jobs in either school transportation or in public transit, protection of private entities in the school transportation business, the identity of the community and its transit or school district, the safety of a community's children, and the need for individuals to access jobs or basic services such as supermarkets or medical services.

Case Studies

Thirteen case studies were undertaken to provide more detailed information on communities engaged in coordination activities. As shown in the table on the following page, an effort was made to achieve geographic diversity as well as a range of coordination and integration strategies. Findings from the case studies included the following:

- **Broad-Based Community Support is Crucial.** Broad-based

community support is crucial for coordination efforts to be successful. Translating this community support into political support is important, and strong leadership is key.

Case Study Sites	Summary
Bonifay, FL Tri-County Community Council	Head Start participants transported on regular school bus routes. High school students transported on Head Start routes. Coordinating agency provides vehicles to schools for field trips. School Districts provide idle school buses to coordinating agency for group trips.
Cheraw, SC Chesterfield County Coordinating Council	School employees, school volunteers, and parents permitted to ride on regular school bus routes. Coordinating agency has requested a "proviso" to allow the transportation of general public on regular school bus routes on a space-available basis during a one-year demonstration period.
Cottonwood, AZ Cottonwood Area Transit System	School District transports some school children on general public Dial-A-Ride service. Families use Dial-A-Ride service to transport school children to after-school programs. Head Start transports pre-school participants on general public Dial-A-Ride service.
Decorah, IA Northeast Regional Transit System	School District transports some school children on general public Dial-A-Ride service. Families use general public Dial-A-Ride service to transport school children to and from school. Head Start transports pre-school participants on regular school bus routes and Dial-A-Ride service.
Gillette, WY Campbell County School District	Community groups "charter" School District yellow school buses and drivers for group trips when school buses are not needed for student transportation.
Glendale, OR Glendale-Azalea Skills Center	Coordinating agency arranges for JOBS participants to be transported to training site on regular school bus routes.
Idlewild, MI Yates Dial-A-Ride	School District uses public transportation provider, operating modified school bus vehicles, to transport school children to and from school. Services are fully integrated: school children ride along with general public riders.
Kalispell, MT Eagle Transit	School District uses public transportation service to transport special needs children to/from school. Families within walking distance use public transportation "tripper" service to transport school children.
Minot, ND Minot City Bus	School District uses public transportation provider to transport school children to and from school. Morning and afternoon routes are oriented to student transportation but are open to the public; services are fully integrated; school children ride along with general public riders.
Nampa, ID Treasure Valley Transit	Head Start agency took the lead in establishing public transportation property, also providing school buses, drivers, mechanics, and staff for system during start-up. Private school bus carrier provided maintenance and back-up vehicles and coordinated training during start-up. School District and families use public transportation service to transport some school children to/from school.
Selkirk, WA Selkirk Consolidated School District	School District took lead in establishing and operating a general public shuttle, utilizing a refitted, accessible school bus. The shuttle service connects schools, medical facilities, etc., in three towns and serves as an intra-district shuttle for students and a community transit system for the general public. Students and the general public ride on vehicles at the same time.
Thousand Palms, CA SunLine Transit Agency	School District used public transit service to transport high school students to/from school on a demonstration basis and continues to use public transit service to transport group trips. Families opt to transport high school and middle school students on public transit service. After-school programs use public transit to transport elementary school students from school to after-school program sites.
Trumbull Co., OH Trumbull Area Coordinated Transportation	Private school bus carrier assisted County in establishing county-wide coordinated system and managed, operated, and provided school bus vehicles to the system during start-up phase. The system currently focuses on the coordination of human service agency paratransit trips; plans include expanding service to provide transit and Dial-A-Ride service to the general public by 2000.

- **Costs Play an Important Role.** Cost savings depend upon the point of view of the entity affected, including the school district, public transit agency, human service agency, or parents. The coordination effort needs to make good business sense to at least one of these entities.

- **Safety Is an Ongoing Issue.** Safety is an on-going issue with every kind of coordination effort, although safety concerns are very community-specific. In some areas, co-mingling concerns have seriously thwarted coordination, while in other communities comingling is not an issue at all.

- **Transitions Are a Challenge.** The transition from separate services to integrated services is a challenge, although agencies noted that attitudes were often more of an issue than the reality. The number one barrier noted was the reluctance of the student transportation practitioners to participate in coordination activities.

- **Legal and Regulatory Issues Shape Coordination Efforts.** The legal and regulatory environment plays a significant role in how the coordination project takes shape. The environments vary considerably from state to state.

- **Head Start Plays a Major Role.** The needs of Head Start programs also seem to have played an integral role in a number of these efforts, either by drawing the school district and public transit providers to the same table to address Head Start transportation needs or, in one case, by actually lending Head Start vehicles to establish a public transit system in the area.

- **Coordination Works.** Coordination works, particularly in rural and non-urban areas. It is effective at improving mobility and saving communities money.

Conclusion: Coordination Can Be a Viable Alternative

There is significant potential for coordinating and integrating school and public transportation services in non-urban areas. Communities often coordinate human service transportation and public transportation services; this project has shown that school bus and public transportation coordination can fit within this coordination framework as well, especially in non-urban areas. The key is to

broaden the concept of coordination so that all players in the passenger transportation industry are involved.

Although coordination of any type of transportation service is difficult, coordination between – if not the integration of – school transportation and public transportation is especially challenging. Each serves a different clientele and has different operating environments, funding sources, and vehicle requirements. Also, each type of service has developed along separate lines. These differences are supported by legislative and regulatory decisions and have resulted in unique industry practices and long-standing attitudes about what is acceptable.

The communities currently coordinating services illustrate that prevailing industry standards and perceptions may no longer be valid, particularly in rural and non-urban areas. Further, the communities successfully coordinating services show that there is no single way to coordinate. Each community's goals, needs, and resources determine the type and level of coordination that is appropriate and most effective.

The research effort further clarified that coordination of public transportation and student transportation services can provide a solution to financial constraints and limited mobility in non-urban areas, but it is not a panacea for all transportation-related issues. In some situations, coordination may not work at all. The challenge is to identify new practices that are effective and to support these practices through changes in regulations and financing rules as well as with technical assistance.

School transportation and public transportation are both significant industries in their own right. Each has a body of experience that continues to be instructive when developing new initiatives. Each also has interests to protect. It will be a key challenge for each of these industries to learn to think "out-of-the-box" in order to meet the challenges of the new century.

To support communities that wish to consider coordination, it is important to provide information on the options. Providing clear information about what aspects of service delivery and/or support services are being coordinating, how this coordination was implemented, and the legal and regulatory limitations that exist will help to eliminate misconceptions and to simultaneously broaden our understanding of what is possible. The Implementation Guide developed for this project is an important effort toward this end.

Finally, safety is an important concern that is crucial to successful coordination. Indeed, the high level of stewardship that the student transportation practitioners and the school community feel for its passengers can preclude their objective consideration of coordinated or integrated transportation systems. Much of the school transportation practitioners' negative reaction to coordination, identified as a concern for safety, is a response to the level of care that their passengers, and especially younger students require.

And yet many public transportation practitioners suggest that certain customer groups, such as the frail elderly and developmentally disabled individuals, might benefit significantly from similar levels of care, pointing out that readily recognizable vehicles, traffic control devices, and so on, can also serve adults who require more assistance. This seems to suggest a willingness to develop a common set of safety standards for both industries that would serve to enable more opportunities for coordination.

With these thoughts in mind, there are two efforts that are worthy of the industries' attention and participation. The first is to develop a "hybrid" vehicle that meets both school safety and transit vehicle standards. The second is to standardize a common set of safety-related regulations, guidelines, and training programs for both industries and to implement these as much as possible throughout the country.

The State of California Department of Education's recent work developing a hybrid public transit/school bus vehicle – a vehicle that meets the Federal Motor Vehicle Safety Standards (FMVSS) requirements for school buses while at the same time retaining some of the comforts of the traditional transit buses – is a step in the right direction. At a reasonable cost, this new bus encourages communities to think collectively about how best to serve those passengers in need of added protections while simultaneously nurturing the notion of *community* resources and a *community* vision of mobility.

Such a vehicle would enable school districts, especially those in rural areas with little or no public transportation, to serve as the community transportation provider. In North Carolina, for example, a new law provides for non-urban area school districts to become the lead agencies for transportation of care-dependent citizens; under this law, the school district would receive state funding of capital expenditures. This law is not only important to human service agencies, but to unaffiliated transit-dependent persons whose current mobility options are limited. The key is to recognize that the school district vehicles and operations practices have broader

application than just student transportation, and with the introduction of a hybrid vehicle, the applications would be broader still.

Along with this vehicle design breakthrough, it would be beneficial for public transportation agencies to include in their driver training programs and practices elements that are specific to transporting school students. With such training, non-urban communities that have both school bus service and public transportation service could consider the possible integration of service or the coordination of complementary services, both of which would be designed to reduce, if not eliminate, duplicative transportation.

The school bus is an underutilized resource that has the potential to be a vital *community* resource, especially in non-urban areas without public transportation. In such areas, the broadening of service and the conversion to a community transportation system – serving transit-dependent passengers if not the general public – with the school district either taking the lead or actively participating, would seem to be the next logical evolution. This would ensure the long-term viability of the service and would create new resources to accomplish the task. And in non-urban communities with both public transit and school bus resources, it would be beneficial for the community to explore how the two services could be coordinated or integrated in such a way that the community is able to better address the unmet transportation needs of its residents.

Clearly, those communities that wish to coordinate their resources will find a variety of ways to do so. In this process, however, it is important to consider coordination possibilities not just between student transportation and public transportation services, but also with human service agency transportation services.

It is also important to understand that successful coordination efforts in one community may not work in another community. The effectiveness of any such effort often depends on a range of factors, including geographic area; available services and capacity; the organizational and service delivery structure of those services; state regulations and funding policies that pertain to student transportation, general public transportation, and human service agency transportation; and the local political climate.

The ultimate key to coordinating public and student transportation services is to recognize that: (1) options to coordinate and integrate the community's transportation services do exist and have proven to be successful, sometimes under regulatory and political environments that are not conducive to such efforts; (2) community

involvement and support are prerequisites to determining which option best fits the needs of the community and to overseeing the implementation of that option; (3) the community must take a common stand and work with its state representatives to effect regulatory change or a restructuring of resource distribution *if* it believes that current regulations and policies represent a barrier to the coordination option that the community prefers; and (4) coordination efforts do take time, effort, and commitment and are often years in the making.

Chapter 1: Introduction

Background

In recent years, the environment in which schools and public transit operators are providing service has changed dramatically. Now, as never before, school districts and public transportation operators are facing fiscal constraints and challenges while simultaneously striving to improve – if not maintain – service for their students and customers. Public transportation properties are being confronted with reduced and uncertain funding, as well as new requirements as a result of the Americans with Disabilities Act (ADA). At the same time, revenue has not kept pace with expenses, and the costs of providing transportation have risen significantly as overall ridership has declined.

Many public transportation agencies have responded to these pressures with service reductions and/or fare increases that often exacerbate ridership losses. Under these constraints, other transit agencies have elected not to expand or restructure service to accommodate unserved demand in new growth areas. Meanwhile, many schools, also facing increasing costs, funding cut-backs, and the requirement to provide increased specialized transportation have been forced to increase walk distances to reduce transportation costs. As funding shortages have become more frequent and the overall demand for public and pupil transportation services has increased, community leaders have had to consider ways to deliver services more efficiently and in a less duplicative manner.

This need is especially acute in rural areas, where the supply of public transportation in general is limited. Approximately 38 percent of the nation's rural residents live in areas without any public transit service, and another 28 percent live in areas in which the level of transit service is negligible, according to the Community Transportation Association of America (CTAA).[iv] Furthermore, national statistics suggest that 1 in 4 rural households does not have

an automobile, and nearly 1 in 3 rural Americans either has no car or cannot drive.[v] This dearth of transportation concerns many rural communities, especially because residents are unable to access health and human services and employment opportunities. In response, a number of rural communities *without* public transportation services have looked to their school bus resources as a solution to filling their community transit needs, despite a battery of legislative, regulatory, and attitudinal barriers.

At the same time, in many non-urban communities *with* separate public and pupil transportation services, a few school districts and public transit agencies are partnering to provide these services in a more coordinated manner to increase the cost-effectiveness of these services and hence stretch their funding dollars. In some of these non-urban communities, school districts are transporting students – particularly in high school – via public transit. In other communities, the general public is being transported on school buses when the buses are not in use for student transportation. And, in a few communities, the public transit agency and the school district have coordinated to allow students and the general public to ride on school buses at the same time.

Efforts employed by school districts and public transit agencies to coordinate their services are not limited to operations; some school districts, public transit authorities (operating fixed-route and/or paratransit service), and even Head Start transportation programs have integrated support services such as maintenance and fueling. In addition, the consolidation of administrative staff – if not the coordination of the entire programs – has been achieved in a few areas and is being considered by others.

While there are a few success stories in the United States and in Canada, the legislative and institutional barriers, restrictive funding requirements, turfism, attitudes (especially with respect to safety concerns), operational issues, and lack of information about these success stories continue to present obstacles to coordinated services.

One of the major barriers to coordination that is inherent to the school transportation industry is the regulatory environment. Pupil transportation is subject to specific regulations that do not apply to other transportation providers. Further, in the United States, state agencies are delegated with the primary (funding) responsibility for pupil transportation. With this funding comes various constraints, such as vehicle and driver standards, insurance levels, purchasing procedures, inspection standards, maintenance standards, route standards, and who may or must be transported. These regulations vary from state to state.

Regulations governing curricular and extra-curricular use of school buses, including regulations that govern non-pupil use of *publicly owned* school buses, also limit the options. Again, these laws vary from state to state. For example, there are states that allow such use; states that delegate the decision to the local education agency (e.g., school district); states that restrict such use (e.g., to certain agencies or types of users, to certain areas, or to certain trip purposes); and states that prohibit such use. For this reason, opportunities for coordinating student transportation and public transportation in general, and non-pupil use of publicly owned school buses in particular, are subject to 50 different regulatory environments.

There are also federal regulations that affect vehicle design, seating, school bus markings, and labor usage. The design of yellow school buses has been fine-tuned over the years to produce a safe vehicle for the transportation of children. Indeed, the safety of children, as manifested in the vehicle design, routing of school buses, specialized school bus driver training, and policies and procedures, is the principal focus of the student transportation industry. This focus on safety – and the perception that public transit cannot meet these standards – also has proven to be a major stumbling block to coordination, although not in all communities.

In considering the use of school buses for public transportation, detractors have pointed out that the physical design of the school bus is not conducive to a high comfort level for adult riders, and that the similarities in peaking characteristics, especially in the morning, diminish opportunities for coordination. In addition, insurance

requirements in some states create a financial disincentive to non-pupil use of school buses.

Lastly, while there have been studies dating back to the mid-1970s that have addressed this topic in a more general fashion, there are three factors that suggest a need to revisit the issues and to disseminate new solutions and call for the undertaking of this study now:

- **The fiscal crisis for both the public transit and school transportation industries has been acute.** In the last few years, insufficient funding for both public transportation and student transportation has provided more of an impetus for local coordination than at any other time in the past two decades. Faced with funding shortages, whether on the federal, state, or local levels, and increases in demand, community leaders have had to consider ways to deliver transportation services more efficiently and in a less duplicative manner as a preferred alternative to reducing service levels, a "solution" that has plagued many communities. Thus, in non-urban areas where this has been particularly acute, acceptance of coordination has become more prevalent, while turfism, although still an obstacle, has become less important. As this funding picture improves, as a result of such legislation as TEA-21 for example, it will be interesting to track whether or not cost-efficiency continues to be an impetus to coordination in non-urban communities.

- **The transit industry has undergone some dramatic changes since the beginning of this decade.** With the advent of new laws and regulations such as the ADA and new policies such as welfare reform and access to jobs, many transit properties have recognized the need to "reinvent" their systems to accommodate the needs of an expanding customer base. In addition, the transit industry also has responded to market pressures by implementing service changes that better meet the needs of its existing patrons, in recognition that transit is now a player in a more competitive business context. In many cases, transit service solutions have proved to be quite flexible, while the transit vehicles themselves have seen dramatic improvements in comfort, accessibility, and safety. Accordingly, there is both a need to reevaluate the potential of transit for pupil transportation and an incentive to disseminate these advances to both the school bus industry and to community leaders so that all stakeholders can make informed decisions.

- **None of the preceding studies provided quantifiable benefits.** As the leaders of non-urban communities struggle with fiscal constraints, increased demand, and the desire to provide more mobility options for their constituents, there is a need to provide more than best practice models through the case study approach; there is need to provide quantifiable results of these efforts in terms of cost savings and numbers of new trips served, in addition to the more qualitative experiences relating to rider safety and comfort, and how certain obstacles were overcome. While each is important in the decision-making process, the harder numbers may provide the missing information for decision-makers and other stakeholders in these non-urban communities.

Research Objectives and Report Organization

Overall, the primary goal of this study is to provide information about successes, failures, and implementation strategies that will assist leaders in non-urban communities (both with and without public transportation services) to make better decisions in considering how their transportation funding can translate into a maximum yield of community and student transportation. A secondary, yet important, goal of the project is for the public transit industry and the school bus industry to learn more about one another and eliminate misconceptions that inhibit their willingness to work together for the betterment of the community.

In order to accomplish these goals, the project team:

- Conducted a comprehensive literature review
- Developed, conducted, and analyzed a national survey designed to capture information about coordination and/or integration efforts undertaken by school districts and public transit agencies
- Developed a summary of key issues and concerns related to the coordination of student and public transportation in non-urban areas
- Conducted thirteen case studies
- Completed supplementary research on specific state laws and regulations, yellow school bus and public transit safety policies and procedures, and blended ("hybrid") vehicle design

- Developed an Implementation Guide (Appendix D of this report).

The results of this study are included in this report. Chapter 2, Key Issues, outlines the key barriers school districts and public transit operators face when attempting to coordinate service. Chapter 3, Safety, focuses on vehicle standards and design criteria, non-standard vehicles for student transportation, driver qualifications and training requirements, and operational issues for both the pupil transportation and public transit industries. Chapter 4, Case Study Summaries, reviews the findings of the thirteen case studies conducted for the project.

The appendixes also contain a considerable amount of information. Appendix A includes a Literature Review and accompanying Bibliography. Appendix B presents a summary of the survey findings. The thirteen case studies are discussed in detail in Appendix C. Appendix D contains the Implementation Guide in its entirety.

Chapter 2: Key Factors

Introduction

There are many factors that affect the coordination of student transportation and public transportation in non-urban areas. Some of the more prominent factors include the following:

- Lack of public transportation services
- Existence of human service agency transportation
- Funding issues
- Operational issues
- Legal and regulatory issues

Safety issues also are included in this list; however, since safety is such a central and important issue, it is addressed separately in Chapter 3.

Prior to discussing each of these factors, it is important to keep the following thoughts in mind:

- **Some issues overlap more than one category.** For example, under safety, vehicle safety concerns are identified. Vehicle safety standards also are discussed under regulatory issues, because regulatory action has been a long-standing method of addressing safety concerns.
- **Each factor or issue may have a different level of importance in different communities.** For example, the co-mingling of adults and students on the same vehicle may be of acute concern in some communities, but not nearly as pressing in others.

- **Some issues are unique to the federal level, while others are specifically applicable to a particular state or locality.** It is first important to understand which factors are the most critical for non-urban communities in general. Then it is important to distinguish between issues that stem from federal legislation and those that stem from the state or local environment.

Lack of Transit Service

Transportation in rural areas is dominated by the private automobile and facilitated by the extensive network of publicly funded highways and roads. Meanwhile, the dearth of public transportation in rural areas is a dramatic and well-publicized fact. Thirty-eight percent of the nation's rural residents live in areas without any public transit service, and another twenty-eight percent live in areas in which the level of transit service is negligible (i.e., equivalent to less than 25 yearly trips for each household without a vehicle). The comparable level of transit service in urbanized areas is equivalent to 955 trips for each car-less household.[vi] To further highlight the limited mobility options of rural residents, national statistics suggest that 1 in 4 rural households does not have an automobile, and nearly 1 in 3 rural Americans either has no car or cannot drive.

The limited availability of public transportation in rural America is generally attributable to the high cost of serving low density areas. In short, the cost per trip can be quite high in rural communities. Demand-response or subscription services are often the only feasible alternatives, as is reflected in the CTAA statistics that claim that paratransit demand-response service is the most common form of public transportation in rural communities receiving federal transportation funds.

This lack of transportation can become particularly pressing when rural Americans are unable to travel to available jobs. In fact, serving these rural residents is one of the challenges of recent Welfare-to-Work transportation initiatives.

The lack of transportation in rural areas also shifts the rationale for coordinating services. In more populated areas, eliminating duplicative services is one key reason for coordinating or integrating school bus and public transit services. In rural areas, duplication is rarely the issue; instead, coordination in non-urban areas focuses on improving mobility for residents.

Existence of Human Service Agency Transportation

There are more players in the passenger transportation field than there were in the past. Particularly in the rural areas without public transportation or with few choices available for contracting or purchasing transportation services, agencies may believe they need to be transportation providers in order to meet the transportation needs of their clients. As a result, individual programs each may provide services limited to their participants. Programs that traditionally provide transportation are those for the elderly, Medicaid recipients, and people with developmental disabilities, as well as programs such as Head Start. Where general public transportation is operated, a long-standing challenge has been to coordinate these various resources.

Although a seemingly unrelated issue, lack of transportation is one of the greatest obstacles preventing welfare recipients and adults from getting or upgrading job skills. The recent passage of the federal Welfare-to-Work Act continues to significantly impact rural areas, and is even affecting Head Start programs because the vast majority of welfare recipients are single mothers with young children. In order to address the need for day care services for mothers now working outside the home, many states are now placing the children of working welfare mothers in Head Start centers. In addition, the Welfare-to-Work Act has forced many states to develop programs designed to meet the transportation needs of persons now traveling to and from work and home, to and from work and daycare, or to and from the grocery store. The increasing numbers of parents and children directly and indirectly involved in Head Start, coupled with the requirements of the Welfare-to-Work Act, could encourage states and communities to seriously consider service coordination.

The Administration for Children and Families is currently in the process of developing a formal rule on Head Start transportation, clarifying that Head Start programs should be bound to the same vehicle and driver restrictions as traditional school transportation service. Also, the rule would require every Head Start program to coordinate its transportation services with those of other human service agencies in a community whenever possible.

In the meantime, 14 percent of Head Start agencies contract with public transit agencies and 27 percent with school districts for transportation.[vii] Unfortunately, since more than 38 percent of America's rural population lives in areas with no available public transportation, many Head Start programs in rural areas lack a

public transportation entity with which to contract. Thus, opportunities for coordination – before and after the Final Rule – is an important area for school districts, social service agencies, and Head Start programs to explore. Of course, many Head Start programs also have their own buses, or contract with bus companies.

Finally, rural agencies and service providers are practiced in forging cooperative arrangements with other service providers. Out of necessity, rural agencies and rural public transit providers have worked together to develop paratransit service networks, to jointly fund maintenance facilities, and oftentimes to share staff. Thus, the social environment in rural areas is perhaps more ideal for coordination than that found in urban areas.

Funding Issues

Coordination is often presented as one solution to the funding constraints faced by school transportation administrators and by public transit authorities. Integrating school transportation and public transportation, many argue, is a method of stretching scarce dollars. Before presenting the solution, we should better understand the problem, beginning with a description of funding and cost pressures faced by both public transit services and school districts.

Public Transportation Funding

Prior to 1978, almost all federal transit dollars went toward funding urban transit.[viii] In the Surface Transportation Act of 1978, however, Congress created a new program of transit assistance specifically targeted to rural areas; eventually, the program became Section 5311 of the Federal Transit Act (formerly known as Section 18).

Section 5311 is the federal source of capital and operating assistance for rural public transportation (i.e., public transit service in areas with populations under 50,000). The Federal Transit Administration apportions funds annually to the states according to a formula based on non-urban area population. The federal share is up to 50 percent for operating assistance and 80 percent for capital. Public bodies and private, non-profit entities are eligible sub-recipients.

In Fiscal Year (FY) 98, Section 5311 funds totaled over $134 million. With passage of TEA-21, the Transportation Equity Act for the 21st Century, Section 5311 funds will grow to $178 million for FY 99, a 32 percent increase (as compared to the 17 percent increase for urban

transit). Further, rural transit funding is slated to grow to $240 million by FY 03, an 80 percent increase from the FY 98 level. Funding authorizations for rural transit are shown below:

Rural Transit Authorizations Under TEA-21

FY 98	$134,100,000
FY 99	$177,900,000
FY 00	$193,600,000
FY 01	$209,300,000
FY 02	$224,900,000
FY 03	$240,600,000

In addition, TEA-21 provides for between $50 and $150 million in Access-to-Jobs funding for the next six years, 20 percent of which is dedicated to rural areas.

As tracked by the CTAA, the "Section 18 service area [in 1995] included 773 cities with population between 10,000 and 50,000. These cities comprise 15 percent of the nation's rural population (23 percent in the West, 17 percent in the Midwest, 14 percent in the South, but only 9 percent in the Northeast)."[ix]

The Section 5310 program (formerly known as the Section 16 program) is also important, because it provides capital funding for the purchase of vehicles and related equipment for the provision of transportation to seniors and persons with disabilities. Historically, these funds have been provided to private non-profit agencies, although public entities are also eligible for Section 5310 funds in certain circumstances. A public entity may be eligible if it has been designated by the state as a Coordinated Service Provider (CSP) for the region, *and* transportation needs of the private, non-profit organizations in the region are being met. It is also important to note that unlike Section 5311, the Section 5310 program is not exclusively rural.

While Section 5311 revenues are a key to operating general public transportation services in rural areas, most programs have developed a net of funding sources through coordination with a wide range of human service programs. It is common for single agencies to provide services for a number of programs, in addition to service for the general public. Services for the elderly, funded through the Older Americans Act (OAA), are one of the most common. The OAA rarely provides enough funding to cover the full cost of a trip, but when combined with Section 5311 funds, effective services can be offered. Medicaid, Head Start programs, and now Welfare-to-Work initiatives are three other federally funded

programs that are likely to coordinate with general public services. Because of regulatory requirements, when Head Start service is operated by the same agency as general public or other human service transportation programs, it is usually operated as a separate service, with no co-mingling of passengers and with monitors on every vehicle. Transportation programs for the developmentally disabled are another type of service where there is significant coordination when public transit services are available. Transportation services for people with developmental disabilities are often funded primarily through state funds, so regulatory requirements vary by state. To the extent that an agency is able to provide services for a wide range of programs and to blend these funding sources, the mobility within a community is enhanced.

While rural areas are certainly far better off than before Section 5311, a number of transportation needs remain. Notably, most Section 5311 recipients do not have their own maintenance facilities (29 percent are owned, and 15 percent of these are shared with other agencies). Joint maintenance facilities are a prime opportunity for both public transportation providers and school districts. Also, only about 40 percent of Section 5311 vans and two-thirds of small buses that are used in rural transit services funded by Section 5311 are wheelchair accessible, according to CTAA estimates. As school districts continue to address the needs of disabled students, this may be a resource worth considering.[x]

It must also be remembered that the share of federal funding under Section 5311 is 50 percent for operations and 80 percent for capital expenditures. This means that a local and state combination funding match must be secured first. In many non-urban communities, a dearth of local and/or state matching funds can translate into an inability to obtain Section 5311 funds. Indeed, rural America's increasing dependence on state-level support for these matching funds may be due to the lower per capita incomes in less densely populated communities. These areas simply do not have the tax base to fill in gaps in transportation service through local funding streams.

Rural transit providers must also garner enough funding to keep up with new requirements. In addition to the traditional costs associated with transit operation, two relatively new laws – the ADA and the Clean Air Act – have created additional financial requirements for public transit agencies.

Student Transportation Funding

School transportation administrators have faced similar trends in supply and demand. In contrast to the public transportation industry, school transportation funding is almost always obtained through local or state channels. Much like transit and federal government monies, shrinking state and local budgets have translated into percentage declines in school district budgets.

At the same time, the Education of the Handicapped Act/Rehabilitation Act of 1973 – which later developed into the Individuals with Disabilities Education Act (IDEA) of 1990 – has expanded the requirements for the provision of school-based transportation to students with disabilities. Much like the ADA, school districts that provide transportation to the general school population are now required by law to provide complementary service to students who require wheelchair-accessible or medically equipped vehicles.

State governments reported spending $10 billion on K-12 transportation in the 1995 to 1996 school year. This translates into an average of $493 spent annually to transport each regular education student, and an average of $2,461 spent annually to transport each student with a disability. Over 180 days per year, at 2 trips per day, this translates to an average (and inexpensive) cost of $1.37 per trip for regular education students and a cost of $6.85 per trip for special education students.

State education administrators also have made a key shift in the style of budget allocations to local school districts. For example, some states are now giving school districts "block grants," or lump sums calculated on a per student rate for all expenditures, including cost of teachers, building maintenance, and transportation. As a direct result of these block grants, transportation needs are now competing against classroom activities for this funding. Since most parents and educators favor maximizing the funding directed to in-classroom activities, the funds available for transportation have been sharply reduced or eliminated altogether. As a result, school districts are getting out of the transportation business, expanding walk distances from home to school, forcing parents to fund transportation for their children on their own, or, in other cases, encouraging innovative, coordinated activity. The state of Michigan, for example, has been at the forefront of innovative coordinated activity due to a combination of flexible legislation and a trend toward block grant allocations.

Cost-Saving Potential

Previous studies have attempted to pinpoint where cost savings may be achieved through coordination. Multisystems' 1982 study, *The Coordination of Pupil and Non-Pupil Transportation,* states that "since the majority of costs for both public and school bus service is related to the operation of the vehicle, the biggest savings can be achieved through the elimination of vehicle miles of travel."[xi] Vehicle use could be reduced or eliminated by reducing fleet size, for example, or by switching to the lower cost operator (usually the school district vehicles). Eliminating duplicative administrative and support services also could translate into cost savings.

The literature review and survey documentation indicate that agencies that consider coordinating student and other passenger transportation services find different answers when they evaluate the cost effects of coordinated activities because factors that affect the costs of coordination are different for each situation.

Transporting students on public transit vehicles is most effective when it uses "unused capacity," resulting in a long-run incremental cost to the taxpayer that is virtually zero. When additional service is needed to serve school pupils, there is a measurable cost. For example, while the operating costs of public transit are generally higher than those of school bus operations, opportunities may still exist to maximize the utilization of unused capacity on transit vehicles, where the incremental cost will be relatively low or even zero. There are also measurable impacts on the costs of allowing the general public to use school buses. To the extent that unused capacity is available, such as on rural routes traveling into a main community, the cost to the taxpayer can be virtually zero. However, to the extent that school buses are used through a greater portion of the day (and therefore operating more miles), there may be significant effects on the cost of maintenance, labor, vehicle replacement, and insurance.

School district and municipal (or regional) transportation systems are funded and overseen by separate government departments. In the current funding environment, it may be difficult to motivate municipalities and school districts to use the "greater common good" as the rationale when they have to explain an increased

transportation budget or transit operating deficit. Thus it is important to consider the total cost to the taxpayer. Before school administrators or transportation personnel will support coordination as a possible solution to financial woes, a strong business case must be made; this business case will be unique to each situation.

Another related funding issue involves distributing the costs and benefits of coordination among the levels of government. Typically, the total cost of providing school transportation and public transit is shared in varying degrees among federal, state, and local governments, and school districts. Costs and savings resulting from coordination may affect the current level of grants and subsidies from the respective funding partners.

Operational Issues

By understanding how student and public transportation services are delivered, including differences and similarities in management and operational processes such as service standards, vehicle standards and design criteria, governance, legislative and regulatory requirements, and costs, we can better identify opportunities for enhanced coordination of these services.

The following is a list and discussion of the operational issues that must be addressed in order for coordination to succeed, except for the issues related to safety, which will be discussed in the following chapter.

- **Administration - Contractual Arrangements with Operating Companies.** Arrangements to provide school bus transportation services are typically defined by relatively short-term contracts, often one to three years in duration. The contracting out of the delivery of public transportation services, on the other hand, generally are for three to five years. The greatest efficiencies in integrating school bus transportation and public transit may require time frames that encourage long-term planning by both school districts and the service provider. Further, the request for proposal/contractor procurement process, leading to long-term contractual arrangements, must be fully competitive between all potential service providers, including private school bus operators and public transit providers.

- Administration - Third-Party Management. Some municipalities contract out the management of public transit services. This is not a common practice in school districts, which typically maintain control of administration and planning services. Some stakeholders may not believe that these arrangements would permit an objective and neutral approach to the management of public transit services where further coordination of public transit and school transportation is being considered.

- Labor Arrangements. Labor arrangements with drivers, mechanics, and other staff include collective agreements governing work rules, hours, minimum call-outs, and wages. Increased coordination may lead to changes in staffing requirements. Integration also may lead to either the sharing or transferring of employees between the public transit authority and school bus operations. This type of reorganization of the work force between the existing service providers may create a range of issues related to successor rights for existing employees, such as training, licensing, and compensation arrangements. Integration of school bus and public transit services may be limited by certain work rules and the existing collective agreement for employees.

- Vehicle Availability. Typically, school buses are used for pupil transportation during morning and afternoon peak hours, Monday through Friday. When pupils and non-pupils are not co-mingled, these vehicles may be available for alternate populations on weekends, evenings, mid-day, and during the summer months. This presents other challenges, ranging from the availability of drivers to the lack of air conditioning.

  One means of enhancing the availability of school buses when they are needed most (peak hours) is to effect a school schedule change, also known as flexible bell times. Typically, school bell times occur at any time between 8:00 a.m. and 5:00 p.m. Many school districts have embraced a policy of flexible bell times within this range as a means to optimize student transportation efficiency. Under this approach, school bell times vary to allow for double and triple school bus runs. As a result, costs are reduced through the improved use of buses. Flexible bell times also can be considered as part of an integrated approach, since coordination opportunities may result from the off-peak use of transit vehicles such as the return trip use of commuter runs for student transportation or more opportunities for multiple runs of school buses.

The length of the arrival and departure windows during which students could arrive before bell times and depart from school after bell times also restricts transportation planning flexibility. Longer time windows at the start and end of the day may permit more efficient bus planning, although there may be a cost for increased supervision when arrival and departure windows are expanded.

- Maintenance. While both school buses and transit buses follow similar preventative maintenance schedules, the differences in vehicle design and engine and drive train configurations present other challenges in integrating the maintenance of these two vehicle types. While diesel mechanics could work on both vehicle types, occasionally the need for an expanded parts inventory may make the costs of integrating the maintenance prohibitive.

  Additional use of school buses will require additional maintenance expenditures. Vehicles that are used more frequently will wear out more quickly, but may be able to provide more total vehicle miles than expected over a normal lifetime. It is uncertain whether the added wear and tear on the vehicle will increase or decrease capital cost per mile.

- Liability and Insurance. Under existing legislation, the school district is responsible for all students while they are being transported on school buses. Essentially, from the time a student is picked up until he or she is returned to the pick-up location after school, the school district is responsible for the student's safety. Any shift in school transportation from yellow school buses to public transit may result in reduced responsibilities for the school district and increased personal and parental responsibility. This may not be acceptable to parents who may demand or expect continuation of the existing arrangements.

  All groups involved in examining school transportation alternatives agree that younger students, however defined, require more supervision and should be transported on vehicles dedicated to a point-to-point service (from near the home to school and back). Parental expectations as to when unsupervised transportation is appropriate are not clear. Use of public transit for secondary students is currently widely accepted. Establishing such criteria for the first time, or changing it, means it will likely be subjected to considerable scrutiny and question.

  Insurance premiums issued on school bus operations generally cover only pupil transportation. The use of school buses for non-

pupil transportation requires additional coverage. Unfortunately, insurance regulations often make it prohibitively expensive to use school buses except for large group trips for which school buses are particularly cost-effective. Since this is a relatively new concept, a rigid set of rules has not been established by the insurance industry. Insurance for non-pupil use of school buses has been issued on a case-by-case basis. To date, insurance companies have underwritten such policies in the following ways:

- Incorporating non-pupil use of school buses in the premium
- Attaching a rider to the school bus premium
- Requiring a separate premium for non-pupil transportation

Legal and Regulatory Issues

As mentioned earlier, there are certainly a number of regulatory barriers that inhibit the coordination of services. While most of these regulatory constraints pertain to the physical design of buses used to transport school - and, per the Final Rule - Head Start children, there are a number of additional regulatory issues:

- **Many state laws restrict students to school buses.** In short, local, state, and federal governments have devoted considerable time, money, energy, and research to creating the yellow school bus environment for school children. In order to maximize the benefits of this service, many states restrict school children to yellow school buses. Obviously this excludes school children, including special education students, from riding on any type of public transit vehicle. With the new Final Rule for Head Start, pre-school children also may be restricted to traditional yellow school buses.

- **Many state laws only allow students, the driver, and bus monitors on board school bus vehicles.** These restrictions sometimes go so far as to not only prohibit co-mingling, but also to disallow the use of school buses during off-peak, idle hours. Some creative communities are circumventing the student-exclusivity regulations by training Head Start parents or Welfare-to-Work participants as bus monitors, though usually after the successful completion of a criminal background check.

- **Federal transit regulations limit the amount of school transportation service that can be provided with FTA-funded vehicles.** Public transit operators cannot contract for school bus service, even on an incidental basis, unless private operators are incapable of providing adequate service. The purpose of this regulation is to ensure that transit agencies subsidized with public funds do not compete with private school bus operators. Public transit operators can, however, accommodate school children on regular transit service, including the operation of "trippers," as long as that service also is open to the general public.

- **The Americans with Disabilities Act requires that new transit vehicles be accessible and have specified door height.** These regulations are meant to ensure that all public transit vehicles will eventually be accessible. However, the addition of a wheelchair lift and providing interior room to move the wheelchairs means that seating capacity is reduced. Student transportation regulations do not require that every bus be accessible.

Transportation for Individuals with Disabilities

The regulations regarding transportation for people with disabilities have developed along separate paths. Requirements for student transportation and those for other public services are different, because they are covered by different laws. What is common for both is the financial burden they place at the local level. While local, state, and federal funds for school transportation have declined, the growing transportation needs of children with disabilities have strained many school district budgets, even though a majority of this financial commitment is borne by the federal government. Nonetheless, school districts are required by a series of laws to provide such transportation, regardless of a student's disability or the cost of service.

General public transit services are covered under the ADA. For public transit services operated by a public entity (or another entity performing the same function), the ADA requires that when fixed-route bus service is provided, complementary paratransit service also must be provided for individuals who are unable to access, board, or negotiate the public transportation system because of their disability. The law defines vehicle standards (including lift dimensions and weight limits, door height, and internal tiedown locations/dimensions), training and other operating requirements, and service standards. In low density areas, the requirement to provide complementary paratransit services whenever fixed-route

services are provided has encouraged even more communities to operate only a demand-response service. Many communities struggling to provide a basic level of transit service can ill afford to operate two parallel systems, one for public transit and the other for school districts.

The legal right for students with disabilities to receive transportation services when necessary is based on two federal statutes: the Rehabilitation Act of 1973 (usually referred to as Section 504) and the newly authorized (IDEA) Individuals with Disabilities Education Act Amendments of 1997, P.L. 105-17, formerly referred to as Individuals with Disabilities (IDEA) P.L. 94-142, the Education for all Handicapped Children Act, or EHA. These are discussed in the sections below.

- **Public Law 93-112: The Rehabilitation Act of 1973 [Section 504].** In 1973, Congress passed Section 504 of the Rehabilitation Act as a nondiscrimination law. Since that time, any school district that provides transportation to non-disabled students also must provide transportation to students with disabilities. Section 504 also prohibits school districts from denying students with disabilities transportation solely because of their disability.

- **Public Law 94-142: The Education of all Handicapped Children Act of 1975.** This law guaranteed that a "free, appropriate, public education," including special education and related services as appropriate, be provided to all handicapped children. This law also outlined steps to be taken by school administrators to identify and evaluate handicapped children, as well as how to provide for that education to the maximum extent appropriate in the *least restrictive environment (LRE)*.

- **Civil Rights Act of 1871: 42 U.S.C. Chapter 21 Sec. 1983.** This law, which was written before the *legal* concept of a child with disabilities was formalized, is nonetheless used by parents when prosecuting school districts for negligence or lack of responsiveness in transporting their children with disabilities to and from school.

- **Public Law 101-336: The Americans with Disabilities Act [ADA] of 1990.** The ADA is a broad-based, comprehensive civil rights law that protects persons with disabilities from discrimination of any type. Though different and separate from the IDEA and Section 504, the ADA did not change or reduce these laws. Instead, the ADA creates a higher standard of nondiscrimination than do

other laws because it is applicable even in situations in which federal funding is not received.

- Public Law 101-476, Part B: Individuals with Disabilities Education Act of 1990. The Individuals with Disabilities Education Act (IDEA) replaced the Education of Handicapped Act of 1990. The most significant changes to the original act include a change in nomenclature ("handicapped children" became "children with disabilities") in the new act, and the addition of two new categories of disabilities: autism and traumatic brain injury. The law also broadened the definition of the terms "assistive technology device" and "assistive technology service."

- Public Law 105-17: The Individuals with Disabilities Education ACT [IDEA] Amendments of 1997. The newly authorized IDEA replaces P.L. 102-119 and P.L. 99-457, The Education of the Handicapped Act Amendments of 1991 and 1986, respectively. This reauthorization required major changes in the delivery of services to most students with disabilities, and, for the first time, supported quality professional development for all personnel involved in educating children with disabilities (including paraprofessionals).

These laws frame the processes and steps each school administrator must take when accommodating a special needs child in an existing school system. Per these laws, a case study team consisting of educators, administrators, parents, and, if necessary, the school transportation supervisor or other providers of related services must first evaluate the educational and ancillary needs of the child. This evaluation is formalized into an Individual Education Program (IEP), and is revised each year that the child attends school. Specific transportation criteria establishing parameters for determining transportation needs have been a particularly effective mechanism for administrators (1) to maintain children in the least restrictive environment (and therefore in the company of other children) and (2) to ensure that requests for special education transportation remain reasonable.

Misconceptions abound about a school district's obligation to provide special education transportation. While a school district is required to provide complementary service to special needs children, the district is not obligated to provide door-to-door, demand-response service *unless this is so stated in a child's IEP*. Many school districts encourage children with disabilities – if they are able – to walk to a designated school bus loading point near their home. The IEP can be changed by recalling the participants, including the

family, if the transportation or other element written into the IEP is found to be in error or is determined to be unreasonable.

Disciplining special education children has caused school districts some difficulty. Under the reauthorized IDEA, administrators must follow a strict protocol before they are able to suspend or expel disruptive special education children from school. These restrictions certainly make disciplining children who are unruly, disruptive or dangerous *because* of their disability extremely difficult. Even if a school district makes a legally appropriate choice to suspend or expel such a child, the school district is still liable for not only ensuring that that child is accommodated in another learning environment (i.e., another school), but also for that child's transportation to and from another learning site. If that new site is across town or across several counties, available public transportation is often a viable option. However, public transit agencies are increasingly averse to transporting disruptive children on their vehicles. This issue has been - and may continue to be - a challenge for coordinating services for all children, and particularly for children with disabilities.

The legal requirement that special education children must be transported to and from school if the school district is providing service to children without disabilities runs parallel to recent public transit mandates stemming from enactment of the ADA. As mentioned earlier, if a public transit agency is providing fixed-route service, then it is required by the ADA to provide comparable service to qualifying persons with disabilities, usually in the form of demand-response paratransit service. Interestingly enough, school districts, like public transit agencies, are using mobility training more and more often. This type of training encourages children to learn to travel alongside children without disabilities. However, transit systems operating paratransit services and school districts alike are struggling over the costs and benefits of bus/travel aides. On special education buses, for example, the high cost of paid aides can be mitigated by their ability to assist the driver in moving children on and off the bus, and thus reducing ride times. This reduced travel time can be critical if local or state laws mandate a maximum ride time for children.[xii]

It is important to remember, though, that the degree of legislative and regulatory restrictiveness for student transportation varies from state to state. After decades of school bus transportation operation, there exists a national crazy-quilt of laws governing the transport of school children to and from school. Although the issue of coordinating passenger transportation services has been with us in

various forms for over two decades, laws and regulations continue to be passed that expand the differences between student, general public, and human service agency transportation rather than strengthen the common ground among these services.

Conclusion

The eclectic nature of the delivery and operating environment of school bus and public transportation services in non-urban communities raises several issues and challenges to a more coordinated approach to the delivery of these services. An understanding of how these services are delivered, including differences and similarities in management processes, governance, legislative and regulatory requirements, and costs, is important in identifying opportunities for the enhanced coordination of services.

While the pooling and centralized management of school district and public transportation resources can enhance mobility, efforts to centralize these resources across the country have met long-standing challenges. It is particularly important to recognize the fact that because both public transit and student transportation have developed separately over time, the differences between the two types of services are more pronounced. These differences are supported by federal and state legislation as well as long-standing attitudes among parents and local school districts as to what is acceptable. Bridging these gaps and finding common ground to begin integrating services may at first require a willingness to integrate in just small ways.

On the other hand, the cost of providing both public transit and student transportation can be considerable, and the need for mobility in rural communities is high. The attitudes in rural America seem to be conducive to doing whatever is necessary to fulfill needs, so a few communities are forging ahead and undertaking significant coordination of their resources.

In this discussion of barriers, there are important underlying themes:

- Coordination between school transportation and public transportation services is a complex concept. Generalized perceptions about coordination may limit the ability to make progress in this area. Instead, coordination activities must be tailored to local circumstances and must be specific to different age levels.

- The school, public, and human service agency transportation industries have developed separately over the past 50 years. Decisions have been made at the federal and state levels based on this separation of service. For example, vehicle specifications, funding, and planning processes have all developed independently.

- School districts and public transit properties each have a vested interest in securing additional funding for their services and in maintaining or strengthening their identities and importance in the community.

- Many school transportation and public transportation practitioners are wary about coordination using vehicles from the "other" industry. Many school transportation practitioners believe that public transit vehicles may not be as safe for children as school buses. They also point to laws and practices that enhance the safety of children outside the vehicle but are not always present in public transit systems, as well as specialized training in pupil management that public transit drivers often do not receive. Meanwhile, public transportation practitioners argue that school buses are not designed for the transportation of adults, which results in lack of comfort, but more importantly, precludes their use by persons who require accessibility equipment and/or air-conditioning during the hotter months.

- Both industries are interested in doing things in accordance with industry norms, and each may have difficulty in looking "outside the box."

- Because of the complexity of the issues and the emotions tied to both student and public transportation, it is easy to react to the concept of coordination based on emotion rather than informed and well thought out opinions. Emotional issues include the loss of jobs in a community, the identity of the community and its transit or school district, the safety of a community's children, and the need for individuals to access jobs or basic services such as groceries or medical services.

Chapter 3: Safety

Introduction

The issue of safety is central to the discussion of coordination. Safety can be an emotional issue, especially for student transportation practitioners, school officials, and for parents. Indeed, most communities are particularly vested with school transportation because of the "cargo." As a result, prospective changes in policies and procedures that may stem from coordination planning (or anything else for that matter) are often perceived as a potential compromise to the safety of the community's school-age children.

Safety is of paramount concern to school transportation practitioners and is reflected in school bus specifications, driver screening and training, routing, the location of school bus stops, loading and unloading practices, and limiting the extent to which older and younger students ride at the same time. There are also many practitioners in the school transportation industry who believe that the co-mingling of students with the general public is not in concert with this focus on safety.

Passenger safety is also an important facet of public transportation operations. Many transit agencies have exemplary training and risk management programs, with staff dedicated to the provision of safe operations.

At the same time, with the exception of federal standards and guidelines, there appears to be a wide variance in safety programs in both the school transportation industry and the public transportation industry.

Safety-related issues pertaining specifically to the coordination of school and public transportation are wide-ranging, but may be grouped into five basic areas: (1) vehicle standards and design criteria, (2) the use of non-standard vehicles for student

transportation, (3) driver qualifications, screening and training, (4) co-mingling of students with the general public; and (5) operational issues. These issues are each explored below. Efforts to develop solutions to these safety-related issues are discussed at the end of the chapter.

Vehicle Standards and Design Criteria

Vehicles designed specifically for student transportation have developed along a separate path from vehicles used in the public transit industry. Given the significant differences in the vehicles, it is not uncommon to hear practitioners from both industries question the safety of transporting students on public transportation services, and adults on school buses. Important differences in student transportation and public transportation services, as well as in the historical development of and modifications to the two types of vehicles, are at the heart of these differences.

A Historical Perspective

For over 100 years, school-age children have been transported to and from school in unique school vehicles. The first vehicles were nothing more than horse-drawn wagons that evolved into school "trucks" in the early 1900s. The school bus industry, comprised of bus manufacturers and school transportation providers, emerged in the 1930s.

The prominence of school transportation brought inevitable problems, including several serious tragedies. In response, representatives from 48 states gathered in 1939 to develop standards and recommendations for the school bus industry. In the past 60 years there have been twelve National Conferences on School Transportation where representatives from each state have gathered to revise existing standards and establish new safety standards for school buses.

Federal Motor Vehicle Safety Standards

The method by which the federal government regulates the safety of all motor vehicles sold for use in the United States is the Federal Motor Vehicle Safety Standards (FMVSS). All vehicle manufacturers, including the manufacture of school buses, trucks, automobiles, motorcycles, and other highway vehicles, must comply with

applicable FMVSS. Once a vehicle is sold or leased, regulation of the operation of the vehicle becomes the responsibility of the state.

In the interest of protecting school children, the U. S. Congress has mandated a unique and stringent set of safety standards. Since 1977, school buses have been required to meet a number of standards that no other vehicle is required to meet. Of the numerous FMVSS, 34 are applicable to the manufacture of school buses. Some of these apply only to small school buses, others only to large school buses, and some to all school buses. The following ten Federal Motor Vehicle Safety Standards are unique to school buses; many of these requirements were developed in response to accidents or other serious safety issues:

- Hydraulic brakes *(No. 105)*
- Red and amber warning lights *(No. 108)*
- The location of rear view mirrors, including a "cross-view" mirror to see in front of and alongside the bus *(No. 111)*
- Pedestrian safety devices *(No. 131)*
- Interior impact protection for occupants
- Emergency exits *(No. 217)*
- Rollover protection *(No. 220)*
- Strength of body panel joints *(No. 221)*
- Passenger seating and crash protection *(No. 222)*
- Fuel system integrity *(No. 301)*

Many of these features could be used on all transit buses. Other features, such as the red and amber warning lights, stop arms, and crossing control arms, are specific to school buses. Nevertheless, it is interesting that the FMVSS has not required particular features for vehicles other than school buses.

One of the FMVSS for school buses - interior impact protection - conflicts with the design standards for public transit vehicles. The FMVSS require that school bus interiors be free of obstacles that could cause injury in a crash. Transit buses, on the other hand, use stanchions and grab rails to provide for passenger safety while boarding and traveling.

Neither public transit vehicles nor school buses provide safety belts for all passengers. For large school buses (i.e., those with a gross vehicle weight rating above 10,000 pounds), the federal standard instead offers occupant protection through a concept called *compartmentalization*. In this method, school bus seats are spaced closely together to contain children in a cushioned compartment with only a minimum amount of space between energy-absorbing surfaces.

The DOT and NHTSA have determined that compartmentalizing school children in such cushioned seating areas was in fact easier, more manageable, and safer than requiring the use of safety belts in all school buses. Compartmentalization also has the advantage of working well for one, two, or three students per seat or with smaller or larger bodies. For smaller school buses (i.e., those requiring a GVW rating under 10,000 pounds), the federal standard requires either lap belts or lap/shoulder belts at all designated seating positions, in addition to compartmentalization. Paratransit vehicles (i.e., standard van conversions, body-on-chassis vehicles, or purpose-built vehicles), typically have a GVW rating under 10,000 pounds and use safety belts to provide crash protection.

There is considerable debate within the school transportation industry about whether or not yellow school buses should include safety belts. Proponents argue that children should receive a consistent message about safety belts: always put on a seat belt when you get inside a vehicle. Encouraging use at home and then enforcing a different standard for the school bus is a dangerous mixed message, proponents argue. Low cost of installation, protection from litigation, and, of course, protection during a crash also are cited as reasons to install safety belts on buses.

In contrast, opponents argue that safety belts have few protective benefits in the most common school bus crash scenarios and are ineffective in catastrophic accidents such as collisions with semi-trucks and trains. They further argue that monitoring and enforcing use is a challenge, and that the use of safety belts by some children and not by others places a greater risk on those using safety belts because they bear their own weight crash force plus those forces borne by unbelted children. Finally, opponents argue that children can understand when they should use safety belts (the family car, for instance) and when they should not (the school bus).[xiii]

The differences in safety standards for school buses and public transit vehicles are important. They are one factor in the debate on

whether or not students should be transported in vehicles other than yellow school buses.

Differences in Physical Design Characteristics

Many suggest that a major impediment to using school buses for non-pupil transportation is the physical design of school buses. As shown in Table 3-1, the interior of typical yellow school buses has smaller interior dimensions, narrower aisle width, smaller seat pitch, and less headroom than a typical (40-foot) transit coach. Further comparisons with newer transit coaches that are designed with features such as low floors, wider aisles, and accessibility equipment merely accentuate the differences. Meanwhile, most school buses are not accessible and are not equipped with air-conditioning (although air conditioning, along with a 78" headroom, may become a funded standard on school buses in a few years). For many adults and children, the lack of air-conditioning in warmer months becomes a safety issue.

Table 3-1:
Comparison of School Bus and Transit Bus Physical Specifications

Characteristic	School Bus	Transit Bus
Aisle Width	12”	18-20”
Seat Width	39”	36”
Headroom	72-74”	78”
Seat Pitch	28”	30”
Step Height	12-16”	12-14”
Door Arrangement	Front	Front and Rear
Seating Capacity	66 children 56 adults	45-50 adults (standees permitted)

One operational difference that affects vehicle design is that student transportation services typically make two to four trips per day, whereas public transit vehicles are often on the road for twelve to sixteen hours. Another difference is that capacity is critical for student transportation services, because most students arrive and leave at approximately the same time. The importance of having

adequate seating capacity has resulted in buses that are designed to seat three elementary students to a seat.

To attract ridership, the public transit industry has found that it is important to provide a high quality of service. Service quality has many aspects, including safe, clean, and comfortable vehicles; service that operates reliably; drivers who are safe, friendly, and informative; and service that is direct and conveniently scheduled. Also important is that the public transit industry serves two basic markets: choice riders, who choose transit over other options, and captive or dependent riders, who do not have other travel options available. For a choice rider, the comfort of the vehicle may be an important consideration. It is less likely to be an important factor in whether or not a rider who is transit-dependent uses the service.

Given the physical design of school bus vehicles, a number of communities have expressed concern over the use of school buses to transport the general public and paratransit clients.[xiv] Other communities seem perfectly comfortable with the distance between the seats, the step heights, and the lack of air conditioning and accessibility equipment. This variance in attitudes may depend on what other services are available. For example, the physical design of school buses may be less of a barrier to coordination in non-urban communities with little or no public transportation. In non-urban areas that do have parallel services, the difference in designs may present more of a barrier.

At the same time, parents, school administrators, and student transportation practitioners in many communities have expressed concern about the safety of transit coaches, pointing to the lack of rollover protection and the differences in the electrical system design. They also point to a lack of compartmentalized seats and safety belts, as well as an insufficient number of seats to guarantee each student a seat, and little, if any, protective padding. In addition, not all seats are forward-facing in many designs, nor do transit vehicles have a stop arm, warning lights, and crossing arm guard that enhance the safety of children outside the vehicle. On the positive side, larger public transit vehicles are significantly heavier than large school buses, which suggests that they may sustain less damage in collisions.

While these are all good points, no study has directly compared the safety of yellow school bus vehicles to public transit vehicles, so analysis is difficult. In response to this gap in knowledge, the new TEA-21 legislation includes funding for a study to examine this particular issue.

Non-Standard Vehicles for Student Transportation

The use of "non-standard" or "non-conforming" vehicles for traditional student special education and Head Start transportation has been an issue of increasing concern. Under federal law, any motor vehicle designed to carry more than ten persons is classified as a *bus*. A bus is classified as a *school bus* if it is used, or intended to be used, for transporting students to and from school or school-related activities. Federal law thus prohibits the selling (or leasing) of a such a motor vehicle unless the vehicle complies with the applicable FMVSS for school buses. Dealers may be fined up to $1,100 per violation of this law.

A full-size passenger van, for example, unless modified and certified by the manufacturer/modifier as a school bus, is considered a nonstandard or non-conforming van. According to the National Association of State Directors of Pupil Transportation Services:

> "In a crash, the risk of a serious injury or fatality is significantly higher for occupants of a passenger van. Since it would be expected that any crash resulting in serious injury or fatalities to school children would ultimately result in lawsuits, the fact that a school was using a vehicle that was not manufactured, sold, or leased in accordance with Federal laws governing school transportation would most likely be a significant issue in the lawsuit. This fact also could have an impact on the liability responsibilities of the insurance company used to insure the operations of the school."[xv]

A variety of other vehicles also are non-conforming. These include:

- Most vehicles used in public transit and paratransit services, as well as many vehicles used in human service agency transportation programs, including Head Start. While these vehicles meet general FMVSS standards, they do not conform to FMVSS school bus requirements.

- The over-the-road coaches used by inter-city transit companies and charter companies. These vehicles are often chartered by school districts for field trips and athletic trips.

- "Suburban" or similar vehicles. A school district with sparsely populated rural or mountainous areas may find that these types of vehicles are more appropriate than a standard school bus.

The National Association of State Directors of Pupil Transportation Services states in a position paper entitled "*Passenger Vans Used As School Buses*" it is appropriate to require higher levels of safety in vehicles that transport children to and from school and school-related activities. Accordingly, the Association supports the position that school children should be transported in *school buses* that provide them with the highest levels of safety, not in vans that do not meet the stringent school bus safety standards issued by the Federal government, and recommended by the National Standards Conference on School Transportation."[xvi]

Within the school transportation industry and Head Start community, the issue of using non-conforming vehicles is the focus of many debates. Head Start programs that provide service in their own vans or cars or that contract with public or private paratransit operators utilizing minibuses or vans are technically using non-conforming vehicles. The proposed Final Rule directing Head Start programs to use yellow school buses is one remedy for this safety concern. Not all Head Start programs are in favor of the proposed Final Rule, in large part because the expense of converting to yellow school bus vehicles would be considerable.

States, rather than the federal government, are responsible for determining how vehicles can be used for student transportation within their boundaries. States, however, may not waive the legal initiative allowing for fines to be levied against dealers who violate the federal law regarding the use of vehicles intended for the transportation of school pupils. Some states do allow the use of non-traditional vehicles. In making this allowance, the existing crash protection standards for vehicles, handling characteristics, and driver training can be considered.

Some states have found that appropriate training and frequent operation have improved the safety records for non-conforming vehicle. A driver who is familiar with a particular type of vehicle is more likely to operate it safely than is a person who drives it only a few times each year. However, if an accident does occur, the lack of safety features (such as rollover protection or strength requirements for body/panel joints) will affect the seriousness of the injuries and may expose the school district to litigation.

Driver Qualifications, Screening, and Training

Representatives of the school transportation industry and the public transportation industry, respectively, acknowledge that there are many commonalties between the two industries when it comes to minimum requirements for and screening of driver applicants, as well as initial and on-going training. For example, driver applicants in most states are required to have a commercial drivers license (CDL). Screening often includes a criminal record check, a review of the applicant's motor vehicle record, a reference check, and a drug and alcohol test. Several states, however, also *require* fingerprinting of school bus drivers, allowing for further criminal record checks. Many of these states also maintain a statewide database of school bus drivers.

Similarly, training programs for school bus drivers and public transportation share many common elements, including defensive driving, CPR and first aid, and vehicle pre-checks and maintenance issues. School bus driver training also typically includes pupil management skills and dealing with special needs children. Meanwhile, most public transportation systems now include disability awareness and passenger assistance training, attributable in part to the ADA. In addition, both industries typically require pre-service training as well as annual or biannual refresher training.

Established driver training programs for both student transportation and public transit are typically in the range of 80 to 120 hours for new drivers, plus annual retraining. Regular safety meetings are generally a part of the training program.

While driver qualifications, screening, and training are roughly commensurate between the two industries, it is also true that there is great variance in these types of safety programs in different states. Some states are very proactive about the requirements and policy directives in these areas for both industries, while other states have very few requirements and policies. There are certain states that have requirements for school bus drivers but not for transit/paratransit drivers. And, within any given state, there is also variance from community to community. In some of the states with fewer proactive safety-related regulations and guidelines, a particular school district and/or transit property can impose higher standards. There are also several national and regional carriers who,

in contracting with school districts and/or public transit agencies, bring with them corporate safety programs.

A related problem is driver attrition; keeping qualified employees also is a common issue to both industries. School systems, public transit systems, and contractors often find that they train drivers to obtain a CDL, then the employee leaves to take a better paying job that requires this higher-level license. The higher the attrition rate, the more costly and labor-intensive the training.

Co-Mingling of Students and General Public Riders

Many school district administrators and parents remain staunchly opposed to the co-mingling of *any* students of any age with the general public. These detractors point out that many states spend millions of dollars fingerprinting and running criminal checks on anyone who comes in contact with children throughout the school day, including teachers, janitors, administrators, and drivers. Why, then, would administrators compromise this protected environment by transporting students with the general public?

Others argue that age-appropriate co-mingling should be less of a concern. While acknowledging that younger children are more vulnerable and do require physical and social protection while being transported to school (including the separation of elementary school students from older students), they also suggest that children in high school, and perhaps junior high as well, do not necessarily need these same protections and, with proper training, could take care of themselves enough to ride safely to school with the general public on board at the same time. They point out that:

(1) in many urban communities, school district use of public transit to transport older students is fairly commonplace;

(2) many families who are not eligible for subsidized school transportation but still live far from school opt to send their older children to school via public transit;

(3) many parents allow their older children to take public transit to (a) get to an after-school job (and to get home afterwards) and/or (b) enable their participation in an after-school activity in schools where there is no "late" school bus; and

(4) many parents allow their older children to ride public transit services by themselves and with friends to go the movies, etc.

Moreover, in many non-urban communities there appears to be less concern about co-mingling students with the general public, whether it be on school buses or public transportation vehicles. In rural America, transporting students with the general public connotes that a son or daughter might be riding with a neighbor, a friend, a teacher, or another parent.

Operational Issues

Several safety issues arise due to differences in the way in which student and public transportation services are delivered. By understanding the differences and similarities in operational practices, we can better identify opportunities for coordination of these services.

The operational issues that relate directly to safety aspects of coordination of public and student transportation in non-urban areas may be broken down into a discussion of (1) service standards; and (2) operational safety practices.

Service Standards

The routing and scheduling of both school buses and transit buses are governed by *service standards* that typically address bus stop location and spacing, the span of service, and criteria related to crossing streets, walking distances, and waiting times. Typical school bus routing is designed so that children do not have to cross a street to board a bus. The basic philosophy of school bus routing is to pick up groups of children as close to their homes as is possible and then to drop them off at the proper school. Traditionally, transit buses are routed on fixed routes designed to pick up maximum loads with the purpose of serving a multitude of trip purposes. While this is often the case in urban areas, flexible routing or demand-response services are routinely provided by transit agencies. Some type of demand-response or route deviation is the norm in rural areas and communities with populations under 25,000.

School districts generally establish a walk distance in the range of one to two miles, with longer walk distances for older children. Students are only eligible for school bus service if they live farther than the prescribed walk distance. School districts take into account traffic on roads and whether or not the intersections are signalized in establishing walk distance boundaries. School crossing guards may be used at busy intersections to increase safety.

Transit systems are concerned about pedestrian safety at particular bus stops or intersections, and routing patterns reflect the need for safe stops and crossings. However, they do not typically concern themselves with any specific pedestrian trips because they do not know who their passengers will be until they arrive at the bus stop. In rural areas, it is common for transit systems either to use school bus stops or to operate in a demand-response mode and serve individual residences in order to provide safe service.

Operational Safety Practices

A major operational difference between school transportation and public transit services concerns pedestrian crossings at stops. School buses are equipped with warning lights and stop signs to assist in pedestrian crossings. State traffic laws require traffic to stop in both directions when a school bus stops with warning lights flashing and stop sign extended. School buses routinely stop in the traffic lane. Students are taught to cross in front of the bus, where the driver can observe them while they cross.

Public transit buses have neither the equipment nor the traffic laws to provide this extra measure of safety to pedestrians. Students transported on transit buses are not afforded the same luxury of having all traffic stop when boarding or disembarking from the vehicle, thereby potentially putting the student at risk. Transit systems commonly request that passengers cross behind the vehicle; this provides the passenger with improved visibility of traffic. Also, transit systems try to place the majority of their stops on the far side of intersections to improve visibility further and to reduce conflicts.

The practices developed by student transportation and public transit services have each been developed to provide for pedestrian safety. However, the practices vary as the clientele, equipment, and traffic laws vary for each type of service. As with other safety issues, whether an area is rural or urban will have an effect on the steps that can be taken to address the issue of pedestrian safety.

Finding Common Ground

It is clear that both school transportation and public transportation industries take safety seriously. At the same time, the safety practices of public transit and student transportation have developed along separate lines and are supported by separate federal and state legislation. Moreover, state regulations and guidelines that relate to safety in both industries vary widely. There is also a significant variance in safety programs from one community to another, as long-standing attitudes among the practitioners there, as well as local school boards and the community at large, define what is safe and acceptable. It is also true that many families of school age children, and perhaps the community at large, are more vested with school transportation service, because of the cargo, than with the local transit system in terms of safety (unless they are already allowing their children to use public transit).

While there are differences between the two industries, and while there are differences from state to state, most practitioners agree that effective practices for *all* passenger transportation services are in the best interests of the community as a whole. This common interest may provide opportunities to work together to improve the safety of all passengers.

With these thoughts in mind, there are two efforts that are worthy of the industries' attention and participation. The first is to develop a "hybrid" vehicle that meets both school safety and transit vehicle standards. The second is to standardize a common set of safety-related regulations, guidelines, and training programs for both industries and to implement these as widely as possible throughout the country.

Utility School Bus

Officials with the California Department of Education have accepted bids and awarded a contract to build a hybrid vehicle that conforms to both school bus safety standards and public transit requirements. The specifications for this "utility" bus are presented in Appendix D of the Implementation Guide.

The specifications were developed around a 40-foot school bus body-on-chassis with transit bus features added where appropriate. The specifications require that the vehicle meet the standards, laws, and regulations applicable to a school bus and a transit bus in effect on the date of delivery of the bus. These include all applicable Federal Motor Vehicle Safety Standards (FMVSS, 49 CFR) and ADA

requirements. While school buses are typically exempt from compliance with the ADA, the Utility School Bus specifications comply with ADA requirements.

The specifications also deviate from a typical school bus configuration to include:

- Rear entrance door (to meet ADA compliance)
- A right-side entrance door, forward of the rear axle, incorporating an electro-hydraulic wheelchair lift
- One wheelchair securement position adjacent to the rear entrance door
- Air conditioning (two rooftop units, two compressors, 110,000 BTU)
- Eighteen-inch aisle width (six inches greater than a standard school bus)
- Thirty-six inch seat width which, although standard on a transit bus, is three inches narrower than a typical school bus seat
- Forward-facing ambulatory seating, a requirement in school buses but not typical in transit buses
- Ample circulation space at the front entrance doors and driver compartment to incorporate a fare box, if required

It is anticipated that the price of the Utility School Bus will be less than $150,000. While approximately fifty percent greater than a typical school bus, the price for the Utility School Bus compares favorably to standard transit buses, which typically cost between $250,000 and $300,000. Table 3-2 provides a relative price comparison of paratransit, transit, and school bus vehicles.

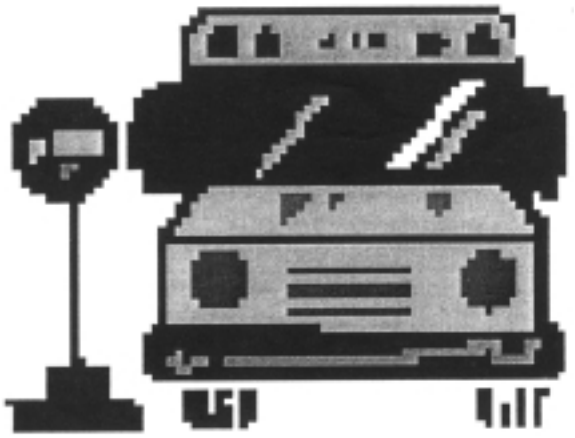
Table 3-2: Capital Cost Comparison (1997 $)

Vehicle Type	Price Range
School Bus	$90-$100,000
UTLITY SCHOOL BUS	$150,000
Paratransit-body-on-chassis	$70-$90,000
Paratransit-purpose-built	$150-$200,000
Transit	$250-$300,000

While the acquisition of school buses has not typically been eligible for capital assistance under federal programs such as Section 5311 or

Section 5310, industry officials suggest that (eighty percent) federal capital funding assistance may apply to the purchase of the Utility School Bus. School bus purchases used in joint purpose environments are not eligible for federal funding if they do not meet ADA requirements.

Funding may further be contingent upon the operating environment in which this hybrid vehicle is used. The current language, part of 1974 amendments to the Federal Transit Act of 1964 (UMTA), specifically states that recipients of federal funds "may not engage in school bus operations exclusively for the transportation of students and school personnel, in competition with private school bus operators." This provision applies to anyone receiving federal funds, including capital acquisitions. "The regulation specifies that public transit authorities receiving federal grant assistance will not provide dedicated, closed-door transportation for school students." The regulations are aimed at preventing unfair competition, not at keeping students from riding on a regularly scheduled transit bus. To this end, "tripper service" is permitted. Tripper service is "regularly-scheduled mass transportation service that is open to the public and that is designed or modified to accommodate the needs of school students and personnel, using various fare collection or subsidy systems."[xvii]



These new vehicles may be ideal candidates not only for dedicated school transportation, but also for fixed-route conventional or community transportation services, including tripper-type services. The prototype model for this vehicle, being built by Thomas Built Buses under contract to the California Department of Education, is anticipated to be completed by November 1999.

Safety and Training Programs for Community Transportation

Along with this vehicle design breakthrough, it would be beneficial for public transportation agencies to include in their driver training programs and practices elements that are specific to transporting school students. With such training, non-urban communities that have both school bus service and public transportation service could consider the possible integration of service or the coordination of complementary services, both of which would be designed to reduce, if not eliminate, duplicative transportation.

One such opportunity might reside with the Transit Training and Safety Review Program, a pilot program currently being undertaken by the CTAA. In the first phase, the program includes an evaluation of training and safety practices in both urban and rural transit systems and the development of materials to assist the properties in upgrading their programs and practices. This program is being piloted in Colorado. Eventually, however, CTAA plans to expand the program gradually to other states.

The results of the pilot project will provide information on whether or not it would be appropriate to establish a safety certification program for transit operators. While a certification program would not cover all transit providers, it would provide a means to identify the level of training and safety practices at any individual transit property.

Such a standard would be a beneficial addition to public transportation services in non-urban areas, especially given the inconsistencies in requirements and policies from state to state, as mentioned earlier. It may be desirable to include in this program a student transportation training element to address the needs of the communities across the country that have already implemented or are considering coordinated public/school transportation services.

Chapter 4: Case Study Summaries

Overview

In spite of the obstacles discouraging the coordination of school and public transportation services, a number of communities across the country have persevered and implemented their own coordinated networks. As part of this research project, 13 sites were selected and studied in great detail. The research methodology for this portion of research, as well as the important elements from these case studies, are presented in this chapter. The detailed case studies are presented in Appendix C.

Selection of Case Study Sites

As discussed in previous sections of this report, a number of real and perceived barriers exist to the coordination of public transit, school bus transportation, and even agency transportation in rural and non-urban areas. The communities selected for the case studies have addressed these barriers using various innovative and effective techniques. Ideally, the strategies employed by these sites will serve as a springboard for other communities interested in implementing more coordinated services.

The sites were chosen based on the service area population as well as the population of the surrounding communities (with rural and non-urban areas taking priority). Sites were then evaluated by type and degree of coordination, as well as by level of innovation in addressing service needs and/or challenges and success in addressing regulatory and legislative constraints. Finally, the team worked toward achieving geographic diversity in the sites selected.

Methodology

Potential case study sites were first identified from among the 80 survey respondents who indicated that they had implemented some level of coordination between the public transportation services and school bus services in their communities. (The survey and its findings are presented in Appendix B.) After developing a list of potential sites and seeking letters of interest from the contacts named in the survey response, 13 sites were recommended by the project team and confirmed by the study panel.

These 13 sites were then contacted again to inform them of their selection. Every community contacted for the research project was extremely cooperative and agreed to participate in the effort.

Each site was contacted to setup an on-site visit and meeting with key stakeholders. These on-site visits were conducted from December 1997 through February 1998.

In order to obtain a comprehensive overview of the coordinated services, project team members collected information about the start up, implementation, and on-going provision of the coordination efforts. Toward this end, the following techniques were used:

- Interviews with transit management
- Interviews with school district management
- Interviews with key agencies, including Head Start coordinators
- Interviews with parents
- On-board observations
- Interviews with riders
- Analysis of financial and operating statistics
- Interviews with state director of pupil transportation and/or state Department of Transportation personnel

The highlights and key findings from the 13 case studies are discussed below.

Case Study Sites

The following 13 case study sites were selected for study:

- Bonifay, Florida
- Cheraw, South Carolina
- Cottonwood, Arizona
- Decorah, Iowa
- Gillette, Wyoming
- Glendale, Oregon
- Idlewild, Michigan
- Kalispell, Montana
- Minot, North Dakota
- Nampa, Idaho
- Selkirk, Washington
- Thousand Palms, California
- Trumbull County, Ohio

A brief synopsis of each is provided in the next section, followed by more detailed findings.

Bonifay, Florida — Tri-County Community Council

Since 1983, the Tri-County Community Council has served as the coordinating agency for the planning and provision of transportation services to the "transportation disadvantaged" and other residents of rural Holmes, Walton, and Washington Counties, located in the Florida Panhandle.

Tri-County was selected as a case study because of the many different ways that it coordinates service with the local school districts from its three core counties. This has included providing feeder service to school bus routes both for school children and Head Start participants, and cross-use of each other's vehicles.

As the designated Community Transportation Coordinator, Tri-County is responsible for Head Start transportation, directly transporting most Head Start participants. Working closely with the local school districts, Tri-County arranges for several other Head Start participants to ride on regular school bus routes, also providing feeder/distributor service to and from the school bus stops. The local school districts also permit some high school students to ride on some of Tri-County's Head Start routes.

In addition, several of the local School Districts utilize Tri-County vehicles for student field trips, while Tri-County – along with

several other local agencies and companies – "charter" the School Districts' school buses at a discount rate ($0.45/mile) for field trips when the vehicles are otherwise not being used for student transportation.

Cheraw, South Carolina Chesterfield Co. Coordinating Council

Formed in 1993, the Chesterfield County Coordinating Council (CCCC) is a private, non-profit organization that is participating in a project focusing on the coordination of all transportation services in Chesterfield County, located in northeastern South Carolina. To date, the CCCC has helped to establish a coordinated paratransit service, operated by the regional transportation authority, that accommodates the transportation programs of several human service agencies.

CCCC in conjunction with the local school district has also implemented a program whereby parents, school volunteers, and school employees may request to ride on regular school bus routes, a program which is consistent with a recent state law.

CCCC and the school district view this effort as the first step to eventually utilizing extra capacity on school bus routes for general public transportation. Thus, CCCC requested State approval of a one-year pilot project to demonstrate this type of coordination. Approval was denied because of concerns about liability (the school buses are owned by the State) and the co-mingling of "other" adults and children on the same vehicle. Undeterred, CCCC is planning to resubmit its request in 1999.

Cottonwood, Arizona Cottonwood Area Transit System

The Cottonwood Area Transit System (CATS) provides general public Dial-A-Ride paratransit service in the cities of Cottonwood and Clarkdale and in the unincorporated communities of Bridgeport and Verde Village in north-central Arizona. A portion of this service is dedicated to client groups in three programs: Head Start, YARC, and Adult Day Care.

School children also are transported by CATS, although these are primarily trips arranged by parents for after-school activities or mid-day transportation for kindergartners. In addition, while the three school districts in the area provide their own conventional school bus transportation, as well as special needs transportation, they do use CATS for student transportation when the need arises;

this currently includes the transportation of some kindergarten children on mid-day trips.

CATS provides most of the transportation for the Cottonwood Head Start program. However, coordination between CATS and Head Start in Cottonwood may be more difficult in the future given an anticipated ruling by the Arizona Attorney General's office which will require Head Start transportation to be provided in yellow school buses. Other regulations, such as the new requirement that car seats be used when transporting children ages five and under, also will make the Cottonwood coordination effort more challenging.

Decorah, Iowa — Northeast Regional Transit System

Northeast Regional Transit System, a subsidiary of the Northeast Iowa Community Action Corporation is the State-designated regional public transportation system for Region I in northeastern Iowa, a predominately rural area. NRTS provides a region-wide paratransit service for clients of the local human service agencies and for the general public, using small buses and vans operated by NRTS staff and contractors.

Some of the region's 18 school districts opt to transport some of their students on NRTS. Some families who are ineligible for subsidized school transportation also opt to use NRTS to transport their children to and from school. Pre-school children, students, and adult clients all ride on its paratransit services at the same time, resulting in significant cost savings. NRTS estimates that its annual budget would increase by about 40 percent without the co-mingling of these riders.

NRTS, which is responsible for Head Start transportation, also arranges with school districts to transport some of the pre-school Head Start participants on regular school bus routes operated by the Region's school districts. NRTS estimates that these arrangements have saved NRTS about 12 percent of its operating budget.

Gillette, Wyoming — Campbell County School District

The Campbell County School District in Wyoming operates a large fleet of yellow school buses that travel over two million miles every school year. On weeknights and weekends, local non-profit groups rent the yellow school buses to travel to nearby towns (some of which are located 100 to 400 miles away) for special events, athletic tournaments, regular season games, academic competitions, and special group trips. Non-profit groups must reserve a bus and

School District driver, cover the cost of the driver and fuel, sign a waiver, and pay a fee of $0.25 per mile insurance fee which allows the groups to fall under the School District's umbrella for vehicle and/or property damage. Non-profit groups must provide their own personal liability coverage.

Glendale, Oregon — Glendale-Azalea Skills Center

The Glendale-Azalea Skills Center serves Southern Douglas County, an isolated rural area beset by poverty, high unemployment, and lack of public transportation. After the closing of one local mill and the downsizing of the other, the community faced a severe economic and social crisis. The first step to community revitalization was the opening of the Glendale-Azalea Skills Center in December 1992. The Center, developed by a coalition of businesses, residents, agencies, and the school district, provides a range of on-site services, including job training, GED, counseling, community college courses, child care, AFS branch office, and life skills training.

In an effort to enhance the Skills Center's effectiveness, the staff applied for and received a JOBLINKS grant for a transportation program called GATEWAY, a coordinated transportation and driver education system designed to link residents with the Center and with employment opportunities in the community and the County.

The mission of GATEWAY is two-fold: (1) it assists individuals in overcoming the barriers to employment and self-sufficiency by providing them with transportation and auto consumer skills needed to access services and employment; and (2) the project fosters economic development by facilitating access for all residents to economic development and work force training activities.

One of the many transportation strategies that comprised GATEWAY was to utilize existing school bus routes (with extra capacity) for the transportation of Skills Center participants. In Oregon, state regulations allow only school monitors to ride along with students in school buses, noting that monitors are first required to pass a formal criminal background check. In response to Skill Center queries, the attorney for the Oregon State Legislature advised the Skill Center that a participant could ride on regular school bus routes as long as (1) approval of the local School District was obtained; (2) the necessary background checks were conducted and the participant passed; (3) the individual was willing to serve as a volunteer monitor while on the school bus; and (4) there was space available on the regular route. Fourteen participants have since utilized school bus routes to get to the Skills Center.

Idlewild, Michigan — Yates Dial-A-Ride

The Yates Dial-A-Ride (YDAR) system provides demand-response, fixed-route, and school transportation in the northern lower peninsula of Michigan. The system began operations in 1975 under the name of Lake County transportation for the purpose of providing county-wide transportation. In 1979 the name of the system was changed to the Yates Dial-A-Ride transit system.

Formal student transportation was folded into operations in 1995 as a less costly alternative to starting a separate student transportation service, thus creating a **fully integrated system.** In the early morning and early afternoon, YDAR's converted Bluebird buses are used to transport students along routes that are oriented to student transportation but open to the general public. Students ride with the general public at the same time. During the mid-day and evening hours, the buses are used to provide general public transit and paratransit, as well as human service agency client transportation.

From its inception, the coordination project has had the cooperation and assistance of the Governor, Senators, legislative representatives, the Michigan Department of Transportation, county and local governments, human service agencies, the Baldwin School District and the entire school board, local citizens, and the community. The system is notable for its success in solving the acute transportation needs of a community identified as the poorest township in the entire state of Michigan.

Kalispell, Montana — Eagle Transit

Eagle Transit is the public transportation provider in Kalispell, Montana. It operates a paratransit service that focuses on seniors and persons with disabilities but also is available to the general public, and a student transportation service for both regular and special education students.

Eagle Transit, the School District, and the local taxi operator have been coordinating special education transportation for over 10 years. At the beginning of each school year, they work together to determine the best methods for providing service, usually with Eagle Transit and the taxi operator serving students from more remote parts of the valley. The School District estimates that this coordination saved an estimated $14,500 last year.

In response to a new three-mile walk distance imposed by the School District, parents now pay Eagle Transit directly to transport their children from school to individual homes in the afternoons. Eagle Transit operates this as a tripper service.

Minot, North Dakota — City of Minot

Historically, Minot City Schools has not provided conventional school bus transportation for school children in its service area. Instead, the City of Minot operates an **integrated** fixed-route public transit service that focuses on student transportation in the morning and late afternoon and other transit-dependent individuals (e.g., seniors and persons with disabilities) during the midday. This service is always open to the general public; thus, students ride along with the general public.

The Early Morning (7:00 a.m. to 8:30 a.m.) routes focus on bringing children to eleven elementary school, one middle school, and one high school. Most of the routes have two bus trips each in the morning. In the afternoon, beginning around 3:30 p.m., service is designed to return students from their schools to their homes. Normally, one bus trip is made from each school in the afternoon. Early Morning Service is only operated during the school year.

The high level of public transit service provided to school students is viewed as a community service by both the City of Minot and the School District. The volume of school children carried by Minot City Bus (65 percent of total ridership) helps to justify the system in the eyes of City Council and saves the School District the expense of operating a separate service itself.

Nampa, Idaho — Treasure Valley Transit

Treasure Valley Transit, Inc. (TVT) is the private, non-profit public transportation in Nampa, Idaho. TVT provides one fixed-transit route in Nampa, county-wide paratransit service for agency clients (and for unaffiliated riders) between agency runs, and a commuter route.

The establishment of TVT was – to a large extent – attributable to the efforts of Canyon County Head Start, which successfully applied for the enabling grant and supplied school bus vehicles and drivers (when they were not being used for Head Start runs) to TVT for the organization's first phase of service. Subsequent contracts with the Department of Health and Welfare to transport clients to and from JOBS programs and the Canyon County Office of Aging led to the

purchase of four additional vehicles. While TVT now relies primarily on its own vehicles, Head Start vehicles are available in emergencies.

Brown Bus Company, a local for-profit school bus carrier, also played a role in supporting the fledgling public transit property. Brown Bus Company provided maintenance for TVT vehicles and even provided back-up vehicles when needed. Training also was coordinated between Brown Bus Company and TVT, with TVT employees attending Brown's CDL Skills Testing and School Bus Driver Training programs and Brown employees attending TVT's passenger-assistance training programs.

Currently, TVT is used by students who cannot be reached by school bus and by students who wish to participate in after-school activities or who have an after-school job. In addition, families of students who live beyond the school district boundary (and who are therefore not eligible to receive subsidized school transportation) also use TVT.

Selkirk, Washington — Selkirk Consolidated School District

Selkirk is a rural community approximately 10 miles from the Canadian border in the northeast corner of Washington State. The area is not heavily populated and, prior to the Selkirk Shuttle, had no public transportation services for its residents. This changed when the Selkirk Consolidated School District successfully applied for a rural transportation grant from the Washington Department of Transportation to introduce a new public transit service.

Called the Selkirk Shuttle, this service consists of 28-mile transit route which connects the three towns of Metaline, Metaline Falls, and Ione (where the District schools are located) and is operated with a refitted, 56-foot, lift-equipped school bus. The route is repeated three times per day on weekdays only.

In the Selkirk area, the high school, middle school, and elementary school are not centrally located; instead, each town houses one school. The Selkirk Shuttle was designed to enable students to get to different schools within the district, as well as to enable the larger community to access different educational opportunities.

At the same time, the rural nature of the community and the widely dispersed services have proved problematic for the community. Specific services may be provided in one town but not in another, making it very difficult for low-income, disabled, or senior citizens to access medical and dental services or even grocery stores. For

example, the dentist's office, fabric store, and bakery are in Metaline Falls, while the health care clinic and drug store are in Ione. The combined community offers most basic services, but many residents do not have their own transportation and therefore have a hard time accessing all of the services. Now, with the Selkirk Shuttle, residents can get to work, run errands, travel to the Selkirk health clinic, and visit friends and family.

The Selkirk Shuttle presents yet another example of an **integrated** service, where students are riding along with the general public. Plans are afoot to erect bus stop shelters and to expand service hours and days.

Thousand Palms, California — SunLine Transit Agency

Serving an area composed of smaller communities and rural areas, SunLine Transit Agency is more than a public transportation agency, it is an important resource in the Coachella Valley. In addition to the general public fixed-route transit system that is composed of several intra-community and inter-community routes (SunBus), SunLine Transit Agency provides (through an operations contract) ADA paratransit for persons who are unable to use SunBus because of their disability (SunDial) and social services transportation for human service agency-sponsored clients.

SunLine also serves as the Coordinated Transportation Services Agency (CSTA) for over 40 human service agencies in the valley. SunLine's principal focus is to provide a transportation alternative to residents of and visitors to the Coachella Valley, thereby enhancing mobility options.

The *formal* use of SunBus for home-to-school transportation was explored during the 1991 to 1992 school year. At that time, one of the local school districts was facing a very difficult funding crisis and skyrocketing enrollment. A decision was made to test whether savings could be achieved by eliminating the school bus routes serving high school students in the small community of Thousand Palms and transporting these students on SunBus.

The results of the demonstration were encouraging. Savings were achieved. Moreover, high school students found that the provision of SunBus passes enabled them to participate in after-school activities (especially because there was no late school bus) and to get to after-school jobs. During the demonstration, many families also elected to use SunBus to transport younger siblings to and from a middle school. SunLine also noticed that youth ridership on SunBus

was nearly as high on school holidays and weekends as it was on school days, evidencing that the students were using SunBus to get around.

The experiment led SunLine to install these routes and schedules permanently after the demonstration period ended. And, although the school district elected to reestablish school service to Thousand Palms, many students have continued to use SunBus instead. In addition, SunBus also solves the home-to-school transportation problem connected with open enrollment; families wishing to send their children to a different school now have a transportation solution. And, when the school districts require students to attend summer school yet do not provide school bus transportation, SunBus provides the link between home and school.

It is also noteworthy that the three school districts have used SunBus to transport groups of students from elementary schools, middle schools, and high schools on field trips or to after-school athletic contests. All three districts reported that without SunBus these trips would not have been made because there was no affordable alternative. The same is true for several elementary school student after-school programs run by the YMCA and Boys and Girls Clubs throughout the Coachella Valley; the only affordable option for the programs and the parents of the children, short of parents leaving work early to transport their children from the school to the after-school site, was a supervised SunBus route. School officials, after-school programs, the parents, and the students are all delighted. This past year, over 62,000 riders (reflecting over 2 percent of the SunBus ridership) were able to go on group trips because of SunLine.

Trumbull Co. Ohio Trumbull Area Coordinating Transportation

Prior to May 1997, Community Bus Services (CBS), a private, for-profit special needs student transportation carrier, took the lead in delivering and coordinating paratransit services in Trumbull County, a rural area of about 625 square miles in northeast Ohio. CBS took on this function as an extension of its school transportation business.

As of May 1997, this responsibility was formally transferred to the Trumbull Area Coordinated Transportation (TACT), a newly formed organization charged with coordinating fixed-route transit and paratransit services throughout the county. While the County formed TACT, CBS was a driving force behind the initiative and assisted the County in obtaining state and federal funds for capital and operations.

CBS, under contract to TACT, initially managed and operated this paratransit service. The start-up fleet included vehicles provided to TACT by sponsoring human service agencies and two vehicles that CBS also purchased exclusively for TACT use. The core of the fleet, however, was the excess capacity available on CBS's (special needs) school bus fleet vehicles.

TACT now manages the system and directly operates a portion of the service. CBS continues to be involved as an operations contractor, although most of the service is provided on TACT vehicles. Service consists primarily of paratransit service provided to human service agency clients, with sponsoring agencies purchasing service through TACT. Plans are afoot however to expand this system to provide public transportation (transit routes and Dial-A-Ride paratransit) to the general public.

Findings

Although each project had a different point of departure – no single piece of national legislation, for example, spurred these efforts – there are nonetheless a number of consistencies between the various case study sites. For the most part, one creative, dedicated individual championed the project from concept through to implementation.

Two case study sites stand out for the unusual driving forces behind their coordination efforts. In Trumbull County, Ohio, the school bus contractor was the lead advocate and a catalyst for more coordinated service between all service providers in general, and between those providers offering school bus transportation in particular. The contractor, Community Bus Services, has worked to utilize excess capacity on buses to minimize costs and to maximize the efficiency of vehicles by cooperating with other service providers. In Glendale, Oregon, the local school district led an effort to develop the Glendale-Azalea Skills Center, a "one-stop shopping center" of social services housed in a school district building. As part of that effort, the school also supported co-mingling of agency clients and school children on yellow school vehicles as long as adult passengers passed a criminal background check.

Also noteworthy were the communities that resolved to integrate public transportation and school transportation services. The two stand-outs here were the Yates Dial-A-Ride service in Idlewild, Michigan, and the City of Minot, North Dakota; each melded school transportation services into its existing system because the school

districts did not have sufficient funding to operate a separate school bus transportation service. At each of these sites, the community supported the effort with overwhelming enthusiasm; prospective attitudinal barriers associated with issues such as co-mingling never surfaced in either community. Indeed, a common theme among all the case studies was the considerable community support that materialized in response to real community needs.

Two other communities that have advocated for integration are Selkirk, Washington, and Cheraw, South Carolina. In particular, these communities also deserve special recognition for the lead that the respective School Districts have taken in advocating for public transportation. In Selkirk, the school district now operates an integrated service using a school bus, and in Cheraw, the school district now allows approved adults on its regular bus routes, and, in conjunction with the local coordination agency, is continuing its discussions with the State to allow the general public on its regular school bus routes.

Head Start programs also seem to have played an integral role in a number of these efforts, either by drawing the school district and public transit providers together in an effort to address Head Start transportation needs, or, in the case of Nampa, Idaho, by actually lending Head Start vehicles, drivers, and staff to establish a public transit system. Also notable is that most of these efforts grew from existing transportation service. In other words, these services were developed by expanding existing services.

The most consistent rationale for initiating a project, however, was some financial consideration. Parental concerns over costs, school district budget prerogatives, potential savings to operators, and decreased costs for customers all were cited as reasons for developing a more coordinated system. As will be discussed in greater detail later, the cost savings goals of these communities were in large part realized as a result of these projects.

In terms of goals and objectives, a number of communities developed specific written goals for their efforts, while others opted not to put these goals in writing. In communities where written goals were not available, the researchers inferred goals through interviews and reviews of existing documents. There was no correlation between written goals and the success of the project. Whether written or unwritten, certain themes emerged. The desire to maximize community resources was a goal expressed by most of the case study sites. Also consistent was the need to increase mobility as well as to access local services. The need to provide an affordable service also was identified by most persons interviewed

for the studies. Increasing savings and ridership and, in one case, testing the viability of public transit service also were cited as secondary objectives. On a positive note, most communities had considerable success reaching their stated (or implied) goals.

Highlights

Although there was some variety between the various sites, a number of consistencies did emerge from the case study research. These key findings are summarized in the list below, with a more detailed discussion following this list.

- Broad-based community support is crucial
- Costs play an important role
- Community concern about co-mingling varies
- Legal and regulatory issues shape coordination efforts
- Transitions are a challenge
- Head Start often plays a major role
- Coordination works

Broad-Based Community Support is Crucial

In each of the communities where coordination was successful, the effort was supported by a range of community members. This support had a number of encouraging effects, including the following:

- Positive impacts on funding and resource allocations to support the effort
- Contributions of ideas and solutions to address problems and obstacles
- Solid volumes of riders to sustain the system over time

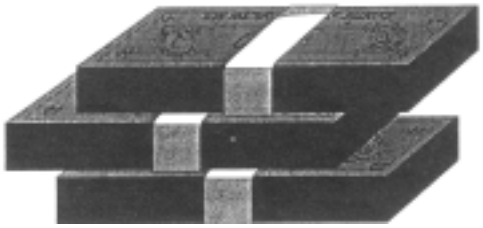
The synergy made possible by broad-based support is best exemplified in Thousand Palms, California, and in Idlewild, Michigan. In Thousand Palms, California, the parents and school administrators in Coachella Valley contributed the funding necessary to launch the public transit-based coordinated system.

Initial concerns about the safety of younger children was assuaged by the professionalism of the SunLine staff. Even though the school district eventually resumed transportation of school children on yellow school buses, significant ridership increases – coupled with the community's positive view of SunLine – has played a role in the continued expansion of services to the overall area. The effect of these new services and the relationship between parents, children, school administrators, and SunLine has been increased mobility for youth in the area.

In Idlewild, broad-based community support helped launch the coordinated system in 1992 and now helps to sustain the existing programs. When lack of transportation was an acute issue in the early 1990s, the community rallied behind a Yates Dial-A-Ride system that would expand to include student, social service agency, and public transportation. Knowledgeable community members helped develop routes and advertise the system; the local Cub Scouts erected bus shelters when parents expressed concern about exposure during the winter months. Parents and community members continue to work directly with the Executive Director to address concerns over safety, student conduct on buses, and a number of other issues. Again, at the heart of this cooperative effort is the commitment of a community that believes in the service and therefore is vested in seeing the program succeed.

Costs Play a Key Role

"Costs" can mean any one of a number of things, including costs to a school district, public transit agency, social service agency, and parents. Most parents are very concerned about safety and will not support an effort that they feel jeopardizes the health and well-being of their children. Also important to parents is the cost of transporting children to and from school and home. In Kalispell, Montana, walk distances of three miles for all school-aged children have encouraged parents to band together and to coordinate with Eagle Transit, the local public transit agency. These parents simply feel that their children (most of whom are between the ages of five and eight) are far safer and better protected in public paratransit vehicles with a well-trained driver the children trust than they are on an unsupervised walk home from school. Many parents also cannot afford to shift work schedules or reduce work hours to transport their children on their own.



The cost of service is an equally important issue to agencies and positively impacts their willingness to utilize less expensive school bus vehicles for group trips. In Gillette, Wyoming, a charter bus service and taxi operator are the only transportation providers in town other than the school district. The charter bus operator in the area charges a rate of approximately $2.40 per mile. The school district charges $0.25 plus personal liability insurance at approximately $0.75 per trip, plus the cost of the bus driver wages and fuel. The total cost of the school bus rental is significantly less than for a charter bus, particularly for long trips into Montana, Idaho, and Colorado. The charter bus contractor also only has available between two and ten vehicles at any given time, while the school district has 150 buses and forty Suburbans from which to choose. The most economical choice for non-profits in the area has been the yellow school bus vehicles.

Other case study sites show similar returns on investments. In Iowa, for example, the project team found direct, positive financial impacts from the coordination of school bus and public transit services:

- Co-mingling pre-school, student, and adult groups on the Northeast Regional Transit System (NRTS) paratransit vehicles has enabled the paratransit services to reach average efficiency levels of 4.2 passenger trips/revenue hour. Without co-mingling, efficiency levels would likely be about 3.0 passengers trips/revenue hour or less. This would increase the annual budget by $230,000 or 40 percent.

- Co-mingling pre-school Head Start children on the yellow school bus services has resulted in efficiency levels of 9.7 passenger trips/revenue hour as compared to 4.2 passenger trips/revenue hour on the paratransit services. Further, most school districts are able to accommodate the Head Start children on existing school bus routes without increasing operating costs. If NRTS had to carry the 21,000 Head Start passenger trips on its paratransit services, annual operating costs would increase about $70,000, or 12 percent.

The SunLine Transit Agency and Coachella Valley area school district collaborations led to cost savings as well:

- For Palm Springs Unified School District, the primary stated goal of the demonstration was to achieve a net savings. A net savings of $21,620 was achieved. Despite the later reinstatement of school bus service in the

Thousand Palms area, SunBus youth pass ridership on Line 8 totaled 2,508 trips in May 1993, which actually represented a 5 percent increase over the 2,389 pass trips in May 1992 (during the demonstration). Ridership on the routes involved increased from 7,255 trips during the 1990 to 1991 school year to 35,319 trips during the 1991 to 1992 school year; general public ridership increased by 56 percent, largely as a result of the expansion of service on these routes to weekday service. The total net cost (subsidy) for the taxpayer was calculated by subtracting the PSUSD savings of $21,620 from the SunLine deficit of $23,300. Thus the total net cost to the taxpayer was $1,380, or $0.19 per trip.

Overall, coordination as a model of cost savings was borne out by the case study research results. It is also important to point out that while costs *do* seem to play a role in encouraging the start-up of a coordination effort and even in supporting an effort over time, they seem to be only part of the social and political calculation made by community leaders and providers when considering coordinated services.

Community Concern About Co-Mingling Varies

As mentioned earlier, safety is often a central issue in coordinated efforts, and much of the discussion revolves around the issue of co-mingling students with the general public. The degree of concern about this issue, however, varies greatly from community to community. Indeed, for many of the case study sites, co-mingling is a non-issue.

In Selkirk, Washington, students, persons with disabilities, and the general public all ride on the same vehicle: a refitted, 56-foot school bus. The area is very rural and isolated; the total population of the three towns that comprise the Selkirk area is less than 1,000. According to parents, students, teachers, the elderly, and every community member contacted for the study, the service is considered a resounding success. Not one person mentioned safety concerns over co-mingling as an issue. When pressed, riders and administrators explained that if a stranger boards the bus, the driver and the other adult riders are more attentive to the children on the vehicle, sometimes even walking the young children to their doors.

A similar response was voiced in the Idlewild and Minot communities, where children of all ages are transported in a co-mingled environment, and, as mentioned earlier, SunLine's

professional and attentive staff had a positive impact on parental concerns over co-mingling.

Interestingly, in Cheraw, South Carolina, State official concerns about co-mingling have stalled efforts to expand a coordinated system, despite the community's desire to better utilize its school bus resources to improve the mobility of its residents through co-mingling. The local coordinating agency, with the support of the local school district, plans to resubmit this request in 1999.

Legal and Regulatory Issues Shape Coordination Efforts

The legal issues faced by the case study sites are typical of the regulatory constraints and challenges faced by most school bus and public transit service providers attempting to coordinate service. Public transit agencies interested in transporting school children on their transit vehicles must address concerns about the provision of group trips or tripper service (i.e., to ensure that they are open to the general public). These concerns were expressed in Thousand Palms, Cottonwood, and Kalispell. Public transit agencies also must be very careful to not compete with local carriers – a regulation that also applies to school buses used to transport the general public. Gillette, Wyoming, addresses this concern by limiting the rental of school buses to non-profit groups and by not making a profit on the rentals. Further, school districts and school bus contractors are generally excluded from co-mingling the student and general public populations. This was a serious enough concern to derail efforts in Cheraw, South Carolina, this year and to limit some of the cooperative efforts in Trumbull County, Ohio. Glendale, Oregon, faced a few challenges when some concerns arose about the general public riding on yellow school buses. The issue was resolved with help from the attorney for the state legislature. When the full system was in operation, potential adult riders underwent criminal background checks before being allowed to ride on the school buses.

When the Glendale-Azalea Skills Center staff contacted the Department of Education and Transportation to determine whether or not the general public could legally ride on yellow school buses, every official said they thought it was illegal, but could not cite a specific law to support the claim. Skills Center staff also contacted the state DOT, with similar results. Finally, after months of research, the Skills Center contacted the attorney for the state legislature. She

clarified that persons who pass a formal criminal background check may ride alongside students on yellow school buses. After obtaining this legal verification, the Skills Center coordinated with the Department of Labor to conduct the necessary background checks (free of charge) for anticipated riders.

In Cottonwood, Arizona, the Cottonwood Area Transit System (CATS) provides door-to-door, demand-responsive public transit service in several area cities and surrounding communities. Funding is provided from a variety of sources, including the Cottonwood Head Start program and the Adult Day Care program in the area. In the future, coordination between CATS and Head Start in Cottonwood may be more difficult given an anticipated ruling by the Arizona Attorney General's office requiring Head Start transportation to be provided in yellow school buses. Other regulations such as the new regulation that car seats be used when transporting children age five or under also will make the Cottonwood effort more challenging in the future.

Generally, in Minot, it appears that parents are pleased to have transportation provided for their school children and are relatively unconcerned about not having the transportation provided in a yellow school bus. The City of Minot receives Federal Transit Administration (FTA) funding annually under the Section 5311 program. The City is required, therefore, to comply with all related federal regulations. With respect to school bus transportation, FTA regulations prohibit sub-recipients from providing "exclusive school bus service" unless the service qualifies and is approved by the FTA Administrator under an allowable exemption. Minot City Bus service is open to the general public at all times. Even the Early Morning Service, which is oriented to school transportation needs, is not "exclusively" school bus service. The fact that nearly all of the riders on the Early Morning Service are school children and that the routes are specifically designed to serve the schools in the area, however, suggests that sensitivity with respect to the FTA School Bus regulation will continue to be important.

Transitions Are a Challenge

In the communities where integrated systems have been in place for quite some time, turfism and attitudinal barriers are simply non-issues. The same cannot be said in areas with new coordination efforts.

The City of Minot, North Dakota, operates fixed-route public transit service within the city limits. The service focuses on transit-dependent groups, including school children, the elderly, persons with disabilities, and others without transportation alternatives.

Although service is always open to the general public, early morning and late afternoon fixed-route bus service is oriented to the trip needs of school children. Mid-day fixed-route service is oriented to the travel needs of the elderly and persons with disabilities. Historically, Minot City Schools has not provided conventional school bus transportation for school children in its service area but, recognizing the benefits of the city transit system to students and parents, has provided some funding to support that service.

The communities of Bonifay, Florida, and Trumbull County, Ohio, have faced different, less interested school districts in their respective communities. The Tri-County community council, the transportation coordinating agency for Bonifay, Florida, provides extensive transportation services throughout and beyond three core counties for a broad range of program-related (Head Start, Medicaid, Older Americans Act, Project Safety Net, Children and Families, Disabled Adults) and non-program-related trip purposes, filling a considerable void in the combined service area. Even though Tri-County has achieved an exceptional level of core services in the area, school district administrators remain reluctant to coordinate any type of service and are even uncomfortable discussing shared maintenance options.

Head Start Often Plays a Major Role

In a number of communities, Head Start has played a key role in encouraging coordination efforts. Since so many Head Start operators coordinate with schools or public transit/paratransit operators to provide service to their young clients, they are often the organization laying the groundwork for a coordination effort. As mentioned earlier, in Nampa, Idaho, Canyon County Head Start (CCHS) played an instrumental role in getting Treasure Valley Transit (TVT) off the ground. CCHS provided buses and personnel in the earliest days of service and even now offers its buses as backup vehicles for TVT. In Cottonwood, Arizona, as in many small urban and rural areas, the CATS public transit operation began in order to serve the transportation needs of persons without transportation alternatives. In the Cottonwood area, the service initially focused on the needs of Head Start children and persons with developmental disabilities. It now serves a broad variety of trip needs, including transportation to after-school activities for school children, as well as other, broader community needs. Clearly, Head Start is a key player in the process of first considering coordination efforts and second, helping to consolidate support and services to sustain an effort.

Coordination Works

The clearest and most important conclusion from the research is that coordination works, particularly in rural and non-urban areas. The coordination of school bus and public transit transportation is effective in improving mobility and saving communities money. In rural areas with few transportation alternatives, the use of school buses has had significant, positive effects on the mobility of residents, while in more suburban communities coordination has saved providers money in addition to expanding the existing transportation network.

The success of coordination is perhaps best summarized in a grant application from the Glendale/Azalea Skills Center. They write, "the problems facing Glendale and Azalea reflect the problems of many rural communities. Rural communities must address a changing economy, lack of resources, and a need for workforce training. Many rural communities are, like this area, isolated from centralized county services. Yet, because of their size, it is unrealistic to expect most rural communities to have the financial resources and the population base to support a full public transportation system, especially one that must often connect with places in different counties, north and south, east and west. On the positive side, most rural communities do have school transportation and a history of neighbor helping neighbor. GATEWAY [the coordination program] builds on these two rural resources through a recruitment, training and dispatching system and does so at a reasonable cost."[xviii]

Chapter 5: Conclusions

Coordination Can Be a Viable Alternative

There is significant potential for coordinating and integrating school and public transportation services in non-urban areas. Communities often coordinate human service transportation and public transportation services; this project has shown that school bus and public transportation coordination can fit within this coordination framework as well, especially in non-urban areas. The key is to broaden the concept of coordination so that all players in the passenger transportation industry are involved.

Although coordination of any type of transportation service is difficult, coordination between – if not the integration of – school transportation and public transportation is especially challenging. Each serves a different clientele and has different operating environments, funding sources, and vehicle requirements. Also, each type of service has developed along separate lines. These differences are supported by legislative and regulatory decisions and have resulted in unique industry practices and long-standing attitudes about what is acceptable.

The communities currently coordinating services illustrate that prevailing industry standards and perceptions may no longer be valid, particularly in rural and non-urban areas. Further, the communities successfully coordinating services show that there is no single way to coordinate. Each community's goals, needs, and resources determine the type and level of coordination that is appropriate and most effective.

The research effort further clarified that coordination of public transportation and student transportation services can provide a solution to financial constraints and limited mobility in non-urban areas, but is not a panacea for all transportation-related issues. In some situations, coordination may not work at all. The challenge is

to identify new practices that are effective and to support these practices through changes in regulations and financing rules as well as with technical assistance.

School transportation and public transportation are both significant industries in their own right. Each has a body of experience that continues to be instructive when developing new initiatives. Each also has interests to protect. It will be a key challenge for each of these industries to learn to think out of the box in order to meet the challenges of the new century.

To support communities that wish to consider coordination, it is important to provide information on the options. Providing clear information about what aspects of service delivery and/or support services are being coordinated, how this coordination was implemented, and the legal and regulatory limitations that exist will help to eliminate misconceptions and to simultaneously broaden our understanding of what is possible. The Implementation Guide (provided in Appendix D) developed for this project is an important effort toward this end.

Finally, safety is an important concern - one that is crucial to successful coordination. Indeed, the high level of stewardship that the student transportation practitioners and the school community feel for their passengers can preclude their consideration of coordinated or integrated transportation systems. Much of the school transportation practitioners' negative reaction to coordination, identified as a concern for safety, is a response to the level of care that their passengers, and especially younger students, require.

And yet, many public transportation practitioners suggest that certain customer groups, such as the frail elderly and developmentally disabled individuals, might benefit significantly from similar levels of care, pointing out that readily recognizable vehicles, traffic control devices, etc., can also serve adults who require more assistance. This seems to suggest a willingness to develop a common set of safety standards for both industries that would serve to enable more opportunities for coordination.

With these thoughts in mind, there are two efforts that are worthy of the industries' attention and participation. The first is to develop a hybrid vehicle that meets both school safety and transit vehicle standards. The second is to standardize a common set of safety-related regulations, guidelines, and training programs for both industries and to implement these as widely as possible throughout the country.

The State of California Department of Education's recent work developing a hybrid public transit/school bus vehicle – a vehicle that meets the Federal Motor Vehicle Safety Standards (FMVSS) requirements for school buses while at the same time retaining some of the comforts of traditional transit buses – is a step in the right direction. At a reasonable cost, this new bus encourages communities to think collectively about how best to serve those passengers in need of added protections while simultaneously nurturing the notion of *community* resources and a *community* vision of mobility.

Such a vehicle would enable school districts, especially those in rural areas with no or little public transportation, to serve as the community transportation provider. In North Carolina, for example, a new law provides for non-urban area school districts to become the lead agencies for the transportation of care-dependent citizens; under this law, the school district would receive state funding of capital expenditures. This law is important not only to human service agencies, but also to unaffiliated transit-dependent persons whose current mobility options are limited. The key is to recognize that the school district vehicles and operations practices have broader application than just student transportation, and with the introduction of a hybrid vehicle, the applications would be broader still.

Along with this vehicle design breakthrough, it would be beneficial for public transportation agencies to include in their driver training programs and practices elements that are specific to transporting school students. With such training, non-urban communities that have both school bus service and public transportation service could consider the possible integration of service or the coordination of complementary services, both of which would be designed to reduce, if not eliminate, duplicative transportation.

The school bus is an underutilized resource that has the potential to be a vital *community* resource, especially in non-urban areas without public transportation. In such areas, the broadening of service and the conversion to a community transportation system – serving transit-dependent passengers if not the general public – with the school district either taking the lead or actively participating, would seem to be the next logical evolution. This would assure the long-term viability of the service and create new resources to accomplish the task. And in non-urban communities with both public transit and school bus resources, it would be beneficial for the community to explore how the two services could be coordinated or integrated in such a way that the community is able to better address the unmet transportation needs of its residents.

Clearly, those communities that wish to coordinate their resources will find a variety of ways to do so. In this process, however, it is important to consider coordination possibilities not just between student transportation and public transportation services, but also with human service agency transportation services.

It is also important to understand that successful coordination efforts in one community may not work in another. The effectiveness of any such effort often depends on a range of factors, including geographic area; available services and capacity; the organizational and service delivery structure of those services; state regulations and funding policies that pertain to student transportation, general public transportation, and human service agency transportation; and the local political climate.

The ultimate key to coordinating public and student transportation services is to recognize that: (1) options to coordinate and integrate the community's transportation services do exist and have proven to be successful, sometimes under regulatory and political environments that are not conducive to such efforts; (2) community involvement and support are prerequisites to determining which option best fits the needs of the community and to overseeing the implementation of that option; (3) the community must take a common stand and work with its state representatives to effect regulatory change or a restructuring of resource distribution it believes that current regulations and policies represent a barrier to the coordination option that the community prefers; and (4) coordination efforts do take time, effort, and commitment and are often years in the making.

Endnotes

[i] Kyte, Michael, Richardson, Nancy, and McKean, Connie, "Coordination of Public Transit and School Bus Transportation Programs: Results of Pilot Projects in Six Iowa Communities" Transportation Research Record 1202. Washington, D.C.: TRB, National Research Council, 1988, page 31.

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[iii] Status Report on Public Transportation in Rural America, 1994, FTA: RTAP National Program, Washington, DC, pg. 29.

[iv] Status Report on Public Transportation in Rural America, 1994, CTAA, prepared by George Rucker, Washington, DC, December 1994.

[v] Ibid., pg. 18.

[vi] Ibid., pg. 27.

[vii] STN web page, School Transportation Facts, www.stn.com

[viii] CTAA, pg. 19.

[ix] Ibid., pg. 19.

[x] Ibid., pg.20.

[xi] Multisystems, 1982, pg. 5-2.

[xii] We are indebted to Peter J. Grandolfo, Manager, Special Programs, Chicago Public Schools, for his assistance. Conversations with Mr. Grandolfo as well as information from his STN Conference Paper/Presentation, "Developing a Model Special Needs School Transportation Program," were instrumental in providing background information for this section.

[xiii] The school bus seat belt debate is ongoing on the School Transportation News web page. For an excellent summary of the concerns involved in this

issue, see "The Pros and Cons of Seat Belts on Large School Buses," School Transportation News, http://www.stnonline.com/sb_procon.htm.

[xiv] Patricia Turner and Rosemary Mathias, "School Bus Utilization by Community Transportation Providers in Florida," Center for Urban Transportation Research, August 1996.

[xv] National Association of State Directors of Pupil Transportation Services. *Passenger Vans Used as School Buses*. Position paper, revised January 1996.

[xvi] Ibid.

[xvii] Title 49 of the Code of Federal Regulations, Part 605: School Bus Operations.

[xviii] Glendale/Azalea Skills Center JOBLINKS Grant Application, 1994.

Appendix A: Literature Review and Bibliography

Lack of Data

While a number of non-urban communities across the country have coordinated or integrated their public and pupil transportation services at some point during the last 30 years, very few formal studies have been sought to quantify – or even qualify – the benefits of such arrangements. More commonly, pilot projects sponsored by state agencies or by local policy-makers have been studied and reported in the academic press. These singular achievements, however, have not been woven into a larger, more comprehensive analysis of costs, benefits, challenges, barriers, issues, or solutions to coordination.

In addition to the more formal research efforts, a number of other non-urban communities have commissioned studies to review the potential for very small-scale coordination. A number of these studies have been obtained and, while not formal documents, are nonetheless included in the project Bibliography (included at the close of this appendix).

Finally, many non-urban communities are coordinating services, but few understand themselves as in fact coordinating because they are not bound to formal contractual agreements. "Nobody signs anything here," said one respondent to the survey conducted for this study. This lack of formality – and consequently a frequent lack of publicity surrounding these initiatives – is most notable in rural areas. The quiet nature of this work has made it fairly easy for these communities to slip through the dragnet of previous broad-based research projects.

Multisystems' 1982 Study

Nevertheless, over the past 20 years, several formal studies have analyzed the coordination of public transit and school bus transportation. The most notable is the Multisystems study published in 1982 called *The Coordination of Pupil and Non-Pupil Transportation*.[i]

Conclusions from Case Studies, Multisystems' 1982 Report

"Virtually all of these experiences also demonstrate that some of the potential barriers to pupil use of public transit can be overcome. Moreover, these experiences suggest that certain perceived constraints may be inconsequential if the benefits that accrue from a merger are substantial enough.

1. One of the major problems more frequently purposed by parents is safety. While there is a valid argument that pupils riding in school buses are less prone to accidents than pupils riding transit coaches . . . using public transit for school transportation is a common phenomenon in many cities and that the decrease in safety may not be as dramatic as surmised.

2. One of the case studies demonstrated the dissimilarity between transit routes and student travel patterns may be overcome by using transit routes as feeder service to school bus routes or vice versa.

3. Another case study demonstrates how a shift [in school schedules and hence] student travel time . . . could dramatically lower the number of vehicles required to carry both sets of users.

Multisystems, 1982, pages 4-29 to 4-30

The purpose of the 1982 study was quite similar to this project, but did not focus on rural or non-urban areas. The 1982 study included a review of pertinent legislation, key issues in combining student transportation with other programs, a review of operational issues and service options, factors shaping how problems or barriers are addressed, and potential benefits and conclusions drawn from the entire study as well as from a series of specific case studies.

The most striking aspect of this report is how little has changed since 1982. The legislative concerns facing school districts and public transit districts remain the same. Also revealing is how similar the operational issues still are, including vehicle availability, labor agreements, tripper service, and issues such as turfism, attitudinal barriers, and parental concerns over safety. As mentioned in Chapter 1, there nonetheless have been several broader contextual changes since this report was written, including significant changes in the public transportation industry and a more acute fiscal crisis. A review of these issues first raised in this 1982 report – plus a review of how these issues exist in this new context – are discussed in greater detail in Chapter 4, Key Issues.

The Multisystems report also was the first to identify the ways in which institutions may obtain cost savings through coordination. As stated in the report, "Since the majority of costs for both public transit and school bus service is related to the operation of the vehicle, (in terms of driver wages and benefits, fuel and repairs), the biggest savings can be achieved through the elimination of vehicle miles of travel." Savings also are possible through the reduction of operating costs by shifting service "from a higher to a lower cost operator," for example, from public transit to school bus service if the operation of school buses is less expensive. Cost savings may also be achieved through "a reduction in fleet size," or through "the coordination of administrative and other support (especially repair) services."[ii]

Pilot Projects and Case Studies

In addition to the Multisystems project, several other articles and reports have been published on this subject. The following outlines the other published studies relevant to this research project.

One 1983 study focused on six pilot projects in Iowa.[iii] Two of the selected communities were defined as rural, while the other four were designated as urban. The four urban sites involved shifting students from traditional yellow bus service onto city transit buses, while the rural areas involved coordinating the operations, maintenance, and purchasing functions. The study found that even though yellow bus service was generally less costly, public transit was more cost effective when there was excess capacity on the city buses. The rural areas, on the other hand, did achieve more clear-cut cost savings. The first rural area, Nashua, Iowa, produced savings of $3,500 from shared fuel purchasing and service provision. In the second rural area, located in the northwest Iowa county of Dickinson, the school district achieved an annual cost savings of $6,500 by contracting with the regional transit authority for maintenance services.

There were nonetheless significant legal and institutional barriers which communities were forced to address (with varying degrees of success). As described by the researchers, the institutional barriers - even in pilot projects of a relatively modest size, such as these six - were considerable:

> "The most difficult barrier to coordination is institutional. More generally stated, there is a high resistance to change among institutions and the persons served by these institutions. While the project philosophy described above was felt to be critical in all of the pilot projects, the size of the projects also meant that the benefits accruing would be small at the beginning. Thus it was often difficult for some agencies to justify their participation simply because the benefits that they would initially receive would be small in comparison to the energy that they must put into implementing a project. In addition, lack of a long-term commitment to coordination was apparent in most of the pilot project areas."[iv]

As an antidote to these institutional barriers, the researchers advocated an "outside 'change agent' responsible for developing a concept and working with the local agencies to implement it."[v] This change agent would circumvent institutional barriers by offering the longer term view required to incorporate coordination into the daily activities of each institution.

In addition to the institutional barriers, the researchers also found that certain state and federal guidelines discouraged cooperation. Adherence to service standards, the requirement for a seat for all student passengers, and the school transportation loading and unloading procedures were all identified as obstacles. The researchers did note that these requirements were not age-specific.

Finally, the researchers highlighted Iowa's progressive statewide coordination policy: "In Iowa, improvements in transportation efficiency have been achieved through increasingly stringent requirements for interagency coordination, at both state and local levels. Currently, the only transportation provider not involved in this process is the school district. It is critical to bring school transportation programs into the planning process if the benefits of service coordination are to be achieved."[vi]

The need for intra-agency cooperation and commitment also was noted as a prerequisite for success in a Hohenlohe, Germany, Case Study.[vii] This study documented and evaluated a completely integrated public transit and school bus system in this rural German town. Regular-route transit, school bus, intercity bus and rail, and elderly and disabled services were all coordinated. The researchers made the following findings: "the cooperation of school officials is essential; that planning for this type of service takes a lot of time, is very difficult, and involves considerable planning at the tactical level; that coordination of rural public transportation services can only be realized if there is an institution to provide for the coordination; and that there is significant room for more innovation at the planning level in paratransit services, both in Europe and in the United States."[viii]

A Dade County, Florida, study entitled *Feasibility of Combining Public Transit and School Bus System Services in Dade County* was a feasibility study for coordinating services in the Dade County area. (Interestingly enough, although most people consider the Miami-Dade County area a large metropolitan area, half of Dade County is actually designated as rural.) Four coordination alternatives were evaluated:

1. Home-to-school and return transportation of public school students by the public transit system, Metro-Dade Transit Agency (MDTA).
2. Field-trip transportation of public school students by the MDTA
3. After-school transportation of public school students by the MDTA
4. Maintenance of school-board buses by the MDTA

The researchers were not enthusiastic about the school district and public transit agency's arrangement, which included home-to-school transportation of public school students by the public transit system, field-trip transportation of public school students by the MDTA, after-school transportation of public school students by the MDTA, and maintenance of school-board buses by the MDTA. The research findings presented a variety of common barriers and challenges to implementing a cooperative venture:

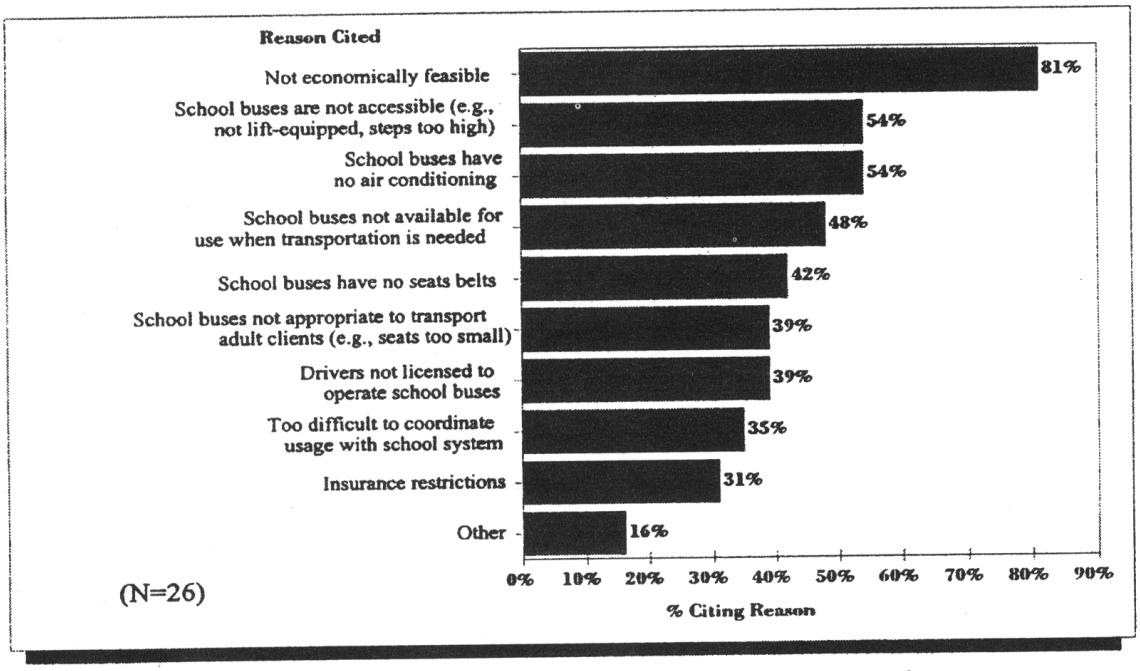
1. "Florida state laws require that the level of service provided be sufficient to ensure all students a seat on a vehicle.
2. School bus transportation is far less expensive than MDTA transportation, i.e. the unit cost per trip for the school district would increase.
3. The present labor contract of MDTA, which would be difficult to change, guarantees drivers at least a 40-hour week. School board transportation, however, requires only a 20-hour guarantee. Thus, using MDTA drivers for the school peak could necessitate higher wage rates, plus compensation for drivers for time when they are not needed. This higher wage rates negatively impact the marginal cost per hour of service.
4. While federal regulations require that MDTA vehicles have an open-door policy, i.e., that they be available to all types of passengers, Florida law currently disallows state financial support for students transported on open-door vehicles.
5. MDTA's current routes are designed to meet the needs of the general public and would be of limited value to students. Bus routes on major roads are typically long and direct, with a minimum number of stops. By contrast, school service involves short runs of

> many stops, primarily in residential neighborhoods, followed by a closed-door run to the school. The inherent differences between the two transit services limit the route and schedule integration that can occur."[ix]

The findings from this feasibility study discouraged the school district and the MDTA from engaging in a comprehensive coordinated effort. Now, the Metro-Dade School District only transports magnet school children on public transit buses and rail, and only then after each student receives extensive travel and safety training.

Finally, the Center for Urban Transportation Research (CUTR) published a study on *School Bus Utilization by Community Transportation Coordinators in Florida* in August of 1996. Community Transportation Coordinators (CTC) in Florida provide client services, including transportation, to elderly and disabled residents. Per a Florida state law demanding coordinated transportation services, the CTCs must provide the Dade County school districts with dates, times, and vehicle needs in advance. In turn, the school districts make available their idle school buses and charge the CTCs a minimal fee per hour for the use of the buses. As part of assessing the service received by CTCs, the CUTR research team established a list of the "Major Reasons CTCs Do Not Use School Buses." The list is topped by "not economically feasible," with "not accessible" (e.g. not lift-equipped, steps too high) and "no air conditioning" following close behind.[x]

Figure 6. Major Reasons Community Transportation Coordinators Do Not Use School Buses



Notes: Respondents were asked: "If you don't use school buses to transport clients, what are some of the *major* reasons that you do not? **(Check all that apply.)**
Percentages do not total 100 percent because of the multiple response nature of the question.

Source: Survey of Florida Community Transportation Coordinators regarding use of school buses for TD transportation conducted by Center for Urban Transportation Research, USF, Tampa, November-December 1995.

Nonetheless, a number of agencies continue to use the school buses to transport their clients and noted several reasons for wanting the service to remain an option. Cost savings, the ability to provide more trips, and the option to transport larger client groups were cited by CTCs as the top three reasons for using school buses. Benefits to the community also were mentioned, including improved mobility of residents and the more effective use of tax dollars.

The report also qualified the benefits to the school district. Recovering costs on idle vehicles, enhanced community image, increased viability, and extra earnings for school bus drivers were mentioned by the CTCs in follow-up interviews. School transportation administrators were not interviewed for the effort.

In spite of the obstacles and barriers discouraging CTCs from using school buses, a number of them continue to contract with school districts for service. In fact, the MDTA recently received the 1997 Florida Transportation Department Commission Award for its use of school buses in the provision of public transit service.

Studies Reviewing Costs and Savings

As mentioned earlier, very few studies have quantified the cost savings that can be achieved from coordinated service. A Price Waterhouse study, managed by a task force on transit and school bus integration and commissioned by the Province of Ontario, nonetheless managed to pinpoint the inputs needed to evaluate cost savings. Per this research, a successful cost-savings coordination model is:

- "Where unused capacity exists in the public transit network that may be utilized to transport students at little or no incremental cost to the taxpayer. Unused capacity in this context represents unused seats within what has been defined as 'Basic Transit Service.' Basic Transit Service is the level of transit service required to fulfill the local community's basic transportation needs exclusive of school board funded or subsidized student ridership.

- Where the existing public transit network might be modified through route extensions or service enhancements, to carry additional students potentially at a lower incremental cost to the taxpayer than existing transportation arrangements.

- Where students are being carried on public transit that has been specifically acquired for student transportation, and which is more costly than alternative private operator services would be."[xi]

The study further concluded that savings were dependent on the following different factors:

- "The home locations of individual students as compared to the existing structure of the public transit service (and potential changes to it);

- The timing of peak ridership on the public transit service as compared to the bell times for the start and end of school;
- The levels of capacity utilization of the public transit network and of school buses, and the long-run incremental costs of carrying additional students on each of these services;

- The existing level of organization and service integration of student transportation in the community [regardless of whether or not service is co-mingled];

- The pricing structure of the existing school bus contracts; and

- The school busing service standards, in particular the ages/grades of students that could be transported on public transit within the local safety guidelines determined by the school board."

The study also sounded a cautionary alarm about quantifying savings. Oftentimes, costs are attributed to an individual institution. Instead of quantifying the dollar value of coordination at this level, the Price Waterhouse researchers argued for viewing savings at the level of the individual taxpayer: "communities should minimize the overall long term costs to the taxpayer for the school transportation and public transit service levels chosen, without consideration of subsidies. They should consider the costs of school transportation from the perspective of the overall impact on the taxpayer who funds all of the municipality, school board and province, not from the separate perspectives of the municipality, school board or province."[xii] Unfortunately, quantifying savings from coordination is difficult enough; analyzing savings at the taxpayer level only serves to compound this calculation problem.

Failures

Since there is so little formal documentation of successful coordination efforts, it is not surprising that there is even less documentation on failed attempts at integration. Nonetheless, there have been several newspaper articles about the legal battles waged in Green Bay, Wisconsin, and Chicago, Illinois, over the transport of public school children on the public transit network. The legal battles discouraging the use of public transportation for students seem to have increased in number in recent years and, obviously, have tipped the scales against integration in some areas. The lawsuit in Green Bay, for example, has forced the school district to sharply reduce the number of school children riding the local transit network; within the year, all students will be riding school district-operated buses.

The lawsuit in Chicago, Illinois, has been equally rancorous but, as of yet, has not produced a shift in service back to yellow school buses. The bill (SB 478 in the Illinois state legislature) is to prohibit public transit systems from transporting students to school as part of the regular fixed-route system. The bill was initiated by independent contractors in the area who argued that the transit authority, by operating tripper service to schools, was excluding private businesses from competing for these routes. Public transit services cannot contract for school bus service, even on an incidental basis, unless private operators are incapable of providing adequate service. The purpose of this regulation is to ensure that transit agencies subsidized with public funds do not compete with private school bus operators. Public transit operators can, however, accommodate school children on regular transit service, including the operation of "trippers," as long as that service is also open to the general public.

The specific language of the bill reads as follows: "Any individual, corporation, partnership, association, mass transit district or mass transit authority who through contractual arrangements with a school district transports students ... for compensation shall not

permit any person to operate a school bus pursuant to that contract if the driver [does not have a school bus driver permit]." To make the driver stipulations apply, mass transit buses were added to the definition of school bus. If this bill were to go into effect, then all transit authority buses would have to comply with the law regarding special equipment for school buses: transit buses would have to be school bus yellow, be identified with the words "school bus," have stop signal arms and special flashing lights, and have high seat backs (28") installed by the original manufacturer.

In Washington State – an area well known for a number of rural communities coordinating service – a recent fatality where a young boy was killed crossing a rural highway after disembarking from a public transit vehicle has led the state transportation director to curtail new efforts at coordinated activity. Indeed, accidents often precipitate changes in service policies and procedures, vehicle specifications, and even community and legislative support of coordinated agreements.

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[i] Menhard, H.R. and J.W. Rodman, *The Coordination of Pupil and Non-Pupil Transportation,* Cambridge:MA, Multisystems, Inc., 1982.
[ii] Ibid., Chapter 2.
[iii] Kyte, Michael, Nancy Richardson, and Connie McKean, "Coordination of Public Transit and School Bus Transportation Programs: Results of Pilot Projects in Six Iowa Communities" Transportation Research Record 1202. Washington, D.C.: TRB, National Research Council, 1988, pp. 29-31.
[iv] Ibid., pg. 31.
[v] Ibid., pg. 31.
[vi] Cooperman, Michael J., et. al. "Feasibility of Combining Public Transit and School Bus System Services in Dade County, Florida," Transportation Research Record 719. Washington, D.C.: TRB, National Research Council, 1979, pp. 41-43.
[vii] Fausch, *Integration of Public and School Transportation: Hohenlohe, Germany, Case Study,* Transportation Research Record 831.
[viii] Ibid.
[ix] Center for Urban Transportation Research (CUTR), *School Bus Utilization by Community Transportation Coordinators in Florida*, College of Engineering, University of South Florida, Tampa, Florida (sponsored by Florida Commission for the Transportation Disadvantaged).
[x] Ibid.
[xi] Price Waterhouse, *Transit and School Bus Integration, Comprehensive Report,* August 14, 1995, pg. 5
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