Student
Transportation
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Services

STUDENT TRANSPORTATION SERVICES ASSESSMENT

Providence Public School District

January 25, 2013

MPS Management Partnership Services, Inc.
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Management Partnership Services, Inc.

9710 Traville Gateway Dr., #363, Rockville, MD 20850
Office: (888) 518-3377 • Fax: (888) 348-0335

January 25, 2013

Mr. Michael D'Antuono, CPA
Chief Financial Officer
Providence Public School District
797 Westminster Street
Providence, Rhode Island 02903

Dear Mr. D'Antuono,

Management Partnership Services, Inc. (MPS) is pleased to present this final report in response to the RFP "RFP to Provide Consultant Services for Student Transportation Services Assessment/ Providence School Department/ Local", for the Providence Public School District (PPSD). The enclosed report presents our analysis, findings and proposed recommendations to improve the efficiency and cost effectiveness of student transportation service delivery for PPSD. The analysis indicates that the student transportation requires structural changes to the school bell time architecture at PPSD in order to achieve optimally cost effective use of transportation resources in the future. In addition, certain staff re-alignments will be important in maintaining better control over operations and costs. The proposed options are comprehensive, and are in direct response to our findings for the PPSD Transportation Department. Successful implementation of our recommendations will require a long-term commitment of time and resources. It is our contention however, that executing the recommended changes will substantially improve the cost-effective delivery of student transportation services and permit more effective management control of department operations and better service delivery to PPSD students.

We would like to thank all of the members of the staff at PPSD who participated in this project. The active and willing participation of the Board of Education, the Office Superintendant, Food Service/Transportation department staff and the bus contractor was invaluable. We would also like to specifically recognize you, Mr. Andre Thibeault, Director of School Operations, and Dr. Katherine Hackett, Senior Supervisor Transportation/ Food Service for their enthusiastic assistance and cooperation throughout the course of the project.

We greatly appreciate the opportunity to work with the Providence Pubic School District on this important project. Please feel free to contact us with any additional questions.

Sincerely,

William A. Forsyth
Vice President

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EXECUTIVE SUMMARY

Management Partnership Services, Inc., (MPS) was contracted by the Providence Pubic School District (PPSD) to conduct an operations review and route planning assessment for the current student transportation program. A particular concern of PPSD, and a focus of this study, was to assess whether and under what conditions and constraints the cost of student transportation could be reduced. Particularly there was a concern about the overall architecture of the bell times and whether these could be revised in order to reduce required transportation rolling resources, and therefore costs. Our evaluation took into consideration all of the policy and operational components of the transportation program and the five sections of this report are organized around each of these:

- Transportation policies and procedures
- Transportation operations
- Transportation organization and management
- Routing efficiency
- Routing options

Key Findings

Our evaluation of the PPSD transportation system found that the costs of transportation are now 10 to 30 percent higher than we would expect for a school district of this size and configuration. Since the primary way to substantially reduce costs is to move as many students with fewest fleet assets possible, a major focus of our work was on the routing architecture itself. We found that the current policies and practices, such as they are create significant constraints to efficient transportation operation. School bell times are not sufficiently staggered to permit adequate separation time for a maximum number of bus runs to be assigned to each bus. This is exacerbated by a complex student enrollment and placement process which essentially allows students to attend schools of their choice, rather than their "home" school. The result has been that while the transportation has been able to achieve respectable passenger capacity utilization (70 percent), the runs are necessarily quite long. This, in turn, has resulted in an average of less than two runs assigned to a bus each morning and afternoon, compared to the norm of 2.5. The net effect of this is that approximately 30 to 45 more buses are contracted than might be required under a more favorable bell structure and boundary defined attendance areas.

The organization structure is a combination of both bus contractor and district personnel, resulting in the need for parallel line supervisory structures that are not conducive to effective or cost effective management. The organization itself operates without clearly integrated policies and administrative procedures to support them. Partly as result of the present management structure, the transportation department does not have a systematic procedure in place to monitor and evaluate the bus contractor's performance, but instead uses informal, ad hoc periodic checks in response to specific concerns or issues that arise in the course of daily operations.

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Key Opportunities for Improvement

Numerous recommendations are listed in *Opportunities for Improvement* under each section of this report. The most significant include the following:

- Create clear, concise and fully integrated transportation policies, administrative directives, and standard operation procedures.
- Change student school assignment and placement policies consistent with a neighborhood school strategy.
- Revise bell times and fully reengineer bus routes in accordance with *Option 3* in this report.
- Partition school and bus contractor responsibilities along functional lines. PPSD should provide route planning and contract administrative tasks; the contractor should provide all staff and assets required for daily operations.
- In concert with the preceding recommendation, alter line support and supervision responsibilities, and make on-board district support staff a required resource to be provided by the school bus contractor.

Estimated Cost Savings

Our position is that if the recommendations in this report are adopted and implemented, the school district might ultimately realize an annual reduction in transportation costs of 12 to 14 percent of the current student transportation expenditures. The table below shows that savings on the order of $2 million are achievable.

Summary of Estimated Savings

Bell Configuration	Required Buses	Est. Δ in Buses	Annual Cost per Bus	Cost Change from Current
Current	144	---	$ 94,063	---
Option 1: Current Improved	144	---	$ 94,063	---
Option 2: 3-Tier; Current policy	120	(24)	$ 94,063	($ 2,257,512)
Option 3: 3- tier; Neighborhood enrollment	119	(25)	$ 94,063	($ 2,351,575)

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TRANSPORTATION POLICIES & PROCEDURES

Service Requirements

The current formally adopted transportation policies are minimal and address only student transportation eligibility (distance requirement), subsidy of fees for service, and transportation of non-public students. Moreover, the usual hierarchy of board policies, administrative regulations or directives, and standard operating procedures are not fully in place in any systemic arrangement. In their place are various different media, such as school handbooks, district publications, internal departmental memoranda, and other documents that compile an array of "how to" steps, frequently asked questions and the like. In *Appendix D* is the matrix MPS developed from our analysis showing the core service parameters common to most transportation policies and procedures, the existing documentation for PPSD in each parameter, and our recommended changes.

Student Facilitation

The student enrollment process begins in a single location, the PPSD registration center, where all registrations and verification of enrollment documents occurs. Incoming kindergarten registration begins in early January and, according to school board policy, *"School assignment will take place during the spring prior to the next school year"*. The school district does not have a web portal for parents to register their children, to send documentation to the registration center electronically. Instead parents must download forms and other information from the district site and submit these manually to register a student.

The published procedures and policies for assignment of students to schools is cumbersome in that a student may not be assigned to their neighborhood (nearest) school in the traditional sense of established attendance boundaries. For example, a student may move to a location within the District that is literally across the street from the geographically closest and appropriate grade level school. However;

- If that school is already at the district determined capacity level the student is offered a choice of the next geographically closest school, via a "crow's flight" calculation of distance.
- If the next closest school is rated at capacity, the student is offered the third closest school and so forth.
- The further the distance from home to school caused by the assignment policy, the greater likelihood that transportation service will be required since students are not within the walking distance to their home school.
- The assignment process can and does cause a "domino effect" whereby students from the same household may be assigned to different schools within the same grade configuration.
- A transfer request process is in place through which a parent can request that the district allow their child to attend a certain school based on several levels of hardship including siblings in different schools.

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- School administration is also involved in this process as approved requests may have varying degrees of impact for the building, such as increased classroom size.

This very complex student assignment process results in an array of school placement possibilities that can create hardships on several levels, particularly for parents and bus route planning and scheduling. Additionally, the absence of geographically-defined attendance boundaries makes it difficult to unwind this process to change to a traditional home-school attendance area assignment strategy.

While the student registration staff works closely with the transportation department to obtain the school placement for students, the main issue that arises is when the transportation department cannot provide service for a new student. This is because the preferred school placement is so far from the student's residence that either the bus ride time would have to be unreasonably long, and/ or an additional bus would be required.

For both new registrants, and structural changes to the schools or their opening and dismissal times, late changes ultimately disrupt transportation service. For effective route scheduling to take place each year, all such decisions must be made *at least* six to eight weeks before the opening of a new school year, and preferably before the end of the preceding school year.

An example is the bell time changes made for the current 2012-2013 school year. PPSD finalized these changes very late in the summer, which required a last-minute scramble to change bus run assignments and route revisions. This led to a number of downstream service issues:

- Multiple incidents of restructuring bus routes after the start of school.
- Stop-gap fixes that hampered the efficient loading and assignment of some buses.
- Late or last-minute ridership notification to parents prior to school start up.
- Unnecessary confusion for some schools at the start of the school year

The present method of enrolling students is both inconvenient and confusing for parents. In our interviews with PPSD staff it was brought out that some parents simply do not understand the process. For example, a parent registers their child at the PPSD Student Registration Center and is informed that if transportation is available to them, they must go to the transportation department to receive a bus pass (after the initial bulk notifications are mailed out in the summer). The parent then drives to the transportation department to obtain a bus pass only to discover that it may be another day or two before their student is assigned to a bus and a bus pass issued. While most bus assignments can be completed within 24-48 hours, this process is often antagonistic to the parent who is confused and feels that they have been pointlessly run around.

PPSD has no systematic outreach process to parents for updating and verifying student information prior to the end of each school year. Therefore, address changes over the summer period are often late getting into the transportation routing system with the resulting poor outcomes:

- Additional transportation staff time spent to quickly complete bus routes;
- Piecing together a surge of changes to the bus schedules after the school years starts;

- Students receiving bus information after the start of a new school year; and
- Interference with classroom planning for the building administrators.

Opportunities for Improvement

Transportation Service Requirements

Establish clear and concise policies, administrative directives, and departmental procedures for the transportation program.

These are essential elements of an effective and efficient transportation operation. Policies establish the parameters of the level of service expected of the transportation operation. Equally important is the application of policies through well defined and documented administrative directives or regulations and operational practices and protocols. A more complete summary of the current policies and the changes we recommend is shown in *Appendix D*, however, all such documentation should address, at a minimum:

- Student walking criteria and rider eligibility requirements;
- Bus passenger loading parameters (planned load factors);
- Maximum ride times;
- Alternate bell schedules (late starts, early dismissals);
- Routing criteria for multi-point student transfers, shuttle buses, collector routes;
- Stop location and walking distance criteria;
- School bus arrival and departure time windows;
- On-time service requirements;
- Transportation to and from private and parochial schools, charter schools, alternative addresses, daycare facilities, *Head Start*, homeless, and other non-traditional programs; and
- Policies on transportation for low-incidence special education students regarding inclusive transportation, the assignment of student aides, and participation in IEP transportation requirements.

Student Facilitation

Consider the benefits of returning to an attendance boundary based system of student assignment to schools.

There are a variety of educational reasons that a school district opts to provide open choice for their student population. As long as transportation is not automatically applied in choice situations the district can offer those options without impacting the cost of transportation. Once administrative assignments begin taking place:

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- The requirements for transportation begin looking like choice transportation in structure, raising costs in the process;
- It is cumbersome for parents to determine where their child will attend a school, particularly new incoming families looking to establish a home near a school of their choice;
- An established service area will better allow parents to make more informed decisions when locating/relocating to PPSD;
- Returning to a community based school of attendance is consistent with existing school board policies;
- A boundary-defined attendance area the service requirements of transportation by reducing the need for constant route modifications, many of them major;
- This reduces the need for more fleet assets due to long distance and low density bus runs, and ultimately helps decrease transportation costs (see the *Routing Efficiency* and *Routing Options* sections of this report).

Based on the current configuration of a single site for registration we recommend that the District streamline the process by opening additional sites for registration that better accommodates parents, particularly during the late spring and summer.

The additional sites could:

- Use existing personnel in the registration center by temporarily reassigning them to such sites;
- Be located in existing school facilities;
- Assist parents with completing documents, collecting registration documents and forwarding these to the existing registration center for final processing and assignment; and
- Establish dates and times of operation that are the least disruptive to the normal work flow in the registration center and school sites.

Whereas this recommendation has no quantifiable impact on future transportation costs, it does have an impact on student facilitation through easier accessibility for parents in the registration process.

Develop a formal process and procedures for verification of current student addresses and other pertinent student information in late spring.

The school district should develop a communications strategy with parents that results in:

- Identification of changes since the last registration and before school is over;
- An earlier start date for route planning to begin for the ensuing school year; and
- More timely bus assignment notification for transported students.

Finally, utilize existing intranet information technology within the current *Edulog* routing planning software capabilities to provide schools with “read-only” access to transportation information. This

technology also will allow each school to print bus passes, bus rosters, bus schedules and other information needed to ensure the efficient and safe coordination of student boarding and disembarking at the schools.

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TRANSPORTATION OPERATIONS

Cost of Service

The full breakout of FY2011-2012 transportation costs can be seen in *Appendix B*. At $1,460 per student (the most significant indicator of cost effectiveness), the annual cost of transportation is 10% to 30% higher than the $1,115 - $1,315 we would expect for school district of the type and size of PPSD[1]. In *Table 1* below, we compared the cost per student to the same cost for students transported by public transportation (RIPTA) and those transported by the statewide transportation system operated by the Rhode Island Department of Education (RIDE). In both cases, the direct contracted cost per student, which excludes amortized overhead and administrative costs, is less than the same services provided directly for PPSD.

Table 1: Key Cost Comparison

Direct Annual Contracting Costs	First Student	RIPTA	RIDE	Total
Unit: Active Buses	144			
Unit: Bus Runs	516			
Unit: Students Transported	9,719	2,309	1,921	13,949
Cost per Student	$ 923	$ 510	$ 910	$ 1,227
Cost per Run	$ 17,386			
Cost per Bus	$ 62,299			
Fully Loaded Annual Costs	**First Student**			
Cost per Student	$ 1,460			
Cost per Run	$ 27,490			
Cost per Bus	$ 98,507			

The current transportation costs are primarily the result of the number of buses in use, rather than the specific cost of each bus. Accordingly, the primary objective is to reduce the number of buses needed to transport the current number of students. Since the cost of service is an effect of the transportation system structure and management rather than a cause, most of the recommendations in the sections that follow will influence the cost of the PPSD transportation program.

Service Delivery

The responses from most of the PPSD staff and administrators we interviewed and surveyed who are stakeholders in the transportation program were very satisfied with the overall quality and

[1] The comparative indicator includes an estimated $465 per student for the cost of bus monitors. Since 1986, Rhode Island statute has required the use of monitors on buses transporting student in grades K through 5 (RI Gen. Law 16-21-1).

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responsiveness of the transportation department to their concerns during the school year. However, concerns were expressed with late bus schedule notifications and with late arrivals in the afternoon at some schools. Overall, the transportation service was considered to meet expectations by school principals. (See *Table 2* below).

Table 2. Survey: Transportation Service[2]

	Affirmation Statement	Avg
1	All buses arrive at least 5 minutes before the first bell in the morning.	1
2	All buses arrive at or before dismissal time in the afternoon.	3
3	The bus ride times for students are of reasonable duration.	3
4	My school is notified sufficiently in advance of late arriving buses and substitute buses.	5
5	The layout of bus schedules and bus stops seem to be logical and well designed.	3
6	The current start and dismissal times at my school are satisfactory	2
7	I am willing to adjust bell times if needed and reasonable to improve transportation service.	3
8	All students are assigned to a bus at the start of the school year.	3
9	Schools are adequately notified of bus route schedule changes during the year.	2
10	Bus schedule notifications to schools and parents at the start of school are timely and accurate.	3
11	Transportation responds promptly and professionally to complaints and requests.	2
12	Transportation handles student discipline appropriately and cooperatively at my school.	3
13	Field and activity trips are appropriately scheduled; buses show up on time.	2
14	Bus operations in school loading zones are safe and well organized.	2
15	Buses appear to be clean and mechanically reliable.	2
	Overall	3

Based on our observations and analyses, diminished levels of service delivery are primarily attributable to the logistical factors and constraints discussed throughout this report. Chief among these are:

- Route planning hampered by late registrants just before school starts. This creates problems getting students assigned to buses and causes confusion and disruption at start of year.
- A compressed bell schedule and disbursed student locations due to enrollment choice, leading to long rides and often late afternoon arrivals; some up to 30 minutes past dismissal (See appendices *G* and *H*)

[2] Scale: 1= Completely Agree, 5= Completely Disagree

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Performance Analysis

In key respects, we found that the present operation is not operating at optimal efficiency.

Table 3: Key Performance Indicators

Measure	Significance	Guideline	PPSD Value
Transportation cost as a percent of District-wide budget	Provides a quick litmus test of transportation costs to see if they are appropriate.	**4 - 6 %**	**6%**
Cost per student (Total)	This is the single most important measure of operational efficiency. Objective is to move the maximum number of students with as few resources as possible	**$1,115 - $1,315**[3]	**$1,460**
Daily cost per bus	This provides a point of comparison when comparing charges from commercial transportation carriers. Also reflects the effect of fixed costs.	**$325 - $460**[4]	**$547**
Avg. buses per 100 transported students	Fewer buses used to transport any group of students will reduce costs. Shows how well (a) buses are being filled, and (b) multiple trips are being assigned to buses.	**1.10 - 1.34**	**1.37**
Utilized planned rider capacity	Costs on a per-student basis will go down as more seats are filled	**70% - 85%**	**70.0%**
Support personnel as a percent of fleet size	Indicator of the appropriateness of staff (personnel) overhead costs	**5% - 8%**	**8.0%**
Average special ed. ride time	May indicate either inefficient routing, or service levels deteriorating to reduce costs	**60 min.**	**1:12**
Percent of special ed. routes with bus aides	The use of school bus aides is a significant cause of increased costs for transporting special education students	**55%**	**100.0%**

The basic performance indicators evidence that costs, as stated earlier, are higher than expected. While the school district is within the expected bus passenger capacity utilization level with 70 percent of the available seats filled on the average bus run, the assignment of multiple runs to each bus has been more problematic. The performance indicator which looks at the overall use of fleet resources is the measurement of buses used to transport an average group of 100 students. Since

[3] Value adjusted to reflect additional cost for bus monitors required under Rhode Island statute.

[4] IBID.

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the objective is to transport students with as few buses as possible, the lower this value is, the better. With PPSD, the present value is 1.37 buses used on average to transport a group of 100 students. This suggests that if certain structural changes were made to the system, this value would be reduced to a number closer to 1.0 buses or perhaps even less, given the fairly compact topographic and demographic characteristics of the school district. In the *Routing Efficiency* section that follows in this report, some strategies will be explored which MPS recommends to achieve this objective.

Transportation Services Agreement

The contract consists of a services agreement that incorporates the scope of services defined in the bid specifications for contracted bus services. The current contract was extended in June 2011 in exchange for a reduced rate for the 2011-12 school year then a 2% annual increase for each of the next two years through June 2014. The age restrictions on the fleet were somewhat relaxed as well. The significant issues found in reviewing the agreement are listed in *Table 4* below:

Table 4: Findings - Current Transportation Agreement

Section	Title	Finding
III 1. b)	Award	Excess hourly rate over 5 hours. Appears to include deadhead one way.
VIII	Contractor Responsibilities	Part A *Personnel Matters* requirements duplicated under Part J *Operating Criteria*
	Contractor Responsibilities	Part B. *Vehicles* too restrictive; creates unnecessary cost as evidenced by conditions for extension.
	Facilities	Requires that the facility be within the city thus possibly reducing competition. This creates an unnecessary barrier to entry for bidders.
	Fuel	The cost of fuel must be tracked throughout the entire year and a bill or credit presented at the end of the school year. This complicates administration and increases carrying costs to the bus contractor.
	Non-Performance Damages	Multiple failure types described with similar penalties and liquidated damages.
	Strike Clause	The current strike clause puts the contractor in a difficult negotiating position and could, in the long term; result in higher costs to the district.

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Opportunities for Improvement

Cost and Efficiency

The most substantial cost reductions are primarily dependent upon restructuring the routing architecture to conform to a staggered bell time structure. This will facilitate the transportation department to assign three trips to more buses during the morning and afternoon route series. We discuss these options in more detail in the *Routing Efficiency* recommendations section later in this report.

Include the transportation department in the planning stages for all changes and modifications to school bell schedules.

Realigning bell times for schools and programs can be an overwhelming task, but it is one that will have a major impact on both the cost and quality of transportation services. It is critical that such changes take place systemically, and not solely as a function of individual choice by school building administrators. The geographic location and numbers of students being transported are crucial components to the bell time offsets, due to the interdependencies common to student transportation and most logistical systems. (Refer also to the *Transportation Policies and Procedures* section of this report).

Service Delivery

Since the transportation system must operate within the constraints imposed by the overarching logistical, demographic and policy structure of the school district, most of the changes that will improve service delivery are a result of the recommendations made elsewhere in this report. Of these, the primary impacts will be from the following:

- Policy changes that define unambiguous requirements;
- Improved bell time configurations that will permit better linkages of multiple bus runs to each bus;
- Movement toward boundary-defined enrollment policies, which will reduce the distances (time) buses must travel to transport students; and
- Structured contract administration, audit, and quality control procedures.

Transportation Services Agreement

Re-write the vendor solicitation and ensuing agreement such that these consolidate many of the current requirements.

The *Scope of Work* section of the transportation services agreement has areas of overlap and is some 53 pages long. The definition of service should be based less on compliance with pre-defined parameters and inputs, and more the service outcomes and standards desired by the school district. Some specific recommended improvements include:

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- Using 'live' (first stop to drop off) time and miles from the routing system to determine base daily charge. Do not use deadhead mileage and/ or time in excess charge computation;
- Consolidating duplicated requirements relating to operating criteria and personnel management;
- For vehicle age requirements, establishing an average age of six (6) years and no older other than 10 years for small buses and 12 years for all others;
- Eliminating the requirement for having a facility within the city limits. By using the route system miles, as recommended above ('live' time and miles) there is no need for this restriction. Responding vendors should identify location(s) allowing for the district to consider all options;
- Revising the $1.88 per gallon fuel cap upward and calculate the fuel charge or credit monthly from route system miles to avoid year-end surprises and to assure cash flow to the vendor;
- Simplifying administrative procedures with performance penalties by deducting the daily cost of a bus that is over 30 minutes late for any sort of obligation unless otherwise resolved between the district and provider (Generally, use contract compliance sanctions instead of liquidated damages for chronic performance issues); and
- Retaining the right for the school district to operate the bus schedules using an alternate service provider in the event of a strike beyond a stated period.

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TRANSPORTATION MANAGEMENT & ORGANIZATION

The organization structure of a transportation department is critical to provide a logical, functional, efficient, and effective transportation management and oversight structure. An overall organization structure with reporting relationships and accountability that supports efficient overall route development and systemic contract management is essential to the cost effectiveness and quality of the transportation program.

Organization Structure

The director of school operations heads the current organizational structure of PPSD's transportation department, and operations management is under the senior supervisor of transportation and food services. A supervisor of transportation, two bus routers, two route foremen, and two office personnel, one titled as a receptionist and the other a statistical clerk form the line support team. In addition, there are numerous public school safety service officers (PSSSO's),(formerly called bus aides), and teacher assistants (TA's) who have a dual role of providing classroom support to teachers as well as providing on-board support to students. All personnel report to and work out of the transportation office location with the exception of the route foremen and PSSSO's, who operate from the school bus contractor's compound. The teachers assistants assigned to buses operate to and from their assigned school.

The director of school operations retains the authority for the overall operation of the transportation department. The senior supervisor of transportation and food services has an obvious dual role over two departments. In the transportation function, this position is generally in charge of day to day operations including oversight of bus routing and planning, customer complaint resolution, supervision of employees and budget management. Additionally, this person is the liaison with the school bus contractor to coordinate year round bus service to students.

With the assistance of two bus routers, the supervisor of transportation is responsible for the routing of all school buses for the daily to/from school bus route service for students and maintaining the operation of the school bus routing software. The supervisor also works with the student registration center to assist and coordinate transportation services with student school assignments (described earlier).

The office personnel provide support to all positions within the department as well as manage phone calls and walk-in services for the public. The PSSSO's are stationed at the bus depot location of the bus contractor where the district route foremen coordinate the assignments of staff to buses with the dispatchers and supervisors employed by the bus contractor. They also provide training for the PSSO's, transportation nurses and child care personnel who perform duties on the school bus.

While the current staffing levels and division of responsibilities are appropriate, we have a concern with respect to the organization now in place for managing on-board bus support personnel (PSSSO's, teacher assistants, and specialized positions such as nurses). Typically, bus monitors, aides and the like are the responsibility of the contracted service provider (bus contractor), who provides the buses and the driving and assistance staff needed to operate them. The present bifurcated operation at PPSD, however, uses school district employees in these positions, while the

drivers are bus contractor employees. Since the driving and driving assistance staff necessarily operate under the direction of the school bus contractor, it is operationally difficult, duplicative and costly to provide school district employees for this purpose and the supervisors who coordinate their schedules in conjunction with the bus contractor's management staff.

Authority and Management Control

There is a de facto policy, or perhaps a tradition, within the transportation department that no employee in a supervisory role, as defined by job title and/or job description, has the authority to discipline employees in their charge, with the exception of the director of school operations. A supervisory role typically embraces that a person in such role has the authority to direct, and when necessary, discipline employees. Staff interviews indicate that, with the exception of verbal and written warnings, all disciplinary actions that may adversely affect the employment status of an employee (suspensions, terminations), reside with the director of school operations alone. This is a burdensome task to be placed on a senior administrator when there resides three levels of personnel below this position with duties designated as supervisory.

Likewise, the route foremen are perceived by those under their charge to have no true supervisory capacity. This relationship is a cause of concern as there have reportedly been incidents when the PSSSO's have refused to perform undesirable work assignment. This is counterproductive to effective dispatching of buses considering the overarching objective is to provide on-time service delivery to students and schools. The end result in the past has been disruption to services to the students from delayed buses.

Finally, a careful analysis of the collective bargaining agreements (CBA) found no provisions that limit the ability of an employee, in a supervisory role, to administer disciplinary action upon another bargaining unit employee when infractions occur. In fact, the *Management Rights* section of the CBA specifically gives the right for the employer to manage and supervise employees covered under the employee contract. We recognize that third-level decisions to terminate or suspend an employee should reside with the director of school operations subject to the board of education for final adjudication.

In our on-site evaluations and from our discussions with the transportation contractor and the PPSD transportation staff, we found no indication of any formal, comprehensive contract management plan to provide oversight and ensure compliance with the terms and conditions of the transportation (busing) agreement and evaluate the effectiveness of the bus contractor. Instead, the current process is relatively informal and largely reactive to complaints and concerns as they arise. Solid, systemic business practices such as arrival checks, lot inspections, driver records inspections, performance measurement, and many other necessary components to administer the busing contract simply do not exist.

Reporting Relationships and Accountability

In tandem with refusing or resisting work assignments, an evaluation of attendance data determined that the PSSSO's also have an excessively high rate of absenteeism from work. A sampling of the

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attendance reporting period from the start of the 2012-2013 school year through October 25, 2012, showed that the PSSSO's accounted for an astounding seven hundred and thirty (730) incidences of employee absence. The impact of these two factors is an ongoing and ultimately intolerable disruption of service.

The current employee performance evaluation process is minimal at some levels and non-existent at other levels. It was determined that the PSSSO's have not been evaluated at any level for several years. Lack of evaluations may well be a contributing factor to the poor attendance rates and instances of insubordination as there is not a consistent process that addresses these concerns. The evaluation process between the supervisor level and route foremen have a central tendency, meaning generally all employees are rated with "meets requirements" score. This central tendency appears to be a result of meeting the requirements at some level that satisfied the collective bargaining agreement (CBA) while not creating conflict or contention among fellow bargaining unit employees.

There is no formal process of verifying extra reported time by the transportation assistants (TA). These employees report to their bus assignment from their assigned school. They then record, via a paper time sheet, their extra time for bus duty which is then forwarded to the senior supervisor for approval. No person on the bus or at the school has been assigned the responsibility to confirm the time reported. The gap that exists creates a situation where as a practical matter, the senior supervisor is unable to accurately verify that the reported time is correct. The current reporting requirements and lack of verification procedures provide no mechanism to accurately track this time; hence dollars that cannot be measured may indeed be lost each day.

Opportunities for Improvement

Organization Structure

In the near future, the District should additionally explore an option of having the school bus contractor manage all aspects of the operations side of the transportation program.

Under such an arrangement, PPSD staff would continue to perform the route planning and contract administration and management functions. But the contractor would manage the PSSSO's, teachers' assistants, child care workers and nurses providing on-board services to students. The school district might also consider phasing out through attrition some or all of these district positions and transitioning these to contractor employees.

Reconfigure one route foreman position to that of an on-site contract management and bus contractor liaison position.

Depending on how PPSD elects to structure the management of the transportation program going forward, the remaining foreman position may be fully outsourced in the future, (see recommendations in the *Authority and Management Control* subsection that follows). However, this position *should* be phased out when and if the bus contractor takes over the management of all driving and on-board driving support personnel.

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Authority and Management Control

With respect to authority, the school district should, as a matter of formal policy, provide supervisors with the mandate to act in a manner consistent with the responsibility of their positions.

This, of course, presumes that the present management and organization structure remains as is. At a minimum, this would include:

- The transportation supervisor should administer first through second step disciplinary sanctions and up to but not including termination.
- Third step employee warnings or those where suspension or dismissal are recommended should be handled by the senior supervisor of transportation and food services (actual terminations and suspensions should be authorized by the director of school operations).
- The route foremen position should temporarily relieve PSSSO's of their duties for acts of insubordination and administer first and second step warnings
- Route foreman should conduct performance evaluations for PSSSO positions as well as other on board assistants positions directly under their supervision
- The district should approach the bargaining unit clarifying the roles of these positions and implement memoranda of understandings to the labor agreements to ensure clarity to all parties.

Beyond the obvious need for a unified chain of command, such a policy would provide for another level of appeal prior to going to the director of school operations for a decision, thus relieving this person from involvement in lower-level disciplinary and grievance issues that should properly reside within the realm of responsibilities of line supervisors or first tier managers.

As a separate concern, the school district should immediately address the reported work refusals and excessive absences being experienced with the PSSSO's.

When an employee refuses to perform or evades a work assignment, their actions rise to level of insubordination. An air of defiance that is not addressed will eventually compound the problem and metastasize within the organization. It is only reasonable that the route foreman should have the authority to direct any employee refusing to work to go off the clock and leave the work area for that shift. This usually results in a third step or suspension action pending investigation by the senior supervisor in accordance with discipline action agreements within the CBA's.

Develop and incorporate a comprehensive contract management plan for contracted bus services.

While this is an extensive undertaking, the end result is a program that emphasizes an approach to measure and manage the desired outcomes of a transportation system. It is a comprehensive program designed to establish an ongoing cycle of continuous improvement. This contract management approach encompasses four key elements:

1. *Resources:* Ensuring that there are people in place with the appropriate skills and available time to carry out contract management responsibilities.

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2. *Oversight:* Systematic, consistent, and fair mechanisms for overseeing the performance of the bus operator relative to the requirements of the contract and the school district's established policies and procedures.
3. *Development:* Concurrent goals are to increase both the performance and capabilities of the bus contractor over the term of the agreement.
4. *Strategy:* Use the plan to actively manage and encourage a healthy professional relationship with the district's bus contractor.

The focus of this program is intended to address the current contracted program and focuses on two core responsibilities:

- Managing and/or mitigating risk through active contract compliance monitoring; and
- Improving the capacity and capabilities of the bus operator via performance measurement.

Contract compliance monitoring: The majority of requirements in a transportation services agreement are binary in nature, which means that the bus contractor is either compliant or non-compliant. These elements are generally not subject to interpretation. The monitoring efforts of the transportation management team should focus first on making this compliance determination for each provision within the agreement, and then taking necessary remedial actions to ensure future compliance.

Performance measurement: This is substantially different from contract compliance. Performance measurement leverages and expands upon the specific contractual requirements in order to improve effectiveness and efficiency of the operation in order to best utilize District funding. Performance measurement, on the other hand, accomplishes several objectives: It facilitates continuous improvement relative to performance-related contractual obligations. It provides a means for the bus operator to set itself apart from its competitors. Finally, it encourages healthy ongoing competition and impartial comparative criteria which leads to continuous improvement in the delivery of services.

These are the core contract management responsibilities that, if executed properly, ensure strong ongoing performance.

Reporting Relationships and Accountability

Review the current evaluation processes for transportation personnel for compliance, applicability and structure.

Properly structured evaluations are an effective tool for the employer and the employee as the intent is to improve the employee's performance, reduce disciplinary actions, improve employee retention and job satisfaction, thereby reducing turnover and the associated expenses of new employee hiring. As a determination was made that evaluations were not performed in some areas and minimally in others the PPSD human resources management should conduct a review of all transportation related evaluative documents and, if such forms exist, determine if these documents are still applicable to current needs or should be revised, or in some cases, possibly created. The school district will be

better positioned to address poor employee performance, especially in the areas covered in this report. Senior management for the transportation department and the human resources department should also immediately assess transportation employees, particularly the PSSSO's, in regard to adherence of the *City of Providence's Abuse of Sick leave Policy* to assure compliance.

To the extent that the current use of school district employees as PSSSO's and TA's is continued in the future, research the availability of a time reporting system that allows transportation employees to clock in and out of job assignments at locations other than the Transportation depot.

Currently the fleet tracking capability of the *Zonar Systems* GPS technology used by the bus contractor has the ability to log start and stop locations and times for all buses. Interfacing this system or using data files extracted from it could help to verify PPSD employee clock time. The implementation of this or a separate on-board system and procedures for adherence is a tool to better assure the senior supervisor that employees, particularly the TA's who do not report to/from the bus depot or the transportation office, are in compliance and properly reporting on/off duty and provides the Senior Supervisor a more sound method of approving payroll.

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ROUTING EFFICIENCY

Designing efficient and cost effective bus routes is the single most important factor in determining the efficiency of any given school bus transportation operation. As such, designing, managing, analyzing, auditing, and updating the bus routes represent the overwhelming majority of the administrative activities performed by any transportation operation. It requires evaluating a wide range of independent but related variables and organizing these into a system that is both comprehensible and accurate. In all transportation operations these competing and at time contradictory factors must be managed to develop efficient and cost effective bus routes. These factors include: environmental constraints, external mandates, internal mandates, and operational decisions.

Also to achieve efficiency and cost effectiveness in a transportation operation there are two primary objectives that must be met. The first objective is to fill the bus to the greatest extent possible, a concept known as capacity utilization. The second objective is to reuse the bus on as many individual routes as possible in a give school day. This concept is known as route pairing. Effective management of these two concepts allows a transportation operation to "spread" its primary overhead costs, the bus and the driver, over the greatest number of students. If systemic or operational impediments to filling and/or reusing buses exist it is likely that cost and service quality will both be adversely impacted.

Route Planning Information Technology

The current route planning software (*Edulog*) is well implemented and used by the staff. Our evaluation was that there were no material discrepancies with respect to the underlying student and routing datasets. However, we have a concern that traditionally the transportation supervisor alone performed nearly all of the strategic route planning. This has created a gap in expertise that may be problematic in the future, and certainly so if the system is extensively restructured as recommended later in this section of the report.

A continuing problem that has impacted route planning has been the late student enrollment and assignment at the start if the school year. The impact of this on service delivery is discussed more fully in the *Transportation Policies and Procedures* section of this report. With respect to route planning, late data from the *Reg2000* student information often has led to the necessity of creating additional or fragmented bus runs in order to get students on buses, since some of these cannot be integrated into the route structure developed earlier in the summer.

Route Planning

The annual route planning process is driven in large part by the realities of the environment at PPSD. Perhaps the most vexing issue is the fact that the registration and placement process is such that there is a large influx of new and changed student records in the two weeks immediately before the start of the school year. Since many of these are past the bus schedule cut-off date and notification to parents, a large amount of effort is spent making hurried and ad hoc changes to get students to school. This has a tendency to unravel the broader logistical plan, making it necessary to piecemeal

routes and/ or assign extra buses, ultimately leading to higher costs. A fast overview of the key steps in route development will serve to illustrate:

- Routes are totally built from scratch every summer, since student changes require major route modifications
- Stops are created around students with special needs for inclusion purposes
- Bus routes are typically lengthy due to student assignment process that often requires students to be transported a considerable distance to and from their assigned school
- The high incidence of late registrations and student information changes disrupts systemic and timely completion of routes and schedules
- The two week period after the start of school is a vetting process where new students are provided closest existing stops and no - show students are removed from routes
- Requests for stop changes are reviewed after the first two weeks of school
- When time and/or stop changes occur that affects multiple riders, new bus passes are printed and provided to drivers for distribution to students with an effective date

The transportation department has been able to achieve a reasonably high level of utilized passenger capacity, with 70 percent of the seats filled as a total average for all of the bus runs now in operation. The breakout by school type is shown in *Appendix E: Key Logistical Statistics*, where this value ranges from a low of 38 percent for combined public & private school bus runs to a high of 90 percent for public middle school bus runs. Closer inspection of the table in *Appendix E* shows a significant relationship between the average bus run time and the number of seats filled. It is clear that with lower density bus runs, such as non-public students where students are disbursed over a wider area, buses do not have sufficient time to fill as many seats. This relationship between increased run time and passenger capacity maximization is illustrated graphically in the scatter plot in *Figure 1* that follows.

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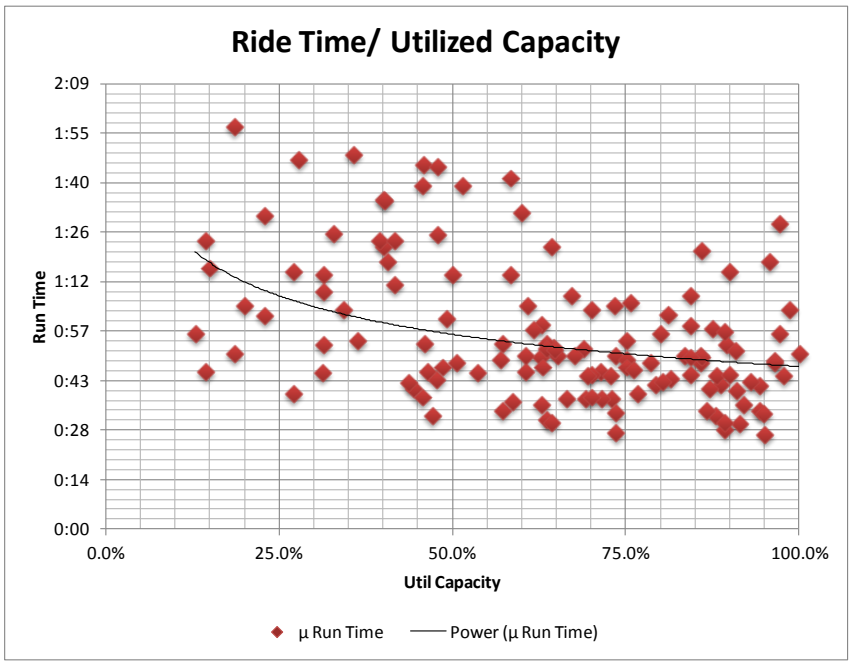
Figure 1: Analysis of Time and Capacity Use



In the case of PPSD, the present enrollment policy, which does not define a student's home school within a predefined boundary, allows a very broad array of alternative school choices, based on both the availability of seats and specific programs (refer to the *Policies and Procedures* section of this report). The bottom-line impact of this policy is that it impacts logistical factors in much the same way as schools with open enrollment policies. That is, rather than having students confined to separate geographic locations, students may attend schools that are a considerable distance from their nearest, i.e., "home" school. As a result, PPSD faces the reality that buses must either travel farther (longer) to maximize capacity use, or must use more buses with shorter runs to minimize ride times. At present, the average bus run time is 52 minutes; 86% of the bus runs take up to 1 hour, 25 minutes. The seminal relationship is that the number of buses required is inversely related to the time each bus must travel, and vice versa. In turn, the current bell time structure predicates that more buses are ultimately required than would otherwise be true. Hence, higher costs. (See *Bell Time Structure* below)

The relationship of the bus run times and bell structure has limited the transportation system to a quasi two-tier bell structure which maximizes capacity use, but at the expense of fewer runs assignments to each bus. The reader can clearly visualize the impact of the resulting street tracks for the bus runs in actual plots from the *Edulog* route planning system (see *Appendix G: Sample Bus Run Plots*). These illustrate the "direct line" run sequence layout for the three bus runs servicing Webster Elementary School and the nine runs going to Nathaniel Greene Middle School. Both are representative of what we observed system-wide.

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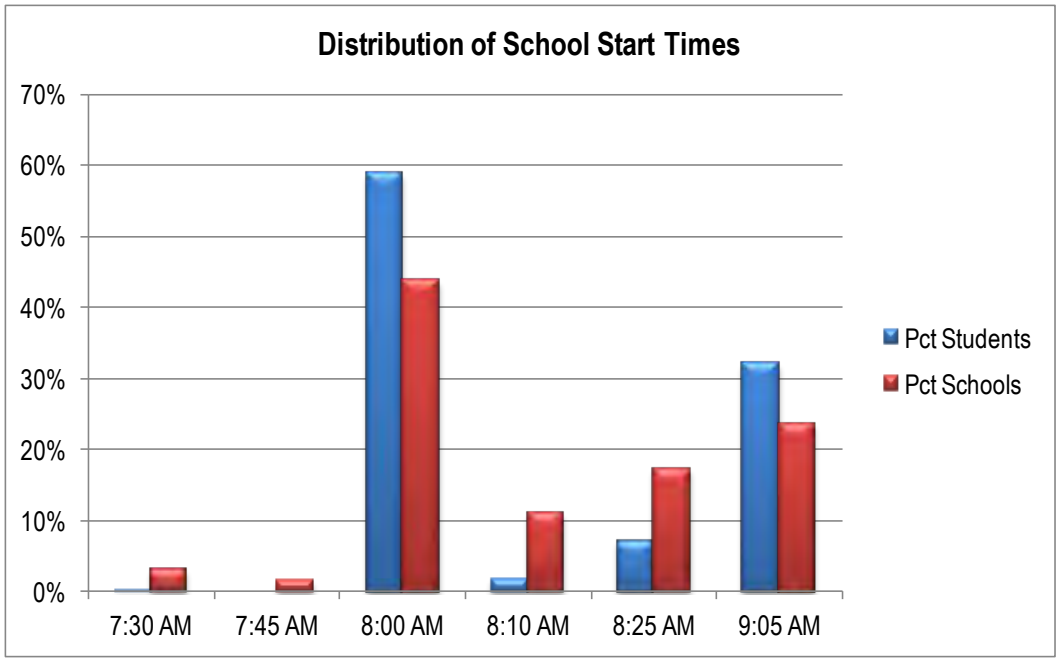
Bell Time Structure

Deciding how to configure a time tier structure is a function of the topographic location of the schools, the number of students at each school, and the number of buses required to transport them within acceptable trip time parameters. The current bell structure is essentially a two-tier structure that has created a convergence of demand at certain periods during the school day (see *Figure 2*). The fact that

Figure 2: Current Bell Time Distribution



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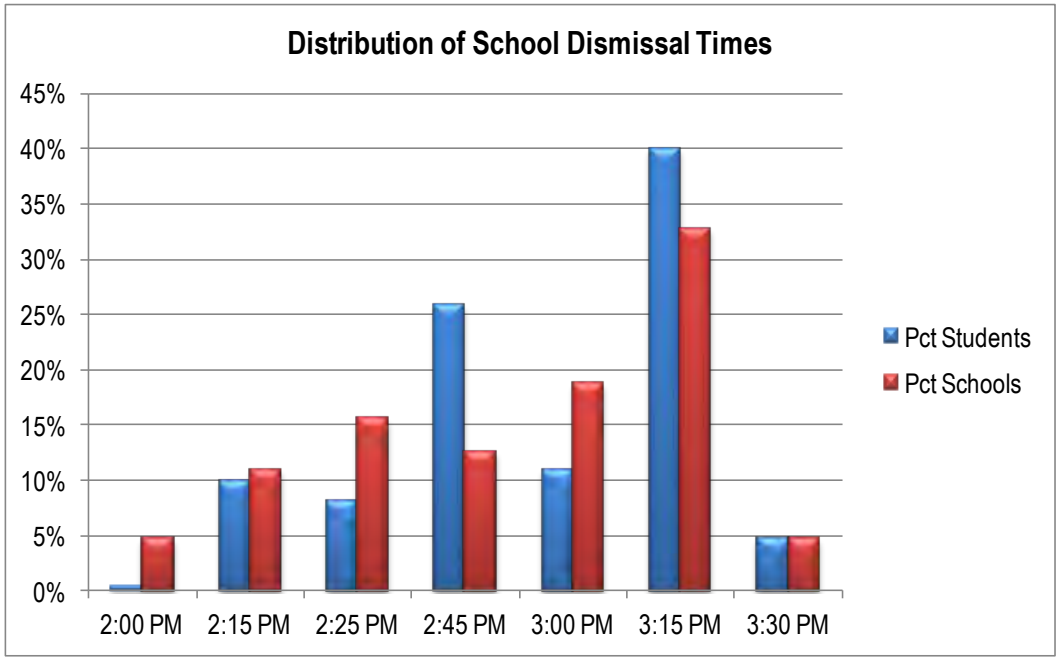

As explained previously, two primary steps are necessary to maximize efficiency in a student transportation system. The first is to fill as many seats as possible on each bus route. The second is to link as many bus runs to each bus as possible. The run pairing possibilities will be reduced unless a school district is organized such that the schools within it are geographically aligned and have complementary bell time offsets. Doing so permits buses to move from earlier schools to later ones within the allowable time constraints. Ideally, the bell schedules should be staggered such that the same numbers of students are being transported in each time tier. At PPSD, with approximately 9,600 students transported by yellow bus, a perfectly modeled (hypothetical) bell schedule would have approximately 4,800 students in each of the two tiers.

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Figure 3: Fleet Deployment (Morning Series)

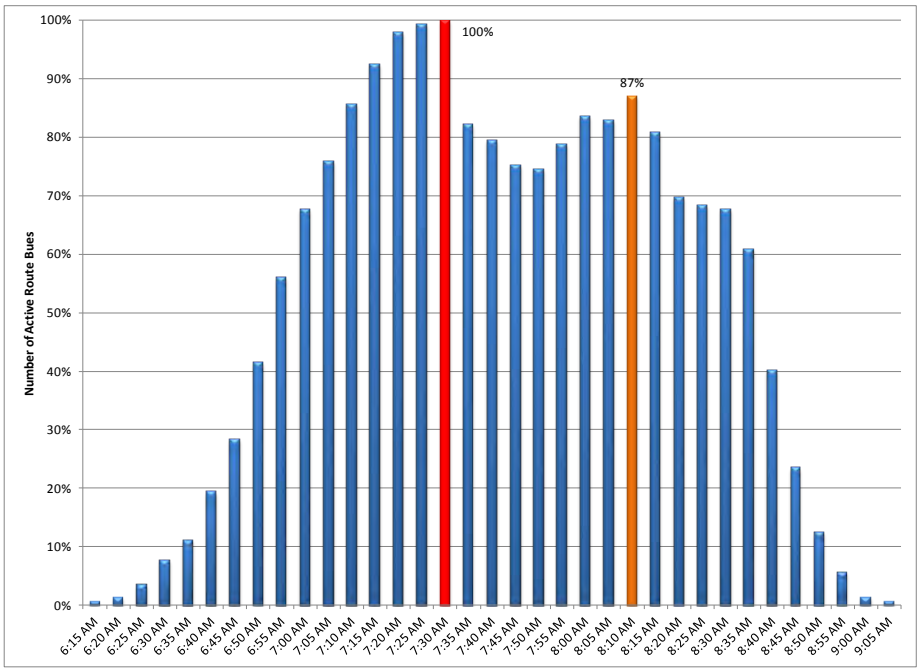
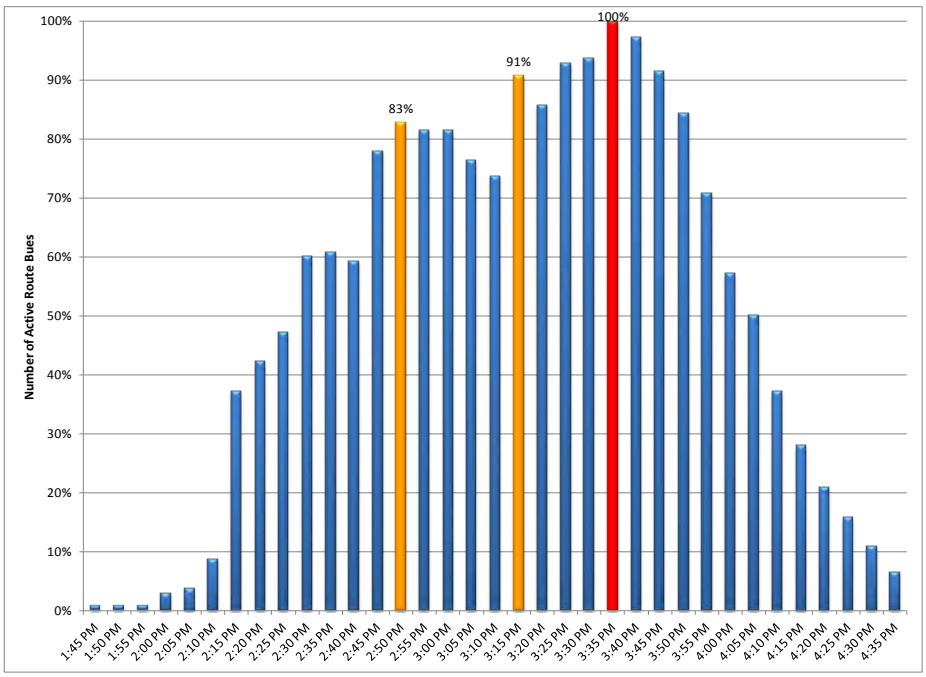


Figure 4: Fleet Deployment (Afternoon Series)



The preceding graphs show fleet deployment for the morning and afternoon route series. The horizontal axis represents the clock times in five minute increments for each respective session. The vertical axis represents the percentage of the fleet deployed from zero to 100 percent. By observing

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the pattern and height of the vertical bars, we can gain some insights into how efficiently and effectively the fleet is being utilized at present.

The graphs depict a quasi two-tier system that is very compressed and has minimal slack time between school bus run assignments. In the morning series, the fleet is fully deployed at 7:30 a.m., and within five minutes, 80 percent of the fleet is on the move again, reaching a second peak at between 8:00 am. – 8:15 a.m. as most buses reach their second assigned schools.

Similarly, in the afternoon the deployment pattern is highly constrained; essentially 80 percent or more of the buses are "wheels rolling from 2:50 p.m. to 3:50 p.m. As is true in the morning series, there only a minimal number of times when the fleet is in layover mode, which means that little if any slack time, or logistical buffers, exist during the afternoon series.

This reality compounds the constraints imposed by the 50 minute to one (1) hour and 50 minute variance in the length of the instructional day among all of the schools transported by PPSD. *Table 5* below shows these differences among public school types and non-public schools.

Table 5. Differences in Instructional Times

School Type	Shortest Instructional Day (Hrs)	Longest Instructional Day (Hrs)	Variance in Instructional Day
Public Elementary	6:10	7:00	0:50
Public Middle	6:20	7:23	1:03
Public High School	6:40	7:30	0:50
Non-Public (All Grades)	5:40	7:30	1:50

Because of the asymmetry of the lengths of the instructional days, it is very difficult to have a logistical structure wherein the bus run linkages for each bus that will work in the morning and mirror the same way in the afternoon (or vice versa). Here is a simple illustration: We have a bus serving two hypothetical schools; a middle school with a 7:30 a.m. starting time and a 2:30 p.m. dismissal (7:00 instructional day), and an elementary school starting at 8:00 a.m., with a 6 hour and 30 minute instructional day. In the morning, the 30 minute separation between the start times allows our bus to transport both schools in sequence. In the afternoon, however, both dismiss at 2:30 p.m. Our choices are to (a) use two buses in the afternoon, or (b) use one bus and arrive 30 minutes past dismissal at the elementary school. Assuming the former is chosen, the advantage gained in the morning (one bus, two schools) with a staggered bell structure is wiped out in the afternoon (two buses, two schools); ultimately our "fleet" will require two buses, not one.

In the case of PPSD, this has resulted in a significantly smaller number of bus runs assigned to each bus than is typical for an urban school district of this size and configuration. This is perhaps *the* major cost driver since more buses are thus required. Where we would expect an average assignment of 2.5 runs to each bus, the average for PPSD is 33 percent lower: 1.67 runs assigned to

each bus. *Table 6* shows the breakout in more detail. We note that almost 40 percent of the yellow buses in operation are in fact only assigned a single run each day. These statistics go a long way in explaining why despite the relatively high number of seats filled on each bus run (70 percent of available passenger capacity), transportation costs remain high. Buses are able to be filled on each run, but the bell time structure does not allow an optimal number of bus runs to be assigned to each bus (refer to the earlier example).

Table 6: Number of Runs Assigned to Buses

Bus Run Assignment	Pct. Of Total Fleet
Single run	37%
Two bus runs	61%
Three bus runs	3%
Average runs assigned to each bus	1.67

When considering the relatively long trip times the system now experiences in order for each bus to maximize its passenger load (see *Appendix E & F*), it is clear that alterations are needed in the start and dismissal times for most of the schools now transported by PPSD.

Opportunities for Improvement

Route Planning Technology

The present Edulog route planning technology is well implemented and used to maintain the bus routes and schedules.

Aside from this, our only recommendation is to more fully integrate the AVL/ GPS (automatic vehicle locator/ Geospatial Positional Satellite) features in the Zonar fleet tracking software used by the school bus contractor. This will facilitate the transportation departments efforts to synchronize planned and real-time route data such as bus stop times and locations, and route street paths.

Training for the PPSD route planners and the transportation supervisor include:

- Setting up and modeling routing and bell time solutions at the strategic level for yearly route planning
- The use computerized route optimization features available in Edulog,
- The use of Edulog and AVL/GPS technology to track and update bus routes,

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Route Planning and Bell Time Structure

Restructure routes after reducing the constraints and limits imposed by the present student enrollment/ placement policy, along with the existing staggered bell schedule.

The PPSD audit committee asked MPS to evaluate a number of options from which the school district could compare the cost and service implications with the present transportation architecture. Specifically, these include:

1. The current bell time structure, with improvements to the existing routes;
2. The routing system with optimal bell times, keeping the present student placement policies; and
3. Optimized bell times as in #2, but assuming traditional home school student placement

Regarding the first option, it is our position that the present route structure is well designed, with an important caveat. Our equivocation is that the very real constraints and limits imposed by the present student enrollment/ placement policy, along with the existing staggered bell schedule militate powerfully against a more efficient system. Indeed, our survey and discussions with the school principals indicate that the chief complaints regarding the busing service are late bus arrivals in the afternoon, and very long rides for some students. This confirms our observation from the data that in an effort to maximize efficiency, the transportation department has been left with few alternatives other than to minimize the buses needed by maximizing passenger loads – even at the expense of service delivery. As explained earlier, this means that the only choice left is to increase utilized capacity above the present 70 percent. However, doing so would significantly exacerbate the concern with long rides and late arrivals. Ultimately, improvements in resource consumption (buses) – if even possible – would be marginal at best.

In the section that follows, we will evaluate the remaining two options in more detail. For each option, we will summarize the benefits and drawbacks, along with the estimated change in resource requirements and operating cost. Finally, we will provide our specific recommendation on which of these options we recommend, and why.

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ROUTING OPTIONS

Given the limitations imposed by the present enrollment/ student assignment policies and bell time constraints, we developed two models to estimate the potential cost or benefit of altering one or both of these parameters. In both models, the current bus runs were used as the basis for the analysis. Changes to the duration of bus runs were made only in *Option 3*, which was calculated statistically from the higher-utilization bus runs. In an actual implementation, the bus runs and bus run linkages within each route (bus) the transportation route planners would reengineer all of the runs, stop sequences, and route assignments for optimal efficiency and logistical "fit." Hence, the results shown are intrinsically conservative, since the points of departure are the bus runs as they are currently configured.

Option 2: Three-Tier Structure with Present Student Placement Policies

In evaluating the bell times, the intention was to spread out the total time in the morning and afternoon route series to facilitate linking the maximum number of individual bus trips to each bus. In this way, the same number of students can be transported using fewer resources (buses), and thereby reducing costs. The basic timeframe used is summarized in *Table 7*[5]

Table 7: Basic Bell Structure

School Type	Current		Option 2 & 3	
	Start	Dismiss	Start	Dismiss
Early Middle	8:00 AM	3:15 PM	7:25 AM	2:40 PM
Late Middle	8:05 AM	2:45 PM	7:30 AM	2:10 PM
Early Elementary	8:05 AM	2:15 PM	8:05 AM	2:15 PM
			8:15 AM	3:15 PM
Late Elementary	9:05 AM	3:15 PM	9:15 AM	3:25 PM
Base Series Time Window	*1 hr, 5 min*	*1 hr*	*1 hr, 50 min*	*1 hr, 15 min*

The current bell time structure has resulted in the fleet deployment pattern seen in figures 3 and 4 of the preceding section for public and non-public regular education student transportation. This is a basic two-tier logistical structure, meaning that most buses assignments have a maximum of two bus runs in the morning and afternoon route series.

[5] The times shown are for the majority of middle and elementary schools. Due to variations in the length of the instructional day, some start and dismissal times are different. High school times were unchanged, since the majority of high school students use public transit, not yellow bus transportation. The current and optional bell times by individual school are detailed in *Appendix I* and *J*

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In *Option 2*, we developed a broader bell time scenario that would extend the time spread in a three tier array. This widened the series window by 50 minutes in the morning, and 15 minutes in the afternoon, infusing more time into the system. The present duration times were not changed for individual bus runs in this option. For both this and *Option 3*, we made no assumptions about reducing the number of bus runs through increased bus passenger capacity utilization. Also, under both options, the bell times for the non-public schools remained unchanged, since PPSD presumably has less control over such modifications. MPS imposed these constraints on both models in order to produce conservative but realistic estimates on the number of buses that could be eliminated.

Figure 5. Morning Fleet Deployment – Option 2

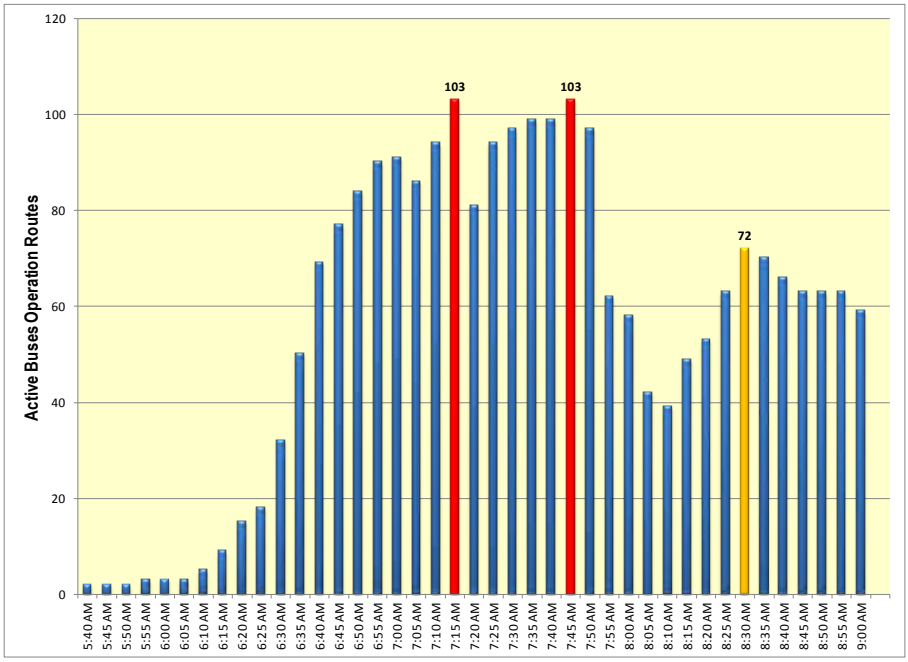
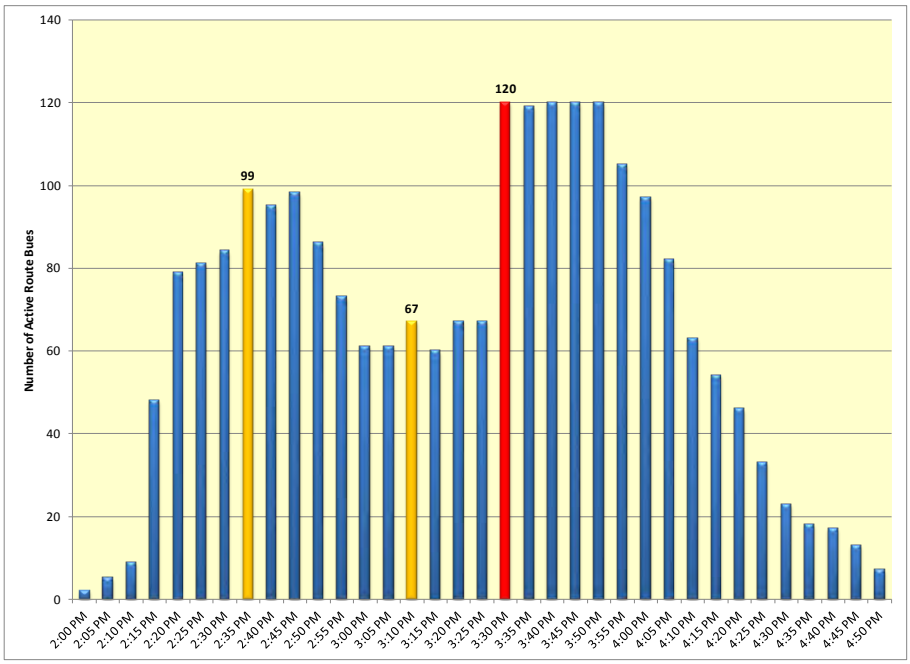


Figure 6. Afternoon Fleet Deployment – Option 2



Resource Impact

The results of these changes are shown in figures *5* and *6* above. By expanding the amount of available time, we were able to employ a three-tier construct. As a result, the peak deployment in the chart above drops from 144 to 103 buses in the morning and from 140 to 120 buses in the afternoon series. Since the afternoon is the most constrained, this would result in an estimated reduction of 24 buses, or 14 percent.

Option 3: Three-Tier Structure with Home School Placement Policies

In this option we retained the bell time structure used in *Option 2*, but estimated the potential changes in fleet demand based on the scenario that students would attend their neighborhood school. Since PPSD has no traditional geographic attendance areas, and creating simulated attendance zones was not a realistic alternative, we used the run time distribution of high - density bus runs to estimate the impact on the fleet deployment. Our assumption here is that a more geographically defined service area (neighborhood schools) would reflect this relationship between time and bus capacity utilization. This was done by categorizing actual average times for bus runs that presently have a utilized capacity of 70 percent or higher, under the premise that these are runs which operate closer to their destination school. *Table 8* shows the current average block times and the percentage of these bus runs within the average travel time blocks listed.

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Table 8. Estimated Option 3 Bus Run Times

Bus Run Time	% of Runs
0:25	15%
0:35	32%
0:45	32%
0:50	21%

Next, using the distribution percentages shown in *Table 8*, we applied these time values in the fleet deployment model for the bus runs to each public school, (the bus run times for non-public schools were kept as is).

Figure 7. Morning Fleet Deployment – Option 3

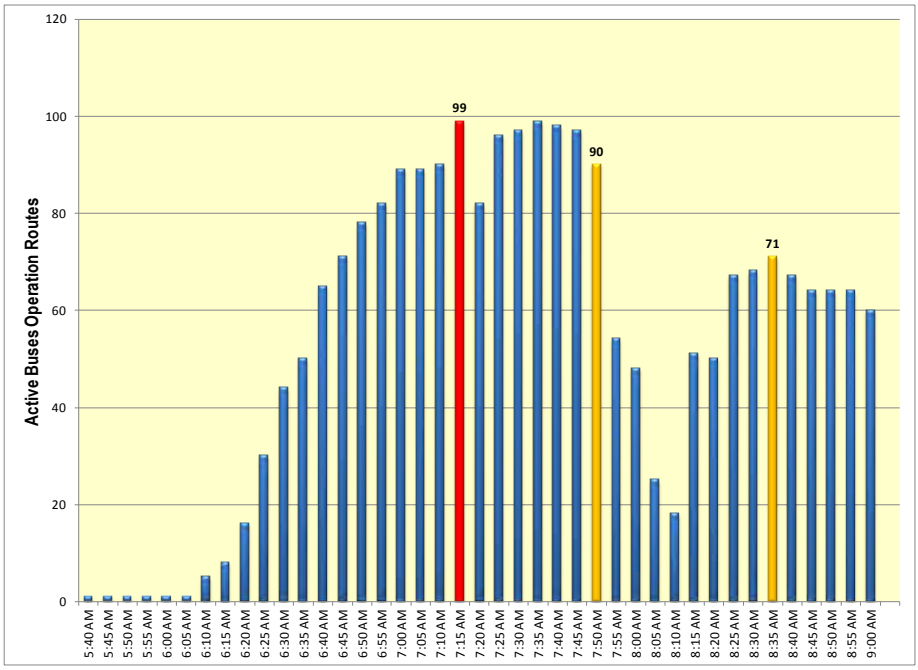

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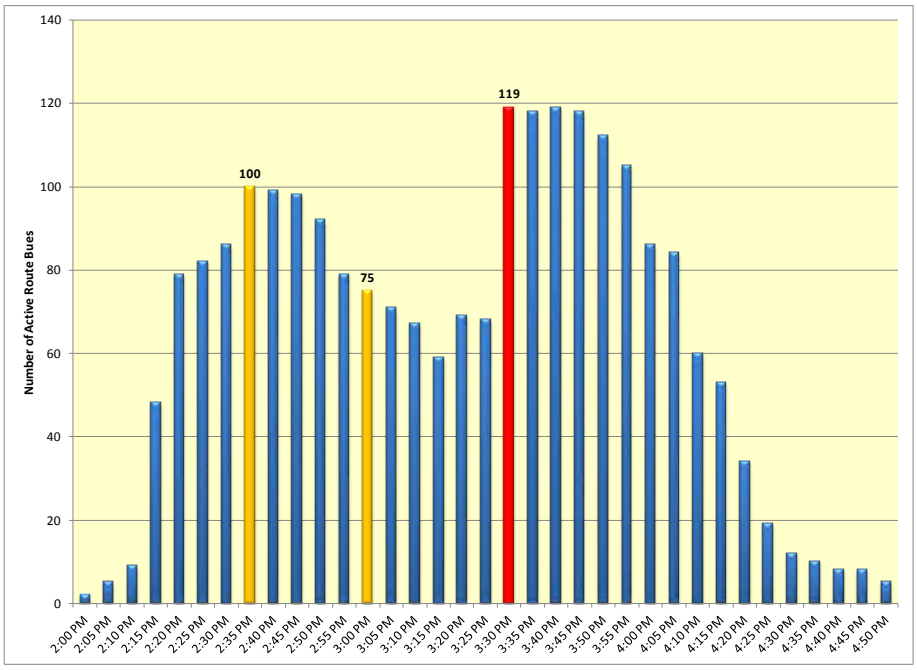
Figure 8. Afternoon Fleet Deployment – Option 3



Resource Impact

The results of these changes are shown in figures *7* and *8* above. With the reduced public school run times using the same three-tier bell design, the models suggest that only a few additional buses could be eliminated. The peak deployment in this option went from the current 144 buses to 99 buses in the morning and from 140 to 119 buses in the afternoon series. This amounts to only four fewer morning buses and one less afternoon bus than in *Option 2*. However, while no assumptions were made regarding reducing the number of runs through better passenger capacity utilization, it is reasonable to assume that this would, in fact, improve. While hard to project, it is reasonable that the peak bus requirement would likely be reduced by and additional three (3) to five (5) buses, bringing the reduction of resources from the present 144 to 114 or 115 buses.

Opportunities for Improvement

Restructure the bus routes and schedules in conjunction with Option 3 and the preceding recommendations in this report.

Central to this effort is to realign bell times and incorporate placement procedures that are more consistent with the current policy encouraging students to attend their home school. The structure suggested in option 3 provides a good starting point, but a more extensive effort will be needed to produce actual, viable routes. This effort includes the following steps:

1. Refining school start and dismissal times based on logical route feeder structures and logistical factors, such as the number of students attending each school and school site locations;

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2. Developing a revised bell time and fleet deployment model based on the preceding factors;
3. Creating a simulation database and developing new bus runs with target running ties and passenger loads;
4. Assigning the maximum number of bus runs to a minimum number of buses (i.e., *routes*);
5. Refining the stop sequences and bus run street paths based on the next assigned school;
6. Reviewing the final simulation solution based on the bus contractor's input; and finally
7. Moving the finalized simulation bus schedules into the production database for actual implementation.

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Cost or Benefit of Options

Table 9 below shows the estimated change in fleet resources required under each option. We note that to implement either of these options will require refined adjustments to bell times to accommodate routing strategies such as combination trips (one trip serving two schools) and other logistical considerations. In addition, it will be necessary to completely remodel the logistical framework and reengineer all of the bus runs and route linkages to realize the estimated savings potential below. However, to the extent that this is done, savings on the order of $2 million (12 to 14 percent of the student transportation budget) are achievable.

Table 9. Summary of Estimated Savings

Bell Configuration	Required Buses	Est. Δ in Buses	Annual Cost per Bus	Cost Change from Current
Current	144	---	$ 94,063	---
Option 1: Current Improved	144	---	$ 94,063	---
Option 2: 3-Tier; Current policy	120	(24)	$ 94,063	($ 2,257,512)
Option 3: 3- tier; Neighborhood enrollment	119	(25)	$ 94,063	($ 2,351,575)

Appendices

APPENDIX A: FINDINGS & RECOMMENDATIONS MATRIX

Area:	Finding:	Recommendation:	Related Impacts:
Routing & Logistics	▪ Passenger capacity use good at 70% ▪ Average run time 52 min; 86% of runs are up to 1 hour, 25 min duration ▪ Peak deployment shows very little slack time. ▪ Afternoon severely constrained from 3:15PM - 3:45PM. No logistical buffers ▪ Run times & bell structure limits system to quasi two-tier bell structure ▪ Route planning software (Edulog) well implemented and used	▪ Conduct detailed bell time review using report options. Public & internal input/ outreach essential ▪ Expand morning and afternoon series to allow semi-three tier system ▪ Restructure bus runs and school feeders to optimize run linkages to routes ▪ Potential bus reduction if bell times restructured: 8%; estimated savings potential: $1.03M to $1.12M	▪ Migrate towards home-school construct ▪ Policy decisions on changing bell times. Cannot be done independently ▪ Questionnaire results indicate that late buses are an issue ▪ Late service & long rides erode educational and retention objectives ▪ Enrollment and assignment impacts if student data is late. May lead to additional or fragmented bus runs
Assignment	▪ Fairly complex student assignment process. Creates too many unknown scenarios. Otherwise seems fairly equitable concerning it is total open choice ▪ Student assignments to school – no defined boundaries. Process uses ”crow’s-flight” distance computation ▪ “Domino effect” from assignment process may result in students being bumped from home school, or siblings attending different	▪ Reduce complexity of assignment process ▪ Create defined boundaries to create more known, defined attendance for buildings ▪ Weight choice students according to proximity to school of choice ▪ Establish requirement to complete all student assignments by June 30th of each year	▪ More effective routing, reduce need for more fleet assets due to long distance/ low density bus runs ▪ Positive reason to work toward true home schools ▪ Promote atmosphere of staying at home school versus choice and related transportation needs ▪ Student assignment at end of summer completely disrupts route planning and

Appendices

Area:	Finding:	Recommendation:	Related Impacts:
	schools ▪ Choice promoted when aligned curriculums exist across the district		causes late notification of transportation information to students
Cost & Efficiency	▪ Costs are 10% to 30% higher than expected on a per-student basis (see enclosed documents)	▪ Cost reductions primarily dependent upon route restructuring ▪ Modify management functions, bus contractor agreement, and staff responsibilities as defined in other sections	▪ Routing redesign dependent upon bell structure ▪ Staff organization structure should be revamped ▪ Revise bus operator RFP and contract ▪ Staff (foremen) doing bus operations functions adds to total cost ▪ Labor time control technology and procedures for monitors and TA's are insufficient
Bus Contractor Agreement	▪ Vehicle requirements too restrictive and add to cost ▪ Fuel compensation based on EOY mile counts that is administratively burdensome and may add to costs ▪ Liquidated damages and penalties to detailed ▪ Strike clause puts contractor in a tough position, and may add to costs	▪ Re-write RFP/ Agreement that consolidates requirements and becomes less compliance based ▪ Establish a fuel "cap plus cost", monitored on a quarterly basis ▪ Streamline or eliminate penalties ▪ Eliminate strike clause; in the event of a strike retain the right for the district to operate the fleet	▪ Develop and incorporate a comprehensive contract management plan. ▪ Improve systemic management audit and evaluation procedures to monitor bus contractor performance
Policies &	▪ Board Policies: Required outcomes defined	▪ Revise all policies, administrative regulations (AR's), and standard	▪ Reduce time and effort for staff and public when researching transportation related

Appendices

Area:	Finding:	Recommendation:	Related Impacts:
Procedures	▪ No single source of transportation-related policies and procedures ▪ Policy standards hierarchy not sufficiently organized ▪ No employee manual – multiple single documents and individual transportation staff knowledge (in their heads)	operating procedures (SOP's), and their sources. Validate (add, drop, amend),create a single source document for all ▪ Establish framework for transportation standards: ✓ Policies: Required outcome(s) ✓ AR's: Who/ when/ where specific procedures and standards will be executed ✓ SOP's/ Dept. manuals: Detailed action steps and procedures; "How." ▪ Specify service delivery standards in AR's ▪ Define service parameters, such as walking distance to stops, maximum ride times in AR's ▪ Create an employee manual from these sources	policies and procedures ▪ Single source document for employees and administrative staff of their responsibilities and expectations ▪ Bus contractor agreement must incorporate required transportation standards of service and parameters ▪ (Bus) contract management plan must incorporate required transportation standards of service and parameters
Management & Organization	▪ Middle Transportation Management cannot discipline employees. All disciplinary actions reside at the Director level. ▪ Lack of effective supervision of employees on	▪ Direct transportation supervisor and/or senior supervisor to conduct disciplinary action, up to, but not including 3rd step actions	▪ Allows another level of appeal prior to going to Director ▪ Relieves the Director of disciplinary actions that should be the responsibility of middle

Appendices

Area:	Finding:	Recommendation:	Related Impacts:
	buses and at the bus depot – employees refusing and evading assignments, not starting assignments on time, insubordination by employees ▪ No comprehensive contract management plan to provide oversight of bus contractor compliance and effectiveness ▪ Employee evaluations are minimal; evaluations have central tendency; i.e., "meets requirements. Evaluations are an effective tool to direct employee improvement	▪ (Immediate term) Foremen should assert authority to supervise and manage monitors and TA's. Need both authority and accountability ▪ (Down range) Bus contractor should manage monitors and TA's. Foremen should conduct bus contractor compliance and issues investigation functions ▪ Consider outsourcing transportation management function in conjunction with future expansion of statewide provision of transportation services (RIDE) ▪ Incorporate new roles, responsibilities, and reporting requirements in department SOP's and employee handbook.	management ▪ Effectively address poor performance of employees, particularly in the area of attendance ▪ Create atmosphere of employees taking responsibility for their work assignments. Better control of bus routes running on time ▪ Collective bargaining agreement (CBA) may need explicit memorandum of understanding clarifying authority of supervision personnel, and bus contractor ▪ Approach bargaining unit on new role of foremen. ▪ One FTE foreman could be eliminated if role modified and bus contractor directs & supervises monitors and TA's.

Appendices

APPENDIX B: PPSD ANNUAL TRANSPORTATION COSTS

	EXPENDED + ENCUMBERED	EXPENDED + ENCUMBERED	BUDGET	
PER DISTRICT GENERAL FUND REPORT (C010)	2010-11	**2011-12**	2012-13	
SALARIES	$ 2,642,450	$ 2,479,768	$ 2,403,367	
BENEFITS	$ 2,713,119	$ 2,676,530	$ 2,511,715	
CONTACTED SERVICES	$ 11,434,240	$ 11,936,313	$ 12,592,478	
OTHER SERVICES	$ 6,264	$ 10,740	$ 15,068	
SUPPLIES	$ 2,905	$ 6,461	$ 4,600	
UTILITIES	$ 392			
CAPITAL EQUIPMENT	$ 1,641	$ -	$ 1,100	
TOTAL TRANSPORTATION COSTS	**$ 16,801,011**	**$ 17,109,812**	**$ 17,528,328**	
DETAILS OF CONTRACTED COSTS FROM DISTRICT	2010-11	**2011-12**	2012-13	
FIRST STUDENT DAILY RUNS	$ 9,767,590	$ 8,186,393	$ 8,812,804	
FIRST STUDENT FUEL SURCHARGE	$ 158,500	$ 219,515	$ -	
FIRST STUDENT EXTRACURRICULAR SPORTS	$ 458,748	$ 513,850	$ 438,974	
FIRST STUDENT FIELD TRIPS OTHER	$ 43,734	$ 55,399	$ 42,700	
	$ 10,428,572	$ 8,975,157	$ 9,294,478	
FIRST STUDENT TRANSFORMATION SCHOOLS	$ -	$ 358,790	$ 360,000	
RIPTA BUS PASSES	$ 1,372,230	$ 1,176,573	$ 1,602,000	
STATEWIDE RIDE	$ -	$ 1,748,199	$ 1,738,700	
TOTAL HOME TO SCHOOL INVOICES	$ 11,800,802	$ 12,258,718	$ 12,995,178	
CHARTER SCHOOL REIMBURSEMENT	$ (350,656)	$ (362,831)	$ (360,000)	
NET ESTIMATED VENDOR TRANSPORTATION COSTS	**$ 11,450,146**	**$ 11,895,887**	**$ 12,635,178**	
Direct Contracting Costs	**First Student**	**RIPTA**	**RIDE**	**Total**
Buses	144			
Bus Runs	516			
Students Transported	9,719	2,309	1,921	13,949
Cost per Student	$ 923	$ 510	$ 910	$ 1,227
Cost per Run	$ 17,386			
Cost per Bus	$ 62,299			
Fully Loaded Costs	**First Student**			
Cost per Student	$ 1,460			
Cost per Run	$ 27,490			
Cost per Bus	$ 98,507			

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APPENDIX C: TRANSPORTATION SERVICE GUIDELINES

Transportation Parameter	KG	Elem	Middle	Junior	High	Comments
What is the maximum number of students permitted per seat?	3	3	2		2	Planning: 70/ bus elementary, 60/ bus middle
Maximum walking distance to school (miles)	1.0	1.0	1.5		3.0	
Is courtesy busing provided to walking students?	Y*	Y*	Y*		Y*	* Only for hardship cases. Must be approved with a completed medical form
Maximum walking distance to a stop	1.0	1.0	1.5		NA*	*Reg Ed Students use public transit. SWD tranportation is curbside
Are stops in no-exit streets, such as cul-de-sacs?	N	N	N		Y*	*May be required for students with disabilities (SWD)
Maximum students per stop guideline						No guideline; keep reasonable
Maximum ride time guideline for students	1.0	1.0	1.0		1.0	By law, must notify special needs parents if ride > 1.0 hour
Are schools mixed on same bus routes?	Y	Y	Y		Y	
Are shuttle or transfer buses used?	N	N	N		N	Tried in past. Looading zones & public resistance led to stopping the practice
What are the morning arrival time windows (minutes before school start time)	0:30	0:30	0:15 - 0:30		:30	Non public schools - 0:15 Min 0:15 for breakfast programs
How many minutes before school start or after dismissal time constitute a late arrival?						No guideline; generally 5 minutes as practice
Bell Times: What are the earliest/ latest morning school start times permitted?	/	/	/	/	/	No guideline
Bell Times: What are the earliest/ latest afternoon school dismissal times permitted?	/	/	/	/	/	No guideline
Is kindergarten half-day or full day?	Both					(4) 1//2 day schools. All others full day
Do the schools have a breakfast program? If so, how many minutes before the start of school do students need to arrive in the morning?	Yes/ 0:15	Yes/ 0:15	Yes/ 0:15		Yes/ 0:15	
Is transportation provided to and from daycares?	Y	Y	Y		Y	Criteria: student goes to closest available stop. OK on seat-available basis
Is after-school (i.e.., late bus) service provided?	Y	Y	Y		Y	Also provide detention buses
Number of non-traditional programs (magnets, specialty centers, academies, etc)?	0	0	0		0	
Does the school district employ inlusion policies (i.e., ride the regular route buses) for low-incidence special needs students?	Y	Y	Y		Y	

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APPENDIX D: POLICY & PROCEDURES MATRIX

Service Parameter/ Requirement	Document?	Existing Policy or Administrative Regulation	Suggested Changes & Additions
Transportation eligibility for students	Yes	▪ Elementary students > 1.0 mile from school ▪ Middle school students > 1.5 miles from school ▪ High school students > 3.0 miles from school	▪ Reference residence as legal domicile ▪ Reference policy addressing alternate locations ▪ Non-eligible students may be provided a ride when = to or > 20% capacity available on a bus (see Alternate Transportation)
Fees to students for busing service	Yes	▪ Assistance through district-provided transportation or subsidized of public transit ▪ Subsidy based on available appropriation	▪ Reference parent handbook for specific policies such as payment, free transportation eligibility, and process requirements (Eg., bus passes)
Alternate transportation (Day care, secondary address)	Yes	▪ If student qualifies for transportation a pass will be issued for the closest existing corner stop to the facility ▪ If the student does not qualify for transportation (only if a 20% capacity exists on the bus) a pass will be issued for the closest existing corner stop to the facility	▪ Referenced on Transportation web site as protocol. ▪ Policy required for transportation to alternative sites ▪ Administrative directives should define uniform, district-wide criteria and terms
Location of bus stops, walking distance and placement criteria	Yes	▪ K-6 may be assigned to a corner stop up to but not more than .3 miles from student's residence ▪ 7-8 may be assigned to a corner stop up to but not more than .6 miles from student's residence ▪ Nothing on location of stops	▪ Internal Transportation procedure ▪ Publish on Transportation website ▪ Include stop development in Routing Procedures for Routing staff ▪ No parameters as to corner stops, sight-lines, definition of hazard locations, or assignment of home stops
Inclusion transportation for special needs	No	▪ Internal to transportation for routing purposes.	▪ Statements that stops are developed around

Appendices

Service Parameter/ Requirement	Document?	Existing Policy or Administrative Regulation	Suggested Changes & Additions
students		▪ No explicit guidelines or PPSD Board policy	inclusionary students ▪ Include in Transportation Routing Procedures if continuing the practice
Criteria for bus aides and monitors	Yes	▪ Numerous rules regarding food consumption, interpersonal behavior, private communications, and employee appearance ▪ Safety vests must be worn on all trips ▪ Students under age 8 cannot be allowed off bus at stop where no adult present unless document signed by parent is on file	▪ Employee assignment requirements ▪ Include in an employee manual (recommendation made to create a manual for Transportation Employees) ▪ Policy needed to define use of aides, one-to-one student assignments
Transportation for after-school programs, late buses, extra-curricular trips	Yes	▪ Students in after school program must have document signed by a parent that assures that parents have agreed to have their child participate and authorize shared information ▪ Students will be checked in with the service provider. Student present for school but absent from program must be found and brought to the program site or, if is determined that the student has left the building, parent of the student will be notified. For K-1, bus contractor notified so bus drivers and monitors are aware parent may not receive the child at the bus stop	▪ Reference Transportation Procedures for Principals (aka Nuts & Bolts) ▪ Include in employee manual development ▪ Policy
Criteria for use of public transit busing	Yes	▪ 9th grade students >2 miles from school (current year Pilot Project, normally >3 miles) 10-12 grade students >3 miles from school ▪ Existing policy not specific as to use of public transit	▪ Publish procedure on Transportation website for RIPTA pass eligible students to obtain passes ▪ Board policy should address grade levels using public transit

Appendices

Service Parameter/ Requirement	Document?	Existing Policy or Administrative Regulation	Suggested Changes & Additions
Bus route design, parameters, and constraints	No		▪ Develop written parameters and procedures for routing personnel for effective and equitable bus route design
Transportation contract administration requirements and procedures	No		▪ Administrative directives stating overall audit and reporting requirements ▪ Need complete standard operating procedure for comprehensive contract management program

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APPENDIX E: KEY LOGISTICAL STATISTICS

Bus Run Type[6]	Bus Runs	Bused Students	Average Seating Cap. Use	Average Bus Run Time	Run Time (1) Standard Deviation	Longest Run Time	Average # Stops
Combined Public & Private	12	321	38%	1:19	0:13	1:40	19
Elementary Schools	120	5,818	69%	0:50	0:16	2:01	12
Middle Schools	53	2,389	90%	0:44	0:15	1:47	11
Private Schools	32	1,083	49%	1:05	0:27	2:45	13
Total	**217**	**9,611**	**70%**	**0:52**	**0:20**	**2:45**	**12**

[6] Statistics shown are for regular education yellow school bus runs for one series only (morning). Special education and non-public students transported by RIDE and secondary students using RIPTA public transportation are not included.

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APPENDIX F: CORE STATISTICS BY TRANSPORTED SCHOOLS

Schools Transported[7]	Assigned Riders	Bus Runs	Average Bus Capacity Use	Average Run Time
Alan Shawn Feinstein/Broad	60	1	85.7%	0:49
Alvarez/Sanchez	14	1	58.3%	1:42
Bailey	234	7	47.8%	0:46
Barnard	59	1	84.3%	0:59
Barnard/St Augustine	25	1	35.7%	1:49
Birch Voc/ Mt Pleasant Ac	54	3	25.7%	1:06
Birch Voc/ Mt Pleasant Ac/ Cite	71	3	33.8%	1:13
Birch Voc/ Mt Pleasant Ac/ E-Cubed	10	1	14.3%	1:24
Bishop	75	2	75.0%	0:34
Bishop/ULRI at Vision	453	9	100.7%	0:48
Carnevale	351	9	60.9%	0:54
Central/Classical/Jenkins/Gregorian	11	1	45.8%	1:46
Cite	10	1	14.3%	0:46
Clanton Complex/ Sackett/ Alvarez	68	1	97.1%	1:29
Clanton Complex/Sackett	436	7	89.0%	0:52
Community Prep	24	1	34.3%	1:04
Community Prep/Classical	33	1	47.1%	1:18
Community Prep/Classical/Stuart	34	1	48.6%	1:33
D'Abate	117	3	55.7%	0:48
Delsesto	461	12	78.8%	0:41
Dr. Martin Luther King	159	3	75.7%	0:47
ESEK Hopkins	80	2	80.0%	0:53
ESEK Hopkins/ULRI	35	1	70.0%	0:29
ESEK Hopkins/Urban	35	1	70.0%	0:45
Feinstein/ French American	16	1	22.9%	1:31
Feinstein/Broad	111	4	39.7%	0:45
Fogarty	215	4	76.8%	0:58

[7] PPSD combined many schools in the current routing system. Hence, we did not disaggregate these combinations in the table so as to provide a more accurate representation of the ride times and passenger capacity use.

Appendices

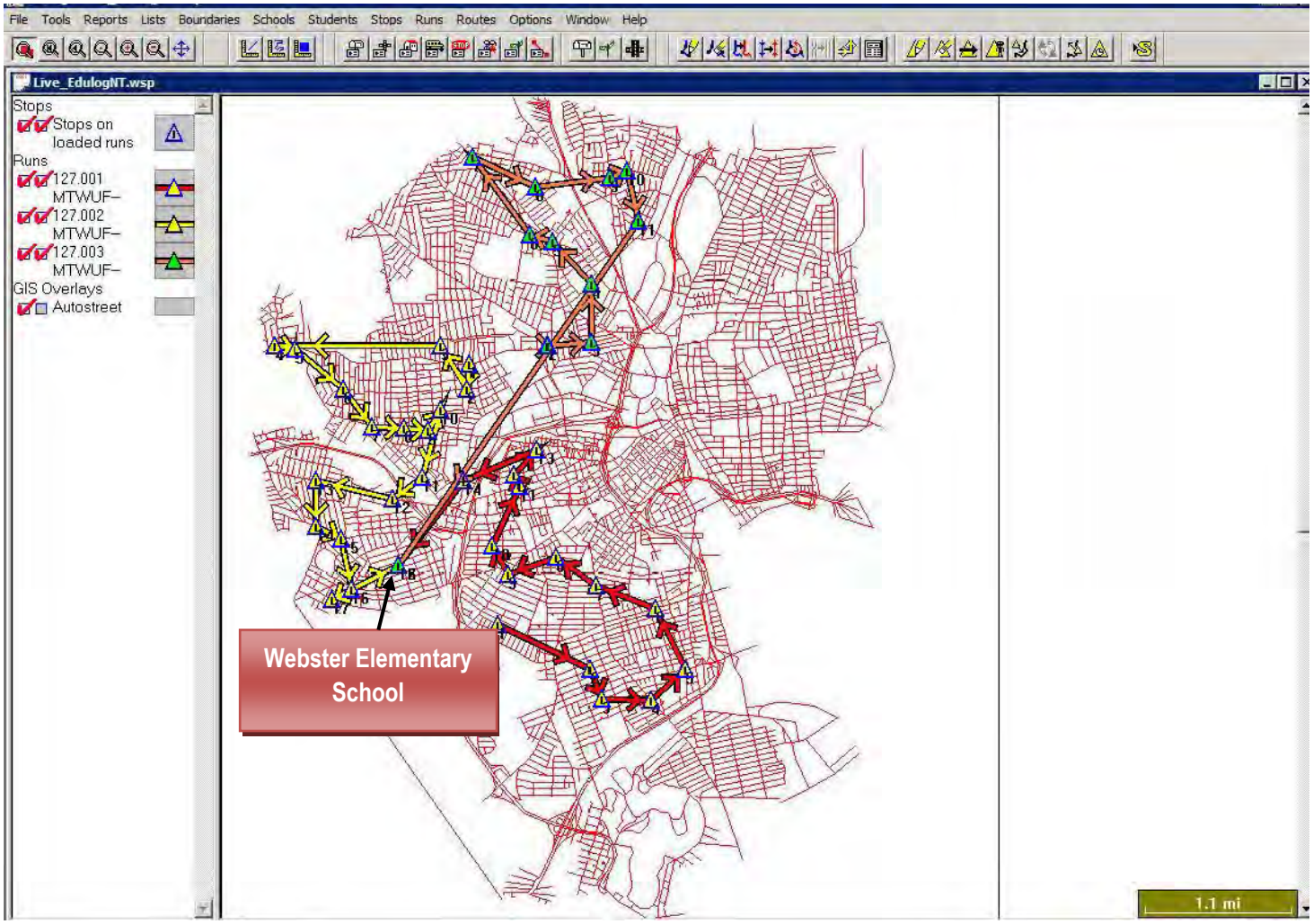
Schools Transported[7]	Assigned Riders	Bus Runs	Average Bus Capacity Use	Average Run Time
Fortes/Lima and Annexes	55	1	78.6%	0:42
G J West	267	4	95.4%	0:51
Gregorian	193	5	55.1%	0:53
High Road	56	3	29.1%	1:07
Hope/Groden/Providence	19	1	39.6%	1:24
Hope/Vision/Groden/Providence	79	4	41.2%	1:34
Hope/Vision/Groden/Providence/Webster	25	1	52.1%	2:01
Hopkins	89	2	89.0%	0:48
Hopkins/ULRI	77	2	77.0%	0:39
Kennedy	213	4	76.1%	0:50
King	252	5	72.0%	0:50
Kizirian	309	6	73.6%	0:47
Lasalle/Barnard	50	1	71.4%	0:46
Lauro	755	12	89.9%	0:38
Lima & Fortes Annex, Alfred Lima, Fortes	160	3	76.2%	0:51
Lima Annex/Fortes/Lima/Pleasant View	26	2	18.6%	1:57
Lima/Fortes and Annexes	499	9	79.2%	0:42
Mcvinney/Highlander	93	2	66.5%	0:50
Meeting St	16	2	11.4%	0:35
Messer at Bridgham	270	6	64.3%	0:42
Mt Pleasant/Birch	14	1	58.3%	1:14
Nathan Bishop/ ULRI	45	1	90.0%	0:46
Nathaniel Greene	451	10	90.2%	0:39
Paul Cuffee (Prom/Barton)	399	6	95.0%	1:06
PCTA/Hope	10	1	41.7%	1:24
Pleasant View	234	6	55.7%	0:58
Pleasant View/Carnavale	10	1	41.7%	1:11
Pleasant View/Messer at Bridgham	31	2	64.6%	0:53
R Williams	281	5	112.4%	0:38
R Williams/Central	55	1	110.0%	1:47
R Williams/Mt Pleasant	43	1	86.0%	1:21
Reservoir	148	3	70.5%	0:49

Appendices

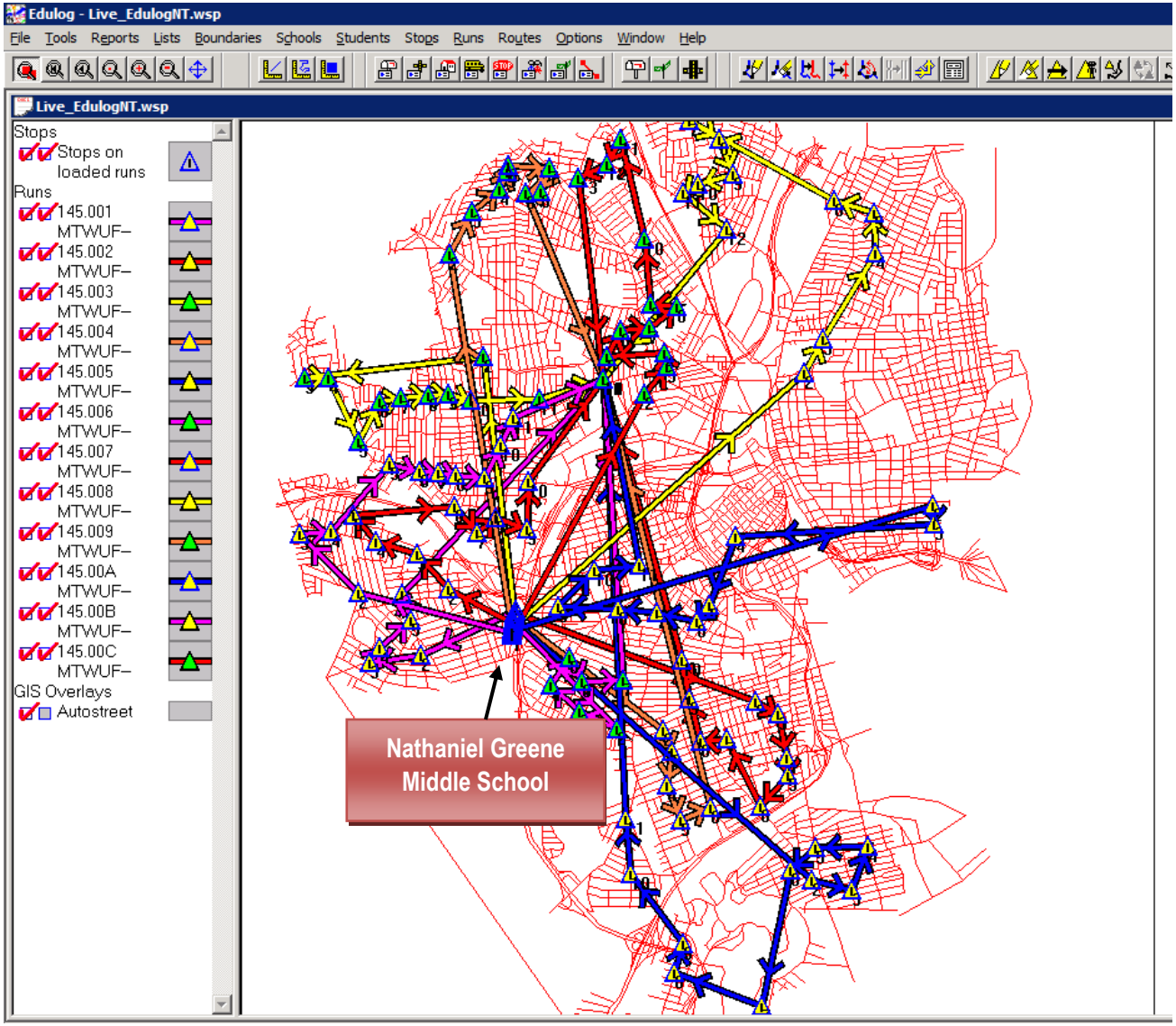
Schools Transported[7]	Assigned Riders	Bus Runs	Average Bus Capacity Use	Average Run Time
Robert F Kennedy	61	1	87.1%	1:18
Saint Paul	19	1	27.1%	0:50
Saint Paul/Bernon	20	1	28.6%	2:45
San Miguel/RI School for Deaf/Sophia	119	3	56.7%	1:31
Spaziano Ele and Annex	236	6	56.2%	0:46
St Thomas	12	1	17.1%	0:28
St Thomas/St Augustine	23	1	32.9%	1:26
Stuart	194	5	77.6%	0:36
Stuart/ULRI	26	1	52.0%	0:53
Tavares/Meeting	10	1	14.3%	1:01
Tavares/Meeting/Fogarty	11	1	15.7%	1:31
Trinity Academy	36	2	25.7%	1:02
Vartan Gregorian	105	2	75.0%	0:52
Veazie	309	7	63.1%	0:39
Webster	81	2	57.9%	1:10
Wheeler/Lincoln/Montessori	22	1	31.4%	1:09
William D Abate	30	1	42.9%	0:35
St. Patrick's/Blessed Sacrament/St Pius/Carnevale	103	4	36.8%	1:08
Total/ Average	9,892	236	67.4%	0:54

Appendices

APPENDIX G: SAMPLE BUS RUN PLOTS



Appendices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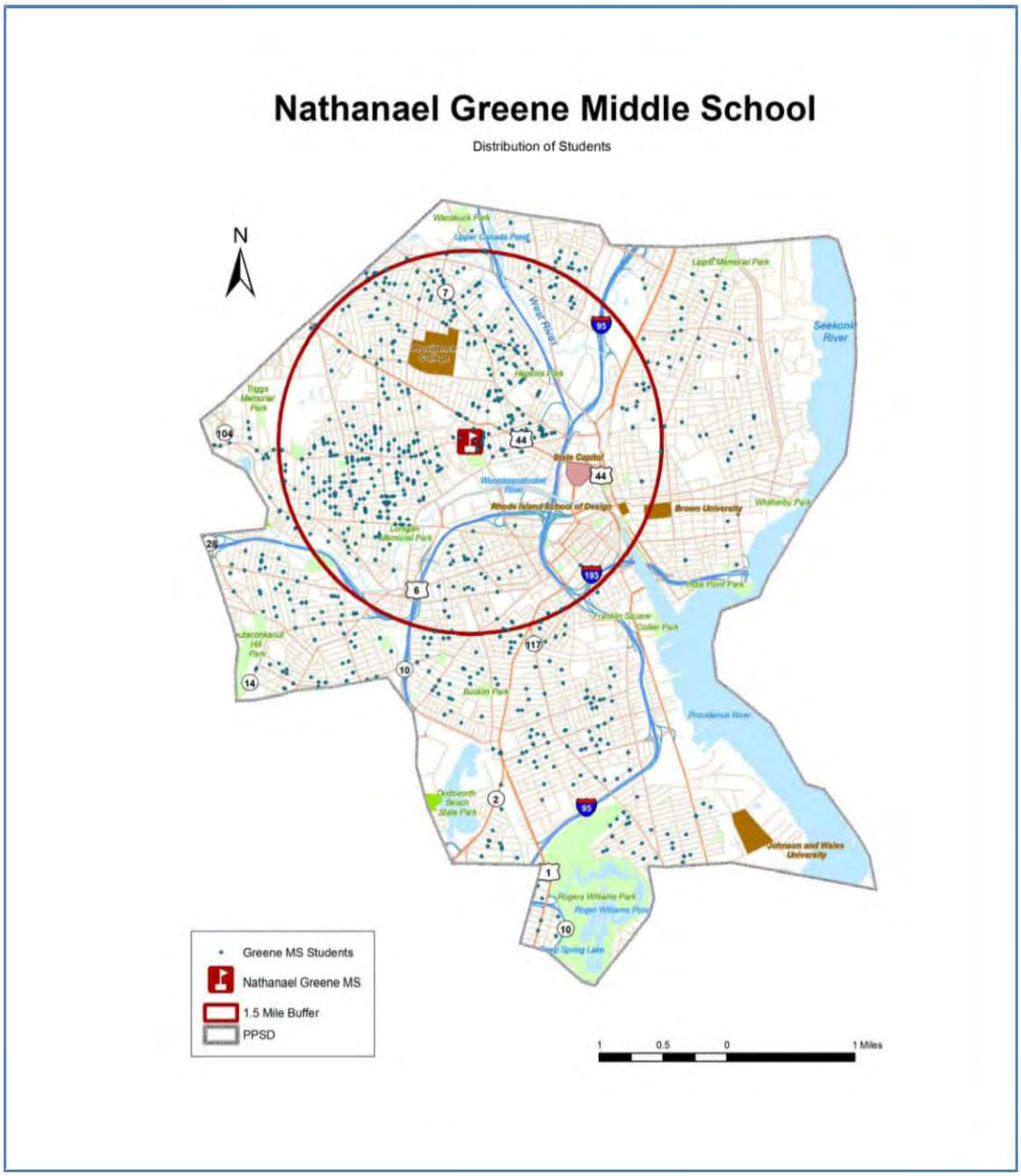
145.00B MTWUF–
145.00C MTWUF–
GIS Overlays
Autostreet
Nathaniel Greene Middle School

Appendices

APPENDIX H: SAMPLE STUDENT LOCATIONS – GREENE MS



Appendices

APPENDIX I: CURRENT BELL TIMES

Sch#	Typ	School Name	Grades	0:30 Buses Arrive No Earlier Than:	0:15 Buses Arrive No Later Than:	MORNING School Start Time	AFTERNOON School Dismiss Time	Instruct Day
189	H*	ACE	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
169	H*	Alvarez, Dr Jorge	9 - 12	7:40 AM	7:55 AM	8:10 AM	3:20 PM	7:10
106	E	Bailey, Robert E	PK - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
131	H*	Birch Vocational	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
217	P	Bishop McVinney	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
143	M	Bishop, Nathan	6 - 8	7:35 AM	7:50 AM	8:05 AM	2:45 PM	6:40
202	P	Blessed Sacrament	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
344	P	C.I.T.E.	PK - 12	7:45 AM	8:00 AM	8:15 AM	2:00 PM	5:45
125	E	Carnevale, Anthony	PK - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
139	H*	Central	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
164	H*	Classical	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
384	P	Community Preparatory	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
327	P	CVS Highlander	K - 8	8:00 AM	8:15 AM	8:30 AM	2:45 PM	6:15
153	E	D'Abate,William	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
126	M	DelSesto	6 - 8	7:35 AM	7:50 AM	8:05 AM	2:45 PM	6:40
167	H*	E-Cubed Academy	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
116	E	Feinstein, Alan Shawn	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
157	E	Feinstein, Lilian	K - 5	7:35 AM	7:50 AM	8:05 AM	3:05 PM	7:00
160	E	Fogarty, Mary E.	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
129	E	Fortes Academy, Charles	2 - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
320	P	French American School	PK - 6	8:00 AM	8:15 AM	8:30 AM	3:00 PM	6:30
356	SE	Gorden Center	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
145	M	Greene, Nathanael	6 - 8	7:35 AM	7:50 AM	8:05 AM	2:45 PM	6:40
151	E	Gregorian, Vartan	K - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
778	P	Henry Barnard	PK - 5	7:45 AM	8:00 AM	8:15 AM	2:15 PM	6:00
357	SE	High Road	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
149	H*	Hope	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
137	M	Hopkins, Esek	6 - 8	7:35 AM	7:50 AM	8:05 AM	2:45 PM	6:40
318	P	Jewish Community Day School	PK - 8	7:15 AM	7:30 AM	7:45 AM	3:15 PM	7:30
138	E	Kennedy, Robert	K - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
163	E	King, Dr Martin Luther	PK - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
161	E	Kizirian, Harry	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
206	P	LaSalle Academy	7 - 12	7:35 AM	7:50 AM	8:05 AM	2:25 PM	6:20
140	E	Lauro, Carl G	K - 6	7:30 AM	7:45 AM	8:00 AM	2:50 PM	6:50
118	E	Lima Annex (K-5 Dual Language Program)	K - 5	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
128	E	Lima, Alfred	2 - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
304	P	Lincoln School	PK -12	7:15 AM	7:30 AM	7:45 AM	3:15 PM	7:30
316	SE	Meeting St., Providence, RI	SE	7:45 AM	8:00 AM	8:15 AM	2:45 PM	6:30
112	E	Messer at Bridgham	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
369	P	Montessori School	PK - 3	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
305	P	Moses Brown	PS - 12	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
150	H*	Mount Pleasant	9 - 12	7:00 AM	7:15 AM	7:30 AM	3:00 PM	7:30
360	SE	Mount Pleasant Academy	SE	7:30 AM	7:45 AM	8:00 AM	2:00 PM	6:00
333	SE	Ocean Tides	SE	8:30 AM	8:45 AM	9:00 AM	3:00 PM	6:00
388	P	Paul Cuffee #1	K - 5	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
391	P	Paul Cuffee #2	6 - 8	7:30 AM	7:45 AM	8:00 AM	2:15 PM	6:15
193	H*	PCTA	9 - 12	7:00 AM	7:15 AM	7:30 AM	3:30 PM	8:00
165	E	Pleasant View	PK, K - 5	8:00 AM	8:15 AM	8:30 AM	3:20 PM	6:50
359	SE	Providence Center	SE	8:00 AM	8:15 AM	8:30 AM	2:10 PM	5:40
308	P	Providence Hebrew Day School	PK - 12	7:45 AM	8:00 AM	8:15 AM	3:15 PM	7:00
142	E	Reservoir Avenue	K - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
775	P	RI School for the Deaf	K - 12	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
211	P	Saint Augustine	PK - 8	7:55 AM	8:10 AM	8:25 AM	2:30 PM	6:05
230	P	Saint Patrick	9 - 11	7:55 AM	8:10 AM	8:25 AM	2:45 PM	6:20
219	P	Saint Pius	PK - 8	7:45 AM	8:00 AM	8:15 AM	2:15 PM	6:00
223	P	Saint Thomas	K - 8	7:30 AM	7:45 AM	8:00 AM	2:20 PM	6:20
311	P	San Miguel	5 - 8	7:40 AM	7:55 AM	8:10 AM	3:15 PM	7:05
173	H*	Sanchez, Juanita Complex	9 - 12	7:30 AM	7:45 AM	8:00 AM	3:02 PM	7:02
174	H*	Sanchez, Juanita Complex	9 - 12	7:30 AM	7:45 AM	8:00 AM	3:02 PM	7:02
331	P	Sophia Academy	5 - 8	7:50 AM	8:05 AM	8:20 AM	3:30 PM	7:10
134	E	Spaziano & Annex	K - 1	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
133	E	Spaziano, Frank	2 - 5	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
144	M	Stuart, Gilbert	6 - 8	7:30 AM	7:45 AM	8:00 AM	3:15 PM	7:15
703	SE	Tavares Center	SE	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
120	P	Times 2	K - 6	7:50 AM	8:05 AM	8:20 AM	2:25 PM	6:05
114	M	Times 2 Academy	7 - 8	7:30 AM	7:45 AM	8:00 AM	2:20 PM	6:20
117	P	Times 2 Academy	9 - 12	7:30 AM	7:45 AM	8:00 AM	2:20 PM	6:20
529	P	Trinity Performing Arts	7 - 9	7:30 AM	7:45 AM	8:00 AM	2:00 PM	6:00
375	P	Urban Collaborative Program	7 - 9	8:15 AM	8:30 AM	8:45 AM	2:50 PM	6:05
130	E	Veazie St	K - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
330	SE	Vision School	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
127	E	Webster Ave	K - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
135	E	West, George J.	K - 6	8:35 AM	8:50 AM	9:05 AM	3:15 PM	6:10
313	P	Wheeler School	PK - 12	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
147	M	Williams, Roger	6 - 8	7:35 AM	7:50 AM	8:05 AM	3:28 PM	7:23
109	E	Young/Woods (BJ Clanton Complex)	K - 6	7:35 AM	7:50 AM	8:05 AM	3:05 PM	7:00
110	E	Young/Woods (BJ Clanton Complex)	K - 6	7:35 AM	7:50 AM	8:05 AM	3:05 PM	7:00

Appendices

APPENDIX J: MODIFIED BELL TIMES

Sch#	Typ	School Name	Grades	0:30 Buses Arrive No Earlier Than:	0:15 Buses Arrive No Later Than:	MORNING School Start Time	AFTERNOON School Dismiss Time	Instruct Day
189	H*	ACE	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
169	H*	Alvarez, Dr Jorge	9 - 12	7:40 AM	7:55 AM	8:10 AM	3:20 PM	7:10
106	E	Bailey, Robert E	PK - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
131	H*	Birch Vocational	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
217	P	Bishop McVinney	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
143	M	Bishop, Nathan	6 - 8	7:00 AM	7:15 AM	7:30 AM	2:10 PM	6:40
202	P	Blessed Sacrament	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
344	P	C.I.T.E.	PK - 12	7:45 AM	8:00 AM	8:15 AM	2:00 PM	5:45
125	E	Carnevale, Anthony	PK - 6	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
139	H*	Central	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
164	H*	Classical	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
384	P	Community Preparatory	PK - 8	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
327	P	CVS Highlander	K - 8	8:00 AM	8:15 AM	8:30 AM	2:45 PM	6:15
153	E	D'Abate,William	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
126	M	DelSesto	6 - 8	7:00 AM	7:15 AM	7:30 AM	2:10 PM	6:40
167	H*	E-Cubed Academy	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
116	E	Feinstein, Alan Shawn	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
157	E	Feinstein, Lilian	K - 5	7:45 AM	8:00 AM	8:15 AM	3:15 PM	7:00
160	E	Fogarty, Mary E.	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
129	E	Fortes Academy, Charles	2 - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
320	P	French American School	PK - 6	8:00 AM	8:15 AM	8:30 AM	3:00 PM	6:30
356	SE	Gorden Center	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
145	M	Greene, Nathanael	6 - 8	7:00 AM	7:15 AM	7:30 AM	2:10 PM	6:40
151	E	Gregorian, Vartan	K - 6	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
778	P	Henry Barnard	PK - 5	7:45 AM	8:00 AM	8:15 AM	2:15 PM	6:00
357	SE	High Road	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
149	H*	Hope	9 - 12	7:50 AM	8:05 AM	8:20 AM	3:00 PM	6:40
137	M	Hopkins, Esek	6 - 8	7:00 AM	7:15 AM	7:30 AM	2:10 PM	6:40
318	P	Jewish Community Day School	PK - 8	7:15 AM	7:30 AM	7:45 AM	3:15 PM	7:30
138	E	Kennedy, Robert	K - 6	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
163	E	King, Dr Martin Luther	PK - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
161	E	Kizirian, Harry	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
206	P	LaSalle Academy	7 - 12	7:35 AM	7:50 AM	8:05 AM	2:25 PM	6:20
140	E	Lauro, Carl G	K - 6	7:45 AM	8:00 AM	8:15 AM	3:05 PM	6:50
118	E	Lima Annex (K-5 Dual Language Program)	K - 5	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
128	E	Lima, Alfred	2 - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
304	P	Lincoln School	PK -12	7:15 AM	7:30 AM	7:45 AM	3:15 PM	7:30
316	SE	Meeting St., Providence, RI	SE	7:45 AM	8:00 AM	8:15 AM	2:45 PM	6:30
112	E	Messer at Bridgham	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
369	P	Montessori School	PK - 3	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
305	P	Moses Brown	PS - 12	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
150	H*	Mount Pleasant	9 - 12	7:00 AM	7:15 AM	7:30 AM	3:00 PM	7:30
360	SE	Mount Pleasant Academy	SE	7:30 AM	7:45 AM	8:00 AM	2:00 PM	6:00
333	SE	Ocean Tides	SE	8:30 AM	8:45 AM	9:00 AM	3:00 PM	6:00
388	P	Paul Cuffee #1	K - 5	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
391	P	Paul Cuffee #2	6 - 8	7:30 AM	7:45 AM	8:00 AM	2:15 PM	6:15
193	H*	PCTA	9 - 12	7:00 AM	7:15 AM	7:30 AM	3:30 PM	8:00
165	E	Pleasant View	PK, K - 5	8:25 AM	8:40 AM	8:55 AM	3:45 PM	6:50
359	SE	Providence Center	SE	8:00 AM	8:15 AM	8:30 AM	2:10 PM	5:40
308	P	Providence Hebrew Day School	PK - 12	7:45 AM	8:00 AM	8:15 AM	3:15 PM	7:00
142	E	Reservoir Avenue	K - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
775	P	RI School for the Deaf	K - 12	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
211	P	Saint Augustine	PK - 8	7:55 AM	8:10 AM	8:25 AM	2:30 PM	6:05
230	P	Saint Patrick	9 - 11	7:55 AM	8:10 AM	8:25 AM	2:45 PM	6:20
219	P	Saint Pius	PK - 8	7:45 AM	8:00 AM	8:15 AM	2:15 PM	6:00
223	P	Saint Thomas	K - 8	7:30 AM	7:45 AM	8:00 AM	2:20 PM	6:20
311	P	San Miguel	5 - 8	7:40 AM	7:55 AM	8:10 AM	3:15 PM	7:05
173	H*	Sanchez, Juanita Complex	9 - 12	7:30 AM	7:45 AM	8:00 AM	3:02 PM	7:02
174	H*	Sanchez, Juanita Complex	9 - 12	7:30 AM	7:45 AM	8:00 AM	3:02 PM	7:02
331	P	Sophia Academy	5 - 8	7:50 AM	8:05 AM	8:20 AM	3:30 PM	7:10
134	E	Spaziano & Annex	K - 1	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
133	E	Spaziano, Frank	2 - 5	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
144	M	Stuart, Gilbert	6 - 8	6:55 AM	7:10 AM	7:25 AM	2:40 PM	7:15
703	SE	Tavares Center	SE	7:30 AM	7:45 AM	8:00 AM	2:30 PM	6:30
120	P	Times 2	K - 6	7:50 AM	8:05 AM	8:20 AM	2:25 PM	6:05
114	M	Times 2 Academy	7 - 8	7:00 AM	7:15 AM	7:30 AM	1:50 PM	6:20
117	P	Times 2 Academy	9 - 12	7:30 AM	7:45 AM	8:00 AM	2:20 PM	6:20
529	P	Trinity Performing Arts	7 - 9	7:30 AM	7:45 AM	8:00 AM	2:00 PM	6:00
375	P	Urban Collaborative Program	7 - 9	8:15 AM	8:30 AM	8:45 AM	2:50 PM	6:05
130	E	Veazie St	K - 6	7:35 AM	7:50 AM	8:05 AM	2:15 PM	6:10
330	SE	Vision School	SE	8:00 AM	8:15 AM	8:30 AM	2:30 PM	6:00
127	E	Webster Ave	K - 6	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
135	E	West, George J.	K - 6	8:45 AM	9:00 AM	9:15 AM	3:25 PM	6:10
313	P	Wheeler School	PK - 12	7:30 AM	7:45 AM	8:00 AM	3:00 PM	7:00
147	M	Williams, Roger	6 - 8	6:55 AM	7:10 AM	7:25 AM	2:48 PM	7:23
109	E	Young/Woods (BJ Clanton Complex)	K - 6	7:45 AM	8:00 AM	8:15 AM	3:15 PM	7:00
110	E	Young/Woods (BJ Clanton Complex)	K - 6	7:45 AM	8:00 AM	8:15 AM	3:15 PM	7:00