

What's Going on in Transportation? Keeping the Busses Rolling

With tight budgets and growing service demands, it is increasingly difficult to retain highly qualified and experienced managers to lead public school transportation departments. As a result, the direct management responsibilities of school business officials are not only increasing, but encompassing a growing number of disparate support functions, including transportation.

The specialized and often arcane skills required to design, operate, and manage an effective and efficient transportation program demands a new set of planning and analytical tools for the harried support services manager. Many factors influence the delivery of transportation services every school day.

It only takes one significant mishap or breakdown in communications to injure the public's perception of the transportation program and perhaps the school district administration itself. Thus, an effective and efficient program is essential to success.

Despite the constant, intense level of operational supervision required, transportation operations can be very routine with a good baseline plan in place. The key is to manage the inputs, control the operation, and measure the outputs to ensure performance standards are maintained.

Fortunately, most of the important attributes of transportation performance can be quantified. There are key measures of performance that, when coupled with a regular mechanism of reporting and analysis, can guide the development of a strategic management plan and provide a mechanism to periodically monitor and adjust performance. This approach precludes the need for the business manager to become, in effect, the transportation manager as well.

Separating the management of the program from the supervision of the operation can provide the leverage needed to maintain an effective and efficient system. This is particularly true when fiscal constraints cause staffing reductions in the transportation department.

A strong supervisor, even without extensive management or analytical skills, can effectively execute a well-conceived blueprint for the transportation system. Supported by routine and comprehensive data collection and maintenance,

well designed and timely reporting, strong back-end analysis, and a structural feedback mechanism to adjust the operational blueprint as required, business officials can leverage their time to provide effective management oversight without becoming the de facto transportation supervisor.

Success in utilizing this approach depends on two factors: the development of a high quality strategic transportation management plan and the design and implementation of a comprehensive performance monitoring, analysis, and feedback mechanism.

Transportation Management Plan

A successful strategic transportation management plan has five key elements:

1. *Systems* must be in place to provide the information and data supervisors and managers need. Two primary auto-



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mated information systems are essential to making this approach workable: A Transportation Management Information System (TMIS) and a Fleet Management Information System (FMIS). With the TMIS, the system of bus routes and schedules is developed and documented. All of the associated data required to develop the routes (student, stop, and school data) must be entered or downloaded to the system such that all of the operational data used to run and manage the system are available when needed (route and stop assignments, bus schedules, and route student counts). The FMIS serves a similar function, managing data that apply to the acquisition, operation, maintenance, repair, and fueling of the buses required to operate the system.

2. *Policies* must define the standards of service delivery or the parameters under which the system will operate. Defining the service parameters of the transportation program provides the planning limitations for the system. Key inputs such as rider eligibility, maximum walk distances to stops, ride time maximums, load factors per seat, and similar factors should be clearly elicited in written policies that are adopted by the superintendent and/or the school board.

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Having enforceable service delivery standards not only makes the development of an efficient bus routing plan possible, it also provides the leverage required to operate an effective system day-to-day. The absence of explicit standards promotes ad hoc decision making and inconsistency that invites conflict and requires near constant management intervention to ensure smooth operations.

3. A *route plan* must be formulated that efficiently and effectively meets the service requirements defined by the policies. The system of bus routes and schedules is the bedrock on which a successful program is built. Routes must be designed to comply with the parameters defined by policy and be accurately described in the TMIS database. A good quality TMIS will also be a key tool in the route development process itself.

Routes should be clearly defined, with stop locations, stop times, and driver directions clearly and accurately described, and with relevant information readily available to those who either manage or rely on the system, including managers, drivers, parents, and school administrators.

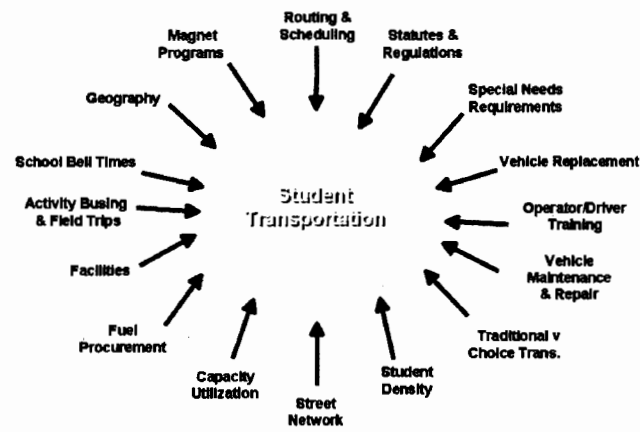


Figure 1. Relevant performance measures.

Clearly documented and comprehensible bus routes and schedules provide supervisors with a key tool for ensuring smooth daily operations, and managers with a key reference to gauge system performance.

4. *Standard operating procedures* must be developed that guide the transportation staff as they provide daily services. These typically take the form a driver manual covering all requirements of driver qualification, safe operation, and student discipline, but should also include separate procedures for governing the department's dispatch activities, such as scheduling of special trips, notification and assignment of substitute drivers, and others.

Having defined and documented procedures provides a field manual for the supervisor and yet another tool for management to gauge and monitor transportation department performance.

5. An *annual calendar* must be established that documents the timing and sequence of tasks for all of the seasonal changes, updates, and activities required with each new school year such as an annual update and revision to the bus routes and schedules, the publication and notification of student route assignments, the hiring and training of bus drivers, the assignment of drivers to routes, the seasonal maintenance of buses, special operating procedures associated with school start, and others.

Having a clearly defined schedule of events that describes when, how, and who will perform the various activities required to ensure that these seasonal events occur provides the final key tool for both supervisors and managers.

Monitoring, Reporting, Analysis, and Adjustment

A quality transportation management plan provides a solid foundation for success, but as circumstances change ongoing monitoring and periodic adjustments to the plan will keep it current, relevant, and effective.

There are four steps in an effective, cyclical oversight routine that will help to ensure ongoing success:

1. *Measuring* key aspects of performance provides a window to what is really happening with the operation. No single measure provides total insight into overall performance. Rather, it is the interplay between measures that makes the subsequent quantitative analysis meaningful. Examples of relevant performance measures are shown in Figure 1.

Similarly, it can be misleading to evaluate current performance without the context of historical trends. Therefore, it is important to define an adequate cross-section of measures and to collect data consistently such that these measures can be routinely calculated in order to develop a complete and ongoing picture of performance.

2. *Regular reporting* of performance measures, in terms of current performance and trends, puts relevant information in front of the manager. Effort expended on measuring performance is wasted without an attendant focus on presenting the data in a meaningful, though brief, format.

Generally, a monthly summary of key performance measures, with trend analysis, provides the manager with the information required to adequately gauge, monitor, and analyze performance.

3. *Periodic analysis* of results provides the critical information so adjustments can be made to keep the management plan relevant. Simply calculating and presenting quantitative performance measures is not enough. A regular program of analysis is necessary to interpret meaning and to determine the actions required to correct deficiencies or take advantage of opportunities for improvement.

In this analysis, it is important to understand the interdependencies and relationships among the measures and

to appraise them jointly. For example, discovering that the utilized run capacity of the buses is low, and correcting this by simply filling more seats, may extend bus route times such that students arrive late to school.

When presented with information in a timely and useful way, and when working on the margins of a program operating under a clear strategic plan, the manager can perform this analysis routinely and with a minimum of effort in order to keep the program at peak performance.

4. *Feedback* via adjustments to the management plan during the annual planning cycle closes the loop and keeps the operation performing at a high level. To revisit the earlier example, if capacity utilization of the fleet is indeed low, then it is incumbent on the manager to determine the cause and develop a solution that will improve the efficiency of the operation without adversely affecting the other key measures of performance and within the standards defined by policy. This must be translated into action through feedback to the cyclical annual planning process.

If, for example, the logical solution is to adjust school bell times in order to facilitate a route redesign within acceptable ride time parameters, this must necessarily prompt several interim decisions and a schedule of events and tasks for taking the appropriate action.

Conclusion

Dwindling management resources do not have to take a toll on the district's transportation system or increase the management responsibilities of those who oversee the program.

Rather, it presents a unique opportunity to rethink the manner in which the transportation function is organized and managed. A strategy that provides for efficient supervision of daily operations coupled with an analytically-based management approach can result in an effective, efficient transportation operation.

Separating the supervisory role from management oversight, with a strong strategic management plan and a structured performance measurement and monitoring program, is a technique that many school districts can use to deal effectively with tight budgets and the shortage of management experience in transportation. ■

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