



Financial Advisory

# Ministry of Education Effectiveness & Efficiency Review

Phase 1 Review

Student Transportation Services of Central Ontario

April 2007

## Table of Contents

Executive Summary .....	1
1 Introduction .....	5
1.1 Background.....	5
1.1.1 Funding for Student Transportation in Ontario.....	5
1.1.2 Transportation Reform.....	5
1.1.3 The Formation of School Transportation Consortia .....	5
1.1.4 Effectiveness and Efficiency Review .....	6
1.1.5 The E&E Review Team .....	7
Figure 1: E&E Review Team.....	7
1.1.6 The Role of the School Bus Cost Study.....	8
1.2 Scope of Deloitte Engagement .....	8
1.3 Methodology Used to Complete E&E Review .....	9
Figure 2: E&E Review Methodology.....	9
1.3.1 Step 1 – Data Collection .....	10
1.3.2 Step 2 – Interviews .....	10
1.3.3 Step 3 – Documentation of Observations, Best Practices and Recommendations .....	10
1.3.4 Step 4 and 5 – E&E Assessment of Consortium and Site Report.....	14
Figure 3: Assessment of Consortium – Diagram Flow .....	14
1.3.5 Funding Adjustment.....	15
Table: 1: Funding Adjustment Formula .....	15
1.3.6 Purpose of Report .....	15
1.3.7 Material Relied Upon .....	15
1.3.8 Limitations on Use of This Report.....	15
2 Overview of Consortium.....	17
2.1 Introduction to STSCO.....	17
Table 2: 2005-06 Transportation Survey Data .....	17
Table 3: 2005-06 Financial Data .....	18
3 Consortium Management.....	19

3.1	Introduction .....	19
3.2	Governance .....	19
3.2.1	Observations .....	19
	Figure 4: Reporting Structure .....	21
3.2.2	Best Practices .....	22
3.2.3	Recommendations .....	23
3.3	Organizational Structure .....	24
3.3.1	Observations .....	24
	Figure 5: STSCO Organizational Chart .....	25
3.3.2	Best Practices .....	25
3.3.3	Recommendations .....	26
3.4	Consortium Management .....	26
3.4.1	Observations .....	26
3.4.2	Best Practices .....	28
3.4.3	Recommendations .....	28
3.5	Financial Management .....	29
3.5.1	Observations .....	29
3.5.2	Best Practices .....	32
3.5.3	Recommendations .....	32
3.6	Results of E&E Review .....	33
4	Policies and Practices .....	34
4.1	Introduction .....	34
4.2	Transportation Policies .....	34
4.2.1	Observations .....	34
4.2.2	Best Practices .....	37
4.2.3	Recommendations .....	38
4.3	Route Planning .....	38
4.3.1	Observations .....	39
4.3.2	Best Practices .....	41
4.3.3	Recommendations .....	41

4.4	Safety Programs .....	42
4.4.1	Observations .....	42
4.4.2	Best Practices.....	43
4.4.3	Recommendations.....	44
4.5	Special Needs and Specialized Programs.....	44
4.5.1	Observations .....	44
4.5.2	Best Practices.....	45
4.5.3	Recommendations.....	45
4.6	Results of E&E Review .....	45
5	Routing and Technology .....	47
5.1	Introduction .....	47
5.2	Software and Technology Use .....	47
5.2.1	Observations .....	47
5.2.2	Best Practices.....	49
5.2.3	Recommendations.....	50
5.3	Digital Map and Student Database Management .....	51
5.3.1	Observations .....	51
5.3.2	Best Practices.....	53
5.3.3	Recommendations.....	54
5.4	System Setup and Use .....	54
5.4.1	Observations .....	54
5.4.2	Best Practices.....	55
5.4.3	Recommendations.....	56
5.5	System Reporting .....	56
5.5.1	Observations .....	56
5.5.2	Best Practices.....	57
5.5.3	Recommendations.....	57
5.6	Special Needs Transportation Planning and Routing .....	58
5.6.1	Observations .....	58
5.6.2	Best Practices.....	59

5.6.3	Recommendations.....	59
5.7	Results of E&E Review .....	59
6	Contracts.....	61
6.1	Introduction .....	61
6.2	Contract Structure.....	61
6.2.1	Observations .....	61
6.2.2	Best Practices.....	64
6.2.3	Recommendations.....	64
6.3	Contract Negotiations .....	65
6.3.1	Observations .....	65
6.3.2	Best Practices.....	66
6.3.3	Recommendations.....	66
6.4	Contract Management .....	67
6.4.1	Observations .....	67
6.4.2	Best Practices.....	69
6.4.3	Recommendations.....	69
6.5	Results of E&E Review .....	70
7	Funding Adjustment .....	72
7.1	The Ministry's Funding Formula.....	72
7.2	Kawartha Pine Ridge District School Board.....	72
7.3	Peterborough Victoria Northumberland and Clarington Catholic District School Board .....	73
7.4	Conseil Scolaire de District Catholique Centre-Sud.....	73
8	Glossary of Terms.....	74
9	Appendix 1: Financial Review – by School Board .....	77
9.1	Kawartha Pine Ridge District School Board.....	77
9.2	Peterborough Victoria Northumberland and Clarington Catholic District School Board .....	77
9.3	Conseil Scolaire de District Catholique Centre-Sud.....	77
10	Appendix 2: Common Practices .....	79
10.1	Home to School Distance .....	79
10.2	Home to Bus Stop Distance.....	79

10.3 Arrival Window .....	79
10.4 Departure Window .....	79
10.5 Earliest Pick up Time .....	80
10.6 Latest Drop Off Time.....	80
10.7 Maximum Ride Time .....	80
10.8 Seated Students per Vehicle .....	81
11 Appendix 3: Document List .....	82

## **Executive Summary**

### **Introduction**

This report details the findings and recommendations of an Effectiveness and Efficiency review (E&E Review) of the Student Transportation Services of Central Ontario (STSCO) conducted by a review team selected by the Ministry of Education. This E&E Review is the result of recent governmental initiatives to develop an equitable approach to funding across the province and minimize the administrative burden for non-transportation staff associated with providing safe, reliable, effective, and cost efficient transportation services. This section of the report is designed to provide an overall assessment of STSCO and detail the findings and recommendations 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 STSCO'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 would be used by the Ministry to determine any in-year funding adjustments that would be provided.

### **Effectiveness and Efficiency Review Summary**

STSCO was formed in 2004 under the Consortium Agreement between Peterborough Victoria Northumberland and Clarington Catholic District School Board (PVNC) and Kawartha Pine Ridge District School Board (KPR) to provide student transportation services for the geographical area served by the Partner Boards. Additionally, the Conseil Scolaire de District Catholique Centre-Sud (CSDCCS) currently purchases services from STSCO to serve three schools in the area. It is expected that CSDCCS will become a full Consortium Partner Board by Fall of 2007. STSCO transports nearly 33,000 students everyday to 135 schools utilizing approximately 800 buses, taxis and minibuses. All operations are managed by a Chief Administrative Officer who oversees eleven other staff.

STSCO is a functional, professional, and well structured organization that is able to deliver effective and efficient services to its Partner Boards and Purchasers of Service. STSCO's achievements are especially impressive considering that the Consortium has only been operating for two years. During this limited time, a governance structure was established that promotes equity and fairness across the participating Boards; policies and procedures have been developed that define and determine service demands; routing and scheduling practices have been implemented that promote the effective and efficient use of resources; and contracting practices have established standard requirements for all Operators. Noteworthy accomplishments include:

- Establishment of an operation that is physically independent from either Board location but works in the best interests of both Partner Boards through its governance structure. The best interests of the Boards are also protected by the implementation of financial management processes that incorporate appropriate controls and ensure the accuracy of financial reporting to each Partner Board.
- Establishment of routing practices that promotes the efficient use of resources. STSCO utilizes a number of different routing strategies, including combination (a single bus going to multiple schools), transfer (a single student riding multiple buses to get to a specific school) and tiered (a single bus picking up and dropping off students at a school before transporting students at a different school) run design. These strategies are intended to move the most students with the fewest resources. Additionally, STSCO has adopted a number of related technologies that improve their ability to communicate to all stakeholders including parents, Partner Boards, schools and Operators.
- Removal of 44 buses from service since the inception of the Consortium by finding efficiencies in routing.
- Implementation of an annual review process that promotes continuous improvement of organizational processes and bus routes with the intention of reducing the number of buses required or improving service where possible.

The primary challenges for STSCO are in solidifying their ability to act independently of the Partner Boards and providing increased training to staff on the use of the routing software. Currently, STSCO is not a legal entity and therefore cannot directly employ its staff members. Consequently, staff members are still employees of one of the Partner Boards and may be covered by union agreements from the Boards. Clear definition of roles and responsibilities through job descriptions has mitigated this issue to date but it



presents a potential future liability where staff may be explicitly or implicitly committed to serving the Board by which they are employed.

Given the existing effectiveness and efficiency, identifying future opportunities to reduce cost or improve service will require staff that is well trained in the more complex functionality of the routing software. STSCO Route Planners are all knowledgeable of basic system functionality but expertise in the use of the routing system to perform detailed analyses of alternative transportation strategies is uneven throughout the organization. Providing this training and maintaining proficiency is a significant challenge that must be addressed.

The following recommendations are considered to be the key requirements for STSCO to improve its effectiveness and efficiency of their transportation operations.

- STSCO should examine changing its status to be a separate legal entity (either through incorporation or partnership) to further enhance its independence from the influence of any of the Partner Boards. A separate legal entity structure with an appropriate Governance Committee would ensure that Boards retain the reasonable and appropriate influence over service requirements while allowing STSCO to assert authority as an employer. This structure would require that all direct and overhead costs are properly accounted for and allocated to the service consumers. Additionally, this structure would provide STSCO with the flexibility to determine the most advantageous method of procuring accounting, technology, facility, and other services.
- Train Route Planners on the more complex functionality of the routing software including run and bell time optimization and route and run redesign. The training required would include technical training in software use and functional training in the principles of designing bus runs. Increasing Route Planner skills will allow Route Supervisors to more actively assist in addressing service- related issues and performing long range planning.
- Revise the existing contract mechanism to utilize a competitive process that identifies all service requirements and establishes fair and reasonable rates for both STSCO and its Operators.

The practices that the Consortium has been established in the short term are indicative of a strong working relationship between the Partner Boards, effective management and administrative structures, and routing practices that consider the balance between the level of service to be provided and cost control. 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 STSCO to a highly effective and efficient Consortium.

### **Funding Adjustment**

As a result of this review of current performance, STSCO has been rated as a **moderate-high** Consortium. Based on this evaluation, the Ministry will provide additional transportation funding that will narrow the transportation funding gap for Kawartha Pine Ridge District School Board and Conseil Scolaire de District Catholique Centre-Sud by 90 percent while the Peterborough Victoria Northumberland and Clarington Catholic District School Board will be allowed to retain their transportation surplus in the 2006-2007 school year. The funding adjustments to be received are detailed below:

- Kawartha Pine Ridge District School Board: \$487,584
- Conseil Scolaire de District Catholique Centre-Sud: \$44,802
- Peterborough Victoria Northumberland and Clarington Catholic District School Board: Nil.

# **1 Introduction**

## **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. However, a decision was made to hold funding for student transportation steady, on an interim basis, while the Ministry worked to develop and implement a new approach. 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 will include a requirement for Consortium delivery of student transportation services, effectiveness and efficiency reviews on 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 Consortium as a viable business model to realize efficiencies. This belief has been endorsed by the Education Improvement Commission in 2000 and proven by some 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**

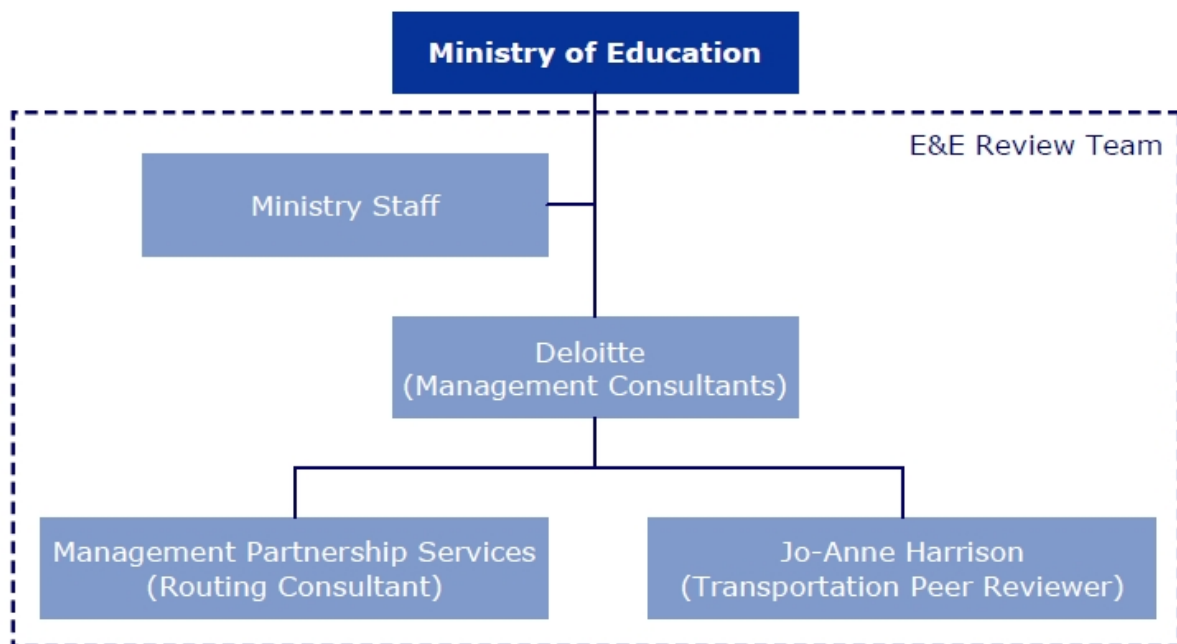
According to the Ministry Consortium guidelines, once a Consortium has met the requirements outlined in memorandum SB:13, dated July 11, 2006, it will be eligible for an E&E Review. This review will be conducted by the E&E Review Team who will assist the Ministry in evaluating consortium management, policies and practices, routing and technology, and contracts. These reviews will identify best practices and areas for

improvement, and provide valuable information that can be used to inform future funding decisions. Over the next two years, the Ministry plans to perform three phases of reviews (collectively the “E&E Reviews”) on transportation sites across the province.

### 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, policies and practices, and contracts. A routing consultant was engaged to focus specifically on the acquisition, implementation, and use of routing software and related technologies. 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**



### **1.1.6 The Role of the School Bus Cost Study**

The Ministry has acquired the services of a consultant through a separate request for proposal process to conduct a detailed cost study on the cost of contracting and operating a 72 passenger school bus. The cost model will complement the findings of the E&E Reviews. At the time the E&E results from the Phase 1 review are released, the results of the cost study will still be unknown. Any additional funding adjustments resulting from the results of the cost study will be determined at a later date.

## **1.2 Scope of Deloitte Engagement**

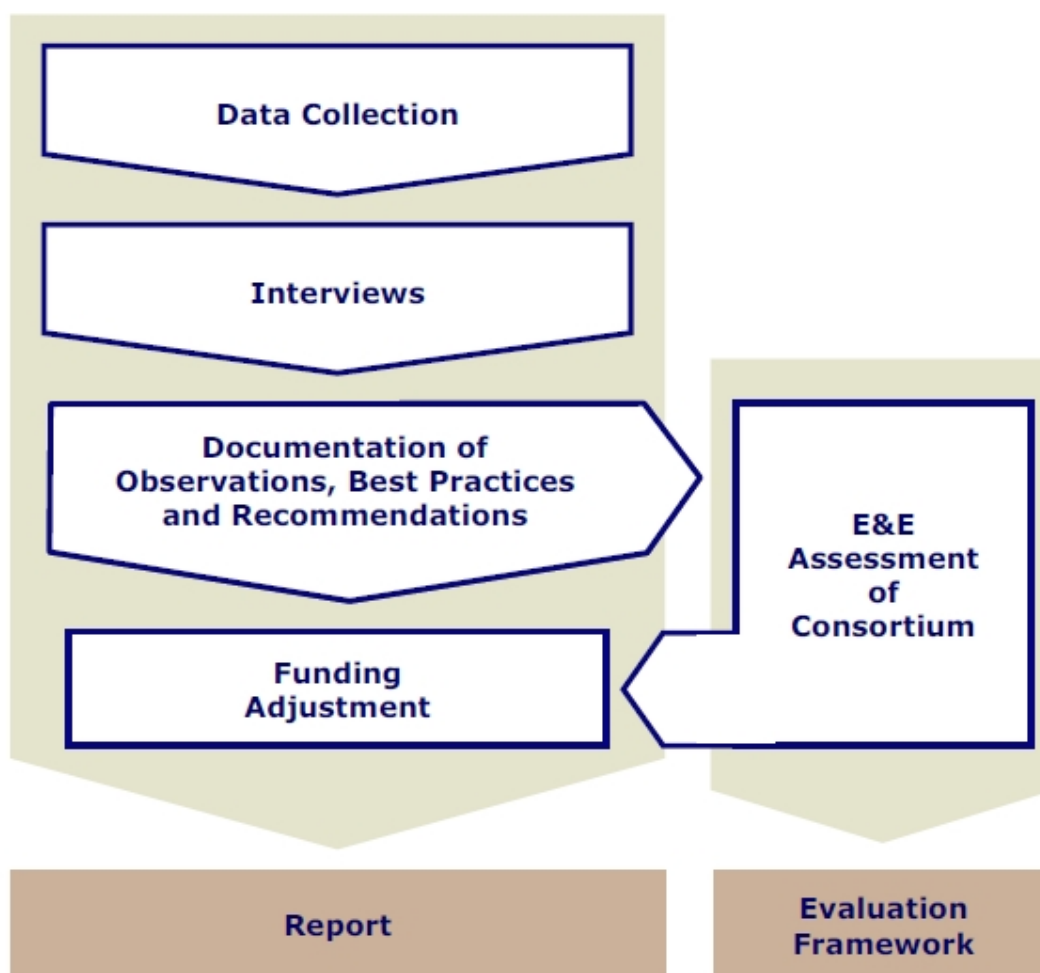
Deloitte was engaged to lead the Team and serve as the Management Consultants of the E&E Review Team, as follows:

- Lead the E&E Review for each of the four (4) transportation Consortium to be reviewed in Phase One (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, policies and practices including specialized and special needs transportation, Partner Board transportation policies, contracting procedures;
- Incorporate the results of the routing and technology review to be completed by MPS; and
- Prepare a report for each Consortium which has undergone an E&E Review in Phase One. 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 is applied to reach an Overall Rating of each review site, was developed to provide consistency.

### **1.3.1 Step 1 – Data Collection**

Each Consortium under review is provided with the E&E Guide (refer to document 37 in Appendix 3) 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 will identify key Consortium staff, outside stakeholders and key policy makers with whom interviews will 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 will document 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 performance and continuous improvement
- Financial processes ensure accountability and equity to Partner Boards
- A budgeting process is in place which ensures timely preparation and monitoring of expenses
- Key business relationships are defined in contracts Effectiveness Contracts Policies

### ***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 partner boards; and
  - Policy decisions are made with due consideration 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 mechanisms 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 time 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

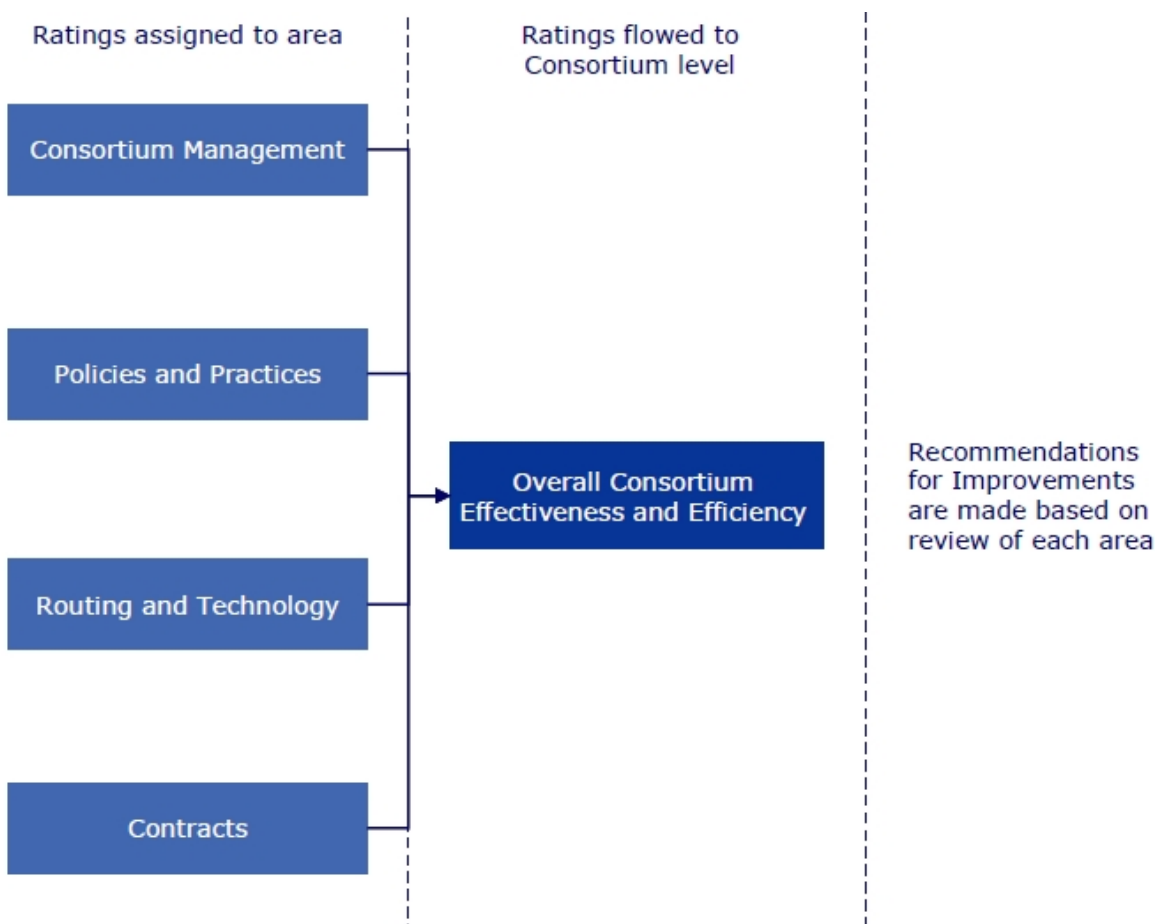
### ***Contracts***

- 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 will be 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	Effect on surplus boards
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 STSCO by the E&E Review Team during the weeks of December 11 to December 18, 2006 inclusive.

### 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 STSCO. 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 Overview of Consortium

### 2.1 Introduction to STSCO

STSCO was formed in 2004 under the Consortium Agreement between its Partner Boards, PVNC and KPR. STSCO is an unincorporated organization whose mandate is to provide student transportation services for the geographical area served by the Partner Boards. The Conseil Scolaire de District Catholique Centre-Sud (CSDCCS) currently purchases services from STSCO to serve its three French language schools in the area. CSDCCS plans on becoming a full Consortium Partner Board by fall of 2007.

Table 2 contains information submitted by the boards to the Ministry as part of the 2005-06 Transportation Survey. This information provides a snapshot of the boards' current operations.

Note that this information covers all of PVNC (including the portion of PVNC that is coterminous with Trillium Lakelands District School Board).

**Table 2: 2005-06 Transportation Survey Data**

Item	PVNC	KPR	CSDCCS	Total
Number of schools served	38	94	3	135
Total special needs <sup>1</sup> transported students	247	359	0	606
Total riders requiring wheelchair accessible transportation	33	84	0	117
Total specialized program <sup>2</sup> transportation	1,067	2,610	0	3,677
Total courtesy riders	0	731	0	731
Total hazard riders	627	1,755	10	2392
Total students transported daily	10,554	21,693	182	32,429
Total contracted full- and mid-sized buses <sup>3</sup>	170	357	2	529

---

<sup>1</sup> Includes students requiring special transportation such as congregated and integrated special education students that require dedicated routes and/or vehicles; students that must ride alone; students that require an attendant on the vehicle.

<sup>2</sup> Includes students transported to French immersion, magnet and gifted programs. Students with special needs that are transported to specialized programs are captured as special needs transported students.

<sup>3</sup> Includes full-sized buses, mid-sized buses, full-sized buses adapted for wheelchair use and mid-sized

Item	PVNC	KPR	CSDCCS	Total
Total contracted mini-buses	24	62	1	87
Total contracted school purpose vehicles <sup>4</sup>	3	6	0	9
Total contracted physically disabled passenger vehicles (PDPV)	16	27	1	44
Total contracted taxis	66	55	0	121
Total Number of Contracted Vehicles	279	506	5	790

**Table 3: 2005-06 Financial Data<sup>5</sup>**

Item	PVNC	KPR	CSDCCS
2005/2006 Allocation	\$9,684,319	\$16,149,445	\$13,363,914
2005/2006 Expenditure	\$8,876,741	\$16,107,309	\$14,857,246
2005/2006 Surplus (Deficit)**	\$807,578	\$42,136	\$(1,493,332)
Percentage of transportation expenditure spent for STSCO services	84%	100%	3%

\*\* Note: Represents surplus (deficit) for entire board including coterminous expenditures

---

buses adapted for wheelchair use; all vehicle counts are rounded to the nearest whole number

<sup>4</sup> Includes school-purpose vans, mini-vans and sedans.

<sup>5</sup> Based on data submitted by boards to the Ministry – see Appendix 1.



## **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 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 Consortium Management as shown below:

### **Consortium Management – E&E Rating: Moderate-High**

### **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 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**

##### **Consortium Agreement**

STSCO is an unincorporated entity that is governed by its Partner Boards, PVNC and KPR, that was established to provide student transportation services for the jurisdiction

covered by each Partner Board. The Consortium Agreement defined STSCO's role as a common administrator of transportation services for students with the exception of charters and established termination, indemnification, insurance and oversight requirements. In addition, a dispute resolution mechanism was defined to ensure a structured and rational approach to addressing conflicts between any of the parties to the agreement is in place. The Consortium Agreement does an excellent job of defining the roles, responsibilities, and requirements of each stakeholder in the Consortium.

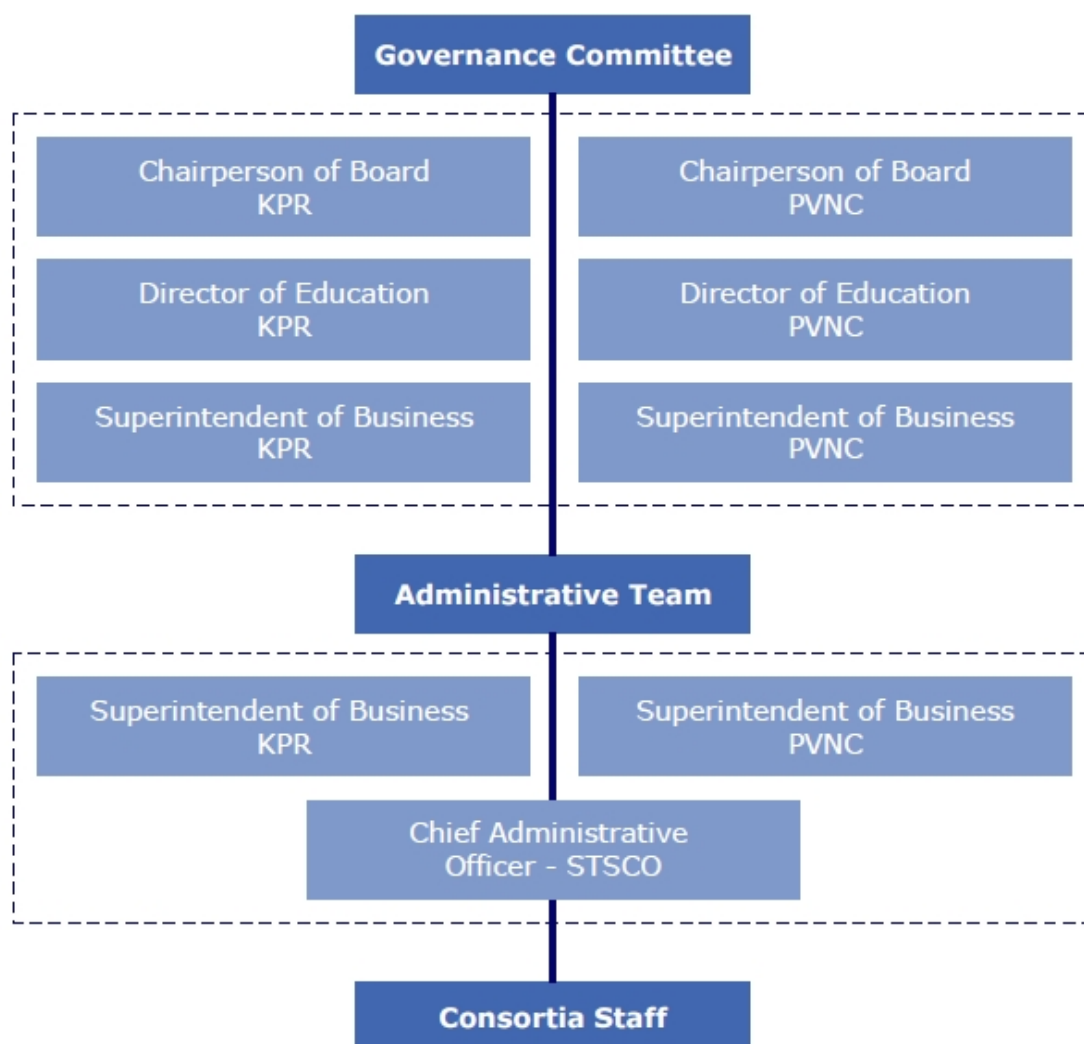
The Agreement also contains an excellent provision regarding cost sharing and managing the impact that decisions by individual Boards have on Consortium operations. The cost sharing policy allocates overhead costs to each Board on an unweighted per student basis while operating costs are allocated based on a weighted per student count. This method provides an equitable distribution of costs between the Boards for the resources they consume. The Agreement contains a requirement that if a Board changes its current policies and the effect could be significant to the operations of STSCO, then the Partner Board wishing to change its policy has to consult with the other Partner Board and notify STSCO of any changes, and provide them with sufficient notice to implement those changes. The combination of these provisions promotes the idea that the Boards are partners in the Consortium and that decisions they make have an impact beyond their own students which must be considered in the overall cost or quality of transportation services.

### **Governance Structure**

STSCO has a three tiered operational structure including a Governance Committee, an Administrative Team and a staff complement. The Governance Committee is comprised of three representatives from each Partner Board (Chairperson, Director of Education and Superintendent of Business). When CSDCCS becomes a full Partner Board in the fall of 2007, they will also have equal representation on the Governance Committee by adding three members from their board to the Committee with the same roles and responsibilities as the current members. The selection of members is defined in the Consortium Agreement and is based on each Partner Board appointing the members based on their position as indicated. It was noted that the inclusion of elected officials on the Governance Committee may have assisted in the development of the Consortium by streamlining communications between Partner Boards. The Governance Committee under its current composition appears to be functioning well. Recognizing that each Consortium site may have unique circumstances, a similar composition may not necessarily provide the same benefits or function in the same manner.

The Administrative Team is comprised of the Superintendents of Business from each Partner Board and the Chief Administrative Officer (CAO) of STSCO. The Superintendents are responsible for reporting all transportation related matters to their respective Board. The staff complement is managed by the CAO but each individual is a direct employee of one of the Partner Boards. Figure 4 details the current structure.

**Figure 4: Reporting Structure**



Under the existing structure the roles and responsibilities of the Governance Committee are clearly defined and are focused on ensuring proper strategic guidance to STSCO. Notable responsibilities of the Governance Committee include budget authority, approval of changes to service delivery parameters, communication with stakeholders

through the publication of an annual plan on STSCO's performance, and mediation of issues presented by the Administrative Team. It is important that the Governance Committee, as the oversight body, function solely as a direction-setting and decision making body. Ensuring that the roles and responsibilities of the Governance Committee and the separation with the Administrative Team are strictly followed will help sustain the effectiveness of both groups. A formal structure is in place to present issues for resolution and record the proceedings of Committee meetings.

The Administrative Team is the liaison between daily operations and the Governance Committee and Partner Boards. The role of the Administrative Team is generally more tactical in nature and as a result its responsibilities are more focused on STSCO's day to day operations and activities. The CAO reports to the Superintendents of Business to address budget matters, operator issues, negotiations, staffing, policy issues impacting transportation and those that should be submitted to the Governance Committee. Again, this structure is an effective mechanism to provide oversight of the Consortium.

### **Services Purchased from STSCO**

In addition to serving the Partner Boards, STSCO provides student transportation services to CSDCCS and also to the Area First Nations (including Curve Lake and Hiawatha). CSDCCS is in discussions with STSCO to become a full Partner in this Consortium. These discussions are expected to be finalized before the end of the 2006/2007 school year. At this time, service purchasers (i.e. CSDCCS or Area First Nation) are not involved in the governance or administration of STSCO services. It was also noted that there were no formal agreements in place with service purchasing groups. Services purchased by CSDCCS are provided at cost plus administrative fee basis. The cost is determined based on the Rate Formula negotiated by STSCO with the Bus Operators Association (BOA). The administrative fee is 2.5% of total costs. Services purchased by the First Nation groups are charged at cost.

### **3.2.2 Best Practices**

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

- STSCO has an agreement in place between Partner Boards. The Agreement contains sufficient detail on key provisions such as cost sharing, dispute resolutions, oversight, and role of the Consortium. This is important in that the Agreement clearly defines the relationship between the Partner Boards in the delivery of safe, effective and efficient student transportation services. Since the Partner Boards have signed the Agreement, it acts as the legal document

governing STSCO;

- STSCO has an oversight body (Governance Committee) which has equal representation from each Partner Board. This is important as it ensures fairness and equal participation in decision making and it ensures the rights of the stakeholders are considered equally;
- The roles and responsibilities of the Governance Committee are documented clearly in STSCO's Consortium Agreement. This ensures that there is no ambiguity in the function of the Governance Committee. It allows for effective and efficient decision making as the Committee can refer to their defined roles and responsibilities when faced with issues.;
- The Governance Committee meets regularly. In order to be effective, the Governance Committee should meet regularly to keep up to date on the operations of the Consortium including financial performance and achievement of operational plans. Additionally, regular meetings will allow for timely decision making;
- Minutes of meetings are kept and approved, action items are followed up. Records of each meeting are essential to ensuring the integrity and transparency of the governance process; and
- The Governance Committee is responsible for the guidance of STSCO and approval of major items, and the Governance Committee defers non-oversight issues to the Administrative Team. It is important that the Governance Committee focus on providing an oversight role which means that they are not involved in daily decision making. It would be inefficient and ineffective if daily operational decisions needed prior approval from the Governance Committee.

### **3.2.3 Recommendations**

#### **Services Purchased from STSCO**

Currently, STSCO sells student transportation services to CSDCCS and the Area First Nations groups. However, there are no formal contracts in place with these parties. Formal contracts protect the Consortium by clearly identifying scope of services and fees. Without a contract in place, there is a higher risk that disputes could arise over misunderstandings. Formal agreements should be established for all services sold to ensure that key elements such as scope of services provided, fees, insurance/liabilities,

quality of service, dispute resolutions and term are clearly articulated and agreed upon prior to the delivery of service.

### **Charges to Service Purchasing Boards**

STSCO should evaluate the manner in which it determines overhead charges to purchasing Boards to ensure charges are reflective of actual overhead costs. STSCO charges CSDCCS an administrative fee of 2.5% over and above the bus contract costs. However, there is no administrative fee charged to the First Nation groups. Currently, STSCO's administrative costs are approximately 4% of home-to-school expenses. Accurately calculating the administrative fee will allow STSCO to ensure that each Board is paying a fair and equitable portion of management and administrative costs for the services provided. Given that CSDCCS is expected to become a member of the Consortium and that this board represents the largest purchaser of services, addressing this issue would be a proactive effort to properly account for the cost of providing service to any future Purchasing Board.

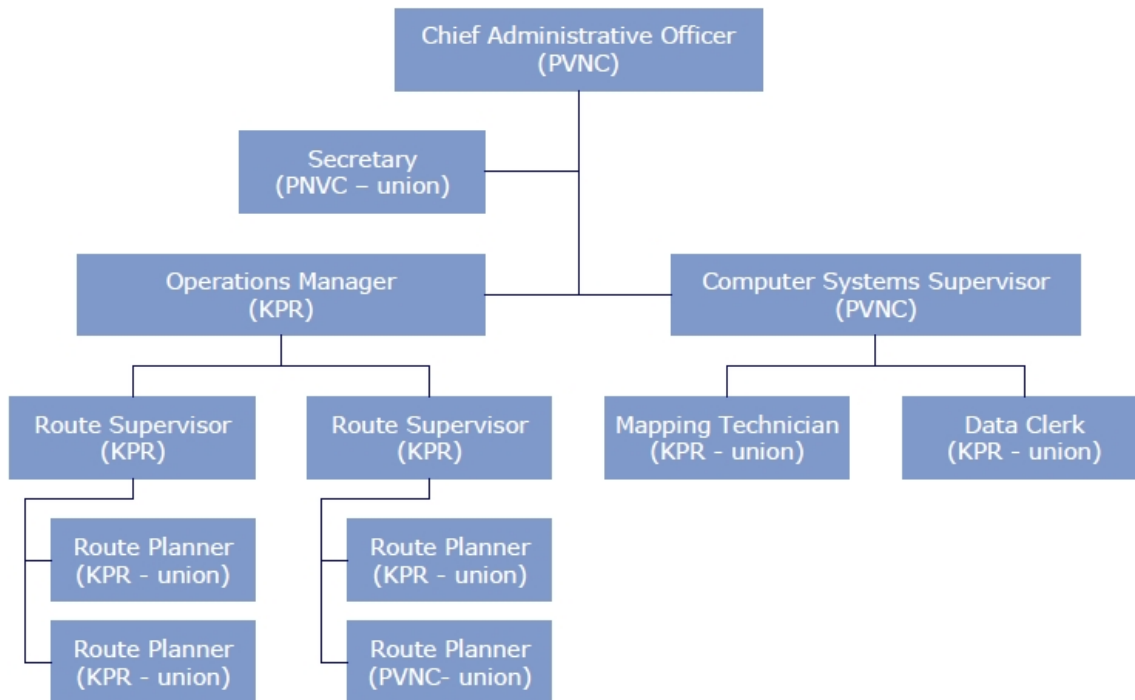
## **3.3 Organizational Structure**

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 are 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**

STSCO's organizational structure is such that reporting relationships are clear. The structure is managed by the Chief Administrative Officer (CAO). The CAO leads two distinct, yet co-dependent, departments; Operations and Information Technology. Since STSCO is not a separate legal entity, the employees of STSCO are direct employees of either PVNC or KPR and are either unionized or non-unionized. Job descriptions clearly establish the areas of responsibility for specific staff members and delineate responsibility for management and oversight of specific functional activities performed including routing, systems management, contract oversight and management. The organizational chart shown in Figure 5 depicts the structure and also has reference to the legal employer and to whether the position is unionized or not.

**Figure 5: STSCO Organizational Chart**



Given that STSCO staff is comprised of employees from both PVNC and KPR including unionized and non-unionized positions, the employees of STSCO are subject to the administrative policies of their employer Board and unionized employees are also subject to the collective agreements of their respective union. STSCO has agreements in place with each Partner Boards' local CUPE representatives concerning staffing for STSCO that provides guidance on how new unionized positions are to be filled and by which Partner Board.

### 3.3.2 Best Practices

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

- STSCO has established a logical organizational structure with clear lines of communication and reporting. The organization has been functionally separated into Operations and Information Technology (IT) – this allows each functional area to have specific responsibilities and accountability. Additional support functions, such as IT and Accounting, are being performed at the Board level (refer to section 3.4.1);

- STSCO has a formal agreement of understanding in place between union representatives from both PVNC and KPR – this agreement will mitigate against potential future disputes as to entitlement for each position and hiring of new positions or replacement of union positions within STSCO; and
- STSCO has clearly defined the roles and responsibilities of staff member in job descriptions. Defining roles within the organization is important in ensuring staff understand the knowledge, skills and abilities required of their position; the purpose of their position within the organization; the scope of their authority and responsibility; and the chain of command that must be followed.

### **3.3.3 Recommendations**

#### **Entity Status**

The Partner Boards should explore the formal creation of STSCO as a separate legal entity. STSCO is governed by the terms and conditions outlined in the Consortium Agreement entered into by the Partner Boards. Although not a separate legal entity, it is recognized that STSCO is functioning well at the current time. Over the long term, changing political environments and potential disputes amongst the Partner Boards could cause this structure to destabilize. The formalization (through incorporation or legal partnership) of STSCO would provide benefits from an organizational perspective, and in particular, allow staff to address some of the issues relating to funding, liability, staff management and contracts as outlined in this report.

## **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 monitoring as well as ensuring risks are managed by having appropriate contracts and agreements in place to clearly define business relationships.

### **3.4.1 Observations**

#### **Operational Plans and Key Service indicators**

STSCO reviews the E&E of its operations annually to determine the need for operational improvements. The cycle of review begins in December/January with an internal review of options for improving operations. This is followed by a presentation to the Administrative Team, Governance Committee and Partner Boards in February for



endorsement, a review with principals in March, public consultations if required and a final planning and implementation process from June to August.

Defining the goals and missions of an organization is an important element in establishing an organization's identity and focus. STSCO has established mission and vision statements and in 2006, began to develop a long term operational plan covering 3 to 4 years in the future. There were three main areas of focus (key service indicators) identified:

- Service to Students – focusing on communication strategies, route planning, and programming;
- Pursuit of Efficiencies in Transportation Networks – revisiting bell times and looking at the use of flexible school day options with the target of reducing ten (10) bus routes per year; and
- Foster Sustainable Transportation Provision – building and maintaining positive relationships with Operators, and focusing on student safety.

STSCO's commitment to measuring and evaluating the performance of its operation and regularly evaluating the strategy and techniques it uses to manage transportation has allowed for the reduction of more than 10 bus routes per year since its inception. As previous inefficiencies are eliminated from the system, this level of reduction will become more difficult to replicate but the performance review process established will continue the implementation of best practices to meet the competing and contrasting requirements present in all transportation operations.

### **Staff Management**

When STSCO was formed, staff were hired from existing positions within their respective Partner Boards. This limited the disruption that creating the new organization could have caused because employees were already trained to perform the functions of the new positions in STSCO. However, STSCO management are conscious of the need to promote regular refinement of skills and abilities and have established an annual performance planning and review process for employees that is modeled after the Partner Boards. This allows managers to link employee goals and objectives to the larger goals established annually by STSCO.

### **Support services**

A critical management function is determining what services should be provided and

what services are more effectively purchased from outside vendors. STSCO managers have a rational process for evaluating support services that includes purchasing services from Partner Boards and outside vendors. Accounting services are provided by KPR and PVNC provides IT support services. Each Board has agreed to provide these services at their own cost without any charge back to STSCO. This arrangement is documented in a memo to the Governance Committee. Legal services are provided by either of the Partner Board's consultants on an as needed basis at rates consistent with those provided to the Partner Board. Given that translation services are currently not required for the services STSCO provides, it is anticipated that CSDCCS will be responsible for all costs incurred related to translation services when it joins the Consortium. STSCO's external service contracts include software (MapNet) and interactive voice response system (IVR – Ontira) support and custodial services with a local provider.

### **3.4.2 Best Practices**

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

- STSCO has a formal process in place to monitor staff performance. This process includes assisting staff in setting goals and helping them to achieve these goals. This is a best practice since it will help to motivate staff and ensure that the STSCO has top talent working for them; and
- STSCO is a new Consortium and within its second year of operations has developed a long term plan for improving operations. Detailed, long term planning demonstrates that the Consortium is committed to achieving its mandate of providing safe, effective and efficient student transportation services.

### **3.4.3 Recommendations**

#### **Support Services provided by Partner Boards**

STSCO, along with the Partner Boards, should revisit their provision of support services to ensure it is equitable and fairly captured as an administrative and operational cost of providing student transportation. This will become more important as membership in STSCO expands. Each Partner Board is currently providing a support service to STSCO at their own cost without a charge back to STSCO. KPR is providing the accounting function and PVNC is providing the IT function. By not allocating a cost for these services to STSCO then the operational expenses of STSCO are being

understated and the true cost to STSCO of providing student transportation services may not be captured. Additionally, if one service is more costly than the other, one Partner Board is paying more than required which leads to inequities in the way they are sharing costs. STSCO should also assess whether all costs are being captured – for example, payroll administrative costs, and superintendents time.

### **3.5 Financial Management**

A sound financial management process ensures the integrity and accuracy of financial information. This includes the internal controls that exist in the accounting process and ensuring that a robust budgeting process is in place which provides for accountability in decision making. This section will also review past financial performance of the Consortium over a minimum of 3 years to gain an understanding of any major variances year over year with the goal of understanding what decisions the Consortium has made which have either increased or decreased transportation expenditures.

#### **3.5.1 Observations**

##### **Accounting**

STSCO effectively acts as a department of KPR in terms of verification of financial data. KPR is responsible for performing all accounting functions on behalf of STSCO. KPR uses its own accounting software and distinguishes STSCO accounts through account coding. STSCO has its own chart of accounts which clearly distinguish STSCO costs from KPR costs and allows for ease of allocating expenses. There are three account code types – one purely KPR expenses, one purely PVNC expenses and one shared expenses. The expenses attributed to each Board exclusively are charged to their specific code at 100%. The other costs that are shared are charged to the shared codes and at month end are split amongst each Board as per the cost sharing mechanism (refer to section 3.4.1). STSCO's main expenses are for transportation contract costs. Contracts are negotiated with STSCO but are signed by the Superintendents from each Partner Board.

Invoices are received by STSCO's Transportation Secretary who is responsible for coding invoices and entering invoice details into KPR's electronic Purchase Order system. The CAO reviews each invoice and signs off before sending to KPR's Superintendent of Business (SBO) for approval. KPR has its own internal policies on approval limits and internal controls as to reviews and sign offs. Once appropriate verifications and approvals have been received, KPR's accountant will input information

into their financial system for processing. All invoices are paid through KPR's bank account. At month end, amounts are reconciled and expenses are charged back to PVNC as appropriate based on the shared cost agreements laid out in the STSCO Agreement.

### **Budget Planning and Monitoring**

The Partner Boards set a budget development timetable for the CAO that includes budget development in April and May and establishment of a final budget by June. In preparing the budget, the CAO is budgeting for a balanced budget using each Partner Boards guidelines.

The budget breaks out expected costs/revenues by Board and by account to facilitate a review and analysis by the Administrative Team on the recommended budget prior to approval by the Partner Boards. This well-defined process allows each Board to understand its projected transportation costs and evaluate the impact that any proposed changes to service delivery may have.

After the budget is finalized, KPR provides the CAO with a report tracking the actual expenditures versus the budgeted expenditures on a monthly basis. Additionally, KPR presents a quarterly variance report to STSCO. The CAO is responsible for reviewing the reasonableness of overall expenditures and variances in budgeted amounts. On a semi-annual basis, the CAO presents the financial results including comparison to budgeted amounts to the Governance Committee. Should a situation arise where costs are exceeding budget, the CAO would prepare a report for the Administrative Team to decide on a course of action and remedy to report to the Governance Committee. This is again an excellent process that allows each Board to regularly monitor transportation expenditures and to utilize the knowledge and expertise of the CAO to understand why budget variances may be occurring.

### **Financial Performance Review**

The financial results of both Partner Boards for the years ending 2005 and 2006 as well as the budgeted performance for the year ended 2007 are found in Appendix 1. The major variances year over year are explained by Board below.

#### ***KPR***

Administrative Expenses have remained at approximately 4% of total expenses year over year. There was a slight increase in operational expenses in the year ended 2005 as each Board incurred significant expenses related to the setting up of STSCO.

Home to School Expenses have increased from 91% of total expenses in 2004 to 96% in 2007. This is due to the shift from Other Expenses (which included transfer to other boards) to Home to School once STSCO was formed. Within Home to School expenses, there has been a significant increase in special needs transportation which has jumped by 240% from 2004 to 2007 compared to regular transportation which has only increased 17% since 2004. This increase is in part because the special needs costs have been tracked more accurately over the past couple of years.

Other Expenses have declined from 5% of total expenses in 2004 to nil in 2007 – see explanation under Home to School Expenses.

KPR also has revenue from other boards which represents revenue earned from services purchased by CSDCCS and the Area First Nations. KPR accounts for all revenue and expenses associated with Service Purchasing Boards and does not allocate amongst Partner Boards to reduce administrative duties associated with this process.

## **PVNC**

Administrative Expenses have increased slightly from 2% of total expenses to 4% of total expenses. Increase is mainly due to additional operational expenses incurred when the Consortium was formed.

Home to School Expenses have increased from 91% of total expenses in 2004 to 95% in 2007. This is due to the shift from Other Expenses (which included transfer to other boards) to Home to School once STSCO was formed. Within Home to School expenses general contracted transportation has declined slightly over the years while special needs transportation has increased by 46%. The main reason for the perceived increase in special needs transportation is due to an increased focus on tracking these types of expenses as separate items.

Other Expenses have declined from 6% of total expenses in 2004 to 1% in 2007 – see explanation under Home to School Expenses.

Discussion with STSCO staff indicate that KPR has historically been in a deficit position while PVNC has historically been in a surplus position with regard to Transportation funding and expenditures. The reasons provided are as follows:

- KPR – Deficit is driven in part by historical funding that was locked in 1997 combined with an increase in the cost of delivering special education transportation. In addition, KPR has several program offerings. Since these

specialized programs will likely be found only in a few schools, children attending these specialized programs may require transportation that would otherwise not be needed; and

- PVNC – Surplus position – mainly due to historical funding that has remained in place. This Board does not offer many special programs. Recently they have built more schools which decreases need for transportation and related costs.

### **3.5.2 Best Practices**

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

- STSCO and its partner Boards have established appropriate policies and internal controls for the accounting of STSCO revenues and expenses. The accounting function is performed at the Board level however there is a first review and approval (including coding of accounts) at the STSCO level. STSCO is not able to disburse funds therefore the second level of reviews occurs at the Board level prior to disbursements, this protects the Consortium and Boards against fraud and/or errors in accounting;
- STSCO, in working with KPR, has developed a chart of accounts which clearly separates Board specific costs (charged 100% to the Partner Board) and shared costs. This has allowed them to allocate costs amongst Partner Boards more effectively and efficiently; and
- STSCO has established a process, in conjunction with its Partner Boards, that allows budgets to be prepared on a timely basis. The budget monitoring process in place forces the CAO to be accountable for transportation expenditures through regular reporting to the Governance Committee. This process ensures that the CAO of STSCO is accountable for its financial operation.

### **3.5.3 Recommendations**

#### *Revenue/Expenses from Service Purchasing Boards*

STSCO should review its approach to the allocation of administrative fees recovered from service purchasing boards. Currently, KPR accounts for all administrative fees and related expenses from Service Purchasing Boards. The majority of fees are collected from CSDCCS who will become a full partner by the end of year, in which case the potential fees would not be material. As with the previous recommendation on overhead

cost allocations, a proactive review of this process should be conducted to ensure that inequities between Partner Boards are mitigated. Assuming some level of administrative assistance is provided by each Board, allocating recovered administrative fees and costs amongst Partner Boards promotes fairness and equity between Boards.

### **3.6 Results of E&E Review**

Consortium Management practices at STSCO have been assessed as moderate-high. STSCO has demonstrated that it is operating in the best interest of both Partner Boards. They have appropriate organizational and oversight structures and practices in place to ensure accountability and transparency. The financial management process ensures appropriate controls are in place to protect assets and ensure the accuracy of financial reporting to the Partner Boards.

The independence of STSCO from its Partner Boards is currently limited to its physical location. Although not a Ministry requirement for Consortia delivery of services, becoming a legal entity would allow the Consortium to address some of the issues related to contracting and governance that the E&E Review Team have identified. It would also give the Consortium the autonomy to make decisions in the interest of all students without the potential for influence on its day-to-day operations given the direction of the Governance Committee. Once the Consortium is its own legal entity, it can focus on developing administrative and operating policies independent of the Partner Boards. It can also negotiate its own support services ensuring that costs are appropriately charged to the Consortium in order to truly understand all costs associated with providing student transportation services.

STSCO is continually identifying areas for improvement and seeking opportunities to optimize their operation. This emphasis on continuous improvement, which stems from the direction provided by senior level staff and the Governance Committee, illustrates the amount of potential this organization has to improve service and become a highly effective and efficient operation.

## **4 Policies and Practices**

### **4.1 Introduction**

The policies and practices review area focuses on the Consortium and Partner Board's transportation policies that are in place as well as how they translate into practice on the ground. The analysis will focus on four key areas:

- Transportation Policies;
- Route Planning;
- Safety Programs; and
- Special Needs and Specialized Programs.

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 overall E&E assessment of Policies and Practices as shown below:

### **Policies and Practices – E&E Rating: Moderate-High**

### **4.2 Transportation Policies**

Transportation planning policies establish the foundation for the provision of transportation services and establish the parameters for the overall effectiveness and efficiency of the system. The key areas of assessment in this section are the completeness of established policies and the degree of policy harmonization between the Boards.

#### **4.2.1 Observations**

##### **Policy Infrastructure**

Transportation policies form the foundation of the operating structure of every transportation operation. Establishment of policies for the key aspects of the operation, including eligibility requirements; student rules and disciplinary procedures; bus stop location and review criteria; desired ride length; and special education transportation procedures is important because they provide a concise reference point for parents,



Board staff, students, and Operators as reference for when different situations arise. STSCO and its Partner Boards have generally developed an appropriate array of policy statements and have harmonized those statements in a manner that provides the guidance necessary to all STSCO staff to effectively manage the transportation program. Of particular note is the policy requiring parents to transport students who attend schools that are outside of their defined attendance boundary.

Despite the generally positive assessment of the policy infrastructure, concerns about walk distances, courtesy ridership and hazardous transportation, ride times, and fleet age policies exist. Walk distance policies are established where access to school is not limited by the distance a student lives from his/her school. At the time of the E&E Review, these policies had not been harmonized between the Partner Boards. It was expected that a phase in of harmonization to align with the lesser of the two distances would occur if additional funding is available. Until policies are harmonized, STSCO Route Planners may be unnecessarily constrained in developing its routing schemes.

Courtesy and hazard trips are provided on an exceptional basis. Courtesy trips are provided to students if they can be accommodated using the existing route, both morning and afternoon, within the current network. In 2005-06, KPR's courtesy riders accounted for approximately 3% of all transported students while there were no courtesy riders for CSDCCS or PVNC<sup>6</sup>. Hazard transportation may be provided within the set eligibility distances where there is a lack of appropriate walkways or where major roadways must be crossed. While there is no policy to detail what warrants a hazard, STSCO relies on experience and best practices when considering hazards. It is also understood that some hazard coding is based on historical conditions that have not been updated. Hazard riders account for 3.5% of all KPR transported students, 5.5% of all CSDCCS transported students and 6% of all PVNC transported students<sup>7</sup>. The management and administration of students that are not generally eligible for transportation services requires staffing resources that may be better allocated to analyzing alternative routing schemes as detailed in section 5.2.3.

Student ride times are an important gauge of service levels given their potential impact on student performance and participation in after school activities. The intention of a ride time policy is to ensure that no students are subject to unreasonable bus stop pick up, ride length, and drop off times. The policies of the Partner Boards have been harmonized at a level that is reasonable and slightly lower than common practice

---

<sup>6</sup> Based on Ministry Survey Results 2005-06

<sup>7</sup> Based on Ministry Survey Results 2005-06

(Appendix 2) across the Province for students up through the 8<sup>th</sup> grade.

However, implementation of the policy has led to a limited number of KPR students experiencing rides longer than the established policy. While long bus rides to outlying areas are inevitable in large geographic areas such as the one serviced by STSCO, continued efforts should be made to minimize the number of students experiencing long bus rides.

Finally, STSCO has recognized in both its policy statements and its contractual requirements that vehicle age is an important component of vehicle safety. Both policy and contracts require that buses not be older than 12 years. There are provisions in place to provide for temporary use of a spare vehicle that is up to 15 years old. However, current practice has allowed Operators to regularly operate vehicles that are older than 12 years, although a program has been established to ensure that all active vehicles are no older than 12 years by 2009. While this is ultimately a contractual issue (See Section 6.4.1) that is being addressed by STSCO, knowingly allowing violations of policy should not be permitted for any length of time and any violation should result in consequences for the violation.

### **Bus stop placement**

Bus stops are located with consideration for sight lines, traffic conditions, traffic control devices, student densities, walking route safety, waiting areas for students, the number of students assigned to the stop and ease of loading and unloading at the designated stop. Students eligible for transportation may be required to get to an existing bus stop regardless of distance if a safe bus stop cannot be established within the eligibility distance, as confirmed by STSCO. Underlying STSCO basic transportation planning philosophy is the fact that parents are responsible for the custodial care of their children and for getting students to assigned bus stops. Practice follows this policy, and it is frequently applied due to the number of cul-de-sac and narrow roads within the STSCO jurisdiction where cottage-home development is on the rise.

With proper documentation of legal joint custody, alternate bus stops are permitted. For students residing at two addresses, provided that both addresses are within the same school catchment area; there is available space on the bus; and no changes are required to the exiting route or stops. Annual approval is required from the school principal and superintendent. This policy is limited to students who are at least nine years old and are able to correctly identify their route. In practice, this policy is followed and student information is updated and readily available to bus drivers.

## **Public Transportation**

The use of public transit as an optional mode can be an effective mechanism to both improve the efficiency of service and enhance existing service levels. However, use of this service must be carefully evaluated to ensure that service requirements similar to those of traditional school bus providers can be met. STSCO has a policy regarding the use of public transportation whenever feasible in the place of contracted school service and has developed a process to evaluate transit options.

Currently, Durham Transit provides home-to-school service for eligible students in the Bowmanville and Courtice areas of Clarington. In other municipalities, STSCO continues to communicate with local transit authorities concerning the potential to provide service to eligible students. STSCO has projected that annual student transportation fees in the range of \$400 per year per student is a competitive price and would result in savings to the Partner Boards over using yellow school buses.

### *Communication to Parents*

Route and busing information is provided prior to school start-up through an Interactive Voice Response (IVR) 'call out' and 'call in' capabilities. Operators have the ability to post late and cancelled buses directly on the stsco.ca website through their MapNet access. The stsco.ca website provides the most up to date and accurate delay and cancellation information. As a secondary source, radio stations and school personnel can also relay information to parents. Also, a quarterly newsletter from STSCO is sent home with students, which communicates special announcements.

## **4.2.2 Best Practices**

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

- STSCO and its Partner Boards have developed a comprehensive and appropriate policy infrastructure that provides a framework for how transportation services will be provided and the expectations of both system users and service providers;
- Cost implications of service changes are conducted by STSCO and taken into consideration when making policy decisions. This is an important step in addressing stakeholder issues, and providing transportation service that considers varying needs of the community, students and schools; and
- Communication through the use of technology tools such as the stsco.ca website

and MapNet enhances the exchange of information between STSCO, Operators, and the community in a timely and accurate manner.

### **4.2.3 Recommendations**

#### **Exceptional Circumstance Trips**

STSCO provides service to a significant number of students through its courtesy and hazard area transportation policies. Management of these exceptional circumstances require particular vigilance to ensure that they do not adversely impact either the cost or availability of transportation to students who are eligible through established policy. In addition, the staff time required to incorporate these students on to existing bus runs may be better spent in developing and evaluating other alternative routing scenarios that may increase the overall effectiveness and efficiency of the routing scheme.

STSCO should thoroughly evaluate the provision of these exceptional circumstance trips and determine if it is still necessary to continue to provide services students who are otherwise ineligible for service.

#### **Maximum Ride Times**

Addressing issues of ride times is often highly or wholly dependent on the location of one or two groups of students within a vast geographic service area. STSCO's Route Planners already make efforts to ensure that runs are within policy guidelines wherever feasible. The policy and practice should be reviewed to ensure that all routing scheme options, including the use of transfer, relay, and combination runs, have been considered to narrow any existing gap between policy and practice.

Given that STSCO has no influence over where students reside it is possible that few if any additional alternatives are available, however, continued vigilance on the part of Route Planners to address this concern should be encouraged.

### **4.3 Route Planning**

The ability to maximize the use of each school bus is the foundation of effective and efficient transportation services. Proper consideration of all of the elements required to deliver high quality and cost effective services can only occur if the transportation operation has established a planning cycle that is forward looking. During the planning cycle, transportation managers are constantly trying to strike a balance between two opposing constraints, time required and distance to be travelled, in order to maximize

asset utilization.

#### **4.3.1 Observations**

##### **Planning Cycle**

The STSCO planning cycle is formalized, and involves a review by the Consortium, schools and Operators. Routes are tested well in advance of implementation, allowing sufficient time for necessary changes.

The formal cycle includes an internal review of options in December and January, followed by a presentation in February to STSCO administration, boards and the Governance Committee for endorsement. Operators are asked to assess revised routing plans to ensure the accuracy of scheduled routes and runs. Final planning and implementation occurs from June to August, allowing the Operators to receive route information in August for drivers to test routes and runs prior to September. The Consortium has done an excellent job in following this formalized cycle.

##### **Routing**

A variety of techniques are being used to promote effective and efficient routes. Effective and efficient routing requires matching the technique used to collect and disperse students with a wide variety of logistical challenges presented by geography, topography, and educational programming decisions.

The most useful approach is to utilize tiered runs and combination runs to maximize the use of available capacity. It was observed that approximately 42 percent of regular runs have more than one run. While this percentage is lower than would otherwise be desired, it is deeply impacted by the geography that must be covered.

Two primary planning techniques are being utilized to mitigate the limited tiering that is currently occurring:

- The first technique is to attempt to maximize the use of available seating capacity. Evaluation of afternoon routes indicated over 80 percent of available seating capacity being utilized for students eligible to ride. This value is consistent with industry best practices.
- The second technique is to utilize combination runs where a single bus visits multiple schools. Analysis of afternoon routes indicates that 35 percent of routes are designed to service two or more schools. Route pairings are generally made

with a focus on appropriate feeder patterns and combination opportunities. Given established Board policies they do not restrict the types of students that can ride on any specific bus the opportunity to develop combination routes (a single bus with multiple school destinations) is greatly enhanced. These combination runs also act as a hedge against the geographic and density challenges of the service area that limits the ability to tier routes.

An additional routing strategy used by STSCO includes the use of transfer points that are established on school property wherever possible in consultation with school principals. Although there are limited exceptions, the maximum number of transfers for any one student is one transfer. Establishment of transfer points follows a reasonable process that includes public consultations that may lead to adjustments (i.e. vehicle type, arrival and departure windows, bell time staggering) to make the transfer system more acceptable to all involved. STSCO has worked with CUPE locals to provide for suitable collective agreements to ensure adequate supervision at transfer points and provides schools with current information on transfer students in the event that a student does not know their next bus. There are 2,380 children using transfers, and these transfer points are used by all grades in both rural and urban areas.

### **Bell Times**

STSCO has a lead role in setting bell times, and works with Partner Boards to reach agreement on changes to the spread of bell times, as well as the number of schools affected. Utilizing planning parameters established in 2006, STSCO will evaluate school bell times on an annual basis to evaluate opportunities for efficiencies. STSCO will utilize the routing software to model the possible changes to bell times and estimate the cost impact to facilitate policy decisions at the Board level. When changes to a bell time are approved STSCO will meet with principals in schools affected by the changes and conduct consultation with school communities as needed to explain the rationale and impacts. This is an effective process that ensures policy makers are informed of the financial and operational impact of any time change and provides school staff with an understanding of why changes are required in an effort to build system wide consensus for the approach. This process will allow STSCO to continue its efforts to identify opportunities to improve the overall efficiency of its operations.

Given that STSCO has existed as a Consortium for a short period of time, there have been limited opportunities to restructure the routing scheme. However, the primary mechanism to realize service improvements and cost savings will be a redesign of the bell time schedule and associated routing plan. The current array of afternoon routes

includes 142 routes that are 10 to 40 minutes in length. Of these 142 routes, only 14 are paired for multi-tier runs. The remaining 129 routes generally will present the greatest opportunity for combination in a future route design. This effort should be the primary strategic and tactical focus of STSCO staff for the 2007-2008 school year.

To the extent that time constraints are added into the system, particularly restrictions on arrival and departure windows, it will become increasingly critical that STSCO evaluate the impact of alternative bell time schedules. In addition, the Partner Boards must be aware of the impact that reducing the time available for student drop off and pick up has on cost and service quality. All transportation operations require a balance of time and distance to effectively manage service and cost. If the amount of time available is reduced, the distance a bus can travel and the students it can pick up are also generally reduced. These reductions will likely lead to an increase in cost as more assets are required to transport the same number of students. The Partner Boards must carefully consider any change that constrains the ability of STSCO to maximize the utilization of contracted assets.

#### **4.3.2 Best Practices**

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

- The planning and scheduling of the transportation solution is completed and reviewed prior to the school year. This timely process ensures that any necessary changes to be made are identified, minimizing service disruptions at the beginning of the school year.

#### **4.3.3 Recommendations**

##### **Bell Times**

Review of existing routes and schedules indicate an opportunity to realize efficiencies through structural changes to bell times. STSCO staff should develop an array of alternative bell time scenarios designed to improve the overall ratio of tiered routes. While the current array of combination routes helps to mitigate inefficiencies inherent in a one tier system, the greatest opportunity for future cost savings is increasing the ratio of buses that are utilized across multiple tiers. Given that much of the administrative and organizational redesign efforts have been completed, redesign of the bell schedule and route network must be the critical element of focus. Capabilities exist within the Trapeze system to assist in this redesign.

## **4.4 Safety Programs**

The safety of transported students is paramount in any school transportation system. Developing a culture of safety requires that transportation managers work closely with students, schools, service providers, and the community to establish specialized programs targeted to the needs of each specific group. Additionally, driver training and student management procedures must be aligned to reinforce behaviour expectations and consequences for failure to comply with the expectations.

### **4.4.1 Observations**

#### **Student training**

STSCO has established a comprehensive safety training program for students who walk to school and for students who ride the bus. STSCO is a stakeholder in the 'Walking School Bus' program where volunteer parents walk groups of students to and from school. The 'First Rider' program is offered to all kindergarten students, and is designed to introduce both the students and parents to school bus safety rules through the use of a safety video, a review of school safety procedures and a ride on a school bus. In addition, 'Buster the Bus' is a program offered to students from junior kindergarten to grade three that reinforces rider expectations and safety procedures. School bus evacuation training is offered annually for kindergarten and elementary students, and on alternate years to secondary students. Where possible, training is coordinated with school principals and Operators.

STSCO also participates in the Active and Safe Routes to School initiative with the City of Peterborough. This is a committee that reviews sidewalk needs and adequacy. School student safety patrols are established where circumstances have warranted in terms of student safety on walking routes and younger students who may need help to board a bus. These are police-trained students who are monitored by supervisors.

#### **Driver Training**

All Drivers participate in Emergency Site Management training, including First Aid/Cardiopulmonary Resuscitation (CPR) training, as a requirement for employment. A re-certification of this safety training is required every three years. Drivers who transport students with special needs take additional specialized training. School Bus Driver workshops are also offered annually by STSCO. The sessions include topics beyond the required Driver training and are designed to broaden Driver expertise in areas of student management and other aspects of transportation.



## **Bus incidents and discipline**

STSCO has established student behaviour expectations and procedures that are in place to address violations. Violation of the discipline code requires that the Driver report the incident (using a standardized form) to the principal who then meets with the student. Depending on the severity of the incident, parents may be notified and bus-riding privileges may be suspended. The use and implementation of progressive discipline policies allow for appropriate consideration of circumstances without mandating a specific response. However, the procedures also ensure that Drivers can be confident that students who disrupt the bus, and thus jeopardize safety, will be dealt with in a timely and appropriate manner.

## **Bus accidents**

The procedure subsequent to a bus accident involves ensuring the safety of students, and establishing communication with emergency services, STSCO and schools. Additionally, the procedures state that school staff contact parents in the event of an accident as soon as notified of the same. Reports are provided to STSCO by the Operator using a standardized form. This procedure is appropriate and well defined.

### **4.4.2 Best Practices**

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

- STSCO provides low cost and high impact student safety training programs for elementary students who are transported as well as students who walk to school. The varied number of programs and methods utilized by STSCO to promote bus safety is indicative of a commitment to ensuring that students receive safe, and reliable transportation services. The inclusion of students who walk to school and the array of safety programs demonstrates a commitment to all students and not just the students who utilize their services directly;
- STSCO requires its Operators and Drivers to participate in Emergency Site Management training as a condition of employment; and
- STSCO utilizes the services of community stakeholders such as municipal traffic, engineering departments and emergency personnel to establish hazard boundaries with appropriate consideration of local constraints.

#### **4.4.3 Recommendations**

None

### **4.5 Special Needs and Specialized Programs**

Effective school transportation includes transporting students with special needs (mobility restrictions or behavioural issues due to cognitive conditions, attachment requirements and such) as well as transportation to specialized programs, which often involves transporting students from diverse locations to centralized program schools. Both of these types of transportation can put pressure on the efficiency of the system since they involve longer distances, lower demand densities, longer passenger dwell times, and in the case of special needs transportation, accessible vehicles.

Transportation consortia face a challenge in maximizing the efficiency of these systems in addition to attempts to integrate students and avoid having separate transportation systems. This section examines the policy approach to special needs and specialized transportation, and how well practice conforms to established policies.

#### **4.5.1 Observations**

##### **Program Placement and Student Management**

Board administration determines which programs are deemed specialized for the purpose of transportation planning. Planning the placement of these programs is performed by the SBOs of each Partner Board, and is based on supporting financial and service impact assessments provided by STSCO. In addition, efforts are made to incorporate students with special needs on regular runs where it is reasonable and appropriate to do so. Partner Boards also do an excellent job of consulting STSCO's transportation expertise when making decisions regarding vehicle requirements and the types of securement that is required. The consideration of transportation impacts stemming from program placement decision making and mainstreaming students into the larger home-to-school network are critical elements in controlling the cost of providing service to specialized programs and minimizing the impact of these programs on the overall effectiveness and efficiency of the system.

##### **Driver Training**

Management of students with special needs requires a clear understanding on the part of Operators and Drivers on what possible behaviours to expect in order to ensure safe

transport. A vigorous program of Driver training that is integrated with classroom behaviour management techniques can help promote the idea that the school bus is an extension of the learning environment. In addition, establishment and enforcement of consistent expectations of behaviour provides for useful consistency in a special education student's learning experience. STSCO works to ensure that Operators provide any Driver who may transport a student with special transportation the appropriate training and are knowledgeable of the individualized Emergency Response Plan for each student. This may include: sensitivity training and instruction on the securement of mobility devices and/or vehicle lift/ramp operation.

#### **4.5.2 Best Practices**

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

- Special needs transportation is provided only to students with a verified medical condition ensuring that resources are allocated to provide the appropriate level of service in terms of monitors and vehicle type. By understanding and assessing the mobility restrictions of students, more efficient transportation planning can take place.

#### **4.5.3 Recommendations**

##### **Specialized Program Transportation**

- Specialized programs, by their nature, are unique in that they may serve a broad array of students from across, potentially, the entire area serviced by STSCO. To the extent that it is possible to establish specific boundary areas where multiple programs exist across the Boards, these boundaries should be re-evaluated on a regular basis to ensure that transportation services can be effectively provided and that the possible integration of traditional home to school and specialized services are not limited by the location of the program.

### **4.6 Results of E&E Review**

STSCO has been assessed as being moderate–high in the area of policies and practices. The policies are well-communicated, concise and are followed in practice. The majority of policies have been harmonized among Partner Boards, and consideration has been given to accommodate boards which will join STSCO in the future.

STSCO has implemented a plan to reduce the average actual bus age to the policy age in the next few years from 15 years to 12 years which is their current policy. This should be accelerated as it will help to improve the safety of vehicles being used given the new standards that are in place for new vehicles.

STSCO's courtesy and hazard riders combined constitute approximately 10% of all riders. Although this is providing an effective service, it may not be efficient. A review of the cost of providing courtesy rides and of historical hazard coding may provide STSCO with additional opportunities for improved efficiency.

To attain a rating of High in the area of policies and practices, STSCO should continue with established plans to harmonize Partner Board policies and decrease the average vehicle age. In addition, STSCO should review its delivery of courtesy and special needs transportation to see if further efficiencies can be gained.

## **5 Routing and 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 five key components of:

- Software and Technology Use;
- Digital Map and Student Database Management;
- System Setup and Use;
- System Reporting; 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 the E&E assessment of Routing and Technical efficiency as shown below:

**Routing and Technology – E&E Rating: Moderate-High**

### **5.2 Software and Technology Use**

Modern student transportation routing systems allow transportation managers to make more effective use of the resources at their disposal. These systems allow for improvements in the management and administration of large volumes of student and route data. However, the systems must be fully implemented with well designed coding structures and effective mechanisms to extract and report data to all stakeholder groups. This section of the evaluation was designed to evaluate the baseline acquisition, setup, installation, and management of transportation-related software.

#### **5.2.1 Observations**

##### **Routing Software**

STSCO has purchased and has fully implemented the Trapeze routing software

package. STSCO has utilized Trapeze exclusively since its formation and each of the Partner Boards had also utilized Trapeze prior to the formation of STSCO. This long history with the system has resulted in a detailed understanding of system capabilities by STSCO management and technical staff. Senior staff have also articulated the scope of use for the package and how it is a critical element in achieving routing efficiencies.

### **Maintenance and Service Agreements**

Maintenance and service agreements are in place to provide for customer service. Maintaining the currency of the system is critical to ensure that opportunities for efficiency can be identified and evaluated. STSCO's update process includes annual version upgrades and fixes when they become available. Interviews with staff reported vendor responsiveness to be excellent. System maintenance is generally managed by STSCO technical staff. This maintenance includes virtually all software management and more limited hardware management. Annual database backups are stored on one of the Partner Board servers and map data is stored with the software vendor in the event of a database failure. These backups would allow for a timely restoration of base coding structures given the limited changes that occur to these data elements. Data management procedures have also limited the exposure of STSCO in the event of a database failure because batch file scripts have been created to provide for daily updates of all student records in the partner board systems. This would allow for the restoration of most records in a limited period of time. The greatest area of exposure is with the CSDCCS that is purchasing service from STSCO where there is much more limited automation of student file updates and most data is entered by hand.

### **Distributing Data**

Substantial efforts have been made to "push" as much data to interested third parties. Distributing data to third parties is an important benefit of system acquisition. Efforts made by STSCO to distribute data includes the purchase and use of MapNet web to allow for schools and Operators to access route data via the web and the purchase and use of IVR technology to allow parents and students to receive notice of route assignments for the upcoming school year. Of particular note was the development of a web-based tool that allows bus companies to update route information in the event of inclement weather, service breakdowns, or other incidents that will impact established schedules. This tool includes the ability for Operators to have a secure login to their routes and update the information and an informational page available to the public that notifies them of route changes. These efforts are also indicative of the understanding that the use of technology to minimize the disruption to daily operations (e.g., answering

of phones for basic routing questions) is a key element in improving the effectiveness and efficiency of operations staff.

## **Training**

Training presents the greatest opportunity for improvement in software use. Throughout the organization, detailed knowledge of system functionality is uneven. The Route Supervisors, Mapping Technician, and the Computer Systems Supervisor are the most knowledgeable users of the system. Route Planners have a general understanding of basic system functionality, but have not been trained on higher order system functionality. Training is done in a train-the-trainer model where Route Supervisors and technical staff are providing Route Planners with the majority of hands on training.

This limits the ability of route planners to reduce the daily operations burdens on Route Supervisors and their ability to support more strategic evaluations of routing efficiency operations.

### **5.2.2 Best Practices**

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

- STSCO uses a fully implemented and functional transportation software application that allows for the development, review, and analysis of existing and alternative routing strategies;
- STSCO utilizes the functionality of its routing software and associated technologies to push information to interested stakeholders, including Operators, parents and schools thereby minimizing the staff workload associated with generating basic informational reports and focusing efforts on route management; and
- STSCO has developed a rational process for backup and data recovery that considers the inherent value of the data, the time likely to be required to recreate the records, and the immediacy of the restoration requirements and balances these elements against the cost of various backup mechanisms.

### **5.2.3 Recommendations**

#### **Training**

Training of Route Planners is the critical short and medium term challenge for STSCO. While it is clear that STSCO staff have a baseline understanding of system functionality, a greater level of skill and expertise will be required to identify and implement efficiencies in the future. This training is also necessary to permit the Route Supervisors the opportunity to function as supervisors and oversee, rather than perform, the technical aspects of route design and development. This key interaction, between senior STSCO management and operations personnel, is highly dependant on the Route Planners ability to become effective users of all aspects of the transportation software.

While basic training on the tactical use of the system for issues like adding, removing, and changing stop locations has been provided more detailed training is required on the strategic use of the system to allow for the development of alternative routing scenarios that would allow for increases in efficiency and cost effectiveness. This training could be provided using a combination of vendors and in house staff. In addition the development of a regular in-service training schedule targeted to specific functional aspects of the system would ensure continued staff competency. This model was attempted once previously but the competing demands of establishing the joint operation resulted in the dropping of this approach.

#### **System Backup Procedures**

Ensuring data integrity and security is a key requirement for system management. Therefore, procedures must be in place to ensure a system or network failure can be remedied as quickly as possible and minimizes the disruption to the operation.

System backup procedures should be re-evaluated though changes may not be necessary. While the current approach is generally acceptable, STSCO should consider the use of more frequent backups of database content to available storage media. This approach would ensure that any unique circumstances (e.g., multiple pickup and drop-off locations due to custody issues, multiple program assignments for special education students) that are not fully documented in the student record are not lost.



## **5.3 Digital Map and Student Database Management**

This aspect of the E&E Review was designed to evaluate the processes and procedures in place to update and maintain the student data and map data that forms the foundation of any student transportation routing system.

### **5.3.1 Observations**

#### **Digital Map**

The digital map in place is sufficiently current to support efficient routing. The current digital map was developed originally for use by both Partner Boards and has been adjusted to reflect changes in development over time. The map is reported to have nearly 100% valid addressing for transportation- related addresses, including both school and student locations. Processes have been established to allow for internal (e.g., route supervisors and route planners) and external consumers (e.g., bus companies and schools) to notify STSCO of changes to or concerns about data provided on the map. In addition, the Mapping Technician has established useful working relationships with local planning organizations in order to obtain access to data and information regarding changes that may impact the completeness or adequacy of the map data.

#### **Map Management**

The current organizational structure (refer to Figure 5) provides for a single point of contact on all map related issues and ensures both accountability and consistency in map management. STSCO has established an arm of the organization that is responsible for the management and administration of software and technology issues. While unusual, this approach has the distinct advantage of centralizing responsibility and accountability for management of the map and student data used in the system. This organizational approach also allows direct line users of the system (Route Planners and Route Supervisors) to focus on learning and understanding what the system does and how it can improve operational effectiveness and efficiency rather than how it works and the technical operation of the system.

#### **Default Values**

Management of default values helps promote accurate route timings. Default values were established at the time of amalgamation by STSCO technical staff. This included setting road speed values, default loading times, seating criteria, and travel restrictions.

Route Supervisors also have authority to make changes to these elements based on feedback received from route planners and contractors. Authority is established in this way because the route planners have the greatest understanding of their areas of responsibility. Limiting change authority to these key data elements is also an important tactic to ensure that the map reflects actual operating conditions to the greatest extent possible. For example, road speeds may vary across the given time tiers. While it may be advantageous to one Route Planner to adjust road speed to more accurately reflect the times in their limited area, this change may adversely impact all of the other buses traveling over that same segment of road in a given day. This situation is most likely to be recognized by someone with a broad perspective on the entire routing network. Use of these techniques is primarily designed to improve the ability of the software to effectively route students given local conditions at any given time. In areas with significant construction activities, seasonal road closings, or limited access during development the establishment of these areas can greatly facilitate the accuracy of route design.

### **Map Accuracy**

Processes are established to utilize third party input to improve map accuracy. At least semi-annually contractors are provided with route verification forms that are designed to verify stop loads, times, and route directions. These forms are returned to the Route Planners and any changes are investigated to determine the reason for the differences. Efforts are made to utilize the data collected to ensure that the routing software accurately reflects operating conditions on an "average" day.

Additionally, STSCO has created a formal documentation process for map alteration requests that allow for the retention of key updates and changes to the baseline geocode.

### **Data Management**

The Computer Systems Supervisor has worked with the software vendor to design a batch updating process that retrieves all student data from the Partner Boards on a daily basis and matches these records against the existing transportation databases. A validation routine has been established to identify differences between the student record and any existing transportation record. This allows for the identification of changes to school assignment or student address. However, data entry at the school sites often does not include important transportation related data elements (primarily a Township identifier) that results in significant effort to update the records. The batch routine also establishes program coding conventions that allow for the identification of

new un-matched students in the transportation database. This routine allows the Route Planners to more effectively triage their daily assignments.

## **Coding Structures**

Establishing effective coding structures begins at system setup and requires a comprehensive understanding of what organization processes the software will be designed to support. For example, it is essential that the software support the effective management of contract requirements.

Therefore, coding structures must be established that reflect contractual requirements, which in the case of STSCO required the establishment of both large bus and small bus codes and board specific student allocations. Beyond this basic requirement, organizations should ensure that coding conventions reflect the data needs of both required and desired reporting requirements. Finally, basic operational analysis (such as calculating cost per bus by route type) requires establishing route coding structures to facilitate the efficient extraction of this data. STSCO has established coding structures consistent with these requirements including the establishment of custom fields added to the transportation database to facilitate reporting requirements of internal and external consumers such as the Ministry. The established codes are developed based on a mix of operational requirements including Ministry reporting, billing requirements, and annual efficiency reviews. Examples of efforts to improve the utility of the coding conventions include program coding that identifies special transportation requirements coupled with additional codes that manage specific needs. Additionally, a series of transfer codes have been established in the system that both identify the runs as transfers and validate the route times to ensure that no transfer start time is prior to a route end time. STSCO staff worked with the software vendor to develop a method to allocate students to runs based on the board they come from. Post editing of extracted data is still required but the process has been enhanced due to the technical skills of STSCO staff.

### **5.3.2 Best Practices**

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

- STSCO has recognized the importance of an accurate map and complete and accurate student data through its organizational design by focusing accountability for each of the elements in specific positions that ensures that map data and student records are managed consistently and limits the potential for conflicting changes or overwriting of previous work due to miscommunications between

staff;

- STSCO has implemented a process that utilizes regular input from drivers to validate the condition of the map and allows for the calibration of road speeds, travel times, and distances between stops; and
- STSCO has developed a useful and logical coding structure that will adequately support both internal analytical requirements and external reporting requirements.

### **5.3.3 Recommendations**

#### **Completeness of Data Entry**

Improvements continue to be needed in the completeness of data entry at the school sites. While established transportation records are generally unaffected by limited missed data entry (particularly of the Township record) it does create a need to review and verify the record, thereby reducing the effectiveness of that position. Each Partner Board continues to make efforts in this area (including the addition of limited drop down menus into the Trillium student database) and these efforts should continue. While it is unlikely that all of these issues will ever be completely "solved", controlling the magnitude of the disruption caused by incorrect student records will remain essential to the effective provision of service.

## **5.4 System Setup and Use**

The goal of every organization that acquires transportation software is to use it to better manage the vehicles and students within their charge. Accomplishing this requires an understanding of the functionality of the software and how it can support the administration of existing operations and the evaluation of new and different approaches that may reduce cost or improve service. This aspect of the review was designed to evaluate staff competencies using the software, the use and understanding of ancillary modules or third party tools, and whether the functionality of the chosen application is used to improve effectiveness and/or efficiency.

### **5.4.1 Observations**

#### **System Use**

Much of the basic functionality of the system is well used throughout the organization.

As was previously mentioned, Route Planners have more limited knowledge on the detailed functionality of the system despite their direct line responsibility for route management. Within this limited scope of responsibility, Route Planners were very knowledgeable of how to use the software to make minor modifications to stop locations or route directions. In addition, these individuals were all skilled in developing proposals to make more strategic changes to the routing scheme that is approved and implemented by the Route Supervisors. Developing the knowledge, skills, and abilities of the Route Planners to the point where they have the capabilities to make both tactical and strategic route changes is the most significant and important routing challenge.

### **Consortium Improved Service**

Efforts are made to identify opportunities to improve service and cost effectiveness, however, limited ancillary modules are used. Route Supervisors and Route Planners are knowledgeable about efficient route design, including the use of cluster stops where appropriate, minimizing left hand turns where possible, and avoiding entry into limited access areas like cul-de-sacs and subdivisions. STSCO senior managers provide general direction on annual efficiency efforts and Route Supervisors and Route Planners are tasked with the responsibility to develop actual implementation plans. Given the previous comments regarding the need to improve the level of expertise on the part of the Route Planners, Route Supervisors generally end up with most of the responsibility for these efforts.

#### **5.4.2 Best Practices**

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

- STSCO has designed its bus routes based on an understanding of the need to cluster bus stops and pair runs to achieve cost effectiveness and realize routing efficiencies. It should be noted that these efforts have been made mostly in a manual fashion without the use of available functionality in the transportation software. As is mentioned below, Route Planners require additional training on these modules in order for STSCO to more efficiently model alternative routing scenarios.

### **5.4.3 Recommendations**

#### **Training**

As previously mentioned, training of Route Planners on the "higher order" use of system functionality is the critical element required for STSCO. This training will allow STSCO to more critically evaluate its performance and identify opportunities to reduce cost or improve the delivery of service without adversely impacting daily operations. Enhancing the strategic planning capabilities is the next evolutionary step required for STSCO operations.

## **5.5 System Reporting**

Adequate reporting 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, and what capabilities exist to develop ad hoc reports.

### **5.5.1 Observations**

#### **Reporting**

Reporting mechanisms can be customized to support a wide variety of operational and analytical processes. In order to proactively address possible concerns (e.g., potential overcrowding, changes in student school, stop, or program assignments, and changing demographic trends) it is useful to establish a regular reporting schedule that defines important operational measures and timelines. For example, a review of planned and actual capacity can be greatly facilitated by a regular reporting schedule. This schedule, when used in combination with other operational intelligence like knowledge of planned developments and changes in demographics, can also assist in identifying possible overcrowding issues. In sufficiently large, complex, and dynamic operations (those experience growth and or population shifts) regular reporting routines become an important element in ensuring data integrity. These activities also provide the most efficient way to begin the process of designing alternative routing scenario to improve the utilization of assets and evaluate service and cost impacts. In addition, a regular reporting schedule can increase the efficiency of staff by prioritizing work efforts.

Throughout STSCO, there is very limited formalized reporting. The primary reports

developed by the operation include billing reports and the annual Ministry survey. In addition, route lists and schedules are made available via MapNet web to properly authorized parties. The majority of reporting requests are on an ad hoc basis in response to specific issues or concerns. Though formalized reporting is limited, STSCO has significant internal production capabilities. STSCO staff are knowledgeable and very competent in the extraction of data in multiple formats that would allow for analysis using standard third party productivity software. This was demonstrated in the data collection portion of the project when a significant amount of multi-table data was collected and STSCO staff identified two previously established queries that would provide the requested data. STSCO has customized the data tables in the system to incorporate data elements that were previously unavailable or were required to comply with survey requirements for the Ministry of Education.

### **5.5.2 Best Practices**

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

- STSCO has developed or integrated multiple web-based applications which have increased the availability and usefulness of transportation data. These applications include a late bus report that allows contractors to self report late arrivals and allows STSCO to display that information to the public via its website and integration of MapNet web to allow schools and contractors to obtain basic informational reports through the use of a secure login and web browser.

### **5.5.3 Recommendations**

#### **Data Management**

The process used to identify and remedy changes to student data is inefficient from the standpoint of prioritizing work. Currently, route planners review each change in student data brought in through the batch update process individually. This approach "weighs" each change to a student record equally despite the fact that some issues are much more important than others. STSCO should develop a daily report for Route Planners that assist in the prioritization of route changes. Through the use of a standard reporting mechanism that categorizes and prioritizes the changes associated with student records, STSCO could ensure that critical changes get addressed immediately (e.g., an address change that will result in a route change) while less important changes (e.g., missing Township data in the student record) are addressed when time permits.

## **Reporting Schedule**

The lack of regular reporting limits opportunities to regularly validate and verify the completeness and accuracy of system data. In addition, regular reporting allows for the early identification of operational issues including: the impact of growth in specific areas, process improvements required for data entry, run lengths approaching policy maximums, and identification of excess system capacity. STSCO should evaluate each position in the organization to determine what data those individuals require, the schedule it is required on, and establish a proactive reporting schedule to reflect these requirements. These reports could include: a daily student change log for each route planner; a weekly route change report for Route Supervisors; a quarterly performance operations report for the Operations Manager that provides summary statistics and detailed data on issues like capacity utilization, route pairing, average run times, and lateness; and an annual operational summary to the CAO that summarizes the key performance statistics mentioned above and incorporates detailed cost measures such as the direct and indirect cost per bus, cost per student, and cost per kilometre. This reporting structure could then be used to guide the scope of the annual efficiency reviews conducted within STSCO.

## **5.6 Special Needs Transportation Planning and Routing**

Special education 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 and approaches used to provide transportation to special education students and the approaches used to minimize the cost and operational disruption associated with this type of transportation.

### **5.6.1 Observations**

#### **Coding of Special Education Students**

Special education students are appropriately coded in the transportation database. Through the use of the program coding functionality in MapNet, STSCO has identified and categorized special education students in a manner that allows for identification and analysis of transportation modes.

#### **Management of Routes**

Special education transportation routing is managed by the Route Supervisors in a manner similar to that of all regular education routing. However, in the case of special



education students STSCO attempts to coordinate efforts with Board based special education departments to ensure that proper modes of transportation are provided. Documentation is provided via the Special Transportation Request form. Attempts to realize efficiencies within this student grouping focus primarily on integrating students onto more traditional routes where it is reasonable and appropriate to do so.

### **5.6.2 Best Practices**

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

- STSCO staff has recognized that special education transportation presents many unique and difficult challenges but opportunities exist to minimize the adverse impacts of the low density nature of this transportation integrating students onto regular routes where possible.

### **5.6.3 Recommendations**

#### **Use of Taxis**

The extensive use of taxis presents two possible issues for STSCO. The first is that single occupant vehicles, as taxis frequently are, are a very expensive method of transport for students. Additionally, taxis are not required to have the same structural safety equipment (including the compartmentalization design and frame and structural requirements) as school vehicles, although seat belt use is required. These two elements make taxis an undesirable, although at times necessary, mode of transport.

STSCO should reconsider the extensive use taxi services to provide transportation. STSCO currently uses over 130 cabs to provide transportation services. Many of these units are single occupant vehicles designated for students with behavioural difficulties. As part of the bell time analysis recommended above, STSCO should also reconsider the mode of transportation utilized for these students and determine if opportunities exist within the redesigned route network to reduce the dependency on single occupant vehicles.

## **5.7 Results of E&E Review**

Routing and Technology use has been rated as moderate-high. STSCO has done an excellent job of acquiring, implementing and utilizing a variety of technology tools and application to improve the management of routes and schedules and to communicate with its Partner Boards and other stakeholders. Efforts have also been made to

establish an organizational structure that effectively supports the use of the applications without burdening operational staff with technical system management requirements. Finally, efforts are made to evaluate and implement alternative routing strategies that minimize the impact of the unique requirements of special education routing.

Opportunities exist for improving the use of transportation data as part of a regular reporting structure. Regular review and analysis of system data allows for identification of alternatives routing approaches that may not be readily apparent as part of daily operations. In addition, STSCO will have to continue to work with its Partner Boards to improve the completeness and accuracy of data entered into the student information systems. The greatest challenge will be developing a training routine that increases staff competencies with the routing software to ensure that both strategic and tactical management of the routing network can be accomplished efficiently and effectively as service demands and cost pressures continue to increase. These increased competencies will allow STSCO to more efficiently model alternative bell time scenarios and changes to special education routing and be considered highly effective and highly efficient in the area of routing and technology.

## **6 Contracts**

### **6.1 Introduction**

Contracts 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 analyzed 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 the 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, ensuring that the terms are clearly articulated and a review of the fee structure is conducted.

#### **6.2.1 Observations**

##### **Contract Clauses**

STSCO's agreements are structured to delineate service expectations and define the possible consequences if an Operator were to fail to meet those specifications. Specifically, the standard Bus Operator agreements and Taxi agreements (taxis are used for special education transportation generally) include provisions on the

obligations of the Driver for student management and lawful operation of school vehicles; vehicle specification requirements including the need to comply with Provincial vehicle regulations; and insurance requirements. In addition, the fee structure (described below in more detail), contract term, renewal, and termination clauses provide adequate detail on compensation for services, including an annual negotiation of service fees. Of particular note is that contracts are allotted on an annual basis with an undefined number of annual renewals. However, if the Operator is unable to meet the service standards established in the agreement, STSCO has the option to not renew their specific contract and to reallocate the specific routes to other Operators.

The agreements with Operators and taxi companies have specific requirements pertaining to safety training (CPR/first aid), license requirements and vehicle requirements. Copies of valid training certificates must be provided for each Driver used. Epipen training will be mandatory for the 2007/2008 school year. In addition, the standard contracts state that Operators must ensure that Drivers are licensed and aware of their responsibilities. STSCO offers school bus driver workshops developed in conjunction with: School Board staff; other agency staff such as MTO; the local police and student management and school bus safety officials.

In addition to the formal terms of the agreements, there are established practices in place that are designed to address items not specifically identified in the agreement. The contract negotiation process (to be discussed in more detail in Section 6.3) includes a dispute resolution process that provides a structured forum for the Operators and STSCO to address unresolved issues regarding compensation and/or service requirements. This process allows disputes not resolved between the STSCO Administrative Team and the Operators to be addressed by the Governance Committee for final resolution. Additionally, Board policies and administrative procedures state that for each Board an Operator cannot hold more than 25% of the Board's business (calculated as a percentage of total contracted bussing expenditures). In updating their policies in 2006, the Boards have added wording giving authority to the Board of Trustees to grant exceptions to this Policy – this is in recognition of the potential for industry consolidation which may require that some Operators hold more than 25% of the business. Addressing these concerns in this manner is reasonable and appropriate.

### **Contractor Compensation**

The compensation paid to Operators is based on a two-part mechanism that includes a Rate Formula developed by the CAO in conjunction with the SBOs from the Partner Boards and the Operators, and a review of the allocation provided for transportation

services. The Rate Formula is designed to determine the maximum possible payments an Operator will receive based on the type of vehicle used on a specific route. The allocation amount is used to determine how much of the calculated rate amount will actually be paid to the operator. In 2006/2007 the fee paid to Operators is approx. 90.5% of the Rate negotiated. Once this Rate is negotiated, it is paid on every Bus Operator Contract. This structure, in addition to the one-year term of operator agreements, necessitates annual negotiation between STSCO and the Operators to determine actual compensation to be provided.

The Rate Formula includes both fixed and variable cost components and separate calculations are developed for 72 passenger and 20 passenger vehicles. While rates are developed for these two specific vehicle capacities, Operators have the discretion to use other vehicle sizes (e.g., 48 or 66 passenger) provided they can meet the service requirements. The fixed cost components include appropriate elements of the Operators fixed cost structure including capital costs based on 12 year depreciation schedule; Driver salary costs, insurance, and other administrative and overhead costs. It is noted that the fixed costs include paid vacation days equal to approximately 4% of total days.

Variable costs incorporated into the Rate Formula include adjustments for multiple runs, additional vehicle equipment (e.g., wheelchair lifts), and a per kilometre operating component to address fuel and maintenance costs, with a minimum daily rate of 50 kilometres. In addition a premium has been established for routes that are greater than 115 kilometres in length. While establishment of this premium may appear to create an incentive for Operators to maximize run lengths, this risk is mitigated by the route planning strategies developed by STSCO staff who are aware of the premium rate threshold.

While the compensation clause for Operators is generally appropriate, there are provisions for temporary school closures (i.e. snow days) that require further consideration. Under existing terms Operators are paid on a sliding scale for days when school is closed and services are not provided. This clause should be reconsidered, particularly in the event that days are cancelled for weather that are later made up to ensure that are payments are not made for both the days missed and days made up.

Compensation for taxi operators is based on per diem rate regardless of the kilometres traveled. However, the specific services for which a taxi operator is paid is different depending on when the contract was negotiated. The taxis under historical contract (generally those established prior to the formation of STSCO) are paid the per diem rate for the total number of school days in a year regardless of whether the taxis actually pick up students that day or if there is a snow day. More recent taxi contracts have been

obtained utilizing a tendering process that provides compensation on a per diem rate based on actual number of days worked and does not allow for payments if services are not used.

### **6.2.2 Best Practices**

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

- Standard contracts exist for all new taxi contracts and all Bus Operator contracts. These standard contracts include key provisions such as driver and vehicle requirements, payment terms, insurance requirements, and safety requirements. It is important that standard contracts are used to ensure consistency in expectations and delivery of services amongst Operators as well as ensuring key legal provisions such as license and insurance requirements are included; and
- Contracts with new taxi drivers include a provision that the drivers do not get paid for days where service is not used. This provides for efficiency in contract structure since STSCO is not paying for services not rendered.

### **6.2.3 Recommendations**

#### **Compensation**

The existing contract structure provides for Operator compensation when services are not rendered, specifically for snow days and other school closure events. While incorporating some protection for Operators, particularly in capital intensive businesses such as school bus operations is considered reasonable, it is unreasonable to expect full payment for both fixed and variable expenses on days when service are not rendered. Therefore, STSCO should review the standard contract clauses and revise the compensation clause to, at a minimum, eliminate the payment of the variable portion of the fee when services are not rendered.

Additionally, the contracts with taxi companies should also be revised to eliminate the need for payment when services are not rendered. Taxi companies operating under old contracts (i.e. contracts held when Boards managed their own transportation services) have their contracts renewed annually and include a provision that the drivers are paid the per diem rate for a set number of school days regardless of actual service provided. When not in use for school transportation, taxis can and will operate elsewhere thereby minimizing the financial impact of any lost days from school closures.

STSCO should also reconsider, though no actual changes may be required, the current two tier rate structure. Contracts with Operators are currently structured such that only a 72 and 20 passenger vehicle rates are negotiated when in fact, vehicle sizes being used could range anywhere in between based on loading. This could mean that STSCO is paying a higher rate than the vehicle actually being used. STSCO should review the capital and operating costs associated with alternative sized vehicles. If a material difference is found between the cost of larger and smaller vehicles, STSCO should consider the establishment of an additional tier in its Rate Formula to reflect these costs.

## **6.3 Contract Negotiations**

Contract negotiations are intended to provide an avenue by which the purchaser can ultimately obtain the best value for money for services purchased. The purchaser's goal is to obtain high quality service at market prices.

### **6.3.1 Observations**

#### **Bus Operator Contracts**

Contract negotiations, particularly in a closed system such as the one that exists between STSCO and its Operators, should be structured to ensure each stakeholder is treated fairly and equitably. In student transportation this requires that Operators be fairly compensated for the services they render and are provided with reasonable incentives to continue providing service. This process also requires that Operators provide the service based on the expectations of the purchaser. STSCO, negotiates exclusively with its BOA for the provision of service. Under the terms of the negotiation no Operator can be provided a contract unless they are a member of the BOA. Given that STSCO is not a legal entity and therefore does not have the authority to enter into contractual agreements, once an agreement is reached with the BOA the Partner Boards actually sign the agreements.

Negotiations begin in June and are finalized by mid-August following the development of the Rate Formula and the establishment of funding allocations. In the event that STSCO has performed an efficiency review of its route structure and has decided to eliminate routes, there is a historically accepted process that governs the actual allocation of runs to Operators. Essentially, all Operators are guaranteed to maintain at least one route, beginning with the smallest operator then assigning routes successively until all routes are allotted. Consequently, STSCO must oversee the contracts for more

than 35 Operators that include large providers to small single Operators. As previously mentioned, contract terms and oversight requirements are the same regardless of Operator size. Use of the BOA provides for efficiency in negotiation process but oversight and contract management efforts increase with the number of Operators in a given pool.

### **Parent Drivers**

STSCO will pay a parent to transport their child in circumstances where either the child has a special need and/or is living in a remote area where transportation by the parent is a cost effective alternative to other means of transportation. The parents are paid a per diem rate based on the kilometres traveled using the Board's per kilometre travel rate. However, there is no structured agreement or contract in place with the parents concerning the transportation of the child and no process to ensure the parents are appropriately licensed and insured. At the current time there are 7 parents being paid by the KPR Board to transport their child exclusively. Compensation for parent transportation requires the parent to submit an invoice to STSCO detailing the number of days that the parent transported their child to school. This invoice is received by STSCO and the total days attended is verified by the school. While the lack of a formal agreement should be addressed to ensure proper liability coverage the current invoice management process is sound.

### **6.3.2 Best Practices**

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

- STSCO has revised the taxi contracting process using a tendering process resulting in competitive rates. Tendering processes are recognized as the best means to ensure market rate pricing and it allows the purchaser to obtain the best value for money given a defined set of service expectations.

### **6.3.3 Recommendations**

#### **Negotiation Process**

STSCO negotiates its bus operator contracts with the BOA. Under this process, it cannot be known whether STSCO is getting the best value or market rates. The use of a Rate Formula and negotiated settlement on allocations with the BOA does not allow for an equal delivery of service or incentives for improvement to services by Operators. This is because all Operators are being paid the same regardless of the quality of the



service they provide and the investments made to provide that level of service. Therefore, STSCO should establish a competitive contracting process that defines service expectations exclusive of specific Operator allocation requirements. Operators could then bid on the contracts based on their ability to provide the desired level of service and at the required cost. It is recognized that this does not necessarily mean that the cost will decrease, in fact, the cost may increase depending on the specifications within the contract. The advantage however is that STSCO can be sure they are receiving the best value for money and Operators can ensure they are receiving fair pay for the quality of service they provide.

It is recommended that, in order to ensure that market prices are being charged by Operators, a competitive contracting process be used for awarding contracts. It is also recommended that STSCO determine the optimal number of Operators they wish to enter into contracts with. Setting criteria such as no operator shall have more than 30% of the routes and there will be no more than 10 Operators will ensure that there are enough Operators to ensure competitive rates and the administrative burden on staff at STSCO is minimized (e.g. monitoring Operators, processing invoices, etc.)

### **Parent Paid Drivers**

Management of alternative service providers requires that STSCO minimize its potential exposure in the event of an accident or mishap related to the transport of a student. The use of a parent pay model should include a review by legal counsel to ensure that the lack of any contractual mechanism to manage the students transported in parental vehicles does not create any additional exposure to STSCO.

## **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 value for money that was agreed upon. Monitoring should be performed proactively and on a regular and ongoing basis in order to be effective.

### **6.4.1 Observations**

#### **Monitoring**

STSCO has established a rational, yet informal process of contract monitoring that primarily addresses safety and regulatory requirements. This process will be enhanced

by the implementation of a more formal checklist that was in development during the time of the E&E Review. Currently, the oversight occurs mostly during the annual contract renewal process when Operators must supply an up to date copy of their Commercial Vehicle Operator's Registration (CVOR) and provide a certificate of insurance prior to the start of the school year showing they have valid and up to date insurance. STSCO further monitors CVOR status throughout the year through a review of each Operator's rating on the MTO website. Safety is monitored by STSCO staff (Route Supervisors, Operations Manager, and CAO) through audits and spot checks to ensure that vehicles and drivers on the list are actually being used as stated and that safety features are in check. Development of a standardized form for use in conducting these reviews is underway. All incidents on buses are investigated and documented by STSCO staff. Follow-up documentation is filed in a centralized Operator File. This is used to monitor performance and quality of drivers. This process ensures that the Operators can legally provide the services for which they are contracted. The checklist being developed will incorporate other service factors that will allow STSCO to more fully evaluate operator performance. Development and implementation of the enhanced checklist is an excellent practice that should be encouraged because it promotes more active management and monitoring of all contracts.

## **Fleet Age**

One area of concern identified during the review was in the oversight of vehicles in active service. Operators are required to provide STSCO with a listing of their vehicles to be used in the coming school year including age of vehicles. In the standard contracts with Operators, the age limit of vehicles is 12 years. Exceptions can be made for spare vehicles which are limited to 15 years. In practice, STSCO will allow the Operators to operate vehicles that are over 12 years old even as a primary vehicle as they are allowing Operators to phase in the 12 year limit over the next 2 years. The E&E Review Team understands that subsequent to our review, the CAO sought legal counsel regarding this contract clause. The clause states that exceptions are permitted with the consent of the Board.

Upon advice from their solicitor, the CAO has obtained signed documentation from each Operator with a copy to the SBO's from each Board stating that the phasing in of the 12 year maximum vehicle age would be permitted.

## **Bus Industry**

During the review concern was expressed about the impact of increased regulation and funding constraints on overall operations. The school bus industry in Ontario represents

one of the largest transportation systems in Ontario. Local Operators have expressed a growing concern over the cost of providing safe student transportation services which have, in their opinion, not been properly reflected in the funding of transportation to school boards and ultimately reflected in the rates paid to Operators. Increased regulations have improved the safety of buses which has also driven up the cost for new buses. Smaller Operators and the limited economies available to them for purchasing vehicles are especially vulnerable to these changes and generally extend the life of their older vehicles rather than purchase new units. This could be seen as a safety issue as there is a greater risk of maintenance issues and in general, these older buses have not been retrofitted with the new safety standards. Standards have also been put in place regulating the working hours of bus drivers. This, combined with the inability of Operators to pay their drivers more than \$40-\$50 a day on average, has led to an increased driver turnover and reduced interest in the field for new drivers. The requirement to constantly train new drivers and the fact that driver turnover means new drivers on routes have a direct impact on the delivery of services.

#### **6.4.2 Best Practices**

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

- STSCO requires 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; and
- STSCO performs periodic audits of Operators and Drivers to ensure they are in compliance with safety and legal requirements. Audits are a key component of contract management. They measure whether the Operators and Drivers are complying with stated contract clauses and ultimately if they are providing safe and reliable service.

#### **6.4.3 Recommendations**

##### **Fleet Age**

STSCO should use all available mechanisms to encourage compliance with existing contractual requirements regarding fleet age. Allowing Operators to knowingly violate existing contract clauses could present significant legal liabilities should one of these old vehicles have an accident or safety issue. Recent efforts undertaken on the advice of counsel following the observations of the review are appropriate, but enforcement or

revision to the contract clause is preferable.

## **6.5 Results of E&E Review**

The process by which STSCO negotiates, structures and manages its contracts for transportation services has been assessed as moderate. The negotiation process is such that contracts for transportation services are not competitively contracted. By not using a competitive process, the Consortium will not know whether they are paying market rates for services provided. Additionally, the differences between Operators serving the area are leading to differences in service levels mainly due to the inability of Operators to maintain and update their bus fleet equitably. If a competitive process is used for contract negotiations, the Consortium can clearly state all service requirements and can be sure that it will obtain best value for money as Operators will compete to provide the required service levels at prices that ensure they earn a return for the value sold. This may not mean that rates will decline, in fact, rates for services may increase however the concern for the Consortium should be value for money. A competitive process will improve the efficiency of the contracting practices. This should be done however with certain safeguards in place to protect the delivery of service. Limits should be placed on the amount of business any one Operator can hold to avoid a monopoly situation. Additionally, in evaluating the successful bidders, cost should not be the overriding factor. If cost is the main selection criteria then that will encourage low cost bidders to enter the market while not necessarily ensuring that the same or improved levels of service are being provided.

Currently, there is a significant issue in that the buses being used are very old and in some cases are older than STSCO's contract permits. Paying Operators for increased value could include ensuring that the age of vehicles is strictly enforced.

STSCO contracted rates are only considering payments for 72 and 20 passenger vehicles when in fact a more efficient service could be provided by contracted mid-size vehicles (48 passenger) to meet their current needs. The contract rates should reflect the actual size of the bus being used.

Once a transparent and efficient negotiation process and contract structure is in place, STSCO should focus on improving the effectiveness of their contracting practices through continued improvements to the monitoring of its contracts. It is understood that the Consortium does provide some degree of oversight and is in the process of developing a standard compliance checklist. The implementation of this checklist and the ongoing regular monitoring of Operators and Drivers is an important oversight role

to ensure the delivery of safe transportation services and to ensure that the Operators are providing the service in accordance with their contracts.

## 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 1. Note that where Boards are incurring transportation expenses in multiple Consortia 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:

### 7.1 The Ministry's Funding Formula

Overall Rating	Effect on deficit boards	Effect on surplus boards
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 STSCO, it is anticipated that the following funding adjustments will be made for each Board:

### 7.2 Kawartha Pine Ridge District School Board

Item	2006/2007 <sup>8</sup>
Surplus (Deficit)	\$(541,760)

---

<sup>8</sup> Based on budgeted figures received by the Ministry – source: Data form D 208C

Item	2006/2007 <sup>8</sup>
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	Increase by 90% of deficit
Total Funding adjustment	\$487,584

### 7.3 Peterborough Victoria Northumberland and Clarington Catholic District School Board

Item	2006/2007
Surplus (Deficit)	\$678,813
% of Surplus attributed to Trillium	16%
Revised Surplus to be assessed under STSCO	\$570,203
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	No in-year adjustment
Total Funding adjustment	\$0

### 7.4 Conseil Scolaire de District Catholique Centre-Sud

Item	2006/2007
Surplus (Deficit)	\$(1,524,904)
% of Deficit attributed to STSCO <sup>9</sup>	3%
Revised Deficit to be assessed under STSCO	\$(49,780)
E&E Rating	Moderate-High
Funding Adjustment based on Ministry's Funding Adjustment Formula	Increase by 90% of deficit
Total Funding adjustment	\$44,802

<sup>9</sup> Figure rounded to nearest whole number

## 8 Glossary of Terms

Terms	Definitions
Act	<i>Education Act</i>
Administrative Team	As defined in Section 3.2.1 and Figure 4
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
BOA	Bus Operators Association – the body responsible for negotiating contracts with STSCO
CAO	Chief Administrative Officer and as shown in Figure 5
Computer Systems Supervisor	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	As defined in the Ministry of Education's numbered memorandum 2006: SB13, dated July 11
Consortium Agreement or STSCO Agreement or The Agreement	Refers to the agreement between PVNC and KPR which is the basis for STSCO. See Appendix 3, Document #4.
CPR	Cardiopulmonary Resuscitation
CSA	Canadian Standards Association
CSDCCS	Conseil Scolaire de District Catholique Centre-Sud
CVOR	Commercial Vehicle Operator's Registration
Data Clerk	As shown in Figure 5
Deloitte	Deloitte & Touche LLP (Canada)
Driver	Refers to Bus Drivers, see also Operators
E&E	Effectiveness and Efficiency
Effective	Having an intended or expected effect; the ability to deliver intended service
Efficient	Performing or functioning in the best possible manner with the



<b>Terms</b>	<b>Definitions</b>
	least waste of time and effort; the ability to achieve cost savings without compromising safety
E&E Reviews	As defined in Section 1.1.4
E&E Review Team	As defined in Section 1.1.5
Evaluation Framework	The document, titled “Evaluation Framework For Student Transportation Services Of Central Ontario” which supports the E&E Review Team’s Assessment; this document is not a public document
Funding Adjustment Formula	As described in Section 1.3.5
Governance Committee or Committee	As defined in Section 3.2.1 and Figure 4
HR	Human Resources
IT	Information Technology
IVR – Ontira	As defined in Section 3.4.1
JK/SK	Junior Kindergarten/Senior Kindergarten
KPR	Kawartha Pine Ridge District School Board
Management Consultants	As defined in Section 1.1.5
MapNet	As defined in Section 3.4.1
Mapping Technician	As shown in Figure 5
Memo	Memorandum 2006: SB: 13, dated July 11,2006 issued by the Ministry
Ministry	The Ministry of Education of Ontario
MPS	Management Partnership Services, the routing consultant, as defined in Section 1.1.5
MTO	The Ministry of Transportation of Ontario
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
Operations Manager	As shown in Figure 5
OSBA	Ontario School Bus Association, the provincial Association to which some Operators may be affiliated

<b>Terms</b>	<b>Definitions</b>
Overall Rating	As Defined in Section 1.3.4
Partner Boards or Boards	The school boards that have participated as full partners in the Consortium.
PVNC	Peterborough Victoria Northumberland and Clarington Catholic District School Board
Rate Formula	The rate determined by the CAO in consultation with the SBO's and the Operators for the cost of bus transportation for a 72 and 20 passenger bus
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 Planner	As shown in Figure 5
Route Supervisor	As shown in Figure 5
SBO	Superintendent of Business
Secretary	As shown in Figure 5
Service Purchasing Boards	Refers to School Boards who purchase student transportation services for their students through STSCO. These Service Purchasing Boards are not full partners in the Consortium
STSCO	The Student Transportation Services of Central Ontario formed by the Partner Boards PVNC and KPR
Transportation Peer Reviewer	As defined in Section 1.1.5
Trapeze	Routing software used by STSCO

## 9 Appendix 1: Financial Review – by School Board

### 9.1 Kawartha Pine Ridge District School Board

Item	2004/2005	2005/2006	2006/2007 <sup>10</sup>
Allocation <sup>11</sup>	\$15,495,447	\$16,149,445	\$16,324,844
Expenditure <sup>12</sup>	\$15,892,094	\$16,107,309	\$16,866,604
Surplus (Deficit)	\$(396,647)	\$42,136	\$(541,760)

### 9.2 Peterborough Victoria Northumberland and Clarington Catholic District School Board.

Item	2004/2005	2005/2006	2006/2007 <sup>10</sup>
Allocation <sup>11</sup>	\$9,212,978	\$9,684,319	\$9,783,164
Expenditure <sup>12</sup>	\$8,506,814	\$8,876,741	\$9,104,351
Surplus (Deficit)	\$706,164	\$807,578	\$678,813
Total Expenditures under Trillium	N/A	\$1,383,942	\$1,479,832
As % of total Expenditures of Board <sup>13</sup>	N/A	16%	16%

### 9.3 Conseil Scolaire de District Catholique Centre-Sud

Item	2004/2005	2005/2006	2006/2007 <sup>10</sup>
Allocation <sup>11</sup>	\$12,630,012	\$13,363,914	\$13,676,051
Expenditure <sup>12</sup>	\$13,724,837	\$14,857,246	\$15,200,955

<sup>10</sup> Based on budgeted figures received by the Ministry – source: Data form D 208C

<sup>11</sup> Allocations based on Ministry data – includes all grant allocations for transportation (Section 9 0008C, Section 13 00006C, Section 13 000012C)

<sup>12</sup> Expenditure based on Ministry data – taken from Data Form D: 730C (Adjusted expenditures for compliance) + 212C (Other revenues) + 798C (Capital expenditures funded from operating)

<sup>13</sup> Rounded to nearest whole number

Item	2004/2005	2005/2006	2006/2007 <sup>10</sup>
Surplus (Deficit)	\$(1,094,825)	\$(1,493,332)	\$(1,524,904)
Total Expenditures under STSCO	\$357,822	\$485,013	N/A
As % of total Expenditures of Board <sup>13</sup>	3%	3%	N/A

## 10 Appendix 2: Common Practices

### 10.1 Home to School Distance

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	0.8	1.2	1.6	1.6	3.2
Policy – KPR	1	1.6	1.6	1.6	3.2
Policy – PVNC	1	1	1.6	1.6	3.2
Practice	1	1	1.6	1.6	3.2

### 10.2 Home to Bus Stop Distance

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	0.5	0.8	0.8	0.8	0.8
Policy	1	1	1	1	1.6
Practice	1	1	1	1	1.6

### 10.3 Arrival Window

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	18	18	18	18	25
Policy	-	-	-	-	-
Practice	15	15	15	15	15

### 10.4 Departure Window

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	16	16	16	16	18
Policy	-	-	-	-	-

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Practice	15	15	15	15	15

### 10.5 Earliest Pick up Time

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	6:30	6:30	6:30	6:30	6:00
Policy	-	-	-	-	-
Practice - KPR	6:40	6:40	6:40	6:40	6:25
Practice - PVNC	7:00	7:00	7:00	7:00	6:20

### 10.6 Latest Drop Off Time

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	5:30	5:30	5:30	5:30	6:00
Policy	-	-	-	-	-
Practice - KPR	4:55	4:55	4:55	4:55	Note 1
Practice - PVNC	5:10	5:10	5:10	5:10	5:20

### 10.7 Maximum Ride Time

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	75	75	75	75	90
Policy	60	60	60	60	90

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Practice - KPR	75	75	75	75	75
Practice - PVNC	60	60	60	60	60

### 10.8 Seated Students per Vehicle

Activity	JK/SK	Gr. 1-3	Gr.4-7	Gr. 8	Gr. 9-12
Common Practice	69	69	69	52	52
Policy	72	72	72	48	48
Practice	72	72	72	48	48

Note 1: In practice, times vary from 5pm for grade nine, 6pm for grade ten, 7pm for grade eleven and 8pm for grade twelve.

## 11 Appendix 3: Document List

- 1 STSCO Supporting Documentation, Ministry of Education Consortium Review, December 11, 2006
- 2 Ministry of Education Board Profile
- 3 2005/2006 Ministry of Education Survey Results
- 4 STSCO Consortium Agreement – January 14, 2005
- 5 Consortia Status Report to the Ministry of Education – October 17, 2006
- 6 Confirmation of Insurance – Ontario School Boards' Insurance Exchange
- 7 STSCO Expenditure Report – September 2005 to August 2006
- 8 STSCO Budget 2006/2007 – Revised Estimate Summary – November 27, 2006
- 9 KPR Responsibility Report for years ending August 2004 and August 2005
- 10 PVNC Financial Statements for years ending August 2004 and August 2005
- 11 KPR Financial Management Policy Statement
- 12 STSCO Chart of Accounts
- 13 Sample Agreement for Transportation – Buses
- 14 Sample Agreement for Transportation – Taxi
- 15 Draft 2006/07 STSCO Transportation Rate Formula – 20 and 72 passenger buses
- 16 STSCO Memo re: 2006/07 Rate Schedule Review – July 7, 2006
- 17 List of Parent Paid Drivers – 2006/07 School Year
- 18 Sample billing to CSDCCS – February 1, 2006 to June 30, 2006
- 19 Inventory of Bus Fleet – December 8, 2006



- 20 STSCO CUPE Agreement – September 28, 2006
- 21 PVNC Collective Agreement – CUPE Local 1453 effective September 1, 2005 to August 31, 2008
- 22 PVNC Employment Parameters – Administrative Staff – October 26, 2006
- 23 KPR Administrative Regulations
- 24 KPR General Terms and Conditions for Administrative and Leadership Group Employees
- 25 KPR Collective Agreement – CUPE Local 5555 effective September 1, 2005 to August 31, 2008
- 26 Final Report on Proposed Transportation Efficiency Projects for 2005/06 to STSCO Governance Committee
- 27 STSCO Organizational Chart
- 28 STSCO job descriptions
- 29 Sample Minutes from Staff meeting held on October 18, 2006
- 30 Sample Performance Review Documents
- 31 PVNC Board Policies
- 32 STSCO Secondary Program Descriptions
- 33 STSCO Road Network Repair Request
- 34 STSCO Bell times
- 35 STSCO Bus loop report (via electronic download)
- 36 STSCO Bus run report (via electronic download)
- 37 Transportation Effectiveness and Efficiency Review Guide

[www.deloitte.ca](http://www.deloitte.ca)



Member of  
**Deloitte Touche Tohmatsu**

Deloitte, one of Canada's leading professional services firms, provides audit, tax, consulting, and financial advisory services through more than 6,800 people in 51 offices. Deloitte operates in Québec as Samson Bélair/Deloitte & Touche s.e.n.c.r.l. The firm is dedicated to helping its clients and its people excel. Deloitte is the Canadian member firm of Deloitte Touche Tohmatsu.

Deloitte refers to one or more of Deloitte Touche Tohmatsu, a Swiss Verein, its member firms, and their respective subsidiaries and affiliates. As a Swiss Verein (association), neither Deloitte Touche Tohmatsu nor any of its member firms has any liability for each other's acts or omissions. Each of the member firms is a separate and independent legal entity operating under the names "Deloitte," "Deloitte & Touche," "Deloitte Touche Tohmatsu," or other related names. Services are provided by the member firms or their subsidiaries or affiliates and not by the Deloitte Touche Tohmatsu Verein.

© Deloitte & Touche LLP and affiliated entities.