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Financial Advisory

Ministry of Education Effectiveness & Efficiency Review

Phase 2 Review
Durham Student Transportation Services

March 2009

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The English version is the official version of this report. In the situation where there are differences between the English and French versions of this report, the English version prevails.

À noter que la version anglaise est la version officielle du présent rapport. En cas de divergences entre les versions anglaise et française du rapport, la version anglaise l’emporte.

Executive Summary

Introduction

This report details the findings and recommendations of an Effectiveness and Efficiency review (E&E Review) of Durham Student Transportation Services ("DSTS" or the "Consortium") conducted by a review team selected by the Ministry of Education. This review is the result of government initiatives to establish an equitable approach to reforming student transportation across the province and minimize the administrative burden for school boards associated with providing safe, reliable, effective, cost efficient transportation services. This section of the report is designed to provide an overall assessment of the Consortium and detail the findings and recommendations of the overall report that were particularly noteworthy. These major findings and recommendations are enhanced and supplemented by the specific findings and recommendations detailed in each section of the body of the report.

The E&E Review evaluated the Consortium's performance in four specific areas of operation including consortium management; policies and practices; routing and technology use; and contracting practices. The purpose of reviewing each of these areas was to evaluate current practices to determine if they are reasonable and appropriate; identify whether the Consortium has implemented any best practices; and provide recommendations on opportunities for improvement in each of the specific areas of operation. The evaluation of each area was then utilized to determine an overall rating for the Consortium that will be used by the Ministry to determine any in-year funding adjustments that may be provided.

Effectiveness and Efficiency Review Summary

DSTS provides transportation for approximately 23,800 students in the Regional Municipality of Durham (the "Region") which attend 179 schools within 7 municipalities. Durham Region covers a geographic area of 1,868 square kilometres. DSTS was formed with the purpose of reducing the overall cost of transportation while at the same time maintaining a safe, secure, efficient and dependable level of service to the students of Durham Region, using the most efficient and economical methodologies available.

DSTS is a collaboration of the Durham Catholic District School Board ("DCDSB") and the Durham District School Board ("DDSB") resulting in the formation of an unincorporated entity operating under the guidance of both school boards by means of a governance committee. Formed by DCDSB and DDSB as an amalgamation of their two transportation departments, DSTS has been operating as a Consortium since 2005. Its oversight board is a Governance Committee comprised of membership from the two

respective school boards. DSTS has accomplished several of the key steps necessary in order to fulfil its mandate as a student transportation Consortium. Notable achievements include:

- The structure and composition of the Governance Committee that oversees the Consortium is appropriate to promote fairness and equal participation in decision making and ensures the rights of the stakeholders are considered equally.

- A robust billing and invoicing system is in place with well executed and appropriate internal controls to ensure the accuracy of the revenue/cost allocation between the two Boards. The Consortium agreement includes a well defined cost sharing agreement which supports the shared accountability and fiscal responsibility for transportation costs.

- A well documented organizational structure and clarity in reporting lines.

- There is excellent use of technology to improve the quality and timeliness of information available to users and stakeholders in the system. This technology can now be used to enhance the quality of service, and improve the effectiveness and efficiency of operations.

- Standardized contracts for all operators are signed and were in place prior to the start of the 2007/2008 school year.

Based on our findings from the E&E review, the primary opportunities for improvements are:

- *Examine the establishment of a separate legal entity through incorporation* – While unincorporated entities with appropriate cost sharing agreements and indemnifications have a different risk profile than Partnerships there are still several inherent risks which make them less than optimal entity structures for coordinating student transportation for School Boards. Through incorporation, a Consortium is recognized as a legal entity separate from the school boards as owners. The primary benefit of incorporation is an effective safeguard against a third party establishing any liability on the part of a member School Board. Incorporation has secondary qualitative benefits which include enhancements to the credibility of the Consortium by requiring additional public accountability. There are more formal reporting requirements and well established incorporation by-laws that govern organizational behaviors and decision making. Clearly defined roles and responsibilities of governance provides a robust accountability framework for all key parties involved including school boards, the Consortium, and Operators or other service providers under contracts. In addition,

incorporation provides assurance of continuous existence and gives the consortium greater stability in the long run.

- *Financial System Reporting and Features* - The financial system reporting that is available to the Consortium is not appropriate in format or timely for the Consortium to be able to efficiently execute its obligations or support decision making. The current financial reports are not consolidated and require considerable manual intervention and replication within a spreadsheet in order to derive meaningful analysis to conduct business and support decision making. The Consortium should ensure that proper reporting is obtained from DCDSB to minimize the extent of manual intervention required for meaningful financial data. The Consortium should persist in resolving this issue through their Purchase of Service Agreement.

- *Policy Documentation* – The Consortium should consider working with the partner boards to develop a single policy document as a first step to begin moving the consortium toward full harmonization of transportation policies. Existing policies written by each board vary in level of detail and use of administrative procedures, but already share many common characteristics. Combining the existing policy documents into a single statement, while still maintaining the integrity of the current policies for each Board, would constitute a positive step toward full harmonization. With the combined policy statement as a starting point, the Consortium should begin discussions with the member boards to establish uniform (harmonized) service parameters (eligibility, walk distances to stops and school, courtesy transportation) over a mutually agreeable timeline.

- *System Effectiveness* – The analysis indicates that an opportunity exists to make improvements to the overall effectiveness of the transportation system. Such improvements may require compromises in the setting of school bell times, and increasing the average length of student ride times. This would, however, be offset by potential reductions in the overall number of buses required to operate the system, and hence in overall cost. The base assumption behind this recommendation is that the Consortium can increase average capacity utilization by lengthening individual bus routes, and increase the average number of bus routes completed by each vehicle over the course of the day by clustering school start times around two distinct time tiers. These changes would bring performance, as measured by capacity utilization and ride times, more in line with expectations and Board policies. The Consortium should, however, undertake a comprehensive analysis to evaluate the feasibility of these changes and the likely results before undertaking the extensive reengineering effort that would be required.

- *Competitive procurement process* – A competitive procurement process brings fairness, impartiality, and transparency to any procurement exercise and will allow the Consortium to purchase services from Operators that are able to meet specific requirements. Using a competitive procurement process, in particular in urban centres, will provide the Consortium with the opportunity to obtain the best value for their money and set service level expectations. Furthermore, this process will reflect market prices as it allows Operators to submit proposals, based on achievable operational efficiency and an appropriate return on investment, with full knowledge of the service level requirements as specified by the Consortium. Additionally, it provides a fair and measurable basis for evaluating Operator performance and allows the Consortium to utilize financial incentives to meet desired service levels. In areas where this process may not be appropriate, the Consortium can use the competitively procured contracts as a proxy for service levels and costs negotiated with the Operators.

DSTS is still in its infancy as a Consortium. It has however making positive strides toward establishing an effective and efficient Consortium through several initiatives including the migration of the DDSB and DCDSB legacy databases to an integrated third party solution. Implementation of the proposed recommendations and the ongoing use of the best practices identified throughout the body of the report will facilitate the continued evolution of DSTS to a Consortium that is highly effective and efficient.

Funding Adjustment

As a result of this review, DSTS has been rated as a **Moderate** Consortium. Based on this evaluation, the Ministry will provide additional transportation funding that will narrow the 2008-09 transportation funding gap for Durham Catholic District School Board and Conseil Scolaire de district Catholique Centre-Sud while the transportation allocation for Durham District School Board will remain unchanged in the 2008-09 school year.

The funding adjustments to be received are detailed below[1]:

Durham Catholic District School Board	Nil
Durham District School Board	Nil
Conseil scolaire de district catholique Centre-Sud	$49,587

(Numbers will be finalized when regulatory approval has been obtained.)

1 Introduction

[1] Refer to Section 7 for the calculation of funding adjustments.

1.1 Background

1.1.1 Funding for Student Transportation in Ontario

The Ministry provides funding to Ontario's 72 school boards for student transportation. Under Section 190 of the *Education Act* (Act), school boards "may" provide transportation for pupils. If a school board decides to provide transportation for pupils, the Ministry will provide funding to enable the school boards to deliver the service. Although the Act does not require school boards to provide transportation service, all school boards in Ontario provide service to eligible elementary students and most provide service to eligible secondary students. It is a school board's responsibility to develop and maintain its own transportation policies, including safety provisions.

In 1998-1999, a new education funding model was introduced in the Province of Ontario outlining a comprehensive approach to funding school boards. From 1998-1999 to 2007- 2008, an increase of over $195 million in funding has been provided to address increasing costs for student transportation, such as fuel price increases, despite the fact that there has been a general decline in student enrolment in recent years.

1.1.2 Transportation Reform

In 2006-07, the government began implementing reforms for student transportation. The objectives of the reforms are to build capacity to deliver safe, effective and efficient student transportation services, achieve an equitable approach to funding and reduce the administrative burden of delivering transportation, thus allowing school boards to focus on student learning and achievement.

The reforms include a requirement for Consortium delivery of student transportation services, effectiveness and efficiency reviews of transportation Consortia, and a study of the benchmark cost for a school bus incorporating standards for safe vehicles and trained drivers.

1.1.3 The Formation of School Transportation Consortia

Ontario's 72 school boards operate within four independent systems:

- English public;
- English separate;
- French public; and
- French separate.

As a result, a geographic area of the province can have as many as four coterminous school boards (i.e. boards that have overlapping geographic areas) operating schools and their respective transportation systems. Opportunities exist for coterminous school boards to form Consortia and therefore deliver transportation for two or more coterminous school boards in a given region. The Ministry believes in the benefits of Consortia as a viable business model to realize efficiencies. This belief has been endorsed by the Education Improvement Commission in 2000 and proven by established Consortium sites in the province. Currently, the majority of school boards cooperate to some degree in delivering transportation services. Cooperation between boards occurs in various ways, including:

- One school board purchasing transportation service from another in all or part of its jurisdiction;
- Two or more coterminous school boards sharing transportation services on some or all of their routes; and
- Creation of a Consortium to plan and deliver transportation service to students of all partner school boards.

Approximately 99% of student transportation service in Ontario is provided through contracts between school boards or transportation Consortia and private transportation Operators. The remaining 1% of service is provided using board-owned vehicles used to complement services acquired through contracted private Operators.

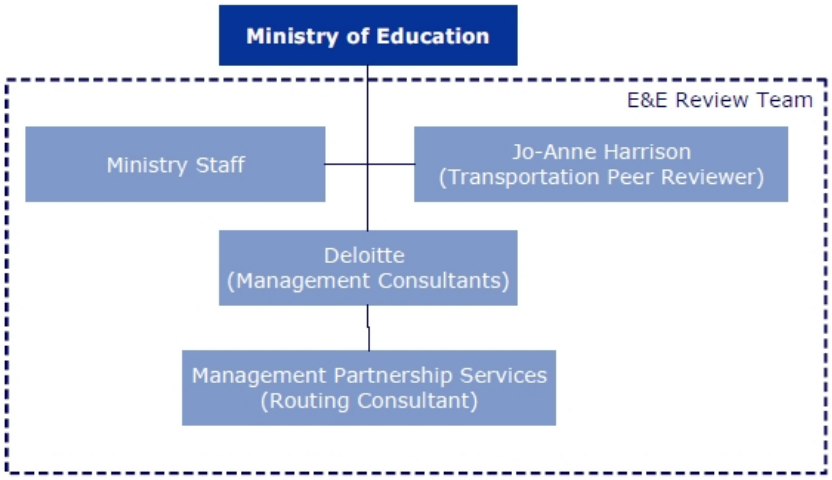
1.1.4 Effectiveness and Efficiency Review

According to the Ministry Consortium guidelines, once a Consortium has met the requirements outlined in memorandum SB: 13, dated July 11, 2006, it will be eligible for an E&E review. This review will be conducted by the E&E Review Team who will assist the Ministry in evaluating Consortium management, policies and practices, routing and technology, and contracts. These reviews will identify best practices and opportunities for improvement, and provide valuable information that can be used to inform future funding decisions. The Ministry has established a multi-phase approach to review the performance of consortia (collectively the “E&E Reviews”) across the province. Phase 1 of the E&E Reviews was completed in March 2007 and included reviews on 4 consortia sites. As a result, a total of $7.6M in additional funding was provided to the reviewed boards.

1.1.5 The E&E Review Team

To ensure that these reviews are conducted in an objective manner, the Ministry has formed a review team (the "E&E Review Team" as defined in Figure 1) to perform the E&E Reviews. The E&E Review Team was designed to leverage the expertise of industry professionals and consulting firms to evaluate specific aspects of each consortium site. Management consultants were engaged to complete assessments on consortium management, and contracts. Routing consultants were engaged to focus specifically on the acquisition, implementation, and use of routing software and related technologies and on policies and practices. The Transportation Peer Reviewer has provided the E&E Review Team with valuable insight into student transportation delivery in Ontario.

Figure 1: E&E Review Team



1.2 Scope of Deloitte Engagement

Deloitte was engaged to lead the Team and serve as the Management Consultants of the E&E Review Team. Deloitte's overall role is as follows:

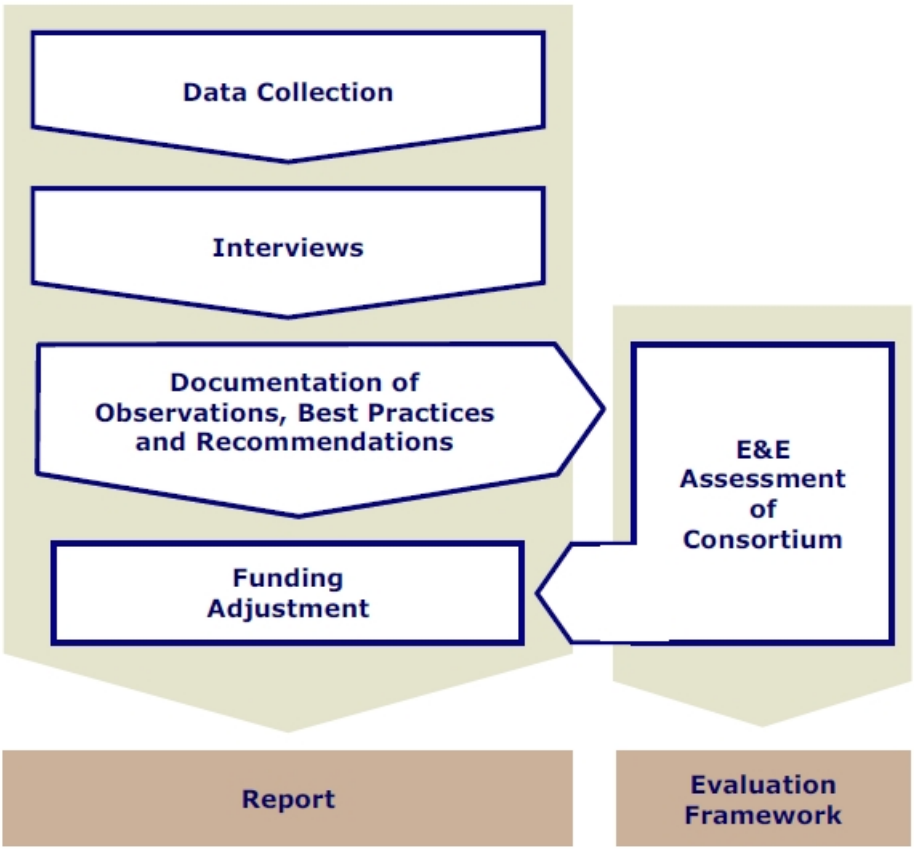
- Lead the E&E Review for each of the first five (5) transportation Consortium to be reviewed in Phase Two (refer to Section 1.1.4);
- At the beginning of each E&E Review, convene and moderate planning meetings to determine data required and availability prior to the review;
- Lead the execution of each E&E Review. The Ministry facilitated the process by providing the Consortium with information required in advance so that preparation and collection of information would be done prior to the on-site review;

- Review Consortium arrangement and governance structures, and contracting procedures;
- Incorporate the results of the routing and technology review in addition to the policies and practices review to be completed by MPS; and
- Prepare a report for each Consortium which has undergone an E&E Review in Phase Two. The target audience for the report will be the Ministry, the Consortium, and its Partner Boards. Once finalized, each report will be released to the Consortium and its Partner Boards.

1.3 Methodology Used to Complete E&E Review

The methodology for the E&E Review is based on a 5 step approach, as summarized in the following sections.

Figure 2: E&E Review Methodology



A site review Report which documents the observations, assessments and recommendations is produced at the end of a site review. The Evaluation Framework,

which provides the details on how the Assessment Guide was applied to reach an Overall Rating of each review site, has been developed to provide consistency.

1.3.1 Step 1 – Data Collection

Each Consortium under review was provided with the E&E Guide from the Ministry of Education. This guide provides details on the information and data needs that the E&E review team would require, and the E&E Guide will become the basis for the data collection.

Data is collected in four main areas:

1 Consortium Management;

2 Policies and Practices;

3 Routing and Technology; and

4 Contracts.

1.3.2 Step 2 – Interviews

The E&E Review Team identified key Consortium staff, outside stakeholders and key policy makers with whom interviews would be conducted to further understand the operations and key issues impacting delivery of effective and efficient student transportation services.

1.3.3 Step 3 – Documentation of Observations, Best Practices and Recommendations

Based on data collected and interviews conducted, the E&E Review Team documented their findings under three key areas:

- Observations which involved fact based findings of the review, including current practices and policies;
- Best Practices used by the Consortium under each area; and
- Recommendations for improvements based on the Assessment Guide. The key criteria used in the Assessment Guide to determine the effectiveness and efficiency of each Consortium are given below:

Effectiveness

Consortium Management

- Distinct entity focused on providing student transportation services for the partner boards
- Well defined governance and organizational structure with clear roles and responsibilities
- Oversight body exists with the mandate to provide strategic directions to the consortium management on the provision of safe, effective and efficient transportation service to support student learning
- Management has communicated clear goals and objectives of the Consortium and these are reflected in the operational plan
- Well established accountability framework reflected in the set up and operation of the consortium including documentation of terms in a Consortium Agreement
- Operations are monitored for its performance and continuous improvement
- Financial processes ensure accountability and equality to Partner Boards
- A budgeting process is in place which ensures timely preparation and monitoring of expenses
- Key business relationships are defined in contracts

Policies and Practices

- Development of policies is based on well-defined parameters as set by strategic and operational plans to provide safe, effective and efficient transportation service to students of the school boards; and
    - Policy decisions are made with due considerations to financial and service impacts to partner boards
    - Communication between the consortium and partner boards facilitates informed decision making on issues directly affecting student transportation
    - Consortium's policies and practices are adequate and in compliance with all relevant safety regulation and standards

- Practices on the ground follow policies

Routing and Technology

- Advanced use of transportation management software to store student data, and create a routing solution
- Disaster recovery plans and back up procedures are in place and operating properly
- Responsibility and accountability for student data management is clearly identified
- Routing is reviewed regularly
- Reporting tools are used effectively
- Special needs routing is integrated with regular needs where reasonable

Contracts

- Competitive contracting practice is used
- Contract negotiations are transparent, fair, and timely
- Contracts are structured to ensure accountability and transparency between contracted parties
- Contracts exist for all service providers
- Ongoing compliance checks for safety, legal and service requirements are performed by the consortium

Efficiency

Consortium Management

- Oversight committee focuses only on high level decisions
- Organizational structure is efficient in utilization of staff
- Streamlined financial and business processes
- Cost sharing mechanism are well defined and implemented

Policies and Practices

- Harmonized transportation policies between partner boards enable efficient planning
- Proper level of authority delegated to consortium to enable the realization of potential efficiencies e.g. bell times setting
- Best practices in planning are adopted e.g. utilize tiered runs and combination runs to maximize the use of available capacity
- Public transit usage is optimized where available and efficient
- Service levels are reasonable and comparable to common practices

Routing and Technology

- System can be restored quickly if database fails
- Student data is accurate, requires little post processing verification
- System functionalities are used to identify efficiencies

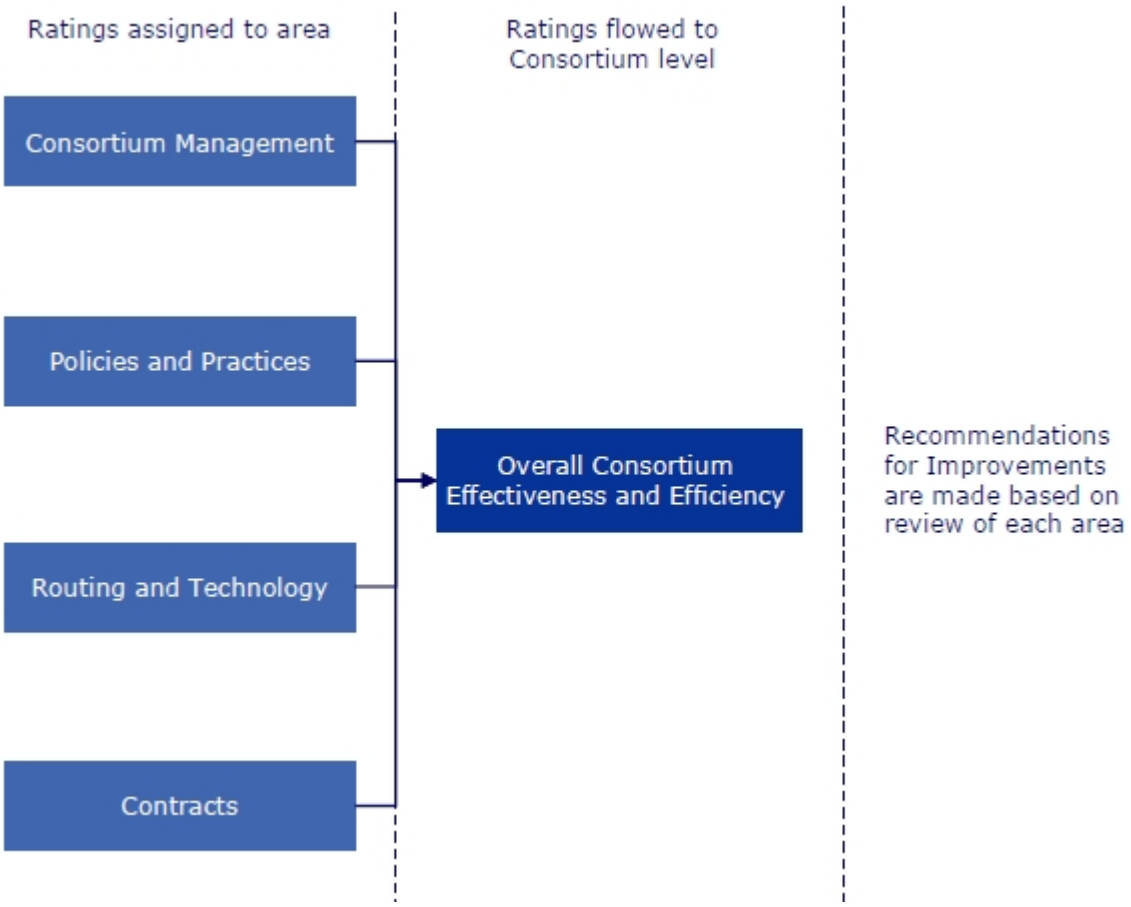
Contracts

- Contracts awarded are based on market prices and best value for money
- Fair payment terms are included in contracts and implemented with clarity to both parties

1.3.4 Step 4 and 5 – E&E Assessment of Consortium and Site Report

The Assessment Guide was developed to enable the E&E Review Team to provide each Consortium that undergoes an E&E Review with a consistent, fair, and transparent method of assessment. The Assessment Guide is broken down between the four main components of review (i.e. Consortium Management, Policies and Practices, Routing and Technology, and Contracts) and, for each, illustrates what would constitute a specific level of E&E (refer to Figure 3 for diagram of process).

Figure 3: Assessment of Consortium – Diagram Flow



The Evaluation Framework provides details on how the Assessment Guide was applied, including the use of the Evaluation Work Sheets, to arrive at the final Overall Rating. The E&E Review Team then compiled all findings and recommendations into an E&E Review Report (i.e. this document).

1.3.5 Funding Adjustment

The Ministry will use the results of the E&E reviews and the cost benchmark study to inform any future funding adjustments. Only Boards that have undergone E&E Reviews are eligible for a funding adjustment. Table 1 illustrates how the Overall Rating will affect a Board's transportation expenditure-allocation gap.

Table 1: Funding Adjustment Formula

Overall Rating	Effect on deficit boards[2]	Effect on surplus boards[2]
High	Reduce the gap by 100% (i.e. eliminate the gap)	No in-year funding impact; out-year changes are to be determined
Moderate-High	Reduce the gap by 90%	Same as above
Moderate	Reduce the gap by 60%	Same as above
Moderate-Low	Reduce the gap by 30%	Same as above
Low	Reduce the gap in the range of 0% to 30%	Same as above

1.3.6 Purpose of Report

This Report serves as the deliverable for the E&E Review conducted on DSTS by the E&E Review Team during the week of June 16, 2008.

1.3.7 Material Relied Upon

Refer to Appendix 3 for a list of documents that the E&E review team relied upon for their review. These documents were used in conjunction with interviews with key Consortium staff, outside stakeholders, and key policy makers.

1.3.8 Limitations on Use of This Report

The purpose of this Report is to document the results of the E&E Review of DSTS. The E&E Review is not of the nature or scope so as to constitute an audit made in accordance with generally accepted auditing standards. Therefore, as part of this E&E Review, Deloitte has not expressed an opinion on any financial statements, elements, or accounts to be referred to when reporting any findings to the Ministry. Additionally, procedures used by the E&E Review Team are not intended to disclose defalcations, system deficiencies, or other irregularities.

[2] This refers to boards that have a deficit/surplus on student transportation (see Section 7 – Funding Adjustments)

2 Overview of Consortium

2.1 Introduction to DSTS Student Services Consortium

DSTS provides transportation for approximately 24169 students in the Regional Municipality of Durham (the "Region"). DSTS was formed by the Durham Catholic District School Board ("DCDSB") and the Durham District School Board ("DDSB") as an amalgamation of their two transportation departments. DSTS has been operating as a Consortium since 2005. Its oversight body is a Governance Committee comprised of membership from the two respective school boards.

Table 2 below provides a summary of key statistics of each member Board and of the Conseil Scolaire de district Catholique Centre-Sud ("CSDCCS") who purchases services from the DSTS Consortium:

Table 2: 2007-08 Transportation Survey Data

Item	DCDSB	DDSB	CSDCCS
Number of schools served	51	125	4
Total students transported daily	7,201	16,017	951
Total general transported students	6,368	10,965	951
Total special needs[3] transported students	120	1,472	0
Total riders requiring wheelchair accessible transportation	21	110	0
Total specialized program[4] transportation	692	3,336	0
Total courtesy riders	0	0	0
Total hazard riders[5]	0	134	0
Total Public Transit Riders	4,769	0	0
Total Number of Contracted Vehicles	145	442	23

[3] Includes students requiring special transportation such as congregated and integrated special education students who require dedicated routes and/or vehicles; students who must ride alone; students who require an attendant on the vehicle.
[4] Includes students transported to french immersion, magnet and gifted programs. Students with special needs who are transported to specialized programs are captured as special needs transported students.
[5] Hazard riders are not reported within this Transportation survey data as the Consortium reduces the walk boundaries for these specific students who would otherwise be hazard riders to show them as eligible within their reported data.

Item	DCDSB	DDSB	CSDCCS
Total contracted full- and mid-sized buses[6]	109	299	18
Total contracted mini-buses	24	129	4
Total contracted school purpose vehicles[7]	1	12	0
Total contracted physically disabled passenger vehicles (PDPV)	0	0	0
Total contracted taxis	11	3	1

Table 3: 2007-08 Financial Data[8]

Item	DCDSB	DDSB	CSDCCS
2007/2008 Transportation Allocation	8,233,191	20,016,438	15,419,952
2007/2008 Transportation Expenditure	7,427,048	16,167,700	16,648,767
2007/2008 Transportation Surplus (Deficit)	806,143	3,848,738	(1,228,815)
Percentage of transportation expenditure attributed to DSTS Student Services Consortium	100%	100%	6.73%

The catchment area served by DSTS is experiencing growth in concentrated areas of the Region. In response, the DDSB is building four additional schools (one secondary school and three elementary schools). Until the construction of these schools is complete, the affected students are being bussed to holding schools which is generating temporary additional transportation costs. However, the additional growth is being offset by declining enrolment in other areas of the Region. The declining student population in Oshawa has resulted in the closure of five elementary schools for the DCDSB which has resulted in additional transportation costs. DSTS has worked to reduce costs by adjusting bell times at several schools.

The establishment of DSTS builds on many years of sharing school bus routes, particularly in North Durham. The Consortium currently transports approximately 24,169 students per day to 180 schools using a contracted fleet of approximately 600 vehicles. The transportation needs of DDSB and DCDSB are served 100% by the Consortium.

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[6] Includes full-sized buses, mid-sized buses, full-sized buses adapted for wheelchair use and mid-sized buses adapted for wheelchair use; all vehicle counts are rounded to the nearest whole number
[7] Includes school-purpose vans, mini-vans and sedans
[8] Based on Ministry Data – see Appendix 2.

CSDCCS purchases transportation services from the Consortium for some students residing in Durham who attend CSDCCS schools. Furthermore a small number of DCDSB students, residing in north Durham, are transported to a secondary school in Simcoe County.

3 Consortium Management

3.1 Introduction

Consortium Management encompasses the management of the entire organization providing student transportation services. The analysis stems from a review of the four key components of Consortium Management:

- Governance;
- Organizational Structure;
- Consortium Management; and
- Financial Management.

Each component has been analysed based on information provided by the DSTS Consortium, and from information collected during interviews with Transportation Managers and selected Operators. The analysis included an assessment of best practices leading to a set of recommendations. These results are then used to develop an E&E assessment for each component, which is then summarized to determine an E&E assessment of Consortium Management as shown below:

Consortium Management – E&E Rating: Moderate

3.2 Governance

Governance refers to the way in which an organization is directed and controlled. Establishing administrative structures and processes which facilitate and monitor effective business management are primary responsibilities of a governance structure. Three key principles for an effective governance structure are as follows: accountability, transparency, and the recognition of stakeholders. In order to respect these three principles, it is important that the governance body be independent of the management of day-to-day operations.

3.2.1 Observations

Governance Structure

The role of a governance committee is to ensure that the Consortium is focused on an overarching objective while allowing management to run the day to day operations. Its function is to provide oversight and ensure that all key stakeholders are appropriately represented. Documentation should support the appropriate roles and responsibilities of

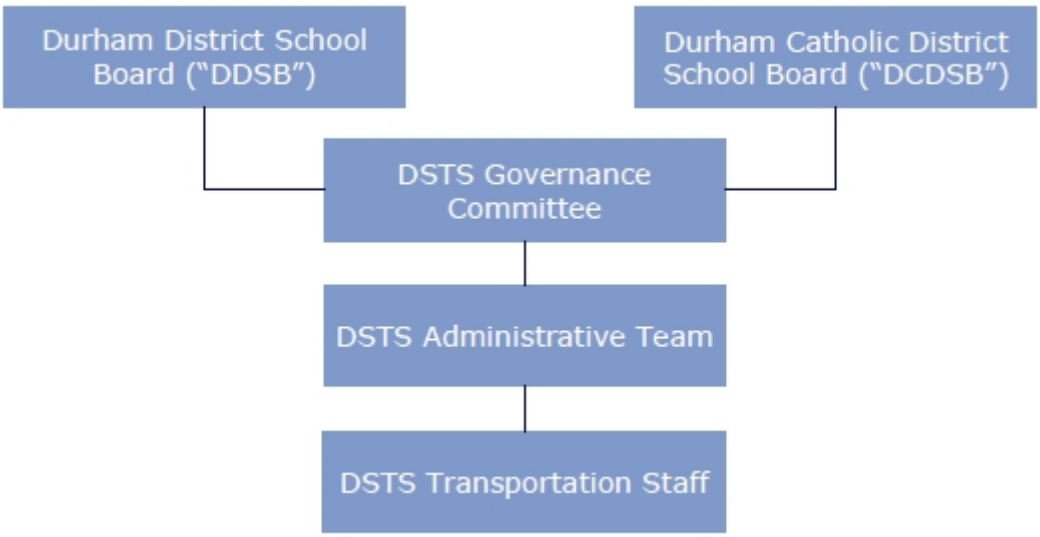
its members allowing the structure to be maintained indefinitely, and the level of responsibility should be focussed on oversight of the consortium with no interference with the daily operation of the business.

In 2005, DDSB and DCDSB entered into an agreement to begin operating as a single entity to coordinate transportation services for students in the Durham Region and participate in shared services with each other to minimize the costs of all its services in compliance with the policies of each Board. The resulting consortium operates under the name Durham Student Transportation Services (“DSTS”). DSTS is charged with the administration of all home to school transportation, school to school transportation, and special needs transportation.

DSTS consists of a Governance Committee (Figure 4) which is closely supported by an Administrative Team and the Management of the Consortium. The Governance Committee is comprised of the Chair or Trustee designate from each of DDSB and DCDSB and the Director or designate from each board. The administrative team is also generally present during Governance Committee meetings in a supporting role (non-voting). The position of DSTS Governance Committee chairperson alternates each year between the two boards and has the same voting privileges as the other members of the committee and decisions follow the majority rule. The Governance committee meets three times a year with responsibilities towards oversight of the Consortium and issues related to student transportation, budget approval, and oversight of the administrative team and Chief Administrative Officer (“CAO”).

Minutes of the governance committee are recorded by the CAO, the official copy of the minutes are not designated by signature of the board chairperson but are ratified during the following meeting. The roles and responsibilities of the Governance Committee neither include a specific role in terms of policy direction and development nor, financial reporting and controls. There is evidence within the minutes of consideration by the Governance Committee of the cost sharing mechanism. The roles and responsibilities of the Governance Committee and Administrative team are documented in the Consortium agreement; there is no separate document with terms of reference or any other document which captures the roles and responsibilities of those responsible for governance.

Figure 4: Governance Organizational Chart



Board Level Mediation and Arbitration Clause

The consortium agreement includes a clause related to mediation for issues which cannot be decided through majority voting rules. Mediation is conducted through the selection of a mediator by the CAO upon approval by the Administrative team. If the issue is not resolved through mediation after a reasonable period, the issue is escalated for arbitration. Arbitration is accomplished through the engagement of a single arbitrator agreed upon by the Boards. If a mutually agreed upon selection of an arbitrator cannot be made within 30 days, the selection of the arbitrator shall be made by the CAO. The results of the arbitration process are binding on both of the Boards and the relevant provisions within the Consortium agreement constitute a submission to arbitration within the provision of the Arbitrations Act (Ontario). There have not been any issues at the Governance Committee level which have necessitated arbitration since the inception of the Consortium.

3.2.2 Best Practices

It is recognized that the Consortium has demonstrated best practices in the following areas:

- The Governance Committee, which is charged with oversight responsibilities for the Consortium, has equal representation from each School Board in terms of membership. Equal representation promotes fairness and equal participation in decision making and ensures the rights of each Board are considered equally. This is a key element in effective governance and management;

- The Governance meeting takes place three times a year (more if required) as set by a schedule at the inaugural meeting with an annually alternating chairperson between each of the school boards.

- A board level mediation and arbitration clause is in place in the Consortium Agreement signed by each Board. The policy is an effective mechanism to protect the rights of both Boards.

3.2.3 Recommendations

Governance Committee Role and Responsibilities

The Governance Committee's role related to oversight is clearly documented in the Consortium agreement; however, it is important to note that the role of the Governance Committee with respect to the development of policy direction, budget setting and financial reporting and controls is not clearly defined in the agreement. In terms of policy setting it should be made clear whether the Governance Committee has a role in policy harmonization or if the role of the Governance Committee is just to implement policies set independently by each school board. If the role of the Governance Committee is solely to implement the policies set independently by each board, there are likely significant efficiencies which can be gained by means of policy harmonization that should be guided through the Governance Committee of the Consortium.

Governance Committee Meetings

Decisions made by the Governance Committee should be officially documented and communicated to the administrative team and Consortium management after each meeting. This is generally accomplished through the documentation of minutes from the Governance Committee meetings. It is understood that such documentation takes place however there is no official signed copy of the minutes. It is recommended that in addition to ratification of the minutes during the following meeting, that a signature is obtained from the Governance Committee chairperson and a record of the official minutes of the meeting continue to be retained by the CAO.

3.3 Organizational Structure

An organizational structure can have the power to provide for effective communication and coordination which will enable operations to run efficiently. The roles and responsibilities within the organization should be well defined. This will lead to operational efficiencies by ensuring tasks are not being duplicated and issues raised can be addressed effectively by managing up the chain of command. Ideally the

organization is divided functionally (by department and/or area) and all core business functions are identified.

3.3.1 Observations

Entity Status

The DDSB and DCDSB entered into a signed agreement in December 2005 to form an unincorporated Consortium. The Consortium agreement has a specific disclaimer over their intentions not to form a partnership or joint venture. The board has strictly denied any intention or agreement to be agents for one another and have expressed that neither board has the authority to incur any obligations or responsibilities on behalf of another board. The resulting Consortium has no legal standing separate from DCDSB and DDSB. The operator contracts are therefore signed by the chairperson from the Board of Trustees from each of DDSB and DCDSB.

The Consortium is physically located in office space that is leased from a third party under arm's length commercial terms. The office lease agreement has a term of five years and began in February 2006. The agreement is signed by representatives of both of the school boards: the Superintendent of Business Treasury from DDSB and Director of Education from DCDSB. There is an opportunity for renewal of the lease for a subsequent five year term.

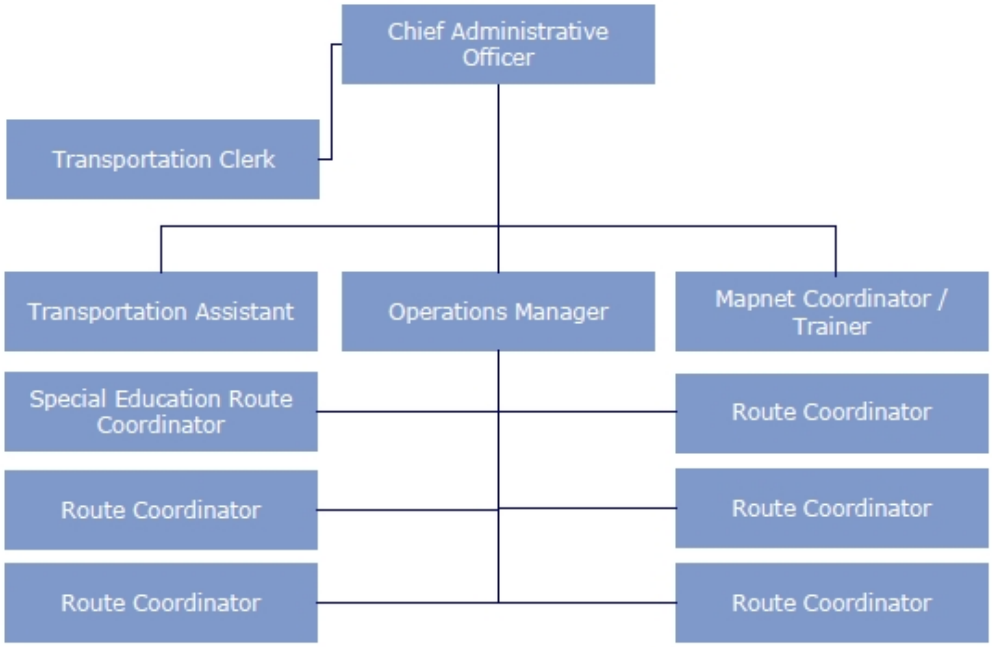
Organization of Entity

The organizational structure is clearly documented by the Consortium and reflects clear reporting mechanisms. The roles and responsibilities of most staff are documented in job descriptions which are updated as needed. All of the 6 route coordinators (including 1 special education route coordinator) report directly to the Operations Manager who in turn reports to the CAO. The Mapnet Coordinator, the transportation assistant and transportation clerk directly report to the CAO. The Route Coordinator's job descriptions were last updated in 2000, whereas the Mapnet Coordinator / trainer job description was last updated in 2002 and the balance of the job descriptions were more recently updated. A job description for the Transportation Assistant and Transportation clerk was not available during the E&E fieldwork. We understand that the Transportation clerk serves an administrative support function and as an administrative assistant to the CAO. We also understand that the Transportation Assistant's job description is being revised to reflect increases in that position's responsibilities which include tasks normally associated with a billing coordinator and financial analyst.

The role of route auditors are fulfilled by the route coordinators and tasks normally associated with financial management, reporting, billing coordination and financial analysis are performed by the Transportation Assistant and the CAO. The Consortium

includes four individuals employed by DCDSB and the balance of positions shown in figure 5 is filled by individuals employed by DDSB. All of the individuals in Figure 5, with the exception of the CAO and Operations Manager are members of a collective bargaining unit.

Figure 5: DSTS Organizational Chart



3.3.2 Best Practices

The Consortium has demonstrated a best practice in the following areas:

- Roles and Responsibilities of staff are clearly defined in job descriptions and the organizational chart shows clear reporting relationships. The organizational structure reflects clear lines of reporting and functional areas of the Consortium as the Consortium's functions and operations have been sub-divided by functional duty and area. The support staff is in place within each functional area.

- The Consortium has recently reviewed the job descriptions within the organization and has made updates to the documentation where warranted. Periodic review of this documentation is a good practice to ensure that roles and responsibilities are clearly defined and periodically communicated. The Consortium should continue to review these documents to ensure they reflect latest Policies and Practices.

3.3.3 Recommendations

Establishment of a Separate Legal Entity

The DDSB and DCDSB school boards have formed an unincorporated Consortium. While the risks associated with such a structure are different from those of a partnership or joint venture, an unincorporated consortium is less than an ideal structure for an organization charged with the provision of transportation services for students. In particular, an unincorporated organization does not exist as an entity under the law, separate from its school board owner; thereby all of the actions of the Consortium are considered actions of the school boards, subject to the several liability and indemnification clauses within the Consortium agreement. There are several risks of which the Consortium should be aware and take steps to actively manage and consider as further investigation of the establishment of a separate legal entity continues to take place:

- The risk that the actions of one Partner Board may be leaving the other Partner Board open to liability;

- The risk that Partner Boards can be involved in litigation for issues involving students that are not part of their school board; and

- The risk that financial liability, brought about through the consortium agreement, may exceed the existing insurable limits of the school boards. The consortium should, with the assistance of their insurance carrier, investigate their coverage related to, but not limited to, punitive damages, human rights complaints, and wrongful dismissal lawsuits. It is also recommended that the Consortium investigates, with its insurance carrier, the applicability of errors and omissions insurance.

Based on these risks the Boards should explore the establishment of the Consortium as a Separate Legal Entity through incorporation to formalize and improve its current contracting practices. The creation of a Separate Legal Entity effectively limits risk to the Partner Boards for activities related to the provision of student transportation. Thus, when an incorporated entity takes responsibility for student transportation services, this incorporated entity status is an effective safeguard against any third party establishing liability on the part of a member School Boards. Over the long term, changing political environments and potential disputes amongst the Partner Boards could cause the current structure to destabilize. The formalization of the Consortium as an incorporated entity would provide benefits from an organizational perspective in terms of corporate continuity, staff planning, liability, contracting and management.

3.4 Consortium Management

Consortium Management focuses on the operational aspects of the organization. This includes ensuring accountability of staff, focusing on continual improvement through operational planning, and risk management by having appropriate contracts and agreements in place to clearly define business relationships.

A Consortium may exist in practice; however it is only by defining the terms of the arrangement that a consortium becomes truly effective. This is due to the fact that a large part of a consortium's ability to function well is based on its members, both in terms of the School Boards and the staff operating the consortium. Personnel will absolutely affect the operation of a consortium and as those personalities change over time it is essential that a consortium be well defined in terms of structure and operation so that future personnel are guided by a common practice. Having a well defined consortium agreement will ensure that the operations will remain consistent and intact in the future. It also reduces the chances of a misunderstanding and/or conflict between Partner Boards.

3.4.1 Observations

Consortium Formation

DSTS was formed in late 2005 by DDSB and DCDSB through an agreement with the intent to participate in shared services for transportation and a common administrative structure for student transportation in Durham. The Consortium agreement defines roles and responsibilities within the organization but also includes clauses related to the cost sharing of transportation and administrative costs, makes reference to the reservation of existing board policies, insurance requirements, term, amalgamation, mediation, arbitration, indemnification, and the collaborative venture clause.

Cost Sharing

The Administrative and Operational cost sharing mechanism is documented in a schedule appended to the consortium agreement. Cost sharing for transportation is designated as operational in nature and is based on operator contract costs calculated for each route. The resulting cost sharing between the boards is based on the prorated weighted ridership of students. The prorated numbers for the year are based on an October 31 snapshot.

Administrative costs, which include all non-transportation related costs incurred by the Consortium, are shared based on ridership (un-weighted) for all transported students.

Service Purchasing Agreement

The Consortium has the discretion to purchase support services from either of the school boards at their own will however given the robust IT department of DDSB sourcing IT services from DDSB was a logical decision. Currently the DCDSB provides accounting services including banking and accounts payable as an in kind service to the Consortium; in turn DDSB provides IT services in kind. DCDSB also sources IT support from DDSB. HR and payroll support is provided by the employees' respective boards and there is no chargeback to the consortium for HR services provided however the salary costs are reconciled and shared between the two Boards on the un-weighted cost sharing basis described above. There are no agreements in place between the school boards and the Consortium for the provision of these in kind services. The Consortium has an ability to procure goods and services from either of the school boards depending on who has the better price or service. There are no agreements in place that support the hourly rates and service levels that the Consortium receives from the School Boards for IT, HR and Accounting Services.

Insurance

DDSB and DCDSB have insurance coverage which covers the activities of the Consortium. There is no formal review or positive confirmation of the adequacy or sufficiency of insurance coverage. There is also no review of how coverage specifically relates to transportation. The Consortium does not carry separate insurance specifically for student transportation services nor is this possible given the current entity status. Per the Consortium, the insurance in place was designed specifically for transportation Consortium regardless of their entity status and it is not considered necessary by the Consortium to confirm adequacy of insurance coverage on a periodic basis. The overall strategy of the Consortium is to ensure that contracts with bus operators effectively share accountability related to the transportation of students to the Operators where appropriate.

Long Term and Short Term Planning

The Consortium does not have a formalized strategic planning process that results in the development, documentation and governance committee approval of short and long term goals. There are however several elements and documents which the Consortium has documented which show their degree of organization and forward thinking:

- DSTS Action Plan – documents the ongoing, daily, and monthly practices of the Consortium which includes principles by which the organization operates, as well assome details of recurring responsibilities for the management and staff of the Consortium (this document has not been reviewed by the Governance committee); and

- DSTS Standards of Performance – documents the expectations of the Consortium in terms of service delivery and provides formal acknowledgement of the efforts of operations in providing school bus service to Durham students. This document is a rating system for operators which helps to define roles and responsibilities and ensures that safety and efficiency are at the forefront of concern (this document has not been reviewed by the Governance committee).

These documents are forward looking in nature and their implementation will no doubt assist the organization in terms of delivering enhanced services. There are no separate documents which address the need for the Governance Committee to approve documented goals and objectives of the Consortium and the resulting operational plan. There is no other evidence related to the governance committee (oversight body) to provide strategic direction to the Consortium management.

Key Performance (Service) Indicators ("KPIs")

KPIs are statistics that can be reviewed or analyzed to evaluate the operation of the Consortium and are practical indicators to help identify areas for improvement. This is one method that an organization can use to monitor operations for performance and continuous improvement. The Consortium monitors a limited number of KPI's including total students transported; total vehicles in operation and student ride times.

Internal Audit

DSTS is not subject to internal audit by either of the school boards nor does it undergo an external audit. The financial results of the Consortium are included in the financial statements of each of the respective boards and the Consortium is indirectly audited through each board. Each of the Boards is subject to an annual external audit. The shared transportation costs for the Consortium are indirectly audited through this process.

Employee Management

All of the employees of the Consortium (Figure 5) are employed directly by either of the School Boards. Of the eleven employees, the Transportation Assistant and two Route Coordinators are employed by DCDSB and the balance of those who work for the Consortium are employed by DDSB. The CAO and Operations Manager are also employees of their respective boards. All employees are subject to their Board's respective payroll, pension, and performance evaluation frameworks.

The management of the Consortium sees minor inefficiencies in having employees from two different boards. There are differences such as the treatment and authorization of overtime work and other authorization differences such as the CAO's ability to approve

specific employee requests of employees from the DDSB board but not the DCDSB board (vacation request, overtime pay, difference in the number of Fridays worked during the months of July and August). The administrative burden of two performance evaluation frameworks and separate paperwork, for things such as vacation requests, are not material according to management. In the event of someone leaving the Consortium, the position must be filled in accordance to union rules thus the relative proportional split of employees from each board is maintained.

Employee Performance Evaluation Frameworks

The Management of the Consortium conducts an annual employee performance appraisal process. DSTS uses the performance appraisal templates from each of the school boards for the respective staff. These frameworks are generalized for a variety of circumstances and design of the frameworks ensures that they meet the needs of all departments in that organization. The Consortium views the appraisal process as an opportunity for staff to discuss personal performance goals and objectives and address any weaknesses. The method by which the management of the Consortium have used these performance evaluation tools has been demonstrated to be positive and reinforced to the objectives of the organization.

Employee Training

Mandatory internal staff training (new-hire training) and job related technical training is provided to staff on a regular basis. The Consortium uses a train-the-trainer methodology usually sending one person to attend technical training and the lessons learned are then disseminated internally by that person. Training manuals for the route planning software are provided to planners as guidance. “Soft skills” training has also been provided to staff through team building exercises and courses such as “Dealing with Difficult People” and “Humour in the Workplace.” There is no formal tracking system for the training completed; it is the opinion of management that the size of the organization precludes the necessity for a formal tracking system of who has attended what specific training sessions internal or externally conducted.

Municipal Transit Bus Passes for Secondary School Students

DCDSB purchases special student public transit passes which are valid from 7am – 7pm on weekdays for those students who live outside of the 3.2 kilometre non-transportation zone. DDSB eliminated the use of Municipal Transit Passes for secondary school students in 1993 directing the funds saved to the classroom (approximately $1.9M). The DCDSB restricted bus pass rate is $41 per month per student and these passes are purchased by the Consortium and funded by DCDSB. There is an administrative charge which the Consortium levies against DCDSB for the administration of the municipal transit passes.

The list of those students who are eligible for the municipal transit pass is determined by the respective DCDSB secondary schools and the number of requested passes per school is submitted to the Consortium who distributes the number of required passes and tracks them via serial number. There were approximately 4,000 passes purchased in the 2007/2008 school year at a cost of $41 per pass resulting in an expenditure of approximately $1.6 million dollars by DCDSB. As discussed in section 5 of this report, the DCDSB secondary schools maintain the student database information from which the Consortium operates.

DCDSB and the Consortium have estimated the costs of transporting students via municipal transit passes versus school buses. DCDSB also acknowledges that the higher service level and flexibility afforded by municipal transit passes better serves its secondary school students. There has however been no formal financial analysis performed related to the cost involved in using municipal transit passes compared to integrating routes which serve elementary schools in the same proximity as the secondary schools. There has also not been a cost study done to determine the cost at which it becomes financially infeasible to provide bus passes. Auditing of students who received municipal transit passes indicated that some students lived in the non-transportation zone.

3.4.2 Best Practices

It is recognized that the Consortium has demonstrated best practices in the following areas:

Documented Cost Sharing Agreement

The Consortium Agreement has a schedule appended to it with the terms of the cost sharing agreement which the school boards have agreed to. The agreement defines weighted and un-weighted ridership based on an October 31st snapshot, with the exception of temporary routes (assessed individually in terms of cost share), as a mechanism to determine relative cost share. A documented fair methodology for cost sharing is a best practice to ensure accountability over costs and appropriate operational cash flow for the financial obligations of the Consortium.

3.4.3 Recommendations

Contracts for Support Services

There is no contract between either DDSB or DCDSB and the Consortium for services which either board provides to the Consortium. Therefore, services are obtained by the Consortium and paid without terms, conditions, and service levels normally associated

with such an arrangement. It is recommended that all of the services which the Consortium procures are established via agreement or contract where the mutual interests of the Consortium and service provider, in this case each school board, are documented and agreed upon. For critical services such as IT support and accounting this need is paramount. For example, this concern is especially important in terms of the priority which DDSB would give to the Consortium in terms of fixing a significant system failure, or also the binding of the DDSB IT staff to confidentially agreements related to DCDSB student information which they can access through their roles in system and database support.

Insurance Requirements

As the Consortium continues to examine its move to establishing itself as a separate legal entity we encourage the Consortium to bear in mind its insurance requirements and review them on a periodic basis in consultation with its insurance provider. A change in entity status can have an impact on insurance requirements therefore active periodic monitoring is required.

Long and Short Term Planning

The management of the Consortium has developed several good planning documents which will no doubt work towards increasing the effectiveness of the Consortium. These documents could be considered elements of a comprehensive strategic plan reflecting the long and short term goals of the Consortium. It is not however apparent, based on the documentation reviewed and the minutes of the Consortium, whether these documents have been reviewed and approved by the Governance Committee. It is recommended that a formal process be put into place whereby the long and short term goals reflecting the strategic plans of the Consortium are developed and documented. The governance committee should be included within their oversight role and ultimately approve these planning documents. No doubt the efforts of the management of the Consortium have established some of the fundamental building blocks for this process. We encourage the Governance committee to provide input and ultimate approval for the execution of these plans.

Key Performance (Service) Indicators ("KPIs")

DSTS management, with input and approval from the Governance Committee, should identify more extensive key service or performance indicators which would be beneficial to monitor to assess the performance of the organization and to monitor progress related to its short and long term strategic planning efforts. In addition to performance monitoring, KPIs can be used to inform management decision making and as a method to ensure that organizational goals and objectives are being met. Below is an illustrative list of KPIs which should be considered for formalized monitoring:

- Eligible Unassigned Student Lists;
- Student Map Match Rates;
- Total Students Transported;
- Average Vehicle Statistics and other route statistics;
- Program Costs;
- Total vehicles in operation; and
- Student Ride Time.

Formally monitoring a relevant portfolio of KPIs allows the Consortium to quantify its performance and track its progress over time. DSTS can use the results of the analysis to generate realistic business improvement plans or make policy recommendations to the member Boards based on current and relevant data obtained through the KPIs.

Municipal Transit Bus Passes for Secondary School Students

The Consortium, as directed by the Governance Committee and in conjunction with the school boards, are encouraged to take a comprehensive look at the costs involved in providing Municipal Transit passes to Secondary School Students. It is unclear from the working papers and documentation available whether this policy and its service and financial impacts have been carefully assessed through a study. It is understood and recognized that a simple comparison of the per student cost of school bus transportation ($400 - $800) per year versus a bus pass at $410 per year results in a conclusion that $410 for a municipal pass is cost efficient. However, this analysis does not take into consideration financial considerations around integrated routes and/ or other routing strategies that can produce increased cost efficiencies for transportation as a whole. It is further understood that school bus transportation may not be appropriate to all schools and that an analysis may show that municipal transit is the

most efficient and effective method to provide transportation. The recommendation here is not to eliminate municipal transit but to encourage the Consortium to undertake a complete cost study, incorporating and considering the financial implications of effective routing strategies on the overall cost of all student transportation. A complete cost study would reconcile and establish this figure and properly refute or confirm that this policy provides the best service and value to its students. It is important for the School Boards to have complete and full information in order to make decisions.

Further, we encourage the Governance Committee and DCDSB to review its policy for the distribution of the Municipal Transit passes for Secondary School Students so that schools properly identify those who qualify for a transit pass.

3.5 Financial Management

A sound financial management process ensures the integrity and accuracy of financial information. This includes the internal controls that exist within the accounting function and ensures that a robust budgeting process is in place which provides for accountability in decision making. This section reviews financial performance of the Consortium over the past three years to gain an understanding of any major variances year over year. The purpose of this review is to understand what decisions the Consortium has made which have either increased or decreased transportation expenditures.

Financial management policies capture roles and responsibilities, authorization levels, and reporting requirements. The planning calendar refers to key dates for compliance, monitoring policies, or specifics to ensure proper segregation of duties. The policies support that a proper financial internal control system is in place for the Consortium.

3.5.1 Observations

Financial System Reporting and Features

DCDSB provides financial accounting, accounts payable, and reporting services to DSTS. These services from DCDSB are provided in kind to the Consortium and likewise DDSB provides IT services in kind to the Consortium. The general ledger for DSTS is set up as 3 cost centres representing the transportation expenditures of each of the Boards and then the non-transportation expenditures of the Consortium excluding payroll. The Consortium payroll resides in the respective board’s financial system in separate cost centres. Therefore, the financial data of the consortium resides in 5 separate cost centres across two financial systems and there is no system driven consolidated reporting of the financial information. This issue exists both for the actual financial data of the given year and the related budget lines. The Consortium does not

have access to their accounts payable sub ledger and there is no month end accruals for budgeted or actual financial information known therefore there is a one month lag in the content of monthly reporting.

Budget setting process

The budget setting process is driven through a top down process largely by the CAO taking input from the budget boundaries set by the school boards and ensuring that the service level required by each school board is delivered. The resulting budgeting submission from the CAO is approved at the Administrative Team and Governance Committee level. There is no document describing the budgeting process or the timeline by which the various stages of the process are supposed to occur, rather the CAO ensures that the budget for transportation fits within the budget constraints which are provided by the Boards. The transportation requirements are in turn communicated to the governance committee and their input and subsequent approval of the budget is obtained. Contract negotiation is handled by the administrative team who in turn provide the inputs to the CAO for setting the budget within the constraints defined by the Board.

Accounting Practices and Management

Accounting processes can be effective and efficient if the process is well defined and provides sufficient controls over assets. The Consortium leverages accounting services from the DCDSB finance department which has established separate cost centres to record all Consortium transactions. The Consortium reviews and approves all third party billings prior to payment by the DCDSB. The reconciliation of the expenses is conducted by the Transportation Assistant who examines and consolidates all incoming invoices financial system reporting on a monthly basis.

Segregation of duties is addressed in the job descriptions and in practice is achieved by restricting the authority to record, verify, and approve invoices. The DCDSB accounting staff records all Consortium expenses in the GL and GL viewing rights are given to the CAO and the Transportation Assistant. A monthly budget variance analysis is prepared by the CAO by manually consolidating the various cost system data. The report compares actual expenditures against budget allotments.

After reconciling each of the cost centres, a review of invoices that may have been assigned to a DSTS cost centre, but could be a school expenditure (i.e. taxi) is conducted to ensure there have been no coding errors.When the reconciliation is complete, month end totals are forwarded to the DDSB for their reporting requirements. At the end of June, a final reconciliation is performed for all three primary cost centres using the same criteria as above and a similar procedure is followed for the two additional cost centres which include payroll & benefits expenses from each board. The percentage of weighted and un-weighted students is determined, and applied to the

appropriate expenditures (capital or operational). The total of the monthly invoices (that is forwarded to the DCDSB by the DDSB each month) is calculated, and the differential is determined resulting in either additional funding being required of the DDSB, or a credit payment being made to the DDSB from the DCDSB.The same methodology is applied to the final reconciliation for the French Catholic Board. A final expenditure and reconciliation report is prepared for the Governance Committee at year end and is subject to their review.

Billing Process and Management

The monthly billing process for transportation expenses is initiated by the Operators submitting electronic invoices through the TRACS system. The Mapnet Coordinator ensures that each evening the most up to date route information is downloaded in the TRACS system. Route information and other pertinent information are stored within the TRACS system to enable operators to generate and submit electronic invoices. Upon receipt of electronic invoices, the Transportation Assistant verifies various details of the invoice including the route, type of vehicle, amount of days being billed, and the amount / rate. These are verified with Consortium records to ensure that the invoice is accurate. The prior month's invoice is also verified to ensure month to month consistencies. Inconsistencies are investigated by the Consortium.

As the operators are compensated at a different rate for route lengths in excess of 90 kilometres the operator identifies those routes in the TRACS system and the system will calculate the first 90km's at the contract rate then the overage is calculated at $0.69 per kilometre. There is an automatic control in the TRACS which accepts nominal variations in submitted mileage on a given route, beyond that threshold an exception report is generated which is supplemented by a report that compares the routes within MapNet Nt to TRACS. This route comparison report is verified by the Transportation Assistant on a monthly basis. Once an electronic invoice has been submitted by the operator in the TRACS system the invoice cannot be altered by the operator. If any errors in invoicing are noted upon review the resulting changes are verified with the operator via email and their acknowledgement of the adjustments via email are appended to the hard file copy of the invoices. Adjustments are not a routine occurrence but normally result from incorrect treatment of PA days by the operators.

The TRACS system contains the cost split between each of the Boards for transportation expenses and each of the electronic invoices upon submission in TRACS automatically calculates and splits the costs to each Board and prints the required account coding on the invoice. This split is compared to the previous invoice for reasonableness by the Transportation Assistant. Once the Transportation Assistant is satisfied with the electronic invoice, the invoice is initialled and passed along to the CAO for final approval prior to payment. The CAO and Transportation Assistant review each

invoice together and any issues which require discussion or further analysis are determined at this point. Once satisfied, the CAO indicates approval for payment via signature on the invoice. Fully approved invoices are then sent to DCDSB for payment processing.

3.5.2 Best Practices

It is recognized that the Consortium has demonstrated best practices in the following area:

- The process by which operator billing management and processing takes place is robust and established. Overall at the Consortium level the financial management policies are in place to guide financial control, review and approval and communications with School Boards and transportation Operators.

- The management of the Consortium deal with challenges in the reporting which they receive with professionalism and optimism putting in the necessary time in order to derive meaningful reporting and support decision making as best possible given the limitations of the financial system reporting and features which are currently available to them.

3.5.3 Recommendations

Financial System Reporting and Features

The financial system reporting that is available to the Consortium is not appropriate for the Consortium to be able to efficiently execute its obligations and support decision making. The current financial reports are not consolidated and require considerable manual intervention and replication within a spreadsheet in order to derive meaningful analysis to conduct business and support decision making. The situation is compounded by a one month timing lag in the financial results. While consolidation of the 5 cost centres which contain the general ledgers of the Consortium is not appropriate given the budgeting procedures and requirements at the school board level, this does not preclude the implementation of report writing software that would properly satisfy the financial reporting requirements of the Consortium. The Consortium should be provided with access to period reports (at minimum monthly) which are up to date (using accrual accounting to reflect proper period cut off) reflecting the current income statement of the entire operations in a single consolidated report with corresponding budget line items and prior period comparators. Reporting options should be in place to eliminate the need for manual computation of the total transportation cost for a given period. It is understood that these concerns were raised by the Consortium through formal and informal communication to DCDSB however steps have not been taken to

resolve these concerns to a satisfactory level. The Consortium should persist in resolving this issue through their Purchase of Service Agreement. Should DCDSB not have the capacity to do so, the Consortium may need to explore alternative options to meet their needs in order to reduce the administrative burden of the current process.

Budgeting Process

Although a budgeting process is in place for DSTS, it does not provide a precise timeline for drafting and approval. It is recommended that a timeline be documented and board approved providing a rough timeframe for management to abide by. Flexibility can be built into the timeline to accommodate any unforeseen circumstances. As the financial reports provided to the management of the Consortium improve no doubt will there will be meaningful improvements on the analysis and support which the management of the Consortium is able to provide to the Administrative Team and in turn the Governance Committee.

3.6 Results of E&E Review

Consortium Management at DSTS has been assessed as **Moderate**. The Consortium has appropriate organizational and governance structures in place to ensure proper accountability and oversight to support operations. The roles and responsibilities of the various levels within the organization are well documented and appropriate dispute resolution mechanisms exist at key levels of the organization. The operator billing and invoice management system is very robust and well executed.

The Consortium is not independent from its Partner Boards but does occupy a physically separate space from the partner boards. We encourage the Consortium to continue to investigate and establish itself as a separate legal entity to address some of the liability related issues raised and to be mindful of changing insurance requirements given changes in entity status. There is considerable concern over the financial reports which are available to the Consortium and the excessive manual intervention necessary to derive meaningful analysis to prior period or budget which should be addressed immediately. The other support services provided in kind to the Consortium should be formalized in terms of service levels via agreement. It is important that the Consortium be given sufficient autonomy to negotiate its own support services and obtain a consistent level of service which meets the needs of the Consortium so that management can focus on transportation priorities. The E&E review team also encourages a proper cost study to be conducted related to the municipal bus passes for secondary school students in order to support fully informed decision making at the School Board and Governance Committee level.

4 Policies & Practices

4.1 Introduction

Policies and practices encompass the development, use, and enforcement of transportation standards of service. The analysis for this area focused on the following three key areas:

- General Transportation Policies & Practices;
- Special Needs and Specialized Programs; and
- Safety and Training Programs.

This analysis was based on the review of documents and interviews with Consortium and Board staff. Each of the key areas was compared against the best practices as established by the E&E process resulting in the following observations, comments, and recommendations. These results were used to develop an E&E assessment for each of the key components and to determine the overall effectiveness of the Consortium's Policies and Practices as shown below:

Policies and Practices – E&E Rating: Moderate

4.2 Transportation Policies & Practices

The development of clear policies and enforceable practices are vital components of an effective and efficient transportation operation. Policies establish the parameters that define the level of service that ultimately will be provided by the Consortium. Equally important are well defined and documented procedures, operational practices, protocols, and the actual application by staff that determine how services are delivered. Policy harmonization between the Partner Boards and the equal application of practices help to ensure that service is delivered safely and equitably to the Partner Boards. This section will evaluate the established policies and practices and their impact on the effective and efficient operation of the Consortium.

4.2.1 Observations

General Policy Development

A wide array of policies and regulations are required to fully address the many operational aspects of a large and complex transportation operation such as DSTS. Policies or guidelines should cover, at a minimum: general transportation eligibility criteria; allowable walking distances to a stop or school; stop placement criteria;

allowable student ride times; courtesy transportation eligibility; identification of hazards and related transportation eligibility; the management of school bell times to improve service efficiency; the use of transfers and other specialty transportation to improve service efficiency; allowable fleet age and maintenance/equipment standards; student behaviour management; and weather related events and closings. In addition, two subjects that require separate attention are special needs transportation and safety programs and training. Clear and concise policy statements and service guidelines provide the parameters under which the service will operate, and constrains the system to remain within established and agreed upon levels of service.

Durham Student Transportation Services (DSTS) operates under an umbrella of policies and associated administrative regulations issued separately by each of its two partner boards. Supplementing these documents are a set of documented operating procedures issued by DSTS itself, and a number of established, but undocumented, standard operating practices. The policy statements and associated administrative regulations issued by the Durham District School Board (DDSB) and Durham Catholic District School Board (DCDSB) are the governing documents for services provided by the consortium. While these documents address many of the critical parameters that define and constrain the level of service to be allowed and provided for by the consortium, some expected elements are missing and the differing form and content of the documents themselves can lead to confusion among users. In addition, while these policies and guidelines are mostly harmonized between the boards, they are not entirely so.

Table 4 summarizes which the key transportation planning and management elements are addressed by the governing documents of each partner board (indicated as “included”, “yes” or “no” in the table). Comments are included in the table where we note significant inconsistencies between documents, and where other notable observations are deemed relevant.

Table 4 – Policy Documentation Summary

Policy Element	DDSB Included	DDCSB Included	DDSB Notable Differences & Other Observations	DCDSB Notable Differences & Other Observations
Guiding Principles	Yes	Yes	Explicitly allows for integration of services with co terminus boards	Silent on integration with other boards
Definitions	Yes	Yes		

Policy Element	DDSB Included	DDCSB Included	DDSB Notable Differences & Other Observations	DCDSB Notable Differences & Other Observations
Responsibility & assignment	Yes	Yes	Specific role definition for Principal, bus driver, teacher, parent, and student	Application to staff, parents, & students, but no specific role definition
Eligibility criteria	Yes	Yes	• Specific as to how distance from school is measured • Specifically excludes students not attending "designated" (home boundary) school • excludes secondary students with access to transit	• Non-specific as to measurement; allows for flexibility relative to physical constraints • Specifically identifies those categories of students that are eligible for transportation in paragraph 1-6 • Allows for transit passes – this is the operating practice for all eligible secondary students in urban areas. • Specifically excludes midday transportation for KG (subject to recent change in policy)

Policy Element	DDSB Included	DDCSB Included	DDSB Notable Differences & Other Observations	DCDSB Notable Differences & Other Observations
Exceptions to eligibility	Yes	Yes	• Allows for transportation to non-designated school if attendance is result of administrative transfer • Allows for transportation to French Immersion schools and two other named programs • Allows for under 1.6km transportation for IPRC based special needs • Allows for school-to-school (transfer) service for Board approved programs • Allows for safety-based exceptions, as defined by DSTS	• Allows for transportation to board-approved regional programs • Silent regarding exception for special needs. • Allows for discipline-based revocation of eligibility
Allowable pickup & delivery locations	Yes	Yes	• Allows for transportation to two addresses, assuming service requirement is consistent each day • Allows for morning or afternoon daycare locations	• Allows for transportation to different caregiver location within eligibility zone for elementary and special needs only

Policy Element	DDSB Included	DDCSB Included	DDSB Notable Differences & Other Observations	DCDSB Notable Differences & Other Observations
				• Specifically requires a single pickup and delivery location that must be consistent every day, except for childcare (see observation above)
Allowable walk distance to bus stop	Yes	No	Same as walk eligibility distances	
Allowable ride times	No	No		
Allowable modes of transportation	No	Yes		Specifies school bus, transit, taxi, and “other modes as required”
Courtesy transportation	No	No		
Behaviour & discipline	Yes	No		Except as it applies to eligibility exception (see observation above)
Service interruptions & cancellations	Yes	Yes		
Dispute resolution & appeals process	Yes	No		

Policy Element	DDSB Included	DDCSB Included	DDSB Notable Differences & Other Observations	DCDSB Notable Differences & Other Observations
Routing standards	Yes	No	Specific mention of integration K-12 and with DCDSB; routes to provide for pickup/delivery “as close as possible” to time of school start/dismissal; allows for use of transfers; allows for modification of school bell times	

In addition to the specific differences noted in the table, the form, organization, and wording of the board documents are substantially different. This in turn requires a close reading to evaluate the meaning and application of each. While transportation policies are the responsibility of, the individual partner boards, a lack of complete harmonization in addition to a lack of consistency in form and content can lead to confusion and misinterpretation. The current documents reflect board policies that are largely in sync, but there are notable absences from one or both documents, and a few major inconsistencies that can lead to inequity in the delivery of service if not monitored closely. While this may not currently be a major issue in DSTS, the lack of clarity that ensuing from the current structure creates the need for ongoing interpretation and discussion that would be mitigated by a single comprehensive policy document.

In particular, key policy elements that are absent from one or both documents include the following:

- Allowable walk distances to bus stops (DCDSB);
- Allowable student ride times (both);
- Courtesy transportation (both);
- Behaviour and discipline (DCDSB); and
- Routing standards (DCDSB).

Within the key policy elements, substantive differences exist which are magnified by the differing formats in which the policies are presented. Key among these are the differences that emerge in the application of the common (harmonized) distance-based eligibility policies, including:

- The use of transit passes for one Board;
- Allowable exceptions for transportation to programs other than those at the student's home school; and
- Pick-up/return to alternative addresses.

Operating Procedures & Practices

Operating practices and procedures are developed to enhance management's ability to implement policy, and to further define the actual parameters under which transportation service will be delivered. In many cases these are documented as guidelines or procedure statements. In other cases policies are established but undocumented as operational protocols and practices. Operational practices developed by Consortium management may or may not be approved explicitly by the Partner Boards. Their construction and use is nevertheless vital to good management. The Consortium's supporting practices and supporting departmental procedures further define the policy statements and reinforce the overall mission of the Consortium to provide safe, effective, and efficient service.

A relatively small number of procedures have been documented and issued by DSTS, with a heavy reliance placed on established, but undocumented, operating practices. Those that have been issued as written operating procedures include the following:

- Establishment of school bell times;
- Use of booster seats and car restraints;
- Bus accident procedures;
- On-bus incident procedures;
- Inclement weather procedures;
- Missing child procedures; and
- Student behaviour incident reporting.

In general, these documents provide a clear and concise description of the procedures that are to be followed in the subject areas. Our interviews with consortium staff also indicate that the procedures are generally followed in practice. In addition to these documented procedures, there are a number of notable, but undocumented, operating procedures. These are processes and procedures that are generally followed by consortium staff, and take on the characteristics of "standard practices" even though they are not formally documented.

Some of the most relevant include the following:

- *Courtesy Riders* – The standard practice is that no courtesy riders are allowed anywhere within the DSTS system. The provision for courtesy riders was removed from the public board policies.

- *Bus Stop Placement* – Parks and schools are preferred, and corner stops are used as primary stop locations. In practice, stops are established no more than 0.6 km from a student's home with most stops set at 0.2 to 0.4 km.

- *Earliest Pickup & Latest Drop-off* – This was reported to be 6:35 AM and 5:00 PM as a general standard for regular home to school transportation.

- *Bus Arrival & Departure Windows* – A standard practice calls for a 15 min arrival and departure window at school locations.

- *Student Ride Times* – In practice, routes are planned to be less than 1 hour long.

- *Weighting of Students for Bus Loading* – Load factors are hard-coded into the system, with all elementary students at 1.0, and secondary students at 1.5. In addition, the Operations Manager monitors actual bus loads to achieve the following:

Table 5: Target bus loads

72 Passenger bus	JK to Gd 6	Gd 7 to 12	Gd 9-12
No Data	65	50	48

- *Integration of Grade levels on Buses* – All K-12 students from each board may be assigned to the same bus.

- *Operator Involvement in Route Development* – DSTS management reports that a new practice (to commence on June 30, 2008) will require operators to road test and sign off on all routes.

The documented board policies, documented DSTS procedures, and undocumented standard operating practices cover the majority of planning and management elements required for efficient and effective consortium operations. However, the absence of documentation for a few of the most important elements (noted above), and the inconsistent language prevalent in the statements issued by the partner boards, is a cause of concern relative to the efficiency and effectiveness of the operation. It is important to acknowledge, however, that the development timeline of the consortium has been such that many of the standard operating practices are relatively recent developments. As such, the documentation has not kept pace with actual operations.

Policy Harmonization

A key factor in the assessment of policies and practices for the consortium is the degree to which documented policies and procedures, and undocumented operating practices have been harmonized among the partner boards. As alluded to in the descriptive paragraphs above, there are some inconsistencies in the documented policies of the two boards. In addition, interviews with consortium staff also indicate a lack of full harmonization of operating practices as well. Examination of documentary material indicates that many of the key planning criteria, such as allowable walk distances to school, are common for both partner boards. However, certain key elements such as the treatment of transportation eligibility for secondary students, is different and results in different levels of service being provided to the two boards. In addition, the lack of commonality in the documents themselves diminishes their usefulness as reference and enforcement tools.

Policy Enforcement

Interviews with consortium staff raised some concern regarding the consistency in application of policies and operating practices, as well as the day-to-day operations of the Route Coordinator positions within the organization. This applies to elements such as bus stop placement, allowable walk distances, and involvement of operators in route development. As with many other elements of the consortium, this may be a legacy of the relatively recent establishment of the consortium itself. Progress is being made at an operational level to rectify many of these inconsistencies. A good example is found in the work undertaken with individual staff members to establish a common practice and philosophy around the selection of stop locations. Also, DSTS has spent considerable time reviewing stop locations as they work toward ensuring that all students, regardless

of the system they are attending, have an equitable walk distance to their bus stop, and that the placement criteria are similar across the Region.

4.2.2 Recommendations

Revise Policy Documentation

While many policies are already harmonized, the Consortium should consider working with the partner boards to develop a single policy document. Existing policies written by each board vary in level of detail and use of administrative procedures, but also share many common characteristics. Combining the existing policy documents into a single statement, while still maintaining the integrity of the current policies for each Board, would constitute a positive step toward full harmonization. With the combined policy statement as a starting point, the Consortium should begin discussions with the member boards to establish uniform service parameters over a mutually agreeable timeline.

Document Standard Operating Practices

The consortium should consider developing a comprehensive operation manual. This manual should incorporate the existing documentation, and should develop new documentation for those procedures, processes, and practices that have been established by management. The format and approach should be consistent throughout the document, and new procedures and practices should be added as they are developed in future years.

4.3 Special Needs Transportation

For a transportation operation to be fully effective, the needs of all students, including students with special needs and those attending special programs, must be considered. Special education transportation must consider the mobility of the student, behavioural issues, special equipment operation and attachments, medical conditions, administration of medication, and the time and distance tolerance of the student. Specialized transportation, while less complex in the specific requirements for each student, is faced with similar pressures as transportation is often required from remote areas to centralized or distant programs. While both of these programs create service and cost demands on the system, opportunities do exist for the inclusion of these students on regular education routes to utilize the entire fleet to the highest degree possible.

4.3.1 Observations

Policies and practices regarding the transportation of students with special needs are given higher attention at the DSTS through documented “Special Education Transportation Guidelines” issued by the DDSB, and the assignment of a dedicated Route Coordinator assigned to this population of students. The printed guidelines provide comprehensive instructions and procedures for the evaluation and assignment of special needs transportation, the forms required for requesting and record keeping, as well as “best practices” concerning transportation of this high-needs population. In addition, bus operators are responsible, per contract, for providing the necessary training to drivers of special needs vehicles.

4.4 Safety & Training Programs

The safe transportation of students is the overriding goal in any school transportation system. With the complexity of a Consortium model serving multiple boards and utilizing a variety of operators developing clear and concise safety policies, practices, and regular training programs serve to promote a culture of safety within the education, and local communities.

4.4.1 Observations

Coordination of safety and training programs at DSTS is the responsibility of the Operations Manager. Bus operator training is a requirement of the contract. Training of DSTS staff is discussed in the Routing and Technology section. Current regular safety programs administered by DSTS include the following:

- "Buster the Bus for JK-Grade 3;
- “SOAR” – Safety Order and Rights for middle school;
- Young Rider for JK-Grade 3;
- Journey Bus Evacuation for elementary school;
- Wheelchair Evacuation for operators; and
- Emergency on the bus.
- School Bus Driver Training (Responsible Behaviour on the School Bus)

4.5 Results of E&E Review

Policies and Procedures development and implementation has been rated as **Moderate**. DSTS has established a sound working relationship with its partner boards. Many critical eligibility and planning policies have been harmonized, and equitable service delivery is the norm. However, there is a lack of clarity in policy documentation, and a number of important differences remain in key eligibility and planning criteria. In recent years consortium management has actively pursued the development of effective standard operating practices for staff. Harmonization of the remaining eligibility policies, clarifying policy documents, and documentation of standard operating practices will ensure that questions are not raised regarding the equity of services being provided and will minimize the real and potential impact on route planning that differing service criteria can cause.

5 Routing & Technology

5.1 Introduction

Routing and Technology encompasses the management, administration, and use of technology for the purpose of student transportation management. The following analysis stems from a review of the four key components of:

- Software and Technology Setup and Use;
- Digital Map and Student Database Management;
- System Reporting; and
- Regular and Special Needs Transportation Planning and Routing.

Each component has been analysed based on observations from fact (including interviews) together with an assessment of best practices leading to a set of recommendations. These results are then used to develop an E&E assessment for each component, which is then summarized to determine an E&E assessment of Routing and Technical efficiency as shown below:

Routing and Technology – E&E Rating: Moderate

5.2 Routing & Related Software

Effective use of software and technology begins with the acquisition and installation of tools appropriate to the task at hand. DSTS and its partner boards DDSB and DCDSB have been users of the MapNet transportation software by Trapeze Software Group, Inc. for more than 10 years. This use has included ongoing updates and upgrades to the base software package. DSTS is currently using the most recent version of the software. Over the years, and primarily since the inception of the consortium, an appropriate array of supplementary software tools have been added to enhance the operation. Currently, the suite of software products in use includes the following:

- *MapNet Transportation Software* – Used by DSTS Route Coordinators to develop and manage the system of bus routes and schedules, and to provide the base information database for the IVR, MapNetWeb, and TRACS software described below.
- *MapNetWeb* – A web-based product provided by Trapeze that replicates the route data and maps of the MapNet system for remote, read-only access by key users

such as Route Coordinators, DSTS management, and school building administrators. The data is updated from the live MapNet database twice daily.

- *Integrated Voice Response (IVR)* – An automated telephone response system by Trapeze that utilizes MapNet data to provide route information on a demand-response basis to parents, and to provide broadcast messages regarding route and service changes to users of the transportation system.

- *TRACS* – third-party software that utilizes MapNet data to replicate route information. Password-protected access is provided to school administrators, administrative staff, and bus operators, each of which is only able to access information specific to their needs. The software is utilized to search for and retrieve route and student-specific transportation information, and by operators to create and submit invoices to DSTS. The data is updated from MapNet once daily.

In addition to these base products, DSTS operates a public website. The website houses current information regarding the status of service, such as inclement weather cancellations, and a means of contacting DSTS via web-based email. The website also provides static information regarding transportation services, such as policy documents. DSTS also utilizes desktop productivity software, including Microsoft Office and Adobe Acrobat, for various reporting and analytical purposes. DSTS hold two licenses to the ArcView software product from ESRI, which is a Geographic Information System (GIS) product and is used by the consortium for managing map data and for various analytical purposes. Finally, DSTS is also evaluating two other software tools. First is Automatic Vehicle Location (AVL) technology that utilizes Global Positioning System and radio technology in combination with web-based software to capture real-time data on vehicle operations. This is currently installed on 10 buses. The second is a new transportation management product from Trapeze called VEO that provides a streamlined and improved method for managing special needs transportation routes.

5.2.1 Observations

Maintenance and Service Agreements

The technology applications discussed above are hosted in a variety of locations. DSTS has one main computer server in its central office. This server hosts the MapNet, MapNetWeb, and AVL products, which are fully networked within the office. Each local workstation contains productivity software. The DSTS site is also networked to the DDSB central office, where the IVR system is housed. DDSB IT services staff provides hardware and software technical support to DSTS, with the exception of MapNet product support which is provided by Trapeze via telephone and web access software as per the license agreement. TRACS and the DSTS website are hosted by a third party

provider. MapNet and its related products are fully licensed for a base license plus nine additional users.

Data backup protocols are well established and documented, and include a nightly full backup of both the live and test MapNet databases. Two versions of the database are retained: one for the end of the previous day, and one for the day prior. The data is moved daily to a server location at the DDSB. In addition, an end-of-year version of the database is retained as an archive. Disaster recovery protocols do not exist, however, beyond restoration of the database. There are no arrangements in place for establishing a new server and/or work stations should the DSTS office become inaccessible.

Training and System Use

All Route coordinators that were on staff during the inception of the Consortium and the adoption of the MapNet software by the individual partner boards were provided with initial user training by Trapeze. Since that time, the consortium has adopted a train the trainer approach whereby the MapNet Coordinator attends Trapeze workshops and conferences in order to stay up to date on system functionality and capabilities. This position then serves as an in-house trainer to provide hands-on assistance to the Route Coordinators with enhancements and software version updates. In addition, there is an organized MapNet user group in Ontario that various DSTS staff attend. There is an opportunity to develop a specialized agenda for these training sessions, and Trapeze provides a trainer who supervises the agenda developed by attendees. This is an excellent ongoing means of enhancing MapNet user knowledge. There is no regular, scheduled training program provided internally for DSTS staff beyond the user group sessions, but all staff have access to the senior members of the organization and those with special skills such as the MapNet Coordinator. This informal ongoing skill sharing is an effective surrogate to a formal training program when coupled with the user group approach.

System Coding Structures

The effectiveness of the system coding structure will, in large measure, define the effectiveness of the overall software system. Effective coding is vital to the efficient identification and management of specific data records within the system. Efficient operations, for example, demand an ability to easily filter student data to identify a constantly changing subset of student records that a Route Coordinator must manipulate during their day-to-day activities. It is system coding that facilitates this capability. Effective coding is equally vital to the ongoing analysis of system performance. Filtering for a particular group of routes such as those serving a particular cluster of schools, or measuring capacity utilization consistently across the entire system demands a comprehensive, hierarchical, and well conceived coding structure.

This structure should have a basis in utility; that is, it should be reflective of what information is required by management and Route Coordinators on a regular basis. It should not be overly complex, but rather should balance the relative need for detailed data with the difficulty and error potential inherent in an overly complex structure.

DSTS student records within MapNet are coded with two unique student identification numbers (Board and OEN), a Census Code (C) that is not used for transportation purposes, a transportation Eligibility Code that is automatically associated with the school and program of attendance, and two customized Program Codes (PG1 and PG2) that are used in combination to identify the student's unique transportation requirements.

The eligibility codes are limited to the MapNet system defaults of "Eligible", "Not Eligible", or "Walker". These are automatically assigned to the student based on the student's residence and the transportation parameters associated with the student's school and program of attendance, which are collectively defined as an "activity" within the system. There are 36 PG1 (Program 1) codes currently in use, and 36 PG2 (Program 2) codes. Many of these codes are duplicated on each of the two lists. Since each student record receives both a PG1 and a PG2 code, these provide for a large number of possible combinations to define the characteristics of a particular student's transportation needs. Table 6 summarizes the assigned codes for all students in the Trapeze database, and provides an indication of both the potential and the complexity of this coding structure.

Table 6: Tabulation of Program Codes

	Program 2 (PG2)																										
Program 1 (PG1	AL	AT	BR	CT	CW	DT	FI	GF	MS	NR	RG	SA	SB	SE	SG	SH	SI	SL	SM	SO	SP	SR	SS	SV	SX	WC	(vide)	**Total**
AL	112	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112
BR	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
MS	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0	20	0	0	0	0	1	0	4	0	0	33
NR	29	0	0	0	0	0	136	0	0	10	1071	3	4	2	13	0	0	3	5	4	0	0	4	1	11	0	0	1296
OB	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15
RG	0	1	0	2	1	2	4828	38	1	11	82611	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	87522
SA	0	0	0	0	0	0	0	0	0	0	0	299	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	320
SB	0	0	0	0	0	0	0	0	0	0	0	0	184	0	0	0	0	0	0	0	0	0	0	0	0	0	0	184
SE	0	1	0	2	1	0	0	0	4	0	0	0	0	147	0	0	0	0	0	0	0	0	0	0	0	3	0	158
SG	0	0	0	0	0	0	0	0	0	10	1	0	0	0	943	0	0	0	0	0	0	0	0	0	0	0	0	954
SH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	25
SI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
SL	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	0	148	0	0	0	0	0	0	0	0	0	168
SM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	298	0	0	0	0	0	0	1	0	299
SO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	0	0	0	0	0	0	0	68
SP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59	0	0	0	0	1	0	60
SR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	267	0	0	0	0	0	267
SS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	477	0	0	0	0	477
SV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	59	0	64
SX	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	493	19	0	517
TL	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
TR	0	0	0	0	0	0	63	0	0	0	4537	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4601
TT	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
WC	0	0	0	0	0	0	0	0	13	0	0	0	0	7	0	0	0	0	0	0	0	0	0	1	0	0	0	21
(blank)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	141	2	6	4	2	2	5028	38	43	31	88238	307	191	156	956	25	2	171	303	72	59	267	482	7	509	131	1	97174

A great deal of specificity in the coding of student records is possible through these two codes. DSTS has developed a comprehensive list of descriptive codes that identify specific student characteristics or needs. As can be seen in Table 6, the vast majority (85% or 82,611) of students are coded as “RG” or “Regular” for both PG1 and PG2, indicating the absence of any specialized categorization. An additional 4,828 students (5% of the total) are coded as “RG” for PG1 with a secondary categorization in the PG2 code of “FI”, indicating French Immersion program students. It is unclear from this categorization whether these students require specialized transportation, but this nevertheless represents a good example of an effective use of a coding hierarchy to identify a top level “master” code followed by a subsidiary secondary code to identify a specific subset. Coupled with the transportation eligibility code, a three level structure is created that provides for a great deal of useful analysis and identification of student requirements and needs.

DSTS would have an excellent coding structure, except that the hierarchy is not uniformly applied. The program codes are also inconsistent in that sometimes they identify a transportation requirement, and at other times a programmatic requirement that may or may not have transportation implications. An example of how the hierarchy is not uniformly applied can be seen in the 4,537 students (4.6% of the total) that receive a coding of “TR” for PG1 and “RG” for PG2. These are students that are “Regular” in all respects (RG) except that they receive transit passes instead of school

bus transportation. In a hierarchical approach, these students would receive the “RG” code in PG1 such that *all* students that do not *require* special services can be grouped under that single heading of “RG” in the same PG1 code field. This facilitates simple identification in the database. Then, by using the PG2 code to refine the coding, specialized services or requirements can be identified as a subset of the master code. In this particular example, simply reversing the PG1 and PG2 codes (“”RG, “TR” as opposed to “TR, “RG”) would improve the utility of the overall structure.

An example of the mixing of programmatic and transportation requirements can be seen in the codes “SG”, used for identifying “gifted” program students. As can be gleaned from Table 6, there are a total of 954 students with a PG1 classification of “SG”. Most (943) also carry a PG2 code of “SG”. However, 10 carry a PG2 code of “NR” indicating an eligible student that chooses not to ride. When we examine the table in other direction, we see 956 students with a PG2 code of “SG”, yet 13 of these also carry a PG1 code of “NR”. This “either-or” approach to coding adds to the difficulty in analyzing and managing the data. In this structure, it requires careful analysis to ensure, for example, that we accurately identify all “Gifted” students that are eligible for transportation but who choose not to ride. It is also unclear from the coding whether the “Gifted” categorization is indicative of any true special transportation need, or is just a programmatic categorization for reporting purposes.

While further definition beyond the PG codes is possible and provided for in a separate list of specific transportation requirements (such as car seats, oxygen, or harness) in the student record of MapNet, DSTS has chosen to limit its use of coding primarily to the PG1 and PG2 codes. However, the consortium also utilizes a free form text field combined with certain conventions regarding the manner of entering data to store other forms of information on student records. A review of these data indicates that much useful information is included. We only question the utility of these data from an analytical and management perspective. A far more useful approach is to store as much information as possible in designated fields and formats such that it is more readily accessible.

Finally, a notable absence in the coding structure is any identification of courtesy and/or hazardous condition riders. While it is reported that DSTS does not allow for courtesy riders, an examination of the data indicates a large number of actual riders that reside well within the distance-based eligibility criteria. *It is critical to note at the outset of this analysis that we cannot glean from these data exactly* why *these students are assigned to bus routes, and there are likely to be many valid reasons such as special needs, hazardous walking conditions, and others*. But it is entirely the point that we cannot easily glean from the coding structure why these students are riding that leads to this discussion.

Based on the data, there are 3,877 actual riders (based on morning routes only) that do not meet the distance-based eligibility criteria. These are relatively evenly split between primary (2,099) and secondary (1,778) students. There are a total of 23,668 morning riders, indicating that 16 percent of all riders do not meet the established distance-based eligibility requirements. Some of these riders are assigned various program codes that are indicative of either special needs or other special transportation requirements; however from the available data and coding structure we are unable to explain the relatively large number of students that would be considered ineligible riders. But it is the majority of students that we cannot explain from the available data and the manner in which these records are coded. We suspect that many of these are due to hazardous conditions, but data to evaluate this was not available as of the time of this review.

Bus routes are identified in the system by a route name and a trip name. The route name is a long alpha-numeric string. In this string DSTS identifies the bus number, whether it is a first, second, or third tier route, a morning or afternoon route, and the school or schools that the route services. The trip name (a trip being the combination of all morning or afternoon routes serviced by a single bus) is coded with the bus number and an AM or PM identifier. This is mostly an appropriate approach in that the route identifier itself serves to provide specific information regarding the purpose of the route. The only shortcoming is in making the bus number itself part of the route identification. Given that the bus number is identified in the trip assignment, this is duplicative. It also forces DSTS to change the route identifier if the route is reassigned to a different bus. By excluding the bus number in the identifier, the route information itself can remain intact as a historical record of the route.

5.2.2 Best Practices

It is recognized that DSTS has demonstrated best practices in the following area:

- DSTS's aggressive use of technology to improve the quality and timeliness of information available to users and stakeholders in the system enhances the quality of service, and improves the effectiveness and efficiency of operations.

5.2.3 Recommendations

Disaster Recovery

The consortium should consider developing and documenting new processes and procedures to define how the Consortium would recover operations in the event of a major disaster and loss of its current office location. These processes would

complement those currently in place for data recovery of the consortium's information systems.

Ineligible Student Transportation

The consortium should evaluate its existing operating practices to determine the rationale for the proportion of otherwise ineligible students being provided transportation services. Changes to existing policies may be warranted to ensure that the service expectations sufficiently match the actual services provided. In addition, it may also be necessary to re- evaluate the criteria used to determine when an otherwise ineligible student is provided service.

System Coding

The consortium should consider modifications to the student coding structure by following the following steps:

- Establish a rigid hierarchy between the PG1 and PG2 codes to facilitate ease of reporting and analysis; limit these codes in such a way that the first code describes a broad category related to transportation service, and the second code serves to refine the coding within each of these broad categories;

- Establish separate coding using existing and available fields in MapNet to clearly identify courtesy riders, if applicable, and those being transported due to hazardous walking conditions; and

- Transfer the key information currently stored in free-form text fields into fields established for the purpose within MapNet. In particular, this applies to specialized coding related to equipment and handling of special needs students.

5.3 Digital Map and Student Database Management

5.3.1 Observations

Digital Map

A complete and accurate digital map is a fundamental prerequisite to effective use of computerized routing software. DSTS has a complete and accurate digital map available within the MapNet system. The current version of MapNet facilitates the use of GIS standards for map data, and DSTS has taken full advantage of this capability. Currently, DSTS has access to a detailed "911" map that was developed for the regional municipalities serviced by DSTS. This map provides a highly accurate base layer of data including a single line road network, addressing, and roadway labels. This base

data is updated monthly and provided to DSTS by the regional municipality. Conversion into MapNet is facilitated by a Trapeze software utility called Easy Map. DSTS then works to enhance the utility of the map by defining roadway speeds and directional (e.g., one-way) information, defining no travel segments and no-cross segments for bus stop placement purposes, etc. These enhancements and changes are unaffected by the updated base data that is brought in on a monthly basis. This is also true for other layers of information that are developed, modified, and retained during normal operations. This includes features such as school service area boundaries, hazardous walk zones, and others.

Map maintenance and coordination is the responsibility of the MapNet Coordinator. All data transfer and uploads of new map data are handled by this position. This position is also responsible for maintaining the integrity of the global system settings that effect map accuracy and utility. Most of these settings have remained unchanged since the installation of MapNet. The consortium reports that they have not experienced any reason to change these settings since the installation of the system. Map calibration is an ongoing process that includes changes to roadway speed settings, identification of no-travel road segments, identification of one-way segments, and other tactical changes that collectively serve to increase the overall accuracy and utility of the digital map. The overall map maintenance process is thorough and complete, with an appropriate balance of automated updates and manual calibration to ensure that the base map is accurate and complete, and supports effective and efficient operations.

Student Data Management

Best practice in the management of student data calls for a "rollover" of student data in the transportation database as the first step in the annual route planning cycle. Planning can then be conducted in a simulation area using these data. Once the majority of the student data in the Boards' information systems have been updated for the next school year (grade advancement, new JK/SK students, other new registrations, etc.), a first download can be provided to update the planning data. A second comprehensive download should then be provided as the "final" download before the start of school. Then, over the course of the school year, daily "add/change/delete" downloads should be provided to keep the transportation student database current and accurate.

All students from the two partner boards are included in the MapNet database, regardless of whether they are eligible to receive transportation services. There is a high degree of integration between the eSIS student information systems utilized by both the DDSB and the DCDSB and the MapNet student database. Each Board has been utilizing eSIS since the start of the 2007-2008 school year, and data transfer protocols are now well established. During normal operations, a daily "add/change/delete" data extract is pulled by the MapNet coordinator directly from each

of the partner board systems. Following a data verification routine, these data are loaded into the live MapNet database. New student records are added in their entirety; changes overwrite just the revised information; and deleted students are removed.

In a unique and very effective approach, once the data is updated, DSTS allows the MapNet system to adjust student transportation information automatically. For example, if a new student record is added, the address matches to the map, and there is a bus stop and route that meets the pre-programmed transportation criteria for the student's program of attendance, the student will be automatically placed at the stop and on the route. No manual intervention is required. That said, the DSTS MapNet Coordinator does run a series of data filters to identify and audit new riders, to identify student records unmatched to the map, those eligible for transportation, but without an assigned bus stop, and others that serve to diagnose and identify exceptions and problems with the data. This information is either rectified or passed on to the responsible Route Coordinator for action. A Route Detail Report is printed for all routes that had a change as a result of the daily student data download. These are also given to the Route Coordinators for verification. The day-to-day management of student data represented by these processes are excellent. However, the approach is dependent on the accuracy and completeness of the base data being uploaded from the partner boards' student information systems.

The responsibility for the accuracy and completeness of student data is placed on the partner boards, specifically through their individual school building administrators. The DSTS approach to student data management demands that the school administrators manage this closely, particularly since errors will flow through the system and will affect the route network and the students' transportation assignments. There were some reports from bus operators during interviews that indicate problems may exist with data accuracy, but it is not possible to validate these concerns or assess the accuracy of the student data used for routing under the scope of this review.

In addition to the maintenance of student data during normal operations, DSTS also conducts an annual student data download that provides an up-to-date baseline for the start of each new school year. This download is taken around the 10th of July each year. This date is selected because it follows all Board deadlines for school registrations and data changes. It also follows the date at which the partner boards conduct a comprehensive grade advancement (rollover) within the eSIS system. Thus all year-over-year changes are captured in this download. These data are loaded into the test database of MapNet which is the location where all route development work for the next school year is conducted (see discussion below). Once the updated student data is loaded and verified, the test database becomes the live database for the new school year. The logic for the timing of this download is that all known changes for the upcoming school year are completed before the download is conducted. As discussed

further below, a concern arises in that most route planning for the upcoming year is conducted using current year data. Therefore while the process is sound, the timing may cause extra planning work and the release of inaccurate route data to the users of the system.

5.3.2 Best Practices

It is recognized that DSTS has demonstrated best practices in the following areas:

- The use of a single, comprehensive digital map, the centralization of map maintenance responsibilities with a single staff member, and the partnership with other local users of map data to ensure ongoing consistency and accuracy of the base map represents an excellent process; and

- The management of daily student data downloads, and the overall management of the student database within MapNet represent an excellent and aggressive use of automated processes and technology. DSTS should ensure the ongoing success of this approach by continuing to verify that the student data received from the partner boards is accurate and complete.

5.4 System Reporting

Reporting, performance measurement, and operational analysis allows for the early identification of trends that may be detrimental to operations, improves the analytical capacity of the organization, and allows for internal and external stakeholders to be more adequately informed about operations. The purpose of this aspect of the review was to evaluate what reports are typically generated, who receives these reports, what capabilities exist to develop ad hoc reports, and how the information and data is utilized to improve operations.

5.4.1 Observations

Reporting and Data Analysis

There is no program of regular output reporting for distribution to management, partner boards, or users of the system. That said, DSTS staff are effective of the capabilities of MapNet to create numerous customized lists and exception reports, such as a query to list “all routes over 30 minutes in length.” These reports are targeted primarily at internal management and facilitate effective day-to-day operations of the consortium. The only regular use of output reports is in the generation of Route Detail Reports that are provided to the operators, generally in electronic format, as documentation of changes made to routes. Consortium management staff also have access to a report menu in

TRACS that provides operational data and is accessed on an as-needed basis, primarily by the Operations Manager. There is no other program of data reporting or analysis by DSTS management.

Distributing Data and Performance Measurement

The primary tools used for distributing data to users outside of DSTS are MapNetWeb and TRACS, the software programs described earlier. These are highly useful tools for "pushing" information out to users of the transportation system. The primary drawback to this approach is that users are not generally aware of when changes have been made to the database, except that significant changes to a route will be communicated to the school by the route coordinator, either by telephone or email, to eliminate any potential misunderstanding. Aggressive use of the IVR system for informing users of route changes can be an excellent tactical procedure that mitigates this concern.

There is no regular performance measurement program currently in place. Thus, while tactical information on routes and students is readily available, DSTS does not attempt to measure or monitor its performance either for internal use or to inform its partner boards of transportation system performance. The availability of day-to-day information on the transportation system is important operationally. Consistently measuring and monitoring system performance via key indicators and trend analysis over time is important as a strategic management tool to ensure the ongoing improvement of transportation operations.

5.4.2 Best Practices

It is recognized that DSTS has demonstrated best practices in the following area:

- The aggressive use of technology to "push" data out to users and stakeholders adds significant value and minimizes the need for reactive follow-up on the part of Consortium staff. The use of MapNetWeb Web, TRACS, and the broadcast capabilities of IVR is recognized.

5.4.3 Recommendations

Reporting and Performance Measurement

The consortium could garner significant benefits from the implementation of a structured performance measurement program. Specifically, we recommend that DSTS consider designing and implementing a program to calculate, report, and track over time several key indicators of performance. These include:

- *Count of Daily Routes per Bus* – Capacity utilization (discussed next) measures how well each individual bus route is being loaded. Daily routes per bus measure how effectively each bus is being utilized over a period of time. The combination of these two measures captures the two key elements in establishing an efficient system – filling the bus, and reusing the bus. As with all measures, it should be calculated on a regular periodicity and tracked over time to reveal trends in performance. As with capacity utilization, it should be calculated for key subsets such as large and small buses, and for each operator.

- *Capacity Utilization* – Along with daily routes per bus this is a key measure that defines how effectively DSTS is utilizing its transportation vehicles. It should be regularly calculated for key subsets of the system (primary and secondary schools, regular and special needs buses, etc.). Tracking this measure over time will serve the dual purpose of enlightening management as to the effect of routing decisions, and illuminating the causes behind changes in per student costs (discussed below).

- *Average Ride Time* – Filling and reusing the bus has a negative impact on service. As a rule, striving for higher levels of capacity utilization, for example, requires that each bus route be longer. Measuring ride times serves to illuminate these tradeoffs and provides further explanation for the causes behind trends in overall performance.

- *Cost per Student* – The end result of changes to the route structure should be its impact on overall cost. Higher capacity utilization and more daily routes per bus should, all else being equal, increase average ride times but lower the cost per student. Thus, a unit- based measure of cost is a critical addition to the package of measures that should be routinely calculated and tracked over time.

- *Daily Cost per Bus* – This final measure compliments the understanding of cost impacts by establishing a second unit of measure, one that may move in opposition to cost per student and that lends additional clarity to the overall understanding of system performance.

Many of these measures of performance are discussed in context in the Transportation Planning and Routing section below.

5.5 Regular and Special Needs Transportation Planning and Routing

Transportation route planning is the key activity undertaken by DSTS. Special education in particular presents unique challenges that often require operational strategies well outside the normal practices of any organization. This portion of the review was

designed to evaluate the strategies, tactics, and processes used to provide transportation to regular and special education students and the approaches used to minimize the cost and operational disruption associated with both types of transportation.

5.5.1 Observations

Strategic Analysis of Routing

All route analysis and route development activities are the responsibility of individual Route Coordinators under the direction and supervision of the Operations Manager. The consortium Action Plan and Route Coordinator position description provide general guidance regarding the duties and responsibilities of this position. In practice, five of the six Route Coordinators are responsible for a specific geographic region within the overall DSTS service area and tend to operate as a stand-alone mini-system. There is minimal strategic analysis across the entire region. It should be noted, however, that current school boundaries do not extend across municipalities. Therefore, opportunities to increase efficiencies across the Region only exist through the coordination of school bell times. The sixth Route Coordinator is responsible for all special needs transportation across the entire service area. The organization and operations of this function are appropriate, but demand a significant amount of cooperation and communication among the Route Coordinators to ensure consistent service delivery across the entire service area.

There was a large effort to adjust the route network on inception of the consortium. Many school bell times changes resulted, and the basic structure of the route network as it stands today was developed for each of the five geographic areas. Since that time, strategic analysis of the route network has only occurred in the context of each individual area, and has generally focused on a subset of schools at any given time. The initial bell time adjustments were developed and communicated to the two partners boards one year after the consortium was developed. The adjustments were incorporated throughout the system commenced in the 2007-2008 school year. In addition, five schools in Oshawa are scheduled to be closed effective June 30, 2008, and DSTS have committed to reviewing bell times in Oshawa to determine if adjustments will improve service levels and/or result in reductions to the size of the bus fleet. Finally, staff have been reviewing the location of bus stops throughout the 2007-2008 year to ensure that consistent service levels are being provided to all users. These initiatives are indicative of an organization that is committed to improving operations which actively search for opportunities for additional efficiencies.

DSTS has the tools available to manage the route network using a strategic perspective. Primarily, the existence of a separate test database which DSTS uses to

allow Route Coordinators to conduct “what-if” analyses, up to and including large-scale restructuring of the system, without the need to have any effect on the live operational database. In general, this capability is currently utilized primarily for the planning of route adjustments going into each new school year, and can be used for more in-depth strategic analyses in the future. Since there have been a number of strategic initiatives (as noted above) from the inception of the consortium, we expect that staff will continue improve in its use of these tools to analyze and improve system effectiveness.

Adjustments to routes for the next school year, while finalized over the summer months preceding the start of school, are distributed to the users of the system as “preliminary” routes before the end of the current school year. As introduced in the Student Data Management section above, the initial planning for next school year’s routes is therefore conducted using current school year data. In addition to the potential errors this introduces, inaccurate route data may be distributed to users of the system, potentially introducing confusion when these are subsequently updated with more current data later in the summer.

Management of Regular Bus Routes

Maintenance and modification of regular bus routes is the responsibility of five Route Coordinators within their assigned areas, subject to oversight by the Operations Manager. Changes are made on an as needed basis in reaction to changes in the student database and other issues brought to their attention. Changes are also initiated to improve overall system efficiency as opportunities are identified or become apparent. Changes including adding, deleting, and changing students are more or less constant. Changes requiring the addition or deletion of stops, movement of stops among routes, re-sequencing of stops, etc. are less frequent but still occur on a daily basis across the system.

We found that the route management operations activities, procedures and practices under each area of responsibility of the Route Coordinator have developed individually from the absence of procedural documentation. There are no documented Consortium-wide planning parameters regarding key service level and cost drivers that define consistency of operations across the entire service area. These include such key items as:

- bus stop placement parameters;
- desired capacity utilization on buses;
- allowable student ride times;
- arrival and departure windows at school locations; and others.

While we recognize that parameters such as these are not universally applicable, best practice route planning provides for an established set of loose constraints to guide and provide for consistency in route development across a large diverse system that is managed by multiple individual route planners. The absence of such parameters, combined with the structure of regional geographic assignments, has created a situation whereby each Route Coordinator has a slightly different approach to service delivery.

Special Education Route Planning

The sixth Route Coordinator is responsible for all special needs route planning and management across the entire system. Planning processes for special needs students are not documented, but follow established protocols that have been developed into routines over past years. The primary management tool is a special needs transportation request form that is provide by the Board (separate form from each board but with consistent content) and notes the specific transportation requirements for the student. The coding and treatment of special needs student data was discussed in a prior section. Most unique requirements are documented in the free-form text field of a student record, and the paper form has therefore become a key management tool. Progress has been made on automating much of the form information in the eSIS student record in conjunction to the continued use of the paper form as a backup and archival data source.

Special needs students are integrated onto general needs vehicles where possible, as long as the special needs staff at the boards indicate that the student can ride on a regular route. Regular students are also placed on special needs vehicles where efficient and space permits, but only in exceptional circumstances where a regular bus is not available. The default approach throughout the system is to place special needs students on a special needs bus and vice versa. There must be a specific circumstance or problem that causes the Route Coordinators to do otherwise.

Analysis of System Effectiveness

DSTS manages a transportation system that provides services over a wide geographic area ranging from urban to rural, and to a wide range of students and programs. It accomplishes its mission using a broad range of approximately 590 vehicles, from taxis to large school buses. These vehicles serve regular and special needs programs with start times generally ranging from 8:00 AM to 9:10 AM. Approximately 23,800 students are provided transportation on a daily basis. A mix of routing techniques are in use. Route tiering is used in some cases, whereby school bell times are separated and buses are able to pair multiple routes in the morning and afternoon. In addition, combination routes are utilized whereby students attending multiple schools are carried on common bus routes, and are delivered to their schools in sequence. Routes are

integrated among the partner boards, both from a combination route and route tiering perspective. The success of these techniques in developing an efficient and effective system is discussed in this section.

This range of bell times facilitates the typical vehicle servicing between two and four daily routes (1-2 morning plus 1-2 afternoon). The vast majority of vehicles in the fleet are buses with capacities of between 18 and 72 passengers. 88% of all vehicles are buses of these sizes. Focusing on these 517 buses, the average routes per bus is 1.45 for the morning route series. Looked at another way, only 37% of all buses are running 2 or more routes each morning. However, certain data limitations prevent us from accurately calculating the routes per bus for those units transporting special needs students. We believe this is resulting in an understatement of the total routes per bus. Focusing instead on just the larger (60 and 72 passenger) buses which generally do not provide special needs transportation, the result is improved to 1.65 morning routes per bus. This is still, however, lower than we would have expected in a service area that has a large urban/suburban component, and is being driven primarily by the relatively narrow range of school bell times.

The average simple capacity utilization across the entire fleet is 58% based on the rated capacity of the bus, and 65% when student load factors are considered. This is measured by taking an average of utilization on all routes, with each route calculated by dividing the rated capacity of the vehicle, as recorded in MapNet, and dividing this by the maximum student load on the route. We expect capacity utilization on the basis of rated capacity of the bus (no factor for student weighting) to be lower than for planned capacity. Typically, secondary school students will receive weights that lower the effective capacity of a bus by allowing fewer than the rated capacity of three students per seat. This has an inverse impact on utilization by lowering the numerator of the equation. These results are mostly appropriate, but are somewhat lower than we would expect for a system operating in the DSTS service area.

The average student ride time is 21.4 minutes across all routes in the system for the morning route series. This is measured by taking the average of the time from each rider’s stop to the arrival time of that student’s bus route. This is a very positive result, and is indicative of a very high level of service being provided by DSTS.

The combination of the routes per bus, capacity utilization, and ride time results illustrates a system that is providing a very high level of service delivery, but compromising the overall efficiency of the route structure. The key factors behind these results are, we believe, fairly limited adjustments of school bell times within a narrow range; and the sacrifice of capacity utilization in favour of very short average student ride times. The implications of this approach become more apparent in a closer examination of the key performance metrics.

The average length from first stop to delivery for all 831 morning routes is 38 minutes. As illustrated in Figure 6, these are fairly normally distributed. What this indicates is that, on average, a time separation of approximately one hour between school bell times should be sufficient to accommodate a high level of tiering such that a majority of vehicles are able to complete two morning and two afternoon routes. Currently, as illustrated in Table 7, just 201 (172+29) of 590 vehicles (34%) perform more than one morning route.

Figure 6: Ranges of Routes

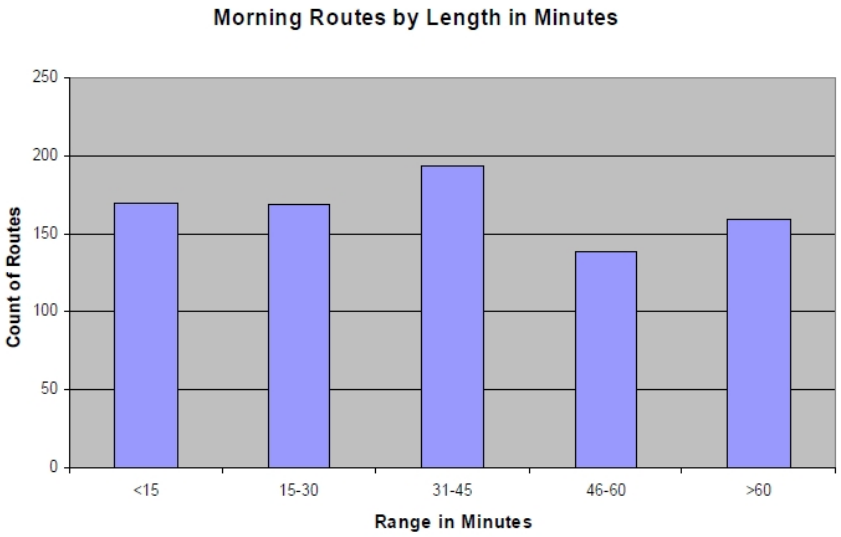


Table 7: Number of Morning Route by Vehicle

Count of Routes Completed	Number of Vehicles
1	389
2	172
3	29
Total	**590**

The key factor in this result is the distribution of school bell times. Figure 7 illustrates this. While the requisite one hour already exists between the earliest start time (8:00 AM) and the latest (9:10 AM), the distribution is such as to preclude a greater degree of tiering. To accomplish this would require that the school start times be clustered around the first and last times, rather than concentrated in the middle of the time range as they are now. The dual and sometimes conflicting goals of any student transportation

operation should be to fill each bus as closely as possible to capacity, and to reuse that bus as many times as possible over the course of the day. The current bell time structure works against the second of these goals. The first is discussed in the context of capacity utilization below.

Figure 7: Distribution of School bell times

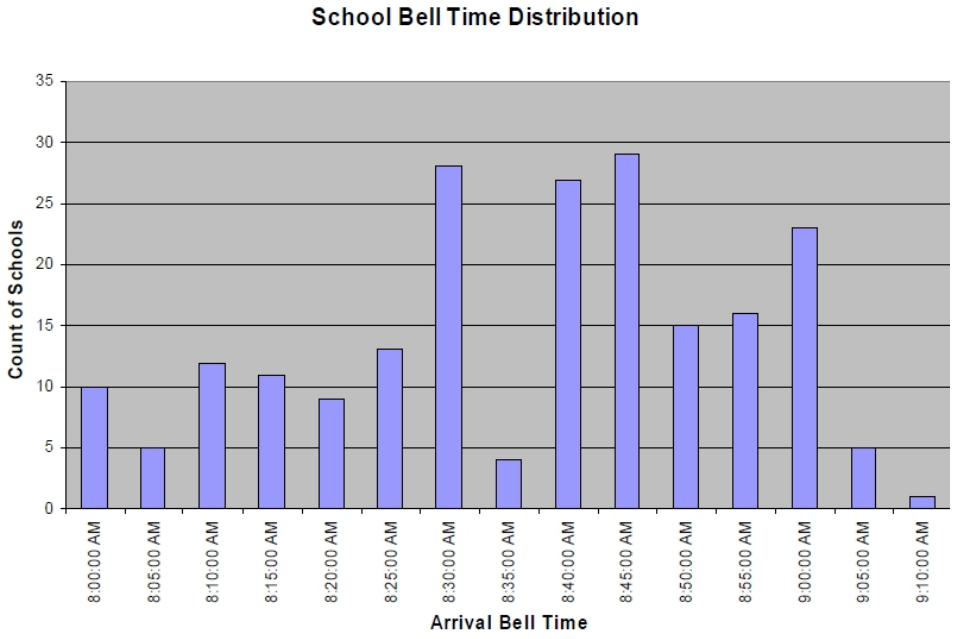


Figure 7 breaks down average capacity utilization and maximum ride times by the number of schools served by the route. Thus, the average capacity utilization for all 831 routes is 65%, as reported above. What this table clearly displays is the changes to route statistics as the number of schools served increases, and as the corresponding length of the route increases as well. Average capacity utilization improves dramatically as the number of schools served increases from one to two, and then plateaus. These "combination routes" that place students from more than one school or program on the same bus allow DSTS planning staff to fill the bus closer to its design capacity. However, it is equally clear that a service trade- off exists in that the maximum student ride time also increases with the number of schools served. The variability apparent as the number of schools served increases beyond two is, we believe, due to the small population of routes in these categories.

Table 8: Morning Route Statistics

Schools Serviced	Number of Routes	Average Route Time	Average Ride Time	Average Utilization

Schools Serviced	Number of Routes	Average Route Time	Average Ride Time	Average Utilization
1	522	30	18	60%
2	269	55	35	73%
3	35	63	40	71%
4 or Greater	5	70	49	67%
Grand Total	**831**	**40**	**24**	**65%**

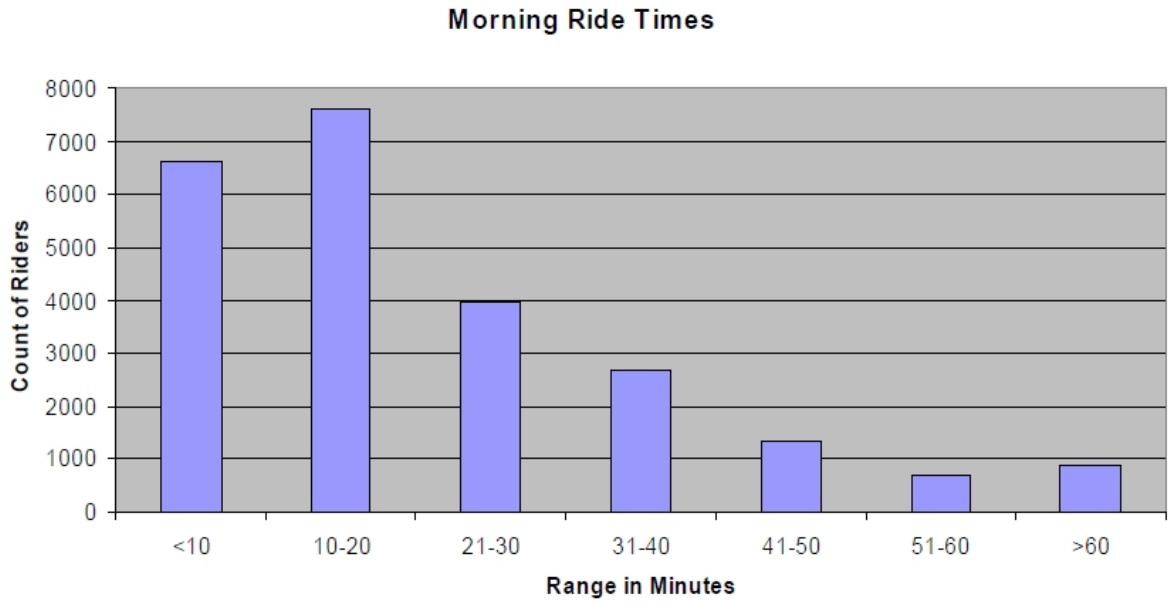
Table 9 illustrates the same 831 morning routes, but breaks this out based on the capacity of the bus servicing the route. Thus, 539 (64.9%) of all morning routes are serviced with large 72 passenger buses. This is as expected, because smaller buses are generally utilized for special needs routes and other unique circumstances. Indeed, we are surprised at how extensively smaller buses are used in DSTS. Even more surprising is that capacity utilization is significantly higher for buses with lower capacity than for the 72 passenger bus fleet. This is the opposite of the typical result, and is illustrative of an opportunity to improve overall capacity utilization in the system.

Table 9: Morning Routes by Bus Capacity

Bus Type (Capacity)	Number of Routes Served	Number of Students Served	Average Capacity Utilization
2	2	7	175%
4	52	215	124%
6	12	57	97%
10	20	78	48%
18	96	1,035	70%
19	16	70	30%
20	89	1,088	69%
60	5	166	57%
72	539	20,934	59%
Grand Total	**831**	**23,650**	**65%**

Additional support for improving capacity utilization is found in a further examination of student ride times. Figure 8 illustrates the ride time for all 23,800 morning riders. The average ride time of 21 minutes reported above disguises the impact of relatively few riders with much longer ride times. An important factor is that fully 60% of students have ride times below 21 minutes. This is an exceptionally high level of service delivery. As illustrated in Table 9, DSTS should expect that route and ride times would increase in order to achieve higher levels of capacity utilization. Relative to other consortia sites and industry norms, however, we consider it advisable to explore the possibility of sacrificing somewhat longer rides for higher utilization. Coupled with more effective use of assets (as discussed above) could result in a substantial reduction to the number of buses required, and substantially lower overall costs.

Figure 8: Ride time



5.5.2 Best Practices

It is recognized that DSTS has demonstrated best practices in the following areas:

- The organization of planning staff facilitates an excellent service-based focused for the users of the system, redundancy in staff capabilities, and excellent overall levels of service;

- The use of routing techniques such as combination and route tiering within the base context of the existing bell time schedule combines to improve the effectiveness and efficiency of the overall system.

5.5.3 Recommendations

System Effectiveness

An opportunity exists to make significant improvements to the overall effectiveness of the transportation system. Such improvements will require adjustments in the setting of school bell times, and the potential lengthening of some student ride times. This would be offset by potentially significant reductions in the overall number of buses required to operate the system, and hence in overall cost. The base assumption behind this recommendation is that the consortium can increase average capacity utilization by lengthening individual bus routes, and increase the average number of bus routes completed by each vehicle over the course of the day by clustering school start times around two distinct time tiers. The consortium should undertake an analysis to evaluate the feasibility of these changes and the likely results before undertaking the reengineering effort that would be required.

5.6 Results of E&E Review

Routing and Technology use has been rated as **moderate**. DSTS has done a good job of acquiring and implementing an appropriate variety of technology tools and applications to enhance the management of the route system and the information available to the users of this system. The organization of the Consortium is well suited to take advantage of the technology available to ensure an effective and efficient transportation system. Opportunities exist, however, for DSTS to improve system coding, and the use of reporting and performance measurement to increase system effectiveness and to ensure that a culture of continuous improvement that will be sustainable over the long term.

6 Contracts

6.1 Introduction

The Contracts section refers to the processes and practices by which the Consortium enters into and manages its transportation service contracts. The analysis stems from a review of the following three key components of Contracting Practices:

- Contract Structure;
- Contract Negotiations; and
- Contract Management.

Each component has been analysed based on observations from information provided by DSTS, including interviews with Consortium management and select Operators. The analysis comprises of an assessment of best practices leading to a set of recommendations. These results are then used to develop an E&E assessment for each component, which is then summarized to determine an E&E assessment of Contracting Practices as shown below:

Contracts – E&E Rating: Moderate

6.2 Contract Structure

An effective transportation contract establishes a clear point of reference that defines the roles, requirements, and expectations of each party involved and details the compensation for providing the designated service. Effective contracts also provide penalties for failure to meet established service parameters and may provide incentives for exceeding service requirements. Contract analysis includes a review of the clauses contained in the contract to ensure that the terms are clearly articulated, and a review of the fee structure is conducted to enable comparison of its components to best practice.

6.2.1 Observations

Bus Operator Contract Clauses

All operators for DSTS are currently bound by a 2007/2008 memorandum of agreement between the operator and each of the school boards. This contract is valid for a single year and contract negotiations each year result in new contracts as opposed to contract extensions. The current contract was initially drafted by the Consortium and then approved by the Governance Committee. The contracts are structured to delineate service expectations and ensure the expected service levels are met by the Operators.

The contracts were all signed and in place prior to the start of the 2007/2008 school year.

The contracts include provisions on the obligations of the Driver for lawful operation of school vehicles, driver training, safety requirement, maximum vehicle age policy (12 years), and compliance with Federal and Provincial Regulations. In addition, the fee structure, contract term, renewal, and termination clauses are also included. There are no board owned buses therefore all bus services are contracted services. The contracts are all signed by the chair of DDSB and DCDSB as appropriate. The contract template does not specify official method of communication or make reference to the TRACS system. The vehicle spare ratio is currently not documented in the contracts, the spare requirements informally communicated by the CAO is a 10% spare ratio. Our review of the 2007/2008 contract noted that within the contract is a term which permits the operators to stop at locations to pick up students along the bus route which are not specifically listed on the routes for the first 10 days of the school year; and there was no term related to emergency evacuation preparedness training.

Information available from TRACS

The contract does not make reference to the TRACS system in terms of downloading the most recent route information or in terms of the tool for submission of electronic invoices. Operators noted that they do not rely on the TRACS system for routing information and that the PDF copies of the routes which are emailed by route coordinators are more up to date than what is available in TRACS. The Consortium acknowledges that there is a minor delay in route information between the time the TRACS system is updated (6PM daily) and the availability of routing information online via TRACS (the following morning). To fast track this process, route coordinators email PDF copies of routes as soon as they are available so that operators and drivers are better prepared for any route changes. See section 5 for a more detailed discussion of this issue.

Vehicle Age Policy

The Consortium has a vehicle age policy in place which specifies that buses aged 12 years or vans aged 10 years and older should not be used for transportation of students serviced by DSTS. Upon review of the supporting working papers the E&E review team noted several instances of non-compliance with policy and non-clarity in the policy (i.e. operator and Consortium had different interpretations on this aspect of the policy) as to whether older school buses can be used as spare buses. DSTS staff is required to keep track of the vintages of school buses and request vehicle lists annually as of October 15 from all contracted Operators. It is understood that in some instances operators have

notified DSTS prior to using older vehicles as replacements in situations where newer buses have broken down.

Bus Operator Compensation

Operator compensation is based on a flat daily rate per passenger vehicle size (72-passenger, 18-passenger, wheelchair accessible or 6-passenger). For routes over 90 kilometres there is a specific compensation rate ($0.69 per kilometre in excess of 90 kilometres) for these longer routes. All size of vehicles used have a different daily rate. The 72-passenger vehicle is paid at the highest daily rate. A wheelchair capable vehicle is paid at a higher daily rate than a van (18-passenger). There is no variation in the compensation for the fixed component of vehicle costs and therefore compensation for a 10 year old vehicle or brand new vehicle of the same size is the same. Compensation for variation in the cost of fuel is benchmarked against a base cost of $0.75 per litre of diesel. The fuel price adjustments are made at the end of the month to reflect current fuel prices. Further terms in the contracts specify: (i) the remuneration to Operators when services are interrupted due to a labour dispute or severe weather cancellation and (ii) the requirement of the Operator to hold property and public liability insurance in the amount not less than those requested by Regulation under the Public Vehicles Act or a minimum of $10 million and comprehensive General Liability insurance in the amount of at least $5 million.

Taxi Contract Clauses

DSTS has established contracts with all taxi providers. Taxi operator compensation is based on the Municipal metre rates minus ten percent. Taxi operators are required to maintain property and public liability insurance of at least $1 million. Seat belt use is mandatory at all times and children under the age of 12 are not to be transported in the front seat of a vehicle with airbags. Children under the age of eight or 80 lbs require the use of a booster seat or car seat.

6.2.2 Best Practices

It is recognized that DSTS has demonstrated best practice in the following area:

Standard Contracts for Operators

Standard contracts exist for both School Bus Operators and Taxi Operators. These standard contracts include key provisions such as driver and vehicle requirements, insurance and safety requirements and were all in place just prior to the start of the school year.

6.2.3 Recommendations

Contract Terms

The Consortium should review key terms within the contract and ensure that the language properly reflects the objectives and requirements of the Consortium. Specific items or terms which require review and/or consideration in the contract include: vehicle spare ratio, the picking up of students at non-scheduled bus stops during the first 10 days of school; emergency preparedness / evacuation training; specific reference to the operators requirement to obtain updated routing information from TRACS and/or email; specific reference to the timing and expectations of invoicing using TRACS; the identification of the business name of the operator on the signature page of the contracts, and completion of the notices section within the contract in order to define the official communication procedures between the Consortium and Operator.

It is understood that the Consortium have reviewed the 10 day unscheduled stop pick up clause, the notices section contact signature page, and the lack of an emergency preparedness clause within the contract template and is taking steps to properly amend prior to the finalization of the 2008/2009 contract. We noted during the review one instance of the CAO signing a contract for Taxi services, however, we understand the authority for contract signing remains with the members of the Governance Committee who represent each school. The Consortium should reconfirm that controls are in place either to obtain the correct signature or ensure that proper authority has been delegated to those that can bind both of the school boards to a contract.

Contract Monitoring

The E&E review team noted that there were several different terms used on the insurance certificates provided to DSTS (umbrella, general, etc) which may or may not explicitly line up with the type and quantum of insurance requested of operators in the Operator’s agreement. While we agree that the Operators are responsible for obtaining the correct type and quantum of insurance to meet the needs of the Consortium, the Consortium has obligations to monitor contract compliance. Compliance monitoring may require the input of in house legal counsel or consultation with a third party insurance specialist serving the needs of the School Boards.

Vehicle Age Policy Enforcement

The vehicle age policy is included in the standard contract and we understand that the Consortium notified, shortly after the E&E fieldwork, those Operators who are not in compliance with the vehicle age policy for resolution and clarification of their commitment to adhere to the stated contact terms. The Consortium may wish to consider inclusion of the reporting requirements in the standard contract terms. We

understand that the Consortium has contacted the TRACS developers and requested that vehicle age reporting be integrated within their system. There is a relationship between the vehicle age policy concerns and the operator compensation that doesn't take vehicle age into account. The need for active monitoring of vehicle vintages helps identify operator actions to service the DSTS with older vehicles and in turn enables DSTS to react with modifications to policies and/or more robust monitoring of vehicle quality such as monitoring of vehicle breakdowns, additional route audits, or monitoring of fleet maintenance schedules to demonstrate to operators the importance of quality and consistent service delivery.

6.3 Contract Negotiations

Contract negotiations are intended to provide an avenue by which the Consortium, as a purchaser of services, can ultimately obtain the best value for money. The goal of the Consortium is to obtain high quality service at efficient market prices.

6.3.1 Observations

Bus Operator Contract Negotiation Process

All school bus operators for DSTS are represented by an association, and through this association have come to a common contractual agreement with the Consortium. The association is currently comprised of five Bus Operators and DSTS uses the association as a negotiating platform. The Administration Team are directly involved in the Contract Negotiation and the CAO provides support during the negotiation process. Prior years' actual costing data were analyzed by the Consortium to obtain a cost base for future contract negotiations.

Noon Time Busing

For the 2008/09 school year, the DCDSB has issued a request for tender for services for Junior and Senior Kindergarten students for midday transportation. It is understood that currently neither school board provides noon time transportation for JK/SK students however DCDSB has decided to offer this service for the 2008/2009 school year. The tender document was issued by the Consortium on behalf of DCDSB. The document requested quotes from operators either on "the entire operation, and/or bid for specific geographical area". Price quotation was requested to be based on a 75 minute average trip time (for either a 72 or 18 passenger vehicle) and may be subject to adjustment if the average trip times are significantly longer than expected. There was no definition as to what "significantly longer" constitutes. The fuel pricing is based on $0.75 per litre. The request for tender included details of invoicing, insurance, indemnification of DSTS and

its partner boards, route amendments, and performance requirements including vehicle age policy.

Special Needs Transportation

Some Durham Region students with special needs are transported to programs on vehicles operated by taxi companies. The list of Taxi service providers utilized by DSTS is based on precedent and includes 5 local taxi providers. There was no competitive short-listing method used (request for qualifications) used to develop this list.

6.3.2 Recommendations

Competitive Procurement Process

Contracts for school bus transportation services are currently not competitively awarded. By not engaging in a competitive process, the Consortium will not know whether it is paying best rates for services provided. If a competitive process is used to procure contracted services, the Consortium can clearly state all service requirements in the procurement document. In addition, Consortium can be sure that it will obtain the best value for its money as Operators will compete to provide the required service levels at prices that ensure they earn an appropriate return on investment. This may not mean that rates will decline; however, the concern for the Consortium should be to obtain value for money expended for service provided. A competitive procurement process may not be appropriate for all areas or routes under service depending on the available supply of service providers.

A competitive process should be used with certain safeguards in place to protect the standards of service. The Consortium should continue to enforce limits placed on the amount of business any one Operator can hold to avoid a monopoly situation. Additionally, in evaluating the successful proponents, cost should not be the overriding factor as that will encourage low cost proponents to enter the market while not necessarily ensuring that the same or improved levels of service are being provided. Local market conditions should be considered at all points in the development and evaluation of any service proposal. For example, local Operators can be encouraged to participate in this process by placing a value on having local experience as part of the evaluation criteria; however, this specific criterion for local experience should also not be an overriding factor in the proposal evaluation process.

In areas where this process may not be appropriate, such as remote areas where there may not be many operators interested in providing the service to a particularly remote area, the current negotiation process may serve the needs of both the Operator and the Consortium. The Consortium, however, can use the competitively procured contracts as a proxy for service levels and costs negotiated with the more rural Operators. It is

understood from discussion with the Consortium that they are waiting for the release of a sector resource guide on best procurement practices developed through a stakeholder committee before revising their own process.

We understand that DCDSB, with the assistance of the Consortium, recently issued (June 4, 2008) a Request for Tender for Transportation Service for JK/SK kindergarten students at midday. This document was examined and while we do note some features of the document which are incomplete compared to procurement best practices we applaud the efforts in moving towards competitive procurement. We understand that the tender document was posted on the DCDSB website and on the electronic tender network *Biddingo*. We look forward to continued efforts along this front and encourage the Consortium to continue the momentum towards competitive procurement of transportation services at DSTS.

6.4 Contract Management

Contracting practices do not end after a contract is signed. Ongoing monitoring of compliance and performance of contracted service is an important and valuable practice to enhance service levels and ensure that contractors are providing the level of services that were agreed upon. Monitoring should be performed proactively and on a regular and ongoing basis in order to be effective.

6.4.1 Observations

Monitoring

Compliance with the terms of contracts for bus operators is monitored through route audits. Each year a sample of approximately 2% of the routes of each operator is selected by the route coordinator based on complaints or percentages. The monitoring process primarily addresses safety and regulatory requirements and all incidents on busses are investigated and documented by Consortium staff. The Route Coordinators at DSTS serve as the route auditors. The audits generally begin in November and arrangements are made by the route auditor to ride the school vehicles on the randomly selected routes in both the morning and afternoon services. Operators are contacted in advance to provide notification to drivers that they are to be audited. If an afternoon route audit is scheduled, the walk around inspection is requested to be repeated by the route auditor so that the route auditor can see how the specific driver conducts a walk around inspection of the vehicle. Monitoring of contract clauses 5-8-9b), 9c), 9i), 19b) will begin in the 2008/2009 school year along with the implementation of the operator performance standards guide called *Standards of Performance*. There are no route audits conducted on taxis in the 2007/2008 school year and the vehicle age policy is currently not monitored during the operator audits.

6.4.2 Best Practices

It is recognized that the Consortium has demonstrated best practices in the following areas:

- DSTS requires both regular school bus Operators and taxi Operators to provide proof of insurance prior to the start of the school year. This ensures that this important legal requirement is met prior to providing any services.

- The Consortium has a formalized route audit approach which includes checklists and random sampling of routes for audit.

- The Consortium has developed an operator performance standards guide, *Standards of Performance,* which will be implemented for the 2008/2009 school year. The document includes definition of service standards and expectations of the Consortium. It provides clear communication to the operators of what is expected.

Monitoring

As discussed above, the Consortium currently has a process of monitoring in place. However it could be improved and expanded to further benefit the Consortium and ensure services contracted are delivered. Some suggestions for improvement include:

- Operators should be required to demonstrate that they have provided their Drivers appropriate safety and first aid training prior to start of the school year in addition to demonstrating they have met insurance requirements. A more formal training monitoring program should be implemented. Operators can provide copies of certifications or proof of training to the Consortium for each Driver with regular updates as additional training is completed. This method of monitoring will provide proof that the Drivers are appropriately trained in case of an emergency and also will allow the Consortium to monitor where additional training may be required;

- The validity of the results of the route audits are partially defeated if drivers are notified well in advance that they will be audited. It was noted that for afternoon route audits, the drivers are requested to complete presumably a second walk around inspection of the vehicle so that the route auditor can see how it is conducted. While properly conducting a walk around inspection is important, this audit procedure is not effective at determining whether walk around inspections are regularly done because the driver has warning that they are being monitored therefore their normal behavior is likely to have changed. Audit procedures

should monitor some aspects of the performance expectations of operators without prior notification of the audit; and

- The Consortium should continue to implement their plans related to the documented performance standards document.

6.5 Results of E&E Review

The process by which DSTS negotiates, structures, and manages its contracts for transportation services has been assessed as **Moderate**. We are pleased to see standardized contracts in place with complete terms to appropriately share accountability related to student transportation with the school bus operators. The contracts are monitored through a well defined formal checklist system. This system ensures that the Operators are in compliance with the contracts during their daily operation, and it is also a proactive action the Consortium takes to promote student safety. There are several terms within the contract which are incomplete which we understand that the Consortium is currently updating for the 2008/2009 period. There are also some key shortcomings in the monitoring of contract compliance namely with respect to the vehicle age policy and the methodology by which certain aspects of the vehicle route audits are conducted. We believe that these will be quickly and easily remedied by the Consortium.

We are pleased to see the use of competitive procurement documents in the acquisition of midday JK/SK bussing. However overall we note that contracts for the balance of bus transportation services are not awarded using a competitive procurement process. By not engaging in a competitive procurement process, the Consortium will not know whether best value for money is provided. If a competitive process is used to procure services, the Consortium can clearly state all service requirements in its procurement document. In addition, the Consortium can be sure that it will obtain the best value for its money as Operators will compete to provide the required service levels at prices that ensure an appropriate return on investment. A competitive procurement process should be used with certain safeguards in place to protect the standards of service and be sensitive to local market conditions. In areas where this process may not be appropriate due to limited service availability, the Consortium can ensure that transparent and accountable processes are supported, by using the competitively procured contracts as a "proxy" for negotiating service levels and costs.

7 Funding Adjustment

The Ministry has asked the E&E Review Team to apply their Funding Adjustment Formula to each Board that was subject to an E&E Review in Phase 2. Note that where Boards are incurring transportation expenses in multiple Consortium sites, the Board's adjustment will be prorated for the portion attributed to the Consortium under review. For example, if 90% of Board A's expenditures are attributed to Consortium A, and 10% of expenditures are attributed to Consortium B, the funding adjustment resulting from Consortium A's review will be applied to 90% of Board A's deficit or surplus position.

The Ministry's funding formula is as follows:

Overall Rating	**Effect on deficit boards[9]**	**Effect on surplus boards**[9]
High	Reduce the gap by 100% (i.e. eliminate the gap)	No in-year funding impact; out-year changes are to be determined
Moderate-High	Reduce the gap by 90%	Same as above
Moderate	Reduce the gap by 60%	Same as above
Moderate-Low	Reduce the gap by 30%	Same as above
Low	Reduce the gap in the range of 0% to 30%	Same as above

Based on the Ministry's funding formula, in conjunction with our E&E assessment of the Consortium, it is anticipated that the following funding adjustments will be made for each Board:

[9] This refers to boards that have a deficit/surplus on student transportation (see Section 7 – Funding Adjustments)

Durham Catholic District School Board

Item	Values
2007-08 Transportation Surplus (Deficit)	806,143
% of Surplus attributed to the Consortium (rounded)	100%
Revised amount to be assessed under the Consortium	806,143
E&E Rating	Moderate
Funding Adjustment based on Ministry's Funding Adjustment Formula	No Adjustment
Total Funding adjustment	N/A

Durham District School Board

Item	Values
2007-08 Transportation Surplus (Deficit)	3,848,738
% of Surplus attributed to the Consortium (rounded)	100%
Revised amount to be assessed under the Consortium	3,848,738
E&E Rating	Moderate
Funding Adjustment based on Ministry's Funding Adjustment Formula	No Adjustment
Total Funding adjustment	N/A

Conseil scolaire de district catholique Centre-Sud

Item	Values
2007-08 Transportation Surplus (Deficit)	(1,228,815)
% of Surplus attributed to the Consortium (rounded)	6.73%
Revised amount to be assessed under the Consortium	(82,645)
E&E Rating	Moderate
Funding Adjustment based on Ministry's Funding Adjustment Formula	60%
Total Funding adjustment	49,587

8 Appendix 1: Glossary of Terms

Terms	Definitions
Act	Education Act
Assessment Guide	The guide prepared by the E&E review team and the Ministry of Education which will be used as the basis for determining the overall effectiveness and efficiency of each Consortium
Chief Administrative Officer	As shown in Figure 5
Common Practice	Refers to a set of planning parameters that have been reported by Ontario school boards as the most commonly adopted planning policies and practices. These are used as references in the assessment of the relative level of service and efficiency.
Consortium or DSTS	Student Transportation Services of Durham Region
DCDSB	Durham Catholic District School Board
DDSB	Durham District School Board
Deloitte	Deloitte & Touche LLP (Canada)
Driver	Refers to bus Drivers, see also Operators
E&E	Effectiveness and Efficiency
E&E Review Team	As defined in Section 1.1.5
E&E Reviews	As defined in Section 1.1.4
Effective	Having an intended or expected effect; the ability to deliver intended service
Efficient	Performing or functioning in the best possible manner with the least waste of time and effort; the ability to achieve cost savings without compromising safety
Evaluation Framework	The document, titled “Evaluation Framework For DSTS Student Transportation Services ” which supports the E&E Review Team’s Assessment; this document is not a public document

Terms	Definitions
Funding Adjustment Formula	As described in Section 1.3.6
HR	Human Resources
IT	Information Technology
JK/SK	Junior Kindergarten/Senior Kindergarten
KPI	Key Performance Indicators
Management Consultants	As defined in Section 1.1.5
Mapnet Coordinator/Trainer	As shown in Figure 5
Memo	Memorandum 2006: SB13, dated July 11 issued by the Ministry
Ministry	The Ministry of Education of Ontario
MPS	Management Partnership Services Inc., the routing consultant, as defined in Section 1.1.5
MTO	The Ministry of Transportation of Ontario
Operations Manager	As shown in Figure 5
Operators	Refers to companies that operate school buses and the individuals who run those companies. In some instances, an Operator may also be a Driver.
Overall Rating	As Defined in Section 3.2 of the Evaluation Framework
Partner Boards or Boards	The school boards that have participated as full partners in the Consortium
Rating	The E&E Assessment score on a scale of High to Low, see Section 1.3.4
Report	The report prepared by the E&E Review Team for each Consortium that has undergone an E&E Review (i.e. this document)
Route Coordinator	As shown in Figure 4

Terms	Definitions
Senior Manager	Senior Manager for the Administrative Services of the School Boards, as shown in Figure 6
Separate Legal Entity	Incorporation
Special Education Route Coordinator	As shown in Figure 5
Transportation Assistant	As shown in Figure 5
Transportation Clerk	As shown in Figure 5

9 Appendix 2: Financial Review – by School Board

Durham Catholic District School Board ("DCDSB")

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation[10]	7,144,907	7,442,510	7,547,513	8,233,191
Expenditure[11]	7,022,424	7,426,230	7,928,964	7,427,048
Transportation Surplus (Deficit)	122,483	16,280	(381,451)	806,143

Durham District School Board ("DDSB")

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation	18,452,722	19,349,805	19,609,031	20,016,438
Expenditure	15,216,080	16,134,485	16,718,587	16,167,700
Transportation Surplus (Deficit)	3,236,642	3,215,320	2,890,444	3,848,738

Conseil scolaire de district catholique Centre-Sud ("CSDCCS")

Item	2004/2005	2005/2006	2006/2007	2007/2008
Allocation	12,630,012	13,363,914	13,793,702	15,419,952
Expenditure	13,724,837	14,857,246	14,802,372	16,648,767
Transportation Surplus (Deficit)	(1,094,825)	(1,493,332)	(1,008,670)	(1,228,815)
Total Expenditures paid to the Consortium	1,008,103	1,050,121	1,038,862	1,119,721
As % of total Expenditures of Board	7.3%	7.1%	7.0%	6.73%

[10] Allocation based on Ministry data – includes all grant allocations for transportation (Section 9 0008C, Section 13 00006C, Section 13 000012C)
[11] Expenditure based on Ministry data – taken from Data Form D: 730C (Adjusted expenditures for compliance) – 212C (Other Revenues) + 798C (Capital expenditures funded from operating)

10 Appendix 3: Document List

1 Action Plan

2 Administrative and Cost Sharing Schedule

3 Administrative Meeting Agenda: October 2, 2007

4 Administrative Procedure 206 – Tendering

5 Agreement for Transportation – Multiple

6 Amendment to Non-Transporting Zone

7 Analysis of DDSB and DCSSB Services

8 Budget Process Timetable: 2008-2009

9 Commercial Lease from New Era Holdings Inc.

10 Confirmation of Insurance

11 Consolidated Transportation Consortium Costs: March 31, 2008

12 Consortia Plan Submission Template

13 Cost Centre Memorandum

14 DDSB Employee Performance Evaluation Form

15 DDSB Job Descriptions

16 DDSB Schools Summary

17 Elementary Special Education Class List: September 2008

18 Equipment Activity Report

19 First Quarter Expenditure Report: 2007-2008

20 Governance Committee Meeting Minutes: May 16, 2006

21 Governance Committee Meeting Minutes: November 21, 2006

22 Invoice: Student Transportation Charges

23 Invoice: TRACS Maintenance

24 Laidlaw Fleet List

25 List of Buses

26 List of Carriers

27 Metroland News

28 New Employee Orientation Form – Stock Transportation

29 Operations Policy

30 Operations Policy

31 Organizational Chart

32 Position Description: Chief Administrative Officer

33 Regulation #3310 - Purchasing

34 Request for Tender: Transportation Services

35 Results of Site Visit: MPS

36 Review Guide – Data Needs

37 Route Audit Information: 2007-2008

38 Route Detail Report

39 School Bus Operators Contact

40 Staff Procedures in the Event of a Bus Accident

41 Standards of Performance: 2008-2009

42 Stock Transportation Fleet List

43 Structural Chart

44 Student Text Requirements

45 Student Transportation Information Package

46 Student Transportation Service Agreement

47 Transportation Policy

48 Vehicle Information Form

49 Wheelchair Training Program Checklist – Stock Transportation

11 Appendix 4: Common Practices

Home to School Distance

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	0.8 km	1.2 km	1.6 km	3.2 km
Policy - DDSB	1.6 km	1.6 km	1.6 km	3.2 km
Policy - DCSB	1.6 km	1.6 km	1.6 km	3.2 km
Practice	.02 km	-	1.6 km	3.2 km

Home to Bus Stop Distance

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	0.5	0.8	0.8	0.8
Policy - DDSB	1.6 km	1.6 km	1.6 km	3.2 km
Policy - DCSB	-	-	-	-
Practice	0.2 km	0.4 km	0.4 km	0.4 km

Arrival Window

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	18	18	18	25
Policy - DDSB	15	15	15	15
Policy - DCSB	15	15	15	15
Practice	15	15	15	15

Departure Window

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	16	16	16	18
Policy - DDSB	15	15	15	15
Policy - DCSB	15	15	15	15
Practice	15	15	15	15

Earliest Pick Up Time

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	6:30	6:30	6:30	6:00
Policy - DDSB	-	-	-	-
Policy - DCSB	-	-	-	-
Practice	6:35	6:35	6:35	6:35

Latest Drop Off Time

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	5:30	5:30	5:30	6:00
Policy - DDSB	-	-	-	-
Policy - DCSB	-	-	-	-
Practice	5:00	5:00	5:00	5:00

Maximum Ride Time

Activity	JK/SK	Gr. 1 - 3	Gr. 4 - 8	Gr. 9 - 12
Common Practice	75	75	75	90
Policy - DDSB	-	-	-	-
Policy - DCSB	-	-	-	-
Practice	60	60	60	60

Seated Students Per Vehicle

Activity	JK/SK	Gr. 1 - 6	Gr. 7 - 8	Gr. 9 - 12
Common Practice	69	69	69	52
Policy - DDSB	65	65	50	48
Policy - DCSB	65	65	50	48
Practice	65	65	50	48

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